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THE PACIFIC NORTHWEST.

DESCRIPTION OF THE GREAT COLUMBIAN REGION.

Particulars as to Climate, Soil, Products, Resources, Statistics, Facts, and Incidents Concerning Oregon and Washington.

From the Willamette Farmer of Dec. 3, 1880.

INTRODUCTORY.

We shall attempt, in a series of articles to be published in the WILLAMETTE FARMER, to write of the great region now growing up in the Pacific Northwest, on the waters of the Columbia and its tributaries, covering an extent of country that will in time become an empire in its importance, and which the enterprise of leading capitalists of our own and other lands is suddenly developing by a system of internal improvements that will, within two years from this time, bring all this region within railroad reach of the city of Portland, where the business of the North Pacific centres now, and must centre through all the future. This sudden inroad of enterprise is astonishing the inland regions, that have hitherto been only roaming ground for herds and flocks, and will open up to cultivation and settlement fertile and desirable agricultural districts that cannot be surpassed on the face of the earth. Our sketches will include all the wide scope of country drained by the Columbia, the lands of East in Oregon and Washington, the valleys of Western Oregon, Puget Sound, the wide and undeveloped stretch of mountains and valleys in Southern Oregon and the attractive portions of our State and Washington Territory that lie along the coast towards the Pacific. We shall endeavor to do simple justice to every section embraced within this wide scope of territory, and not only describe its physical appearance and natural resources, but furnish statistics that will show all facts of importance elicited by the late census.

TRUTH, NOT FICTION.

We enter upon this work determined to do it the best justice possible with the means at hand, and in the same spirit of fairness we have always shown in writing of Oregon and Washington in our journal. We have never published exaggerated or too flattering accounts, believing that more is to be gained by truthful and moderate statements than by giving such a gloss to plain facts that honest men cannot recognize them. We have never sent a single statement forth in ten years that has been untrustworthy, and we have the same conscientious determination now, when we commence the publication of what we intend shall be a full review of every part of these regions for general circulation through the United States. We undertake it for the purpose of affording all those who wish, the means to send full facts concerning our North Pacific world back to their friends, when the sketches shall be completed and published together in one number, which will be within two months time.

THE RAILROAD ERA.

There never was a time, before this, in the history of the Pacific Northwest when our region held out so many inducements for settlement. We have been waiting all these years for the era of improvement that has existed elsewhere to overtake us. But we have been so distant and remote from the great thorough-

fares of travel that population has shunned us. Disappointment after disappointment has thwarted our hopes; projected enterprises have dragged slowly, so that in great part the facilities of transportation we possess are those that have gradually developed with the country. Communication with the outside world has chiefly been by way of San Francisco, and this region, that was believed to be of great national importance before California became an American possession, and to which a trans-continental railroad was projected in 1840, to be built by means of a national subsidy, has been the last to realize such anticipation. The writer of this remembers reading in newspapers, forty years ago, of Whitney's project for building a railroad to Oregon, which was much discussed at that time. But the years have flown, Oregon has developed slowly, railroad communication with the Eastern States has been long coming, and is not here yet. But we can see its approach; the work is going on rapidly among us. Already over 800 miles of railroad has been constructed in Oregon and Washington, and with work urged rapidly at each end of the long line we can now safely predict that 1883, at farthest, will see through connection by more than one railroad to the East. That is all our country needs to place it on the top wave of prosperity, and it must be evident to all that the time to come here and secure the greatest benefits is before the way is made easy for all comers. These facts will be made plainer in detail as we proceed, but they need to be borne in mind from the first. There is no portion of the United States where improvement and development now go on, any more rapidly than with us. Railroads are now building in many directions and others are projected. The comprehensive designs of men of great sagacity and enterprise look to the construction of roads to all parts of Oregon and Washington within two years, so that every productive region will be within easy reach of market. The change already effected seems like magic, and we know that the work is to be pushed forward in all directions. Eastern capitalists, having visited this region, have become thoroughly convinced of its great importance and vast resources, and there is a strife between different corporations to occupy the field and reap the great harvest of the future. A country that capital is so eager to develop is surely one where farmers can afford to carry on the work of production with safety.

FROM 1850 TO 1880.

One who has for thirty years watched the growth of the North Pacific region; who was here when Oregon City was its chief business town and Vancouver was still the headquarters of the immense trade of the Hudson's Bay Company; who saw the first steamship come up the Willamette from the ocean to Portland, and has seen this city grow from doubts and uncertainty that clouded its early days and claimed for other, now unknown, points the greatness of future commerce, until to-day it has distanced them all and is the commercial centre of the vast Columbian region, naturally compares the future with the past and wonders what another thirty years will accomplish for this much favored country. The day of uncertainty is past and the activity and development of to-day indicate that all that human enterprise can do will be done to make known the resources of this great region; to build here prosperous communities and give opportunity and encouragement to all the industries that distinguish and enrich the most favored portions of the East.

It is desirable to have a true and impartial description given of the North Pacific country, setting forth its many resources; its varieties of soil and climate; its well established pro-

ducts; what can be done, as well as what has been done, and the means of wealth that are waiting for the hand of labor to develop them. It is the poorest policy in the world to over-estimate any country or to overstate its resources and advantages and so endeavor to induce emigration by false representations. All our country requires is to be known on its actual merits. There is no earthly paradise that waits for the coming of man to occupy and enjoy a life without labor or hardships, but there are yet regions to be filled up that possess the charm of newness and offer rich rewards from virgin soils, and of all regions that to-day invite settlement and offer satisfactory rewards for industry and enterprise, and are blessed with healthful climate, we claim that none can exceed and few can equal the natural advantages that belong to the Pacific Northwest.

THE ERA OF DEVELOPMENT.

The city of Portland, situated on the Willamette twelve miles above its confluence with the Columbia river, is the commercial metropolis of the wide Columbian region, reaching from British possessions to the California line, from the Rocky Mountains on the East to the Pacific ocean on the West, containing an area which will provide great States and immense wealth in the near future. The era of development that has commenced so energetically of late must continue until all parts of this region are thickly settled and have facilities for transportation fully equal to all needs. The past thirty years have only led us up to the day of great things: we have only seen a beginning fairly made and from now onward the world is to know more and more of us, and our products will figure largely in the world's needs. The past thirty years have seen this region we have alluded to grow from a mere handful in 1850 to a quarter of a million, and more inhabitants in 1880. In 1850 it was all known as Oregon and the census showed but 13,000 inhabitants. There came here during the decade previous to 1850 a handful of earnest men who asserted themselves against British assumption and secured this then comparatively unknown region as a part of our national territory. The early history of Oregon is rich in romance and the patriotism of the early pioneers deserves the highest honor we can bestow.

A PEOPLE TO BE PROUD OF.

Compared with the growth of all the other so-called Western States, we have made rather slow progress. California has stood between us and the great world and held all she could from coming to us. The early days saw thousands journeying across the plains in caravans, and many are coming so again, but though the people of the East felt the greatest interest in Oregon and the romance of the early days of our history was repeated all through the West, yet the long and tedious travel was a hindrance to our success. To come here was to leave the old civilization a long way behind; we grow but slowly, and have always had to suffer from our remoteness. The great cost of making the journey hither with families is all that has prevented the Pacific Northwest from being to-day peopled by millions. Under such circumstances we have had comparatively small growth, but the best element of American citizenship has kept steadily coming hither, bringing with them all the good qualities, the energy and enterprise that make sterling worth more valuable. We can safely claim that Oregon and Washington Territory to-day possess a population that for moral worth and all the best qualities of citizenship are not excelled in the United States. The tourist who visits us often has occasion to express surprise at what we have accomplished. When President Hayes was here he candidly owned that in all respects the country, the people, the towns and cities, far exceeded his expectations; so the distant citizen who has it in his

mind to come hither need not fear for all that is worth having of life, comfort, culture, intelligence and refinement has long preceded him. We confidently assert that our country fully equals in every social quality, in intelligence, ability and general progress, any of the newer states, and far exceeds most of them. The Willamette valley counties will compare favorably with the best portions of the Eastern and Middle States, and its long settlement and social organization gives it every valuable feature of the most permanent civilization. Of course the newer regions East of the Cascade mountains have to be seen at an earlier stage of development, but the people there erect the school house at the beginning and have not left the true American idea behind them. The class of people who possess the energy and character necessary to come so far, and who frequently sacrifice so much to come here are not the ones to sit down tamely when they have made their location, but build up the community from the beginning and strive to make their new homes worth possessing. Our people are gathered from all other sections and represent the enterprise of those sections. The vigor and life of a new country is well sustained by such emigrants. We of the Pacific Northwest feel proud of our people as well as of our country, and those who seek a home with us need not doubt that they will find kind friends and good neighborhoods when they reach here.

DIFFERENCES OF CLIMATE.

In the outset we must call attention to a fact that has never been made sufficiently plain to the outside world, which is impressed with the idea that Oregon is a land of almost constant rains, and many suppose that the same characteristics pertain to the whole territory of the Columbia and its tributaries, which is far from being the truth. There is a great diversity of soil and climate through this region. Along the coast where the influence of the great Japan current is directly felt, the climate is humid, and the sea influences prevail so constantly that the Coast mountain sides facing the ocean are green all Summer and Winter; while also, over the range, inland between the Coast mountains and the almost inaccessible ranges that wall in the Western valleys and Puget Sound, on the East—the Cascade mountains—the sun bleaches the pastures. Along the coast and through the Puget Sound country and the Willamette, Umpqua and Rogue River valleys Winter rains prevail, and these valleys are called "web-foot regions." Rogue River valley, that joins California, has not so humid a climate as the valleys farther North, and probably more rain falls in Puget Sound than in the valleys South.

DRY CLIMATE OF THE INTERIOR.

Fully two-thirds of the area of Oregon and Washington lies East of the mighty Cascade range. The Coast mountains are low and have no snowy peaks, and there are several passes through which the sea breezes pour, or the sea fogs roll, so that the sea influences are strongly felt in the Willamette valley, as also they are in the Umpqua and Rogue River valleys, but East of them all rise the Cascade mountains, the Andes of North America, the continuation of the great Sierra Nevada range of California, and there are no low passes in these mountains through which the winds of the ocean pour to influence the climate of the interior, where the altitude is from two to four thousand feet above the sea level, and in every respect the climate is very different from that of the valleys across the mountains, only a geographical degree to the Westward. Snowy peaks of the grandest proportions and most sublime aspect dominate this great mountain range and look towards the West for five hundred miles on a region of rich valley lands

that are belted with forests and threaded with precious streams; hill and dale in most charming succession constitute these Western valleys, offering the strongest contrast to the much wider scope of country that these same snowy peaks look down upon towards the east. There the formation of the country is different, forests are only found in the mountains, or near them, to any great extent; streams dig deep channels through dry table lands, and the sage brush plain extends for hundreds of miles, often in contiguity with rich but narrow valleys. It is a region where rain seldom falls in profusion, the climate is dry, the winters are colder and the summers warm and parched. Yet this wide region has amazingly rich soil, and the all-prevailing bunch-grass is better feed than any grass we can cultivate. We are now simply illustrating the fact that this mountain wall separates two regions that are utterly dissimilar in climate and in all physical characteristics. In the very beginning of a description of this Northwest country it is necessary to have it impressed upon the mind that this difference in climate exists.

GREAT VARIETY OFFERED.

In the outset, too we must learn that every valley has its characteristics of soil and varieties of climate. Each of the Western valleys has peculiarities and especial advantages. There is a wonderful difference between Rogue River valley in Southern Oregon, and Umpqua valley North of it, both being bounded by the same ranges East and West. Umpqua, again differs materially from the Willamette valley, which is still further North, and has peculiarities far different from all the rest. Then again, the wide interior country offers very many different aspects and varieties of climate. These we allude to, but will not compare in detail now, but we wish to impress upon the minds of distant readers, for whose perusal these sketches are intended, that this is a wonderful country, extensive enough to cover great changes of climate and difference in resources, so that the new citizen has a wide range to choose from. There is not any other portion of the United States that within the same limit contains such great changes of climate and varieties of physical conformation, or that presents such unlimited resources that await development. It will be our aim to make all these characteristics plainly understood and so well illustrated that the readers cannot mistake the peculiarities of any section, or the immigrant fail to know the disadvantages he will have to contend with.

THE COAST REGION.

As you sail up the coast from San Francisco, you notice that the mountains that rise near the ocean shore after awhile become wooded, and that the forests are more dense and of much heavier growth as you sail Northward. The darker forests tell you that you are looking upon the shores of Oregon. All along the sea front rivers are putting into the ocean, or into bays, that are more or less settled. Through these gaps are scattered settlements and the richest of bottom land, covered sometimes with vine maple or alder, can be had for the clearing. On the South coast, where the forests are less dense, a considerable number of cattle are kept. In due course of this coast region will be a great dairying country, because the mists from the ocean preserve the pastures green all Summer and drive off the frosts and snow all Winter. Along where rivers or streams put in are fisheries and canneries that are busy in seasons when salmon run. Saw-mills are at work cutting up the interminable forests, and small vessels ply constantly from Rogue River, and Port Orford, the Coquille, Coos Bay, the Umpqua, Siuslaw, Alsea, Yaquina Bay, and Tillamook Bay, to San Francisco or Portland, and small ocean steamers are used in the same trade. Coos Bay is famous for lumber and coal, and it is claimed that more vessels enter there than to the Columbia river, but they are of course all small and adapted to that trade. Coos Bay will be an important point in the future on account of the immense trade that must be carried on there always for coal and lumber, though its agricultural lands are not extensive. But along the coast are settlements, and plenty of room for more, for good land waits the hand of the woodman, who has but to clear it to find its resources truly inexhaustible in his lifetime. Yaquina Bay is another point that promises much and claims much, as it is a good harbor for light draft vessels. It is connected by an easy pass through the coast range with the Willamette, and a projected railway holds out inducements to believe that before long there will be a business point of great importance there, that will be a place for the export of the products of the great Willamette valley that is so near by. There are numerous passes through the mountains from the Western valleys to the ocean, and it is safe to say that in due course of time the long line of coast will be occupied by a large and prosperous population. There is no reason why, as time passes and all the advantages of this coast region can be made available, the bays, nooks, valleys and benches of arable land should not be cleared and cultivated, for they are among the most productive lands we have, and being so near the ocean will have a market close at hand. Stock of all kinds thrive along the

coast, and that interest must increase. As we come North we first strike Curry county, which is scantily populated; then come to Coos county, with Coos Bay, which will be a very important point in all the future. Next is the coast line of Benton and Polk counties which lie chiefly in the Willamette, but on their ocean front is located an Indian reservation that keeps out white settlement except at Yaquina Bay and Alsea. There is a constant though not large stream of emigration finding its way into these coast counties, but they cannot divert the chief tide of emigration that flows steadily up the Columbia and fills up the great plains, valleys, and open hills of Eastern Oregon and Washington. We shall not pretend to be definite as to the resources and population of the coast country of Oregon, because the desire for settlement there is not so great as to other sections, but we have presented their case so plainly that no man who fancies such a location can fail to recognize all the advantages they possess.

UP THE COLUMBIA RIVER.

Reaching the Columbia river we can see the shores, after crossing the bar, covered with forests of fir and spruce and scarce a sign of cultivation to be discovered. On the south is Clatsop peninsula, with Fort Stevens, an earthwork on the point; Clatsop plains South of it are covered with farms. Here the soil is light and sandy, for the ridges that compose the plains are successive sea beaches that the ages have thrown up as barrier between Astoria and the sea. On the North, Cape Hancock frowns upon the entrance, its summit armed with 500 pound columbiads. The military post is inside the harbor under the lee of the cape. Close by is Ilwaco, a Summer bathing resort; fifteen miles across the bay is Astoria on a rocky point that pushes out towards the sea, while the Columbia river comes down past it in a grand flow that is several miles in width. Everywhere are densely wooded shores; occasionally we see saw mills, fisheries, canneries and once in a while a clearing or river town, and though we find but few signs of settlement we know that there are valleys among the Coast mountains that are peopled and cultivated, such as we have described as to be found where streams seek the ocean all along the coast. But there is far more object in cultivating and clearing land along the Columbia, as the growth of Astoria, the demands of commerce, the wants of mills, fisheries and canneries all make a remunerative demand for whatever the farmers of that region can produce. Hardy Swedes and Norwegians settle along these valleys and appreciate the advantages they offer. It needs hard labor to redeem such land, but when redeemed it is near market and must always grow in value.

One hundred miles from Astoria the Willamette river enters the Columbia, above and below which point the country is more open, as we have passed through the portion where the river cuts through the Coast Range and though the shores are wooded, and hills are in the near distance, there is more opportunity for settlement and cultivation than we found below. We are now taking a merely cursory view of the country so as to get a generally correct idea, but shall follow with more detailed description. It is necessary to understand that the Columbia will not greet your eye with an open country along its banks; that the cultivatable region is limited, and the land all along the river has to be cleared with heavy labor; but this will eventually be done, and these lands when cleared will possess immense value. Considerable bottom land is found along the shores of the Columbia, and on the Cowlitz that comes in from the North, and there are islands that overflow at highest flood which are also occupied. About twenty-five miles above the Willamette we are confronted by the Cascade Range, and the river emerges from the wondrous defile that it has created to effect its passage through the most formidable mountain wall to be found in North America. This great gorge of the Columbia affords the majestic scenery that has made the river so famous and well known. We have sailed over a hundred and fifty miles from the ocean to realize that Bryant in his youth, when he wrote of the "continuous woods where rolls the Oregon," had an inspiration that truly pictured the region that was then unknown save in a poet's dream.

Away to the South, cradled among giant mountains, lies the beautiful Willamette valley, the garden spot of the Pacific, the Eden of Oregon, extensive enough to build busy cities and maintain a vast population, and already demanding for its products the service of a great fleet of ships that come from all countries to ascend the Columbia and Willamette rivers and bear away breadstuffs to feed the peoples of the Old World. This great valley will be described in detail.

WESTERN WASHINGTON TERRITORY.

Below the Willamette, on the North side of the Columbia is Kalama, the Southern terminus of the Western division of the North Pacific Railroad, that connects the Columbia river with Puget Sound at Tacoma. This road is over a hundred miles long, winds up the Cowlitz river past many fine farms, crosses a rough timbered divide that separates

the Columbia from the waters of Puget Sound, and then comes down over gravelly prairie reaches to the shores of the inland sea. A great deal of this region is susceptible of cultivation and is already settled by hardy pioneers who have undertaken to make the wilderness bear fruit. The Chehalis river rises in this mountainous country and works its way down to Gray's Harbor, navigable for some distance and affording a rich country for settlement all along its borders. The Chehalis country promises to become important in the near future. Along the ocean to the West of this road is Shoalwater Bay, famous for its oysters that are sent to San Francisco and Portland, and possessing more or less good land along its shores that will support a large community. Small vessels sail from this bay to San Francisco and various other points. As we pass up the coast we find streams pouring into the ocean from the Olympic range, that rises between Puget Sound and the ocean, and on these stream are valleys where dairying and stock raising are successfully carried on. Rounding Cape Flattery we enter the Straits of Fuca, Vancouver Island and the British flag on one side, and the soil of Washington Territory on the other. This leads into what is commonly known as

THE PUGET SOUND COUNTRY.

Where many islands dot the water and furnish homes for many people. On the West as we enter is Port Townsend; down the bay to the left is the promising city of Seattle, that shows more activity than any other place on the Sound. Along the shores are saw-mills and ship-yards; iron mines are being worked, and preparations making for a rolling mill. The deposit of iron ore is immense, and in the future will be a source of great wealth to those who shall successfully work it. Back of Seattle, as also at many other points along the shores of the Sound, are found great beds of coal of excellent quality, and an extensive trade with San Francisco in coal and lumber constitute the chief industries of the country. At the head of the Sound are Tacoma, the terminus of the N. P. R. R., and Olympia, the State Capitol. The latter is the oldest town in the territory, and is a delightful place with some extent of farming country within easy reach. All around the Sound the shores are densely wooded, and the timber is sawed up into lumber or cut for spars and shipped to the ends of the world.

The Sound country is too moist for wheat to mature always with success, but is famous for oats, hay, potatoes and other vegetables. In the Puyallup valley, East of Tacoma, many hops are raised, and are highly appreciated at San Francisco because of their excellent quality. A barrel factory on an immense scale is now in operation at Seattle, and the wealth of forest will encourage all industries of that sort. There is a steady increase of population on the Sound, and no doubt its aspirations as a commercial point have something to do with this growth. All along the Sound fisheries and canneries are in operation when fish run up the streams. We do not find Puget Sound strictly within the boundaries of what we term the great Columbian region, and shall not deal with statistics and description as fully as with other portions of the Northwest. We have given a glimpse at the country and the people, the industries and the products, resources and developments, and it is a very attractive picture. It is an interesting region because of the facilities here afforded for commerce. The grand snow peaks that look down upon it—such as Tacoma, Mount Baker, and the serrated summits of the lofty Olympic range—form a scene of grandeur that astonishes all visitors. The shores are rocky bluffs frequently, but level for some distance in many parts. The streams that put in on the East side have charming and fertile valleys, and are being cleared up and peopled by very enterprising settlers.

We have sailed up the ocean shore in fancy for five hundred miles; have visited the Sound country; have crossed the divide that separates the Sound waters from the Columbia; have entered the river from the ocean and sailed up its wooded shores and past its picturesque islands, until we found ourselves within the great canyon by means of which it has cleft the mountains in twain, and have thus had a very good introduction to the imperial region that we call the Pacific Northwest.

PRODUCTS OF THE NORTH PACIFIC REGION.

The exports of the Columbia reach more than fifteen millions of dollars annually. The fisheries on the Columbia alone, produce canned and packed salmon valued at three millions of dollars a year, and the lumber trade is extensive and must increase as time passes. Efforts are making for the propagation of fish in the streams by artificial hatching, so that the supply will be fully maintained for all time, and as the salmon from the Columbia is remarkably fine eating, the business can be depended on to support thousands of families and permanently enrich the country. But the coming settler is more interested in knowing something about the character of the soil

and the products to be derived from its cultivation, in which he will naturally expect to engage. He will also wish to know what demand there is for these products and to what market they are to be shipped.

WHEAT GROWING.

The great staple of production is wheat, which is naturally suited both to the soil and climate of every part of this region. The Willamette valley has been cropped in some parts for half a century, as some of the servants of the Hudson Bay Company abandoned the business of hunting and trapping as far back as 1830, and commenced wheat growing at the desire of the company. Since then the same fields have been in almost continuous cultivation, and the permanent qualities of the soil can be understood from a statement made to us by Hon. F. X. Mathieu, a wealthy merchant and farmer, who lives at Butteville on French Prairie, Marion county, who says he owns the first field ever sowed to wheat in Oregon, and that after it had been in continuous cultivation for half a century he summer followed it and had a yield of 35 bushels to the acre in 1879. This must have been superior soil, but it illustrates the great strength and productiveness of the land in the Willamette valley. Wheat, then, is the great staple of agricultural production. The present year this river will send forth vessels bound for all parts of Europe, carrying eight million bushels of wheat of a fairer quality than any raised in the United States or California. The wheat of the Willamette valley brings a premium in Liverpool of five cents a bushel over the best grown in California, because the flour is of such unusual whiteness that English bakers mix it with darker and stronger grades to obtain a whiter and more desirable flour. Our wheat is a plump berry, and compares favorably with the best grown in England, or the choicest from the best wheat-growing provinces of Russia, and is higher priced than the choicest product of Minnesota, their "glutted red winter." If the seed grown in the Eastern States is planted here it grows plump and full, and will immediately change and improve in appearance so that the Eastern grower who furnished the seed would not believe the product to be the same variety. To illustrate we will tell an incident concerning the first shipment of wheat ever made from Oregon.

FIRST SHIPMENT OF WHEAT FROM OREGON.

It must have been over twenty, and perhaps twenty-five years ago, that Mr. Joseph Watt, an enterprising man, who has done much to develop the country and its interests, thought he would try a shipment of wheat to New York. So he loaded a vessel, and in due time, after half circling the globe, it reached port, and the cargo was offered for sale. The appearance of the wheat was unusual. It was so white and plump and round that people wouldn't believe that it was a healthy product of the soil. An experienced miller gave a professional opinion that the wheat was damaged; that the cargo was wet and the wheat had swelled, so it was put up for sale under these discouraging circumstances, and the same miller had some one on hand to buy it for himself and he made a good thing grinding it, and the enterprising Oregonian who was trying in a loyal way to introduce the products of Oregon to the world, pocketed a loss of about \$8,000 as a reward for his enterprise. Having heard this story originally from Hon. John Minto, we afterwards inquired of Mr. Watt himself, and the above is substantially correct, though it is years since we heard it told. It illustrates, in rather a humorous way too, the quality of wheat grown in the Columbian region.

WOOL GROWING AND SHEEP HUSBANDRY.

We excel in another great staple that stands in the foremost rank of necessities of commerce. Wool growing has developed into an immense business, and the exports of 1880 of this product alone reached 8,000,000 pounds, worth over \$2,000,000. The enterprise of wool growers has introduced the best breeds of sheep, and our fleeces are graded up to a point where the wool has become of the most desirable quality for manufacturers and is eagerly sought by them. The value of sheep in a region that affords them feed the year round and offers immense ranges where they roam with only the care of a shepherd to keep them together can be imagined, especially when in addition to the natural increase of the flock it is seen that the fleece year after year pays back, with few exceptions, the entire cost of the animal. We can only allude to sheep husbandry briefly in this introductory chapter, but in connection with the detailed description that will follow we shall give facts relating to sheep husbandry as well as of all other branches of production, in each section of the Pacific North West. It is found that where wool is the main object, as is the case here, and where wethers yield the heaviest fleeces, that the common sheep, well bred up with Merinoes, is the most profitable, and in the grain growing regions of the Willamette valley sheep husbandry is found to be an essential aid to good agriculture.

LIFE IN MIDDLE OREGON.

We here republish, from last week's issue, an interesting letter from Dr. Vanderpool, of Ocheco, which describes the character of the country East of the mountains and far South from the Columbia river, showing how stock interests are maintained and what hopes the people there build upon the prospect of railroad construction, which will reach them at no distant day. The region he describes is similar to much of Eastern and Middle Oregon and Washington, and will be settled as fast as it can be brought within reach of market by railroads. It is also true that the vast sage brush plains, or desert, of which he speaks, possess much rich soil, and only need water to be available to make them desirable for settlement.

PRINCEVILLE, WASCO CO., NOV. 8, 1880.

I received your letter of the 24th ult., and will now answer the questions to the best of my ability. In the first place commencing at the foot of the Cascade Mountains and running in an easterly direction, passing Cache creek, Squaw creek, the Great Deschutes river (the width of which 200 feet), there is not much farming land, but it is highly adapted to stock raising, as all the country is covered with the finest of bunch grass. Anywhere you wish to stop on the river you have a good stock ranch, for the country for a hundred miles both North, South and East is covered with the finest sort of grass and underbrush for cattle and horses. Also the numerous clusters of junipers afford a shelter that is actually better than a barn, for it never gets muddy under foot. I have been here eleven years, and I think the average depth of snow is two inches. Sometimes for two months in Winter there is no snow at all, but other times the snow falls about 8 inches deep, and then comes the "chinook" or warm Southwest coast winds, which takes it all off except on the North side of the hills. In the Winter the stock goes back onto what we call desert land, where the grass is reserved in Summer for them in Winter, not by being fenced, but for the reason that in Summer there is no water, but in Winter it is plenty, and for this reason there will be plenty of grass on these places for fifty years or longer. Stock raisers have but very little use for other than the natural feed that is free for every man.

There are numerous little valleys in every direction that are very fertile for all the small grains and grasses. All the hardy vegetables do well here, and in many places all kinds are raised. From the Deschutes river you pass over 12 miles of country that is literally covered with grass, juniper timber and plenty of browse for stock in Winter. Then you are at the lower end of Crooked river valley, which is about 75 miles long and extends almost due east and west. This is a beautiful valley with little or no timber in it, with the exception of willows along the river.

Now comes the stock country on the South of this river, and along its entire length is one line of hills and plateaus thickly covered with bunch grass of the best quality. Every few miles comes in a creek from the highlands back on either side. On these streams from head to mouth, with few exceptions, are good farming lands. At this time there are hundreds of thousands of acres of land lying idle, waiting for the industrious farmer to fence and plow and raise grain on. But what is the use? There is no market for grain, except in limited quantities, as we have no facilities for shipping to the outside world. The consequence is that if a man doesn't have enough money to go into the stock business he won't come here at all. The one great trouble here is to get our supplies. When a man with a large family has to go 150 and sometimes 200 miles to mill and to do his trading, what is the use of settling in such a country. If we had a railroad somewhere on the coast west of here, and running East so as to connect with some of the through lines it would open up thousands of good farms and homes.

As soon as it is settled fact that the Oregon Pacific will be built, just whisper the tidings that there is such a country as this, and only lying across the mountains from the Willamette valley, and there will be such a stream of emigration across the Cascades as was never before seen. The famous Palouse country will never be heard of again. Our soil is just as productive as theirs, and the climate here is a great deal milder, but they have transportation and we have not. Give us a railroad and we are satisfied; it is all that is needed to make this one of the most prosperous localities on the coast. Within a year after the completion of a railroad to this locality, the people over in your section will be surprised at the vast amount of grain received from here. Your whole valley and the Sound country will be supplied with stock from here. As it is now we have to drive our fat cattle from one to two hundred miles in the winter to find a market, and by the time we get them there they are poor. Give us a railroad and we can ship our fat stock 500 miles to market and afford to sell cheaper than those who live in your valley. We do not have to feed at all. We mark and brand a calf turn him out on the range and when he is four-year-old sell him for \$20 cash—net profit about \$17. Does that pay? Give us facilities for getting to a better market, and it will pay better.

Our whole country is either the best of

farming or grazing land, and if a railroad is run through it every acre will be worth from \$10 to \$100. Nearly all the land belonging to the Cascade Mountain Wagon Road Company in this section is of the very best, and as it is not now for sale it retards the settlement of the country very much. It would be very valuable in case a railroad should run through here.

As you go east from here along the line of the military road the valleys get a great deal larger, the soil more productive, the climate milder, and the timber is of a better quality, and there is more of it, and the country is capable of sustaining a very large population, but without a railroad it will always have to be devoted exclusively to stock raising.

CATTLE AND HORSES.

A gentleman from Denver, named Cole, a brother of Mr. David Cole, a merchant in this city, was lately here on a visit to his friends and attended the State Fair. He was a stock man in Colorado, and expressed surprise at the great improvement made here in breeding draft horses, and very freely confessed that our Clydesdales and Percherons are far in advance of horse breeding in Colorado. We have among us, through all this broad and long Columbia region, fine stock imported from Europe as well as the best bred in America. In every department of stock this excellence is discernable. Horse men invest their money in thoroughbreds, trotters, roadsters, and from the English coach horse to the heaviest Percherons or Clydesdales, we strive for perfection.

The most eminent cattle breeders of California sent up a herd of Short-horns to our last State Fair, and nearly the whole herd was bought up at full and satisfactory prices by Mr. M. Fiske, a heavy Eastern cattle breeder, who continually buys the best blood he can find to improve his immense herds, so that gradually but surely the cattle that range upon the thrice ten thousand hills of bunch grass land East of the Cascades are becoming infused with Short Horn blood and improving in quality for beef, for which they are now so eagerly sought that hundreds of thousands of cattle were driven East, over the mountains and plains, the last season. The example of Mr. Fiske is not a single instance; the Stewarts of Yamhill, good friends of the WILLAMETTE FARMER for many years, have moved their Short Horn herd East of the mountains, and now have a large trading establishment there. There are several breeders of Short Horns in the Willamette valley, also Holsteins, Jerseys and Alderneys can be found in their purity, and our friends, Hon. M. Willkins, president of the State Agricultural Society, and his sons, are making a success of the red Devons, which they find by experience are well adapted to the peculiarities of our country and climate. We have thus briefly, in the outset, tried to show the distant reader that the stock interests are not neglected in our far West-coast country, and that already we feed the markets of the world. Of the 150,000 head of cattle driven from here this year no doubt a proportion will in due time feed the hungry millions of the United Kingdom of Great Britain, Ireland and Scotland. So we are making ourselves known to the world, and necessary in supplying the great staples of commerce.

THE GREAT ADVANTAGES WE OFFER.

Some people (not many) come here and go away again, not liking our country. So in 1849, people went to California and left in disgust when they found that gold could not be had without digging for it. Those who come here with reasonable anticipations are invariably satisfied and soon make homes and are friends to the country. To claim that we have here good soil and a pleasant climate and that a man can do better here, if he is competent and industrious, than in almost any other region, is not too much. We confidently assert that if a man has money—say from \$1,000 to \$10,000, he can go to any part of Oregon or Washington Territory and locate to best advantage in the oldest settled districts. He can watch his chances to buy land, or can locate on some vacant government, or State, or railroad land, and soon make himself a pleasant home. If he has a little means to use he can go to Eastern Oregon or to Eastern Washington, where a wide region invites settlement. He will perhaps be bewildered as to what direction to take, but he only needs to make his choice and then find his location. In a new country like that many are always ready to sell out their claims and their improvements for a trifle. The railroad companies are ready to furnish information. People who live there are anxious to secure good neighbors to build up their community, and everywhere the immigrant can obtain valuable information. We shall give as minute details as possible as we proceed to describe the different counties, and shall make all possible effort to give reliable information.

The advantages of the country are numerous. The man without means but with health, courage and strength, can find in the Pacific North West the best possible field for the use of his capital, and Oregon is filled up with prosperous farmers who came here with

native strength and will, and have made themselves comfortably wealthy, and that, too, when the era of development had not fairly commenced.

In regard to climate, alone, it offers great inducements. Fever and ague is unknown here in the sense it prevails in many Western and Southern States. A mild form of chills and fever is known but is easily broken, and very seldom occurs. The writer of this had a single chill last summer, and heard of a few cases only in all his associations. The singular character of our Willamette valley can be understood when we say that it is possible to sow wheat here every month in the year. We have known wheat sown in June, to afford good fall pasture, and make a crop the next Summer. The writer of this, when farming, has sown White Winter wheat from September to the middle of March, without any failure. In this country we have no extremes of Summer or Winter. A few days of hot weather may occur in the Summer, but the nights are always so cool as to require a blanket through July or August. The prevailing North winds keep the Summers cool, and the prevailing South winds keep the Winters warm, and when the Winters are most severe they are modified greatly by the ocean current that circles the coast of Asia and North America to bring us the warmth of the Chinese seas. There are exceptions to all rules, so thrice in the more than thirty years since we have lived in Oregon we have seen the rivers frozen and a few weeks of cold weather. There is usually a cold snap about the holidays that is more or less severe. Skating is a luxury the boys and girls often do without, and sleighing is only known once in four or five years at a time, and is short lived then. The three hard Winters have been phenomenal and not so much dreaded by the farmers because the succeeding crop has always been exceptionally good. Several times we have known wild strawberries to ripen on the hill sides in December, and in 1872-3, flowers were in bloom all Winter. The world hears of our rainy season in the Willamette with a feeling of dread, but the inhabitants of "Webfoot," as our Eastern neighbors and Californians sarcastically term us, know that the Winter rains secure health and exemption from colds, and that their crops, literally, never fairly fail, the only exception being when the climatic conditions were unusual in 1879, and warm rains in July caused rust. So we have a considerable satisfaction in the possession of Winter rains that produce bounteous harvests in strong contrast with the periodical famines that blight the hopes of the producers in Kansas and California. The emigrant who was driven by famine and grasshoppers out of Kansas and reaches Oregon, never complains of rain, nor does the Californian who saw ruin in his blighted crops, and packed up what he could carry off, leaving the sheriff to settle his accounts, while he sought a home in Oregon for his family, ever complain that rain is a discomfort. The present year rains fell early in October, and towards the middle of the month there was about a week of rainfall, though not excessive. All through November the weather was clear and frosty, as delightful weather as could be desired for the last of Autumn. The writer of this was last week absent on a trip up the valley, and then went twenty miles to the foothills of the Cascade range, riding for two days in the open air. It is not usual that we have frosts in November, but they have not been severe enough to kill the grass, and everywhere we went we saw farmers plowing their fields, and some were sowing them to wheat, though we believe they would do better to wait until February to sow.

People who are used to this climate do not care for ordinary rain. Storms that are severe seldom occur, and the light rains of Winter are frequently very warm and do not keep men from work. We have run a logging team all Winter with only three days lost time on account of the weather. The rains of the Western valleys have their compensation in the precious benefits they confer. They have, since the settlement of the country, for forty years insured good crops, with the exception of last year when Spring wheat was affected by rust. The rolling prairies and hill lands can be cultivated at any time, but there are rich, low lands that cannot be sowed unless well drained, until Spring, but the continuance of pleasant showers through June is usually to be depended on, and we see wheat of the Spring varieties sown until June, and frequently Spring sown wheat yields a rich harvest. Seed time, in Western Oregon, is therefore a continuous season for over eight months, from early in September until late in May.

It is not necessary to say here more than that for ordinary vegetables and fruits no country in the world excels the Pacific Northwest. The moist climate of the Western valleys causes a richness of flavor that is appreciated abroad. Apples, pears, cherries, plums and prunes, all thrive in the best possible manner. Small fruits all do well, and in the future fruit growing will prove one of the most remunerative sources of wealth. Grapes and peaches do not like our cool nights in Summer, and the same is true of corn, though all these are grown here, but not in their greatest perfection.

SOMETHING BETTER THAN CORN.

An incident that we published in the FARMER a month ago illustrates the difference

between this region and the corn-growing West. It seems that a man from Missouri had reached Eastern Oregon with his family and was returning down the Columbia river disheartened and much discouraged because the products of the country were so different from what he was accustomed to. On board the same steamer was Mr. R. R. Thompson, one of the chief owners in the Oregon Steam Navigation Company, who being an old resident of Oregon, understood the practical workings of the country. Hearing this stranger condemn the country, Mr. Thompson asked him what was the matter with it, and the answer was: "What is a country good for that cannot raise corn? I came from Missouri where the corn crop was the big thing, and I don't know what to do in a country where corn cannot grow and mature to advantage." "But we have something better than corn here," said Mr. Thompson, and proceeded to explain to the new-comer from Missouri what the country produced and how our products were disposed of. The emigrant explained that he had spent so much getting here with his family and prospecting the country since his arrival that he had not means to go back to Missouri if he wished to, or to locate here to advantage if he remained. Mr. Thompson then suggested to him that if he would go out several miles East of Portland among the market gardeners, he could rent a piece of land on shares and soon make a raise by growing vegetables for the Portland market. Three years passed, and one day Mr. Thompson met near the office of the O. S. N. Co., a farmer who was turning over his wagon load of vegetables to the commissary of the company. The farmer recognized him and called his attention to the fact of their meeting on the river steamer three years previously. Said he: "I am the man who couldn't see any good in a country where I couldn't raise corn," and went on to explain that he had followed his advice—had at first rented a piece of land on shares—after the first year bought 25 acres of good land, 20 acres of which was cleared and in cultivation; that he had a house and barn on it, owned the team and wagon he saw, and had always felt obliged to him for the excellent advice he had had the good sense to follow.

OREGON AND CALIFORNIA COMPARED.

During the early period of our history, from the discovery of gold to within a few years past, the products of Oregon were all shipped to California and sent to the world as the products of that State. The immigrant who had heard of Oregon, its climate, rich soil, certain products and great natural advantages, and attempted to come here by the usual route, had to run the gauntlet of misrepresentations and intimidations as he passed through that State, and was met hundreds of miles before he reached its borders by runners who were employed to represent the interests of land sharks who spared no pains to make the man bound for Oregon believe that this State was a wild and uncivilized region which enjoyed no privileges, had no extent of resources, and was not fit for settlement. We have met many persons in years past who have narrated the efforts thus made to detain them in California, and the misrepresentations they had to endure. Many were detained and induced to settle in some locality where land was sold at an enormous price and crops were so uncertain that they soon found themselves ruined beyond recovery, and learned that Oregon could have offered them good homes and a certainty of success beyond any State in the Union.

California is unhappily claimed in immense grants made in days long past, under Mexican rule, that have fallen into the possession of speculators who seem to be soulless, and induce settlement of their land by any means possible. Land monopoly is the curse of the State. A friend who, after residing in Oregon for many years, has lately spent considerable time in California, represents it as a land of the enormously rich and the miserably poor. The difference of condition among farmers is all in favor of the Oregon farmer, who has his land without cost, if a pioneer, and whose home is surrounded with comforts and looked upon as a permanent residence, while the grain ranches of California often possess no attractions of home life, and one journey for a day without sight of orchard or garden. The failure of crops occurs in California so often as to make wheat growing a precarious business. Drouths produced either total or partial failures there in 1869, 1870, 1871, 1875 and 1877, and in 1879, many who had rented land and sowed large fields, when they saw them blighted, packed up their few household goods, and with their families, made their way Northward to Oregon to seek a land where rainfall was certain and crops equally certain. In many respects the two States differ, but in all material respects that difference is in favor of the North Pacific region. The people are as different as the climate and the surroundings. Take the older settlements of Western Oregon and Washington, and we find society organized as well as in the most favored Eastern States. School houses are

everywhere. The school system of the State is well managed, and the school fund furnished by the State materially aids the cause of education. Towns and villages glisten on the prairies and among the hills, and trade and commerce are conducted with animated rivalry, while the mechanic arts are encouraged and prosper everywhere. The Willamette valley not only has a navigable river through its midst but is fairly seamed with competing railways. Churches are well sustained; the farmers have their clubs and leagues; the villagers have excellent schools and academies, and life here is all that the most exacting could desire, and far more than could be expected of a region so remote and so comparatively new.

The Pacific Northwest bears well the most scrutinizing comparison with California and Nevada, for with all the glamour and glory of gold and silver mines and orange groves, the pride of vineyards and orchards, there is nothing so permanent and reliable, so satisfactory in all respects to the actual settler who wishes to make a home for himself and his children after him, that California can offer that can equal the advantages to be found to the northward. This is a broad assertion, but will be borne out by facts. What with them is ephemeral, the glitter and gloss of life, underlain by struggle and poverty, with us is steady progress and the patient result of labor. There is no glitter of gold or glamour of tropical sunshine to be followed by periodical famine, but the people, the climate and the country possess the temperate character on which the greatest nations of the earth have been built. There are a few men among us who have amassed wealth, but it was by good business enterprise and judgment, practiced for many years. Their wealth came gradually but certainly, with the development of the country, not by schemes and practices that beguiled half the population besides. Oregon and Washington Territory have been settled under disadvantages that may have retarded their growth, but that growth has been healthy; society here is sound at the core; farmers own their own land, almost exclusively, and neighborhoods consist of those who by long association are become a united community.

EXCELLENCE OF PRODUCTS.

We have often had occasion to show the superior qualities of Oregon products, and what we now claim is easy of proof. The products of Oregon rank high in all respects. As we have shown, and as market quotations continually prove, the same variety of wheat grown in Oregon is worth five cents a bushel in Liverpool more than if grown in California. The California market is supplied with oats from Oregon and Puget Sound, which the commercial papers of San Francisco quote far above the same grown there. Our vegetables sell there higher than their own, because our cool, moist climate produces a healthier and more perfect development than the rank growth of California. California products rate high in the world and occasion wonder to all who go there, but even Californians prefer and pay higher for all products from the north. It is not too much to claim that our vegetables equal any and excel most of those grown in any part of the United States. Take the whole line of vegetable products, and though there may be some that are not natural to our climate, we can grow most of the vegetables known in temperate climes in the greatest perfection.

The same is true of our fruits; apples, pears, cherries, plums and prunes grow here in the greatest profusion and excellence. Our winter apples are marketed in San Francisco. It is acknowledged that apples and pears have a richer flavor than the same varieties possess in California, for the same reason we gave in connection with vegetables. No blight has attacked fruit, except for three years past the apple tree louse has devastated apple orchards in some localities, but that is a pest that will undoubtedly soon disappear. Cherries grow here to the greatest possible excellence. The curculio has never been known on this coast, and the plum and prune bear usually in great profusion and have superior richness and flavor. The estimation in which our fruits are held in California can be shown by stating that M. G. Newberry, a fruit merchant in this city, forwarded the product of a plum and prune orchard planted near Portland by Dr. Cardwell to a fruit cannery in California, on such terms that they netted the fruit grower two cents a pound for the fruit. The reason given for the purchase was that Oregon fruits were superior, and they could afford to pay this price. We have for five years past urged the farmer of this region to plant out large orchards of these fruits, as they can be dried or canned to advantage and shipped abroad. The great yield of plums and prunes to the acre, and the demand that exists for them among all nations, makes this a safe business to invest in, more especially as the United States imports not less than five millions of dollars worth annually, so we can depend on a home market, the ravages of the curculio making it impossible to grow plums and prunes east of the Rocky Mountains. We planted an orchard of 3000 trees some years ago, and so showed faith in this opinion. The cultivation of peaches and grapes, as we have

said, is not so well repaid with us, though they grow in greater perfection east of the Cascades.

FLAX AND WOOL.

Flax is extensively grown for seed and the manufacture of linseed oil is carried on to good advantage at Salem, so as to abundantly supply all our own needs in that respect. Flax for fiber has been also grown and sent to Ireland, and the fiber is said to fully equal the best used in the manufacture of the finest Irish linen goods. It needs only that capital shall take hold of the matter and labor become procurable, to make the production and manufacture of flax on the largest scale possible in Oregon. This matter has been shown up for years past in the FARMER, but in a new country like this great manufacturing enterprises move slowly. It is not possible to grow flax to perfection in most countries, but our climate resembles that of the north of Ireland, and enough has been done here to show that we can grow the best of flax to advantage and profit, in due time, and Western Oregon abounds in water-power to drive the mills and factories of half the world. These facts illustrate the possibilities of the future.

Oregon wool has a character of its own now in the New York and Boston markets, and is fast taking rank with the best fleeces that reach the east. We have here shown the superior quality of all Oregon products, and have only asserted facts that have been proved over and over again during the ten years we have conducted the WILLAMETTE FARMER. The reader who understands the influence of climate on soil and products can readily see why this excellence is attained.

OREGON AT THE CENTENNIAL.

During the Centennial Exposition at Philadelphia Oregon products were exhibited to good advantage and astonished visitors from all parts of the world. Hon. A. J. Dufur, Commissioner for Oregon, secured for our state 33 prizes for all our leading products, and in some respects carried off more prizes than were awarded any other state. Oregon grain was exhibited in the sheaf and in glass, and surprised all who understood its value. One Englishman declared the kernels must have been selected by hand, while his wife dryly remarked: "Hout mon; they must have had something pretty good to pick from." An experienced English wool-grower examined our wool samples carefully with a glass and remarked that it must have grown in a climate that had no extremes of cold or heat, as its fiber was uniform and showed no weak spot in all its length. Hon. M. Wilkins received first prize for a fleece of New-Oxfordshire that was classed as long wool. It was at the Centennial that woolen manufacturers were first attracted by the superior quality of Oregon wools of all kinds. Against the 33 prizes awarded to Oregon California received but three, which were given on samples of native wines. Adjoining the Oregon display was that of Wisconsin, which the agents of that State declared themselves ashamed to exhibit in contrast.

At the Paris Exposition, again, where Mr. J. Van Buren remained as Commissioner, the Oregon display attracted great attention from citizens of all countries, and received numerous prizes, one general prize being awarded to the whole as a state exhibit, while no other was granted to any State in the Union. There must be some great excellence in the products of a new and remote region, like ours, when it can engage with so much glory to itself in competition where the products of all nations, subject to the most perfect cultivation, compete in rivalry. What we have stated above are facts that the records of the world's greatest industrial exhibitions bear out. The premium paid for Oregon products gives a successful foundation for permanent wealth, and if only that much can be saved as accumulations, the agriculture of the country will be enriched. The fact that good crops are the rule with us doubles the inducement we offer emigrants.

We not only now compete with California abroad but have made successful exhibits of our products in the fairs of the Mechanics' Institute, annually held in San Francisco. Mr. P. Shulze, Land Agent of the O. & C. R. R. Co., has shown great skill and energy in collecting samples of our agricultural products to exhibit there, and they have not only attracted particular attention, but it is conceded have excelled all showings of the kind made from the products of that State.

President Hayes chanced to be in Portland in October, when our own Mechanics' Fair was held, and showed the greatest interest in the collection of cereals and grasses shown by Mr. Shulze, and was especially interested in the splendid showing of fruits gathered and exhibited for the State Horticultural Society by its president, Mr. H. Miller. He weighed the heavy apples in his hand and offered a doubt if the fruits he saw could be real. The sight of a single limb of Coe's Golden Drop Plums, hung thickly with fruit as large as eggs, was a sight he had never seen equaled. The President showed more interest in fruits, vegetables and cereals than in the rest of the display.

HEALTHFULNESS.

The present census returns are not yet public so as to make the comparison of health with other States possible, but the census of 1870 showed the death-rate in Oregon to be only 0.69 per cent. of the population, against an average of almost twice that rate for the whole United States. It were folly to claim that any region is blessed with immunity from disease, but we can claim for the wide scope of country embraced in Oregon and Washington that it is healthful in the extreme, that malarial diseases exist only in a mild type, and then generally in river bottoms or valley lands, typhus and typhoid fevers never exist as an epidemic, and the dry climate of Middle and Eastern Oregon and Washington is renowned for the curative effects upon rheumatism and lung complaints. We claim enough when we state these facts. The exemption from sudden changes constitutes a preventive against the ills that prevail both in summer and winter in other countries. As we have already remarked, the rains of winter are recognized as securing health, and considered the most healthy season of the year.

COMMERCE OF THE COLUMBIA RIVER.

The annual report of the Portland Board of Trade for the year ending Aug. 1st, 1880, shows the exports of our region for that time amounted to fifteen millions of dollars, and that too when the rust in spring wheat caused a loss in the Willamette Valley of not less than two millions and a half of dollars. The exports were as follows:

Wheat and flour	\$6,609,150
Canned and packed salmon	2,769,815
Coal and lumber from Coos Bay	233,763
Wool	2,155,147
Gold and silver from mines	900,000
Cattle driven east	854,000
Oats, potatoes, hops, lumber, hides, etc. sent to San Francisco	1,523,376
	\$15,045,251

If the wheat yield of 1880 can be sold at the same price that was received for that of 1879, the total proceeds will be over \$9,000,000 net to the farmers of the country. When we compare the population of these two States with the total of the United States, and recollect that the products of Puget Sound and some other parts of this territory are not included, the result is really astonishing. We represent only one two-hundredth part of the people of the nation; our exports equal \$60 for every individual, and at the same rate the total exports of the nation would be \$3,000,000,000 above the products used for home consumption, and that would not include manufactured goods; also we must remember that we have fed and in part clothed ourselves besides. Our shipments and exports have only made a commencement. Our exports of breadstuffs to Europe have increased from less than 200,000 cents in 1871 to more than 5,000,000 cents in 1880. It is only within five years past that direct commerce between European ports and the Columbia river has assumed any importance. It is safe to say that this commerce will increase in magnitude rapidly, and when railroad transit is perfected across the continent a trade with Asia will develop that will build up a great metropolis here to reap its advantages. To one who has grown gray watching the slow progress of events for over thirty years, the prospect of the future of this country seems wonderful. Very soon we shall see the doors thrown wide open, and direct railroad connection will bring the Pacific Northwest within easy reach of the older world, and our climate and resources will bring the old world thronging to our portals.

ABOUT GRASSES.

Several questions have lately asked through the FARMER, relative to the best way to seed down pastures in the Willamette valley. The answer to this will cover all Western Oregon and Washington, as the climate of all the country West of the great Cascade range is humid, and the conditions are similar. We have repeatedly asserted that this question was the most important one for the consideration of our farmers, and four years ago it was discussed at great length in our columns and the information furnished from the experience of correspondents proved of great value to the country, and has produced practical results of no small importance.

The early comers came down off the Cascade mountains into the Willamette valley and found here an earthly paradise waiting for the coming of their flocks and herds. Through the valley the native grass waved to the billowing sea breeze, scarce an animal being present there to crop it. This grass was not heavy but it was abundant and very nutritious, and for many years, and until by over-cropping it was eaten out, it kept stock without expense Summer and Winter and coined wealth for stock owners. At that time, too,

Mr. Minto and others assure us that the hills of Marion and Yamhill counties, and no doubt of other counties, abounded in a delicate wild clover that afterwards disappeared, but we have seen it coming in again through the country, and specimens have been exhibited in the sheaf.

Much might be written about our native grasses, and we remember that D. D. Prettyman made a collection of them two years ago, which were shown in the sheaf and made a very attractive exhibit at our State Fair and at the Mechanics' Fair at San Francisco, and we think Mr. Shulze has them yet. The important fact seems to be that very few of the native grasses of Oregon are able to stand heavy feeding, though an exception may be found in the bunch grass that is the pride of stock men East of the Cascades. In the Western valleys the range, when eaten out, is bare and almost worthless, and how to replace the transient native grasses with permanent and enriching pasturage, is the most important of all practical questions now under consideration. With all that has been communicated the subject is yet an open one, and we shall proceed to state what we personally know or have observed.

It is proved beyond dispute that the grass long past known at Clatsop as velvet grass, also known in England as soft meadow grass, which is commonly called mesquite grass, and as such is native to Texas and well appreciated there, will make permanent pasture and yield very abundantly. Some say it is not the best feed, and that stock will not eat it if they can get other feed, while others—we instance Hon. M. Wilkins and Mr. J. B. Knapp, say stock prefer it to most other grasses and that they thrive upon it, and that milk cows yield very freely where they can get it. Perhaps it does better here than in England, for in Texas it is considered invaluable. It is called there "running mesquite," because it spreads from the root. It is not easily destroyed when once it takes hold, and soon makes a dense sod, through which it is said, fern cannot force its way. Mr. John Simpson, of Siuslaw, wrote concerning it that it grew very thrifty and made fair hay. It seems to be so light that the crop of hay is small, but we are informed that Clatsop farmers have no other. It can be pastured all Fall and Winter, and will yield well for hay afterwards, which is not the case with other grasses. Mr. S. W. Hartley, of Waldo Hills, sowed it on his bare pasture and when we saw it, years ago, it was a green field. In the foot hills, or on any brush land, when sown on a burn in September, it can be pastured late in the same Fall and all Winter. Tramping does not harm it. It grows all through Winter except when it is frozen solid. Mr. Thomas Cross, near Salem, showed us rank grass, a foot high in the early part of March, that he said was eaten down close the latter part of January. We sowed it on a light burn in the foot hills, and the other day we found it, where it had not seen the day light since last Spring, because of high and dense growth of ferns, yet it was rank and green, and evidently growing thickly. Go into a piece of woods and slash and burn the underbrush and sow mesquite grass in the ashes and it will make quick growth. It is the only grass we know of that will grow in the shade, and it certainly will, so by its means much timber land can be made to yield pasturage. It can be mixed with other grasses, and perhaps would insure better pasture thereby, especially mixed with small white clover, but those who claim to know, say mesquite grass or velvet grass, will soon root out all others, but mixed pasture is certainly to be preferred.

Clover of wild growth was found on the red hills through the Willamette valley, but the cultivated varieties do not thrive well under all circumstances. We know of a small meadow belonging to Mr. R. H. Dearbon, of South Salem, sowed with grain, one Spring to timothy and clover, where for years we watched the hay made there with a consciousness that the clover did wonderfully well, but when we ask, as we often do, what grasses a farmer tries to grow, we are often told that clover is not a success. It seems to succeed well on sandy river bottom, as Hon. John Minto grows it to great profit on the island opposite Salem. Alfalfa, we have never known to succeed here as it does in California. A few years ago the Kinneys, at Salem, sowed it in a gravelly lot in town and made a growth for several years, and then died out. We do not know that it has ever been thoroughly tried under the most favorable conditions, but have often heard of its failure. Red clover we think can be made a success with proper effort, and we expect to sow down an orchard to red clover this Spring. The small white clover seems to have a natural affinity to our soils both here and East of the mountains. It can be seen taking hold and doing well where it was never sowed, on pastures, in lanes and barn yards, and along the highways everywhere.

As will be seen our experience is not as wide as it might be, but we have confidence it is correct, and we write thus fully of it to induce others to give their experience. We have mesquite and orchard grass, white clover and timothy in many pastures, and timothy is for meadows, and it seems as if other varieties of grasses should possess equal advantages with these.

MAP OF WESTERN OREGON AND WASHINGTON.

EXPLANATIONS.

..... Represents O. & C. R. R. and branches, from Portland South to Roseburg.
 Represents the N. P. R. R., from Kalama on the Columbia river, North to Tacoma on Puget Sound, and the Puyallup branch.
 Represents Oregonian Railway Co.'s Narrow Gauge road, with branches on both sides of the Willamette Valley.
 The engravers have omitted from the map the narrow gauge branch to Sheridan, Yamhill County; also the O. & C. R. R. Co.'s branch from Albany to Lebanon, in Linu County.
 The line from the mouth of Columbia river, South, indicates the ocean steamship's route to San Francisco.
 The reader is reminded that the Columbia river constitutes the division line between Oregon and Washington Territory.
 The engraver has made some mistake in spelling proper names, which we are not accountable for, and has omitted some prominent points that he was instructed to name.

From the Willamette Farmer of Dec 17, 1880.

THE PACIFIC NORTHWEST.

DESCRIPTION OF THE GREAT COLUMBIAN REGION.

Particulars as to Climate, Soil, Products, Resources, Statistics, with Facts and Incidents Concerning Oregon and Washington.

WESTERN OREGON AND WASHINGTON.

We present our readers this week with a map of Western Oregon and Washington to illustrate the description of the several counties which follows. This map is bounded on the East by the great Cascade range of mountains which runs North and South and divides the country into what is known as the Eastern and Western regions. While there are a few passes discovered through the rugged Cascade mountains over which roads or trails have been made, the great bulk of travel is by way of the Columbia river, which cuts its way through the range. Western Oregon and Washington have very similar climate, humid and not often disturbed by extremes of heat and cold, as the direct influences of the sea air, heated by warm ocean currents, preserves the humidity the year round, and regulates the temperature. We can readily illustrate the character of our Winter climate by the past two weeks. December came in with what for this country was unusual cold. This cold was more intense East of the Mountains, and suddenly navigation closed there. The ice that came down from above gorged the Columbia below the Willamette, and matters looked serious. This lasted a week or so and as suddenly the weather changed to warm rains from the South. What Eastern Oregon people call the "Chinook wind" came up the river and swept off the frosts. Suddenly again the rain in the lower Willamette valley changed to snow, which fell to the depth of 8 or 10 inches, and extended East of the Mountains far and near. Now the snow is all gone. Warm winds and rains have taken it all away, and the atmosphere is so tropical that Winter flannels are uncomfortable. At the head of the Willamette valley and over in Douglas county they had neither rain or snow, while snow fell here. Last night we sat and wrote all the evening without any fire, and it is very possible, while there may be cold rains at times, that we shall have no sharp frosty weather from this until Spring. It is often the case that our farmers find January and February good seasons to put in grain.

In addition to publishing a map of all Western Oregon and Washington we have gathered from the government land offices at Vancouver, Oregon City and Roseburg, and the office of the Surveyor General of Oregon here, statements from which we compile a table showing the superficial area of land in each county, the amount that has been surveyed, amount not surveyed, and how much has been settled. These figures will be supplemented with statement of lands in each county held by grants from government, such as lands granted railroads and wagon roads, lands awarded to the State and territory for educational and other uses, so that we can present a fair idea of the land in each county available for further settlement.

During the past week we have visited Astoria to acquire information concerning the counties down the Columbia river, so as to be able to describe them with sufficient accuracy. While we present many statistics in tabular form, which is a great saving of space, we also sketch each county in a manner as graphic as can be done in a few words, to give a general idea of its location and advantages, lay of country and character of soil and products, and such features of interest as will advantage the general reader and the intending immigrant.

CLATSOP COUNTY

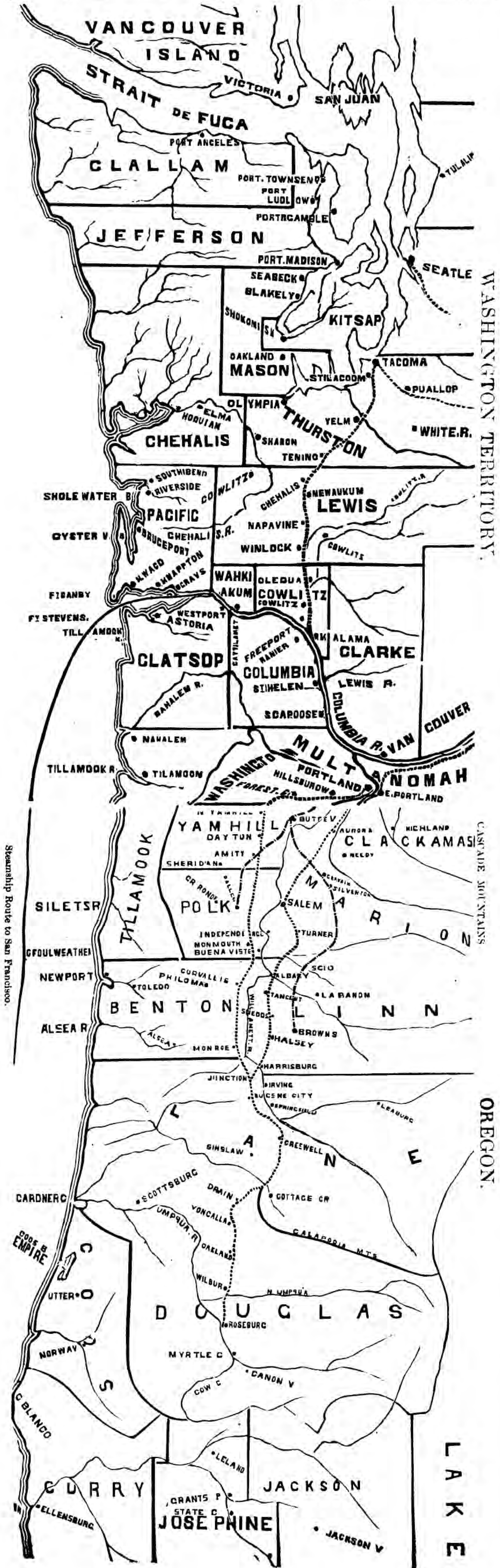
Lies in the Northwest corner of the State, South of the entrance of the Columbia river. A sandy peninsula about ten miles long and one to three miles wide, lies between Young's Bay and the ocean, and reaches to the South side of the river entrance. This land consists of sandy beaches thrown up by tides through past centuries; the soil is light and excellent for pasturage and some kinds of grain (not wheat) and vegetables. Sheep in considerable numbers, as well as cattle and horses are kept here, and dairying forms a leading industry; there are five cheese factories on Clatsop plains. Owing to the fact that these "plains" were accessible from Astoria and easily tilled, they were occupied by the very earliest settlers and have been long cultivated. Apart from this small portion of the county, the

general character of land is hilly, and even mountainous in portions, and often heavily wooded. Young's Bay extends South from the main harbor and is West and South of Astoria; into this bay put several streams, Young's river, Clackamas river, and Lewis and Clarke's river—at the mouth of which, on Clatsop plains, they wintered in 1804. These streams all head up towards Saddle Mountain, a striking feature of the Columbia river landscape to the South, which is part of a range of hills that divide the Nehalem river from these streams, and Col. James Taylor, one of the oldest residents of that country, informs us that a valley of 12 to 15 miles wide by 20 to 25 miles long, is made by these streams, with low wooded plateaux between, all of which is rich soil and well adapted, when cleared, to all varieties of cereals, fruits and vegetables. The low lands are generally covered with alder and vine maple, but are of the richest soil; the uplands have occasional springs, and are often heavily wooded with fir and spruce that will some time command value. All this region is unexcelled for cattle and dairying and is but sparsely occupied. To the South of Saddle Mountain comes in the great Nehalem river, which heads not very far from its mouth, circles for 200 miles and offers a beautiful valley on the main stream and its branches that is certain one day to become densely populated and immensely productive. Along the Columbia above Astoria we come to John Day's river, which has a beautiful and well settled valley back, that makes no show on the main river; above are occasional clearings until we reach Knappa, back of which is quite a settlement, located on table lands and fertile prairies and along Knappa creek. Another good settlement is back of Westport, which is near the Eastern county line. While this covers the Northern face of the county, which is only partially settled, back of it lies the rich and extensive Nehalem valley and the bench lands adjoining it, all of which, nearly, is vacant land. A great part of Clatsop county has never yet been surveyed, and in the future the greater portion of it will become valuable farming land. Col. Talcott, of the Engineer Service, U. S. A., was employed to run a preliminary line to see how a railroad could be located, and he asserts that the uplands between the Nehalem river and Washington county constitute an extensive region of timbered uplands lying favorably and of great fertility. This region has never been surveyed. Col. Taylor represents that the appearance of the shores of the Columbia is no indications of the lands back, as all the way, on both sides the river, when back from three to five miles the land becomes more level and suitable for settlement, which is no doubt the case. The tides rise in the rivers putting into Young's Bay, and constitute a large area of tide lands upon those streams, and give excellent range for cattle all the year round. These tide lands can be easily dyked and made available for profitable cultivation. Of course all parts of Clatsop county are well watered. Around Saddle Mountain and the head of the streams running North from it, excellent coal has been found, and the deposit is so great that the future of the county must develop much wealth from this source.

ASTORIA.

Standing on a point of land that reaches out into the wide stream, Astoria presents a picturesque view. Here was the first establishment of the American Fur Company, and the relics of their buildings and works were to be seen not long since. The business houses, hotels, wharves and warehouses are all built out over the water. As a point of supply for the mills, fisheries, shipping and trade of the lower Columbia, the town must grow steadily and the development of the country around it will aid that growth. There is an extensive region dependent on it that will gradually fill up and become productive, but as yet the rush of immigration is for an open country where the plow can be put to work at once; but when all is said, it must be apparent that rich and inexhaustible lands that are so near market cannot long be overlooked. The States of New York, Ohio and Pennsylvania had to be in great part redeemed from just such a wilderness, and the whole region of the Lower Columbia offers greater advantages today than the great States at the East did, even half a century ago.

All along the shores of the lower river the traveller is frequently in sight of fisheries and canneries, or saw-mills. These are the visible industries and though they are of great importance and produce millions they do not materially concern us, as we are considering the agricultural resources of the country, and the development that is possible from that standpoint. But the agriculture of this region must always find a market for its product by



supplying these hereafter to be engaged in these occupations and in the coal mines that are certain to be developed and require many laborers.

TILLAMOOK COUNTY.

South of Clatsop, along the coast, is Tillamook Bay, into which several streams enter and form a country that is isolated but very attractive to its people. There are other bays and streams in Tillamook county, but as the outlet across the Coast mountains is difficult this region is naturally tributary to the Columbia river. Sloops go around and make their way to Portland with choice butter and other products. Cattle and sheep do well there, and the county possesses great advantages for settlement, which will increase as facilities improve. The country is generally rough, with some open reaches, and shares the description we have given of Clatsop. The coast region is all favorable for stock and dairy interests, and as the country fills up and cities grow and create demand, dairying must become a more permanent occupation. As it is, we do not supply our home market reliably with good dairy products.

COLUMBIA COUNTY.

This county lies East of Clatsop and has a value that we appreciate better the more we understand it. The Klaskanine comes in here and good farming is found on its shores. Along the Western border there are small valleys and settlements on them, and quite a settlement is located at Oak Point. The streams which put into the Columbia river along this county are small, for they rise in a range of high hills that divide it from the Nehalem river, which is only eight to fourteen miles distant. We should be glad to do better justice to this county than is possible, and we must confess to having gained a great respect for it from facts we gather and acquaintance with its people. Our subscription list over at Riverside, on the Nehalem, shows we have many friends there, and from them we have gained a high appreciation of the Nehalem country. Many of these are Scandinavians, and it is interesting to notice that these people seldom locate in prairie countries, but prefer hilly regions, where rich soil is accompanied by good water and timber. It is harder work, of course, to make a home in such a country, but when made it holds the hearts of settlers and their children. At the present time the chief settlements on the Nehalem are located in Columbia county. The rush for more open lands carries people far up the Columbia, away from timber and water a great distance in many cases, and where products have to be sold cheap because the cost of transportation is necessarily great, though that difficulty may be expected to decrease in time. To-day, we believe the Nehalem valley offers as great opportunities as any part of Oregon for the hardy settler not afraid to work. The man who will carry a little money there to assist clearing can soon open a farm and have products for sale. Probably good roads are not yet made to the Columbia river, but if the country was all made and finished there would not be the same opportunities that are to be had now for excellent locations. The fact that strikes us as significant is, our land table shows that four-fifths of the county has been surveyed, and in this connection we may as well explain that surveys in Western Oregon have nearly ceased because remaining lands, though much of them fit for settlement, are hilly and wooded, while the more open lands East of the Mountains are easier to run survey lines over and much more profitable to the surveyor. The policy of those who have surveying contracts is to locate them on lands that can be easiest surveyed, so Western Oregon lands remain neglected. If Columbia has been four-fifths surveyed, it has been because the lands are fit for settlement and lie so favorably that surveyors could make good wages running their lines. Along the East side of the county is some rich bottom land with good farms and thick settlement. But these are so near Portland, and therefore so valuable, that they were claimed at an early day.

MULTNOMAH COUNTY.

This county occupies a narrow strip of land extending from Columbia county along the South side of the Columbia river to the summit of the Cascade Range, and has a great deal of bottom land that is subject to periodical overflow, but very valuable for hay, grass and vegetables. According to our land table there is still 23,000 acres of surveyed land in the county unsettled, and two-fifths of the land is unsurveyed yet. Of course, all available lands in this county possess great value from their vicinity to the navigable waters of the Columbia and because of their nearness to the city of Portland, the great Metropolis and commercial center of the whole North Pacific, which is in this county. The unsurveyed land, of course, lies in the foot hills and mountains of the Cascade Range. We can illustrate the ability of settlers to find locations of good lands convenient to market by showing

that even in this county, which has the greatest city of the North Pacific in its bounds, the richest land is to be had for the taking. Beyond Sandy river, to the East, the county is comparatively undeveloped, so the Oregon & California Railroad Company, having an interest in a land grant that far East, persuaded the Surveyor-General to survey a township still East of former lines, and as a consequence a body of excellent land is thrown open for settlement, and surveys prove it to be of great value, though generally covered with brush and timber. Col. I. R. Moores, who is connected with the land office of the O. & C. R. Co., informs us that good land in this county can be found still two townships further to the East than this we have alluded to. There is very little grain farming done in Multnomah county. No great amount of stock is kept here. Market gardening and dairying are shown by the accompanying tables to be the chief elements of production, as it takes the lead in regard to butter, cheese, vegetables and potatoes, and small fruits that are not returned in the census. It is evident the land is held to a considerable extent in small farms, as, while there is only 2,700 acres in cultivation there are over 500 farms. Market gardening offers very certain rewards so near a rapidly growing metropolis. Strawberries are grown East of Portland with such success that the price last season fell to 3 and 5 cents a pound, and the ferryman informed the writer one morning in June that over 70 wagons with berries for sale had crossed with him previous to 6 o'clock.

THE CITY OF PORTLAND.

As we pass up the river we must take a glance at the great city growing up on the banks of the Willamette, twelve miles from its confluence with the Columbia river. Astoria is about twenty miles from the ocean, and Portland about one hundred miles above Astoria. Some surprise may be felt at finding a great commercial city situated so far inland, but natural causes control commerce in the outset, and human enterprise comes in play to confirm the decree of Nature. In time the lower Columbia region will be peopled with productive industry and the wilderness subdued by the labor of man, but the great tide of settlement for twenty-five years swept into the beautiful Willamette valley and occupied and cultivated the open prairies and hills that invited the plow. The city of Portland was originally located to supply this region and as time rolled on and the country developed the city made equal growth. For many years the Willamette valley was substantially Oregon, and even to-day about three-fifths of the population of the State reside on the waters of the Willamette river and its tributaries, and four-fifths of the surplus wheat of Oregon is shipped from this valley. It was also found that vessels could go there for cargoes, so we see the merchants of Portland beckoning to the commerce of the world and steamers, ships and vessels of all degrees come from every nation and all the seas to the Columbia, and climb its flow and at our wharves load produce to feed the old world. Back of the city, about a mile from the river, is a range of abrupt hills, and for two miles and a half, between the hills and the river, lie the streets of the city and all its merchandise and industries. Here are machine shops, manufactories of many kinds, great stores and warehouses that accommodate a wholesale trade, and the many grades of retail stores. The residence streets of the city are many of them elegantly built up, and the luxury of wealth surrounds those who have been fortunate. We have all the modern appliances to insure luxury or comfort, and probably the workman here secures better wages and can live at less cost than in older cities at the East. For two miles the river front is lined with wharves and warehouses and a fleet of river steamers come and go continually. It is true that our commerce is subject to some difficulties, but President Hayes shows in his last message that he appreciates our situation and urges that the Columbia needs and deserves money expended on it as much as the Mississippi. The future of Portland is assured by the fact that great railroad corporations center their lines here, and it is positively decided that the whole railway system will focus at this point. There is already great wealth here and it is being rapidly increased by addition of foreign capital. The city has now over 20,000 population, a well perfected and liberally supported free school system, a score of churches, a good class of private educational institutions, all the social and commercial elements necessary to a well ordered community, and its growth and power must henceforth correspond with the status of the whole Columbian region. It is doubtful if any city in the world with the same population has as much actual wealth and so extensive a commerce.

WASHINGTON COUNTY.

This county lies West of Multnomah and South of Columbia, and consists in great part of the Tualatin Plains, a prairie stretch of country diversified by belting forests and running streams, framed in by hills on all sides, forming one of the most attractive sections of the State, and one that was settled at a very early day. Such thriving places as

Hillsboro, Forest Grove, Beaverton, Gaston and Cornelius are found in this county. It has many wealthy citizens and fine farms. At Forest Grove the Pacific University offers a collegiate education to scholars. It is well endowed and a very successful institution, connected with which is an Indian school, lately established by the U. S. Government for the education of Indian youth selected from different tribes. The land table shows that 90,000 acres of surveyed lands in this county are yet unoccupied. It is no doubt true that these are situated in the foot hills and wooded country, but time will make them valuable. This county has a just pride in stock matters, and especially in horses, though it excels in all.

CLACKAMAS COUNTY.

Is situated South of Multnomah, and chiefly on the East side of the Willamette river. The surface of the country is varied and the hills reach clear down to the Willamette river in some places, so there is only an occasional prairie, but Clackamas has an outcome that will be permanent and every year shows its increased value. One hundred and fifteen thousand acres of surveyed lands remain unoccupied and much that is unsurveyed will eventually come into demand. Nearness to market gives especial value to lands in this county, and transportation by river or railroad costs but little. The foot hill region, where the land hunter would have to look for a home, is more remote from transportation, but it is the most healthy of all, and when the land is reduced to cultivation is of the best quality. Clackamas, Molalla and Pudding rivers come down from the mountains, and the ridges between their valleys are populated and fast being reduced to cultivation. The census shows the possession of a valuable amount of live stock and dairying is extensively carried on; they have a good proportion of swine, raise some corn and a great many potatoes in the North end and on Sandy river bottom for the Portland market. It also stands second in orchards and is well calculated for fruit. Clackamas figures largely in manufactured goods because of the various mills and great woolen factory located at Oregon City, at the Falls of the Willamette. The woolen mills there turn out an immense quantity of cloth, cassimere, blankets and flannels that cannot well be excelled in quality, and supply our home demand as well as are sent to California. Oregon City, which is the oldest town in the State, is in this county and is its chief town. Here is a water power that can utilize, if required, all the Summer flow of the Willamette river. The abrupt fall is about thirty feet, and is a very picturesque view. The State has aided private capital to construct a steamboat canal, with permanent locks, around these falls, at a cost of about \$500,000, by means of which steamboat navigation is continued around the falls and free competition in transportation insured to the producers of the Willamette valley.

YAMHILL COUNTY.

This county lies West of Clackamas and South of Washington and claims to be the Eden of Oregon. It is a magnificent farming region, as can be judged from the census returns. This county has some hilly ranges through it, but consists chiefly of rolling prairie land that is unexcelled for production of wheat and other cereals, and ranks very high, according to its area, for wheat produced. This was a favorite region with early settlers, and many made their homes here in the forties. The land office informs us that 140,000 acres of surveyed land in Yamhill remains unsettled. If this is the case it looks as if the immigrant in search of a homestead could afford to investigate its vacant lands. Yamhill county has many thriving towns and villages, such as McMinnville, Amity, Sheridan, Dayton, Lafayette and North Yamhill, and with the Yamhill and Willamette rivers both navigable, and two lines of railroads through it, the transportation question has been well solved. Yamhill stands third in respect to value of farm products, and ranks "No. 1" in every respect as to soil, productions and all social qualities.

MARION COUNTY.

This county is South of Clackamas and East of the Willamette, reaching back in a narrower form to the summit of the Cascades. The census shows that in 1879 it took the lead in value of products. Crossing Pudding river, its North boundary, we come upon French Prairie, twenty-five miles from Portland, and are in the heart of the Willamette valley. This prairie section reaches from the Willamette river to the foot hills, about twenty miles square, and is covered with an old farming country. There are thriving towns along the railroad. After passing through fir timber we come upon Salem Prairie, and five miles brings us to Salem, the Capital of Oregon, a beautiful town of nearly 5,000 inhabitants, which has churches and schools and all the traits of society that distinguish New England towns. Willamette University is located here, one of the best colleges on the Pacific Coast. A great water power goes through the town and drives several mills and factories and will

be valuable in the future. To the West of Salem are Howell Prairie and the thriving town of Silverton, and the Waldo Hills, a stretch of high, rolling prairie reaching back to the foot hills and unexcelled for beauty and as farming land in the State. Among the foot hills are the valleys of Silver creek and the North Santiam and many Germans are buying railroad land or locating homesteads in these half mountain regions, where the soil is wonderfully fertile. South of these hills we come to Santiam Prairie, a splendid farming country; and for ten miles South of Salem along the Willamette, are the famous "Red Hills," which are so well adapted to wheat culture that thousands of acres have been lately cleared of young oak and fir and put in cultivation. Again South of these is the Santiam bottom, a rich if not extensive portion of the county. Marion county possesses vacant lands in the foot hills and in beautiful valleys that penetrate the mountains. This is a rich country, but any person with moderate means can come to this or any other county in the Willamette and buy improved farms at very reasonable price. Farmers of Marion county have excellent facilities for transportation; the river as its West line is navigable most of the year; the Oregon & California railroad passes South its whole length, and a narrow gauge road is just completed that passes East of all and nearer the foot hills. So much competition insures reasonable transportation charges. The towns in the Southern part of this county are Mehama, Sublimity, Aumsville, Stayton, Marion and Jefferson, and North of Salem on the river is Butteville, and on the railroad (O. & C. R. R.) are Aurora, Hubbard, Gervais and Brooks.

POLK COUNTY.

Is situated opposite Marion on the West side of the Willamette; is diversified with ranges of hills and beautiful valleys, all fertile and thickly settled, and differs materially in character from Yamhill, its rich Northern neighbor, for it is true that every county in the Willamette valley possesses its own characteristics. Polk has a smaller area of valley land than others, but it is well favored and equal to any in general prosperity. It also has two railroads and the river for transportation, and perhaps the most valuable portions of both this and Yamhill counties are to be found close up to the foot hills of the Coast Range. In time a great portion of this Coast Range will be occupied with settlers, for in many parts the range consists of benches of great fertility that will be reduced to cultivation when population begins to accumulate on our hands. Along the river front of Polk we find Lincoln, Eola, Independence and Buena Vista, and back from it are Monmouth, Dallas the County Seat, Rickreall, Bethel, Zena and other towns. A good collegiate institution is located at Monmouth. Surveyor-General Tolman informs us that during the present season he has had surveys extended into the foot hill and mountain-valley region of Polk county, and surveyors report more good land than was supposed to exist in that direction. The truth is, even the best settled portions of this valley have neighboring mountain valleys and bench lands that are of the best character in many respects, of which people generally are in blissful ignorance. Polk county has all the advantages possessed by any of the Willamette counties, which is saying a great deal. The valleys of the Rickreall and Luckiamute are favorite portions of Polk county, and much good farming land lies in this county on the Southern branches of the Yamhill river.

BENTON COUNTY.

South of Polk, on the coast side of the Willamette, is Benton county, which reaches to the ocean, including Yaquina Bay, towards which its farmers and citizens generally look with hope that they are to have in the future a harbor to ship their products. A railroad is projected from Corvallis to Yaquina, and the mountain region it traverses is said to be in great part an excellent country. There is also much good land over on the ocean side, and the possibilities of the future include many advantages and much progress and development. The surface of the county is varied in every degree. The valley lands are thickly settled along the Willamette and constitute the best agricultural region. King's Valley, close under the mountains, is a valuable spot, and the valleys and streams that put into the ocean are to become valuable in the future. Corvallis is the County Seat and one of the chief towns of the valley. Monroe and Philomath are important towns also. Corvallis is the site of the State Agricultural College which is a thriving institution, and there is a college of a sectarian character located at Philomath.

LINN COUNTY.

The great prairie county of Western Oregon lies South of Marion and West of the Cascade Mountains. The census report speaks for 1879, when rust struck the Spring wheat upon her prairies and ruined a million bushels of grain, worth a million dollars, but the present year Old Linn came to the front again with enormous acreage and immense yield. Albany is the County Seat, located on the Willamette, and is one of the very most prosperous towns

in our State, with a wide prairie country all around it that stretches North and South for forty miles without a break. It reaches back to the mountains almost, and beyond it is the region of foot hills and mountain valleys which are unrivaled. The branching streams of the Santiam reach from the mountains where they form beautiful valleys that are actually superior soil to the prairie portion. Back of Scio, in the valleys made by the forks of the South Santiam, is a choice country that will build that place up with important trade since it is reached by the narrow gauge railroad. Brownsville and Lebanon, also touched by the narrow gauge, have a great country between them and the mountains, and back of Lebanon is the Sweet Home Valley that reaches far into the Cascade Range. There is a prosperous woolen mill at Brownsville, and water powers are found almost anywhere, as they can be easily conducted from the mountain streams by canals, as is the case at Salem, Jefferson and Albany. Linn is a magnificent county and possesses the two railroads that we found in Marion and the river much of the year. Along the O. & C. R. R. we find Albany, Tangent, Shedd, and Halsey, and along the river are Albany, Peoria and Harrisburg. Linn is considered the great agricultural county in Western Oregon. Marion and Lane will rival it, but Linn will probably always lead in favorable seasons. Wheat growing is the specialty here, but the census tables show that other interests are not neglected. Much stock is owned in Linn, and as good stock as in most parts of the State. Albany has an excellent water power and a flax mill there utilizes flax fiber, grown in Linn county, for the manufacture of all kinds of linen twine, which is a commencement we may hope to see develop into a great industry. While wheat is the product raised for export in the Willamette valley, we also export heavily of wool, besides growing oats, hay, vegetables and fruits of all kinds.

LANE COUNTY

Is situated at the head of the Willamette valley and reaches from the Cascade mountains to the ocean, with an area just about equal to both Linn and Marion, which are the next largest of the valley counties. Lane has a more diversified character than any other county. Its prairie reaches are very extensive and equally fertile. We have visited, in the Eastern portion, the farm of our esteemed friend Hon. M. Wilkins, president of the State Agricultural Society, where he and his sons grow grain, raise long-wooled sheep and Devon cattle and have a magnificent farm that both lies on the prairie and climbs the foot hill. We have also visited the great grain farm West of Eugene, of Mr. George Belshaw, one of the most successful of Oregon farmers, and whose reliable experience we have often recorded. Our friend John Simpson lives over on the waters of Siuslaw, which enters the ocean, and other friends of ours live South of Eugene where the succession of hills and valleys we glide past as we travel by train afford charming vistas to the delighted eye. Lane county possesses every variety of surface soil; mountain and foot hill; prairies and smaller valleys; while over towards the coast there is no doubt that much good land invites settlement. Lane county, as the land table shows, possesses nearly three millions of acres in area, only two-fifths of which has been surveyed, while but a little over one-half of the surveyed land is settled upon. No doubt it has a great proportion of mountains in its limits, for it has for its border the Calipooia Range that crosses from the Cascade mountains to the Coast Range, and forms the divide between the Umpqua valley and the Willamette. The chief town is Eugene City, a beautiful place, a good point for trade, and destined to be an educational centre, as the State University is located there and is making very successful progress. Junction, Irving, Springfield, Creswell, Goshen and other points have importance. Improved farms can be purchased in this county at reasonable prices, and a county that has so much uncultivated land naturally offers opportunities for the stock grower as there must be a great extent of out range.

THE WILLAMETTE VALLEY.

Take the whole Pacific Coast from Alaska to Mexico and there is no equal area that possesses so many genuine attractions and advantages as the Willamette valley. We see nothing of its peculiar beauties as we come up the river from Portland for the first twenty five miles. Portland itself is hemmed in by a mountain wall that separates it from the Elysian fields of Washington county, to the Westward; the Eastern region of Multnomah county belongs more to the Columbia than to the Willamette. Washington county, with its lovely "plains," is fenced off from the main Willamette valley by the range of Chehalis hills. Yamhill to the West and Marion to the East, open up, to the traveler the great valley with its charming variety and ever changing landscapes. The valley proper is 125 miles long, North and South, from the hills that guard the Nehalem on the North to the Calipooia mountains on the South. It safely averages forty miles in width for that distance, and possesses unusual fertility. Through all its length and breadth it is well

wooded and watered, for the mountains that hem it in send down from each ravine healthful streams to refresh it. The succession of hills and valleys combines every idea of beauty in landscape, and Eden itself could not offer more perfect native charms. The mountains that frame the valley with a rugged setting are in themselves beautiful, but as if to crown the landscapes with supernatural charms they are watched over by snowy peaks, whose mantles change with the seasons, but never fail to possess through all the season an awe inspiring presence that can be seen and felt but never told. There is no more beautiful country in the world, none more permanent in character, with more fertile and lasting soil. As if to make its excellences complete, the temperate climate that excludes vicissitudes of heat and cold, except at long intervals and for short periods, also insures certainty of crops by immunity from drouth. The region is healthful as well as delightful. It is so near the ocean that products bear a fair price. Great cities will grow to create a home demand, and as soon as manufactures can be established that home demand will increase, and the abundant water powers, that equal anything New England can offer, will sometime make it rival New England's manufacturing prosperity. This may be in the future, but it cannot be doubted. The native wealth of this valley lies not only in soil and climate, but there are great undeveloped resources. We do not appreciate the value of the forests that clothe the mountains around us; beds of iron ore offer untold wealth in years to come, and the manufacture of iron has already commenced at Oswego, on the Willamette, eight miles above Portland, where a furnace has been turning out a very superior quality of pig iron for a number of years past. This ore is said to be found in a continuous deposit that meets the Columbia near the vicinity of St. Helens. The mountains have gold and silver, copper and lead, in different places along the Cascade Range, and in time these resources will be made available. But these are not necessary to present prosperity, nor do we expect to realize them in our day. The man who seeks a new country naturally desires that it shall offer inducements to his children and their children. The one disagreeable fact to be urged against it is that sometimes the rainy seasons are protracted, but the immigrant from Nebraska or Minnesota generally prefers rain to snow and ice, and rejoices when his stock can winter with little or no care from him. We believe stock should be fed some here in winter to keep them in thrifty condition, but only at a trifling expense compared with many Northern States. The rainy seasons insure good crops and constitute the most healthy season of the year. We have only to refer to the census tables for explanation of the products of this valley and its several counties.

WHEAT CULTURE IN THE WILLAMETTE.

It has at least 5,000 square miles or over 3,000,000 acres of good soil and only two-fifths of this is in any sort of cultivation at the present time. Only a little over one-tenth of the area of the valley (350,000 acres) was in wheat in 1879, and when the possibilities are put to the test it will be seen that the production of this valley can be vastly increased. It becomes very evident that while it is possible to put in wheat almost the year round, the most satisfactory cultivation for preservation of soil and actual profit comes from Summer-fallow and Fall-sowed land, which is certain under favorable conditions to yield 30 to 35 bushels, and frequently as much as 45 bushels per acre. It is safe to expect thirty bushels, and the profit from one good crop is more than when annual cropping is followed. During late years Chinese labor has been used largely to clear land of small timber and brush to sow to wheat. Many thousands of acres have been cleared by white as well as Chinese labor, and production increased thereby. Mr. Delos Jefferson, about four years ago spent \$22 an acre to clear land, had it well plowed in the Fall and again in the early Spring, and had 42 bushels to the acre for the first crop, which he sold—or could have sold—at \$1.05 a bushel, so he paid for all his clearing, and more, too. He lives in a timbered stretch five miles from Salem. He also showed us a field that he slashed and burned, sowing wheat in the ashes among the stumps, which he brushed over only, without plowing, and got thirty bushels to the acre. These instances are within our knowledge and may be remarkable. In the red hills South of Salem, two years ago, we cleared oak grub land at a cost of \$14 per acre, plowed in November and sowed in March, white club wheat, and got twenty-four bushels to the acre, which was sold for \$1.00 a bushel, so it paid for the clearing, for cultivation and \$250 an acre for rent of the land. Through this valley cultivation is often indifferent and the yield is ditto. Good cultivation brings good results. The average yield is pulled down by poor farming. We have many farmers who make wheat growing a success. Some years ago we asked for information of Mr. J. H. Foster, owner of well known flouring mills which he has run for twenty years at Albany, and learned that for thirteen years he had averaged to pay Linn county farmers 73 cents a bushel for their grain, and he said hundreds of them had grown rich at it. During the past year the

average yield of this valley was as great as we have ever known it in thirty years, or nearly so, and while land will deteriorate if continually cropped without rest or fertilizing, still it is true that lands cropped for 25 to 40 years yet yield well when well treated. The clay formation of this valley secures permanence in the soil, and when we hear of a piece of land on French Prairie that was first cropped by a half-breed fifty years ago, and has since yielded nearly or quite 1,000 bushels to the acre in a half century of continual demand, being able to respond with thirty five to the acre after a Summer-fallow, we must conclude that the soil of the Willamette valley is to be depended on. For four years past, and until the present year, wheat has been \$1.00 a bushel, and with reasonable freights would now be 85 to 90 cents, but freights to England are now 60 cents a bushel, owing to our large crop and scarcity of tonnage, and prices through the valley have not averaged 75 cents. Wheat farming has certainly been profitable here in the past, and will be sure to be in the future.

VARIETIES OF WHEAT.

What is known as the old white winter wheat was originally brought here by the Hudson Bay Company, and is of first quality and hardly has any equal in popular favor. White velvet wheat is proved to be fully as good and perhaps more productive. Spring varieties of white wheat, such as Chile Club, Little Club, Australian, and others, are popular and reliable. A red French wheat, introduced some years ago by the Salem Mills Flouring Company is an excellent variety, but red wheats are not generally as valuable for export, as it is the peculiar whiteness of Oregon wheat and flour that commands a premium in English markets. There are many varieties of wheat experimented with. We have tried Golden Crown Club with good success, a small grain but heavy white wheat. The popular varieties here are not those we read of in Eastern journals oftenest. Ninety day wheat took a first prize at the Centennial, and it is claimed that White Russian wheat yields very largely and is a valuable variety. There is a difference in soil in different counties and wheat from some sections is pronounced better quality than others. The settler will soon learn from his neighbors what their experience has been as to best varieties and best cultivation. One thing is positive, the Willamette Valley grows wheat that is a perfect berry in all respects and commands a fancy price—the best price paid in the world's most exacting markets.

DIFFERENT COURSES TO FOLLOW.

The emigrant who comes here desirous of a home in a well organized society and good country, blessed with great privileges, will naturally look to the Willamette Valley. If he has money this is a favorite country to locate in. Land of all grades of cultivation and improvement is in the market and land agents in Portland and all other towns have farms for sale. Take the best farming lands of Washington, Yamhill or Marion, and improved farms may be priced at \$40 an acre, and probably the improvements will have cost half the sum. Take the average farming land of the Willamette and prices range from \$15 to \$25 an acre for good farms, perhaps not in the choicest localities. A man can come here with \$1,000 to \$10,000 and select accordingly. A small farm well tilled will not refuse a good living to a family; timber and brush land can be had, or land that is part timber and part prairie, or all prairie, and paid for accordingly. We know of a section of land in Marion county that could be divided into four good farms, and half of which could be cleared at a cost of \$5 00 an acre to grub up the scattered hazel on it, and all of it is good grazing land, or can easily be made so. It has over \$500 worth of improvements on it and quite an amount of land is cleared or does not need clearing; it is rich valley and foothill soil, good wood and water, and can be bought for \$3,000. We don't doubt that plenty of land is for sale at from \$3 50 to \$5 00 an acre that will soon be worth \$10 to \$15. This section of land is only 13 miles from a railroad depot by level roads. We own this land and wish to sell it at that price. It is situated in the foot hills and was part of the railroad grant. We repeat that there is plenty of land for sale here and the immigrant has his choice to locate a homestead or preemption on government land in timber districts; or in the mountain valleys or foot hills, or to pick and choose from good improved farms that will cost from \$10 to \$40 an acre, according to location or surroundings.

The census table shows that thousands of farms are rented, and this suggests that any good practical farmer can rent a farm in the Willamette Valley and make it pay well under ordinary circumstances. We have known men who rented splendid farms to own them in a few years time, paid for out of the earnings. The Northcut brothers are now wealthy farmers on French Prairie, and we remember when they were renters, not very many years ago. The usual mode, when a cash price is not agreed on, is to rent for a share of the crop. Where the owner furnishes team and seed he gets half, and the renter has two-thirds of the crop where he owns his team and furnishes the seed. The man who takes

a farm and manages it well has no trouble to find one to rent when he wants one, and in the mean time he may locate a homestead of his own if he finds one worth having.

The cost of wheat farming in average years is not to exceed \$7 50 an acre for all expense of plowing, harrowing, seed, harvesting, hauling and threshing, and we call the rent of the land to pay interest on its value \$2 50 more. This makes a total of \$10 an acre at the most liberal calculation and covers all the labor rendered and cost incurred. As the average price of wheat is nearly a dollar a bushel and the average yield twenty bushels an acre with only ordinary cultivation, it will be seen there has been a good business, if not a very profitable one, in wheat culture. We have said with good cultivation, and we mean it, men who do not farm well don't succeed better here than elsewhere. There is much poor farming done here, too much, and it doesn't pay and never will.

IN THE TOWNS.

The professional man, merchant, mechanic or laborer, can select his home in Portland, that will soon have a hundred thousand population, where real estate is rapidly rising, so that a residence lot, well situated, 50x100 feet is worth \$1,500 to \$3,000, or he can choose among a hundred country towns that are favorably located, or he has the country to select from. To be plain about it, the man who comes to Western Oregon or Washington without money needs a firm will and muscles that won't readily tire. There is not a dearth of mechanical labor here for mechanics are abundant, though the building of railroads will revolutionize the labor market and give occupation to thousands in building up new towns and new country houses, as well as in constructing the roads and their equipments. We speak more from the agricultural standpoint than otherwise. If we had manufacturing establishments well under way, of course the county would have inducements for all kinds of labor. All the towns have shops and factories in a small way and some of them have foundries and machine works. Finishing work, such as doors, windows, mouldings, etc., is found everywhere, and the abundance of lumber at low price makes building inexpensive. The wages of ordinary mechanics range from \$2 to \$3 a day, masons and bricklayers ask more.

The city of Portland is full of workshops. Here we have a number of foundries and iron works, and three establishments make furniture. Our friend Ira F. Powers has an extensive furniture factory on the river bank in this city, where he manufactures all styles of furniture to satisfy a demand that comes from far and near. He came here since 1870 and opened a second-hand store, and has grown into a business that is a credit to himself as well as to the city and State. We instance his success to show how live men thrive here. New industries are springing up constantly and the enterprising mechanic who is equal to the occasion can find openings and make his way here.

TRANSPORTATION FACILITIES.

The Willamette Valley is abundantly supplied with transportation. The Oregon Railway and Navigation Company has a line of as fine steamers as sail the ocean, running every five days between Portland and San Francisco, and have two more now in course of construction at Chester, Pennsylvania. They are all new iron steamers, fitted with every known convenience and improvement. They have a large fleet of barges and elegant river steamers running on the waters of the Columbia and Willamette rivers; they own the locks at the fall of the Willamette, and are now constructing a railway from Portland to the Upper Columbia. This corporation, with millions at their command, have revolutionized the prospects of the country in the short time of fifteen months and their enterprise, which seems unbounded, is based on full confidence in the future of the country, and knowledge of its undeveloped resources. We shall trace their operations here and in Eastern Oregon more fully hereafter.

The Oregon and California Railroad has been in operation longest of all and has a direct line 200 miles in length on the East side of the Willamette, past Salem, Albany and Eugene, and across the Calipooia range to Roseburg, in Douglas county, and has always contemplated the continuation of the road to connect with the Central Pacific at the Oregon line. It has also a road leading west from Portland through Washington county to Forest Grove, then turning south through Yamhill, Polk and Benton counties to Corvallis. The map shows the road completed to Junction, which is not the case, but a junction with the east line, in the upper part of the valley, will be made in the near future. These roads are owned by German capitalists who have always treated the public well and have done much to advance the material interests of Western Oregon.

The Oregonian Railway Company, limited, has made an energetic commencement for a system of narrow gauge roads in this valley. This company has its origin in Dundee, Scotland, and Scotch money has built its roads and stands ready to extend them another year. Last year saw the commencement of

the narrow gauge system on the West side of the river, in Yamhill county, and this year has seen its extension from the point of junction on the Willamette to Silverton, Seio, Lebanon and Brownsville, and surveyors are now looking out the best pass over the Cascades to carry it another year in a direction to cross the mountains and make a connection with the Nevada Northern at the State line, near Goose Lake. The company's line to Portland, on the West side of the Willamette, is on the map, but not yet constructed. At present its commerce with the metropolis is by means of a line of steamers on the Willamette to where the river is to be bridged, at the junction, and the stem line to Portland will be pushed through to a speedy completion another year.

The Willamette river is navigable at high water as far up as Eugene, and generally through the winter to Harrisburg, and offers a cheap way of transportation by steamboats. It will be seen that this valley, forty miles wide, has four railroads and a navigable river through its best counties, and competition in transportation seems to be permanently certain. The river was obstructed by abrupt falls, at Oregon City, twelve miles above Portland, where the hills close in and the river worked its way through a narrow gorge. This obstruction has been obviated by the construction of a ship canal and locks, made at great cost with masonry, or cut through solid rock. By this means steamboats can pay reasonable toll for freight actually carried, and competition is insured. This great work has saved the farmers of the Willamette Valley already, during ten years, an immense sum in cheapening transportation.

DOUGLAS COUNTY.

South of the Willamette Valley, after passing by easy grades over the Calipooia range that forms its southern boundary, which is covered with magnificent fir forests and contains much land that will eventually be valuable, the Oregon and California Railroad winds down into the great Umpqua Valley, which is a region distinct from all others and possessing especial value for the production of sheep and wool. This county contains 3,700,000 acres of area, and has half that quantity of surveyed land. It covers the region drained by the Umpqua river and its tributaries, and extends to the ocean, but its available lands are found back from the ocean chiefly, as the Umpqua reaches the sea by passing a fearful canyon, where it cuts its way through the coast range. For its full width of 75 miles the railroad and stage road pass among beautiful hills and romantic valleys. Coming down from the Calipooia range we enter the Yoncalla Valley, which is one of the most beautiful and fertile spots in the State. The valleys are numerous, though not extensive, and are well cultivated, and the hills are covered with scattering oak groves that struck us in '51, when we were fresh from Eastern States, with their resemblance to many old New England apple orchards. Even then the especial beauty and fertility of Yoncalla vale had caused the Applegate brothers, so well known as Oregon pioneers, to make their homes there to engage in stock raising. Today the Umpqua Valley has but ten thousand inhabitants, while it is larger than at least two Eastern States and has resources to support a heavy population. The region may be described as hilly, but the hill soil is rich and lasting, while the valleys that nestle continually among these hills possess every beauty nature can give and are adapted to the growth of all the cereals, including corn, which ripens with more certainty than in the Willamette. Since the railroad has been completed wheat farming has grown in importance and it will be seen that Douglas county harvests a large crop of oats. It also stands third in production of hay. The stock interests are paramount. Sheep husbandry is especially adapted to this region. After his vice-presidential campaign in 1860 General Jo Lane retired to his ranch in the hills of the Umpqua and devoted himself to sheep raising. The excellence achieved by Umpqua breeders is shown by the fact that Umpqua wool rates at the highest price paid for wool on this coast. It commands 2 to 3 cents a pound more than Willamette Valley wool, and 5 to 7 cents a pound more than wool grown in Eastern Oregon. Probably this excellence is due both to good breeding of sheep and excellence of the native pastures. There are many quite wealthy men in Douglas county, made so by farming and stock raising. Lands can be purchased in favorably locations for a very reasonable price, and stock ranges can be secured for those who prefer that business. The area of unsettled government land that has been surveyed is quite large. This valley has especial attractions to the farmer, and the fruit grower cannot but like it. Early vegetables come to the Portland market from there and command a good price. The railroad is completed to Roseburg, which is the county seat and a very thriving place, with extensive trade. Along the railroad are Drain's, Yoncalla, Oakland, Wilbur, Roseburg, and on the stage road south are Myrtle Creek and Canyonville. Scottsburg is at the head of navigation on the Umpqua river and the town of Gardner is at its mouth. There are other thriving towns in the county. We cannot give in a brief sketch anything like a complete idea of the importance of this great valley or

depict its topographical features. We have many subscribers there and know that they are stirring and thriving people and have a county possessing wonderful resources.

SOUTHERN OREGON.

We have paid little attention to the precious metals that are found in the Willamette counties and to some extent mined for in the Cascade range, but we are coming to a part of the State that has turned out millions of gold in the past and will be scientifically mined in the future. Mines are found in Douglas county, and gold placers have been worked there. Also there is a commencement of development there in the direction of gold quartz ledges, and we hear of rich prospects in the Cinnabar mines. Coal is found in Douglas county, lately discovered, said to possess especial value. South of the Umpqua mountains we come into the Rogue River Valley, which is both a rich mining and farming region. Placer mining is carried on extensively in Jackson and Josephine counties, and Jackson county has the agricultural portion of Rogue River Valley within its limits. Jackson county has a fair share of sheep and cattle, and raises some of the best horses to be found on the Pacific Coast. Jacksonville and Ashland are very thriving places, and at the latter a woolen factory is in successful operation. The climate of Rogue River Valley is warmer than the Umpqua, so that corn, sorghum, peaches and grapes succeed very well. The counties south of the Umpqua are not really tributary to the Columbia river to any great extent, and do not come directly within the scope of our purpose, which is to describe in a series of articles the Columbian region. The construction of the railroad through Southern Oregon would wake that section to life and prosperity, while as yet they are dependent chiefly on a home market and the demand from the mines for sale of their products. The stock interests have great importance, because they can be driven to market.

LANDS OFFERED FOR SALE.

Besides the Government lands which are offered on the usual terms, and constitute the great bulk of lands unoccupied, it must be remembered that the State of Oregon was entitled to two sections in each township for support of common schools, and also to 500,000 acres granted originally for aid of public improvements. The State has also a university land grant, lands granted for the Agricultural College, Salt Springs, swamp lands and tide and overflowed lands, constituting in the aggregate millions of acres, which have been selected and located by the State and are now offered for sale at prices ranging from \$1 25 to \$2 00 per acre. We cannot give all particulars in this issue, but allude to different classes of lands so that any stranger who sees this paper can have a general idea of the subject.

The Oregon and California Railroad Company have also a large land grant which they offer for sale at prices averaging \$2 50 an acre for the best. Their lands extend through for two hundred miles south of Portland, to Roseburg, covering the odd sections of a territory varying from 60 to 80 miles wide. The grant was made in 1866 and as the best valley lands had been claimed before that time by actual settlers, the grant to the only unoccupied portions, and mostly lies in the foot-hill regions of the Cascade and Coast mountains. We shall allude again to these lands more particularly. While the company's lands are rather remote and generally have to be cleared of more or less timber or undergrowth, we know by personal experience that they possess great value for settlement.

Land grants covering three sections to the mile have been made to several wagon road companies. One leads from The Dalles south and through the Blue mountains towards Boise City, in Idaho; another road runs from Eugene, across the Cascade mountains by the Middle Fork of the Willamette, and south to the Klamath country, then follows Sprague River Valley to the east. Still another land grant covers a line from Albany over the Cascade range by way of Lebanon and Sweet Home, crosses middle Oregon and to the Idaho line, a distance of over 300 miles. These grants now belong to private individuals or corporations and are held purely on speculation. A land grant also lies on the wagon road constructed over the coast range, between Corvallis and Yaquina Bay, in Benton county. There may be other grants we do not call to mind.

LANDS SURVEYED AND OCCUPIED.

The following table is made up from statements kindly made by the Register of the U. S. Land Office at Oregon City, Hon. L. T. Barin, and by W. F. Benjamin, Esq., Register of the U. S. Land Office at Roseburg:

COUNTIES.	Total Area.	Surveyed.	Unsurveyed.	Settled.
Benton.....	1,197,000	737,000	460,000	322,000
Clackamas.....	920,000	430,000	490,000	345,000
Clatsop.....	5,200,000	277,000	345,000	115,000
Columbia.....	368,000	239,000	69,000	115,000
Douglas.....	3,710,000	1,850,000	1,855,000	690,000
Lane.....	2,875,000	1,150,000	1,725,000	690,000
Linn.....	1,190,000	483,000	713,000	308,000
Marion.....	759,000	529,000	230,000	437,000
Multnomah.....	276,000	161,000	115,000	188,000
Polk.....	414,000	275,000	138,000	230,000
Tillamook.....	1,012,000	207,000	805,000	115,000
Washington.....	437,000	368,000	69,000	271,000
Yamhill.....	483,000	414,000	69,000	124,000

HORSES FOR DRAFT.

Mr. Jerry Lucky, a Lane county farmer, is also a Wasco county stock-grower, and has a ranch near Princesville, in Eastern Oregon, at the head waters of the Deschutes river. He expresses surprise at the great advancement made in our State during the past eight years in the breeding of heavy work horses and he is well posted on stock matters. During that eight years the horse men of this valley have seen S. G. Reeds' true Clydesdale stallions brought here from Scotland, and Washington county has had the benefit of their presence. W. C. Myer, of Jackson county, has favored the upper counties by bringing from the South his magnificent Percheron horses, White Prince, General Fleury, and Pride of Perch, which were imported from France; and Grierson and Pugh went back to the valley of the Clyde and brought here Merry Mason and Rob Roy. These were all choice animals of their race, and as if to cap the climax, Major Bruce bought his grand stallion, Glen Eld, at Philadelphia, where it was one of the prize winners at the Centennial.

Mr. Lucky has in Bacon's stable in this city, waiting transportation to Eastern Oregon, a grand horse he purchased of Mr. A. Dodge, of Lebanon, Linn county, for J. B. Lafollet and his son, friends of the FARMER over in Ochoco Valley. Mr. Lafollet has been breeding Norman horses for years past and has now a fine lot of well bred work mares and Mr. Lucky has selected for him Black Prince, of English Draft stock, weight 1,750 pounds and height 16 hands, 3 inches. Black Prince is a dark brown in color, long bodied, well turned head and neck—not too large—and his frame work is stout enough to hold up the temple Sampson tore down. His legs look like the pillars of Hercules on old Spanish dollars and are as shaggy from the knees down as a bear. He is a magnificent specimen of old British draft stock and his progeny in Linn county since 1878 speak his breeding qualities. This horse was imported to California from England in 1873 by David Luse and was brought to Oregon by Mr. A. Dodge, of Lebanon, in 1878, so he has made three seasons in Linn county.

We could extend our account of grand draft stallions indefinitely, for there are many, such as Edmondson, Redmond, and many others who own stallions of heavy draft in this valley, and during the past season we have recorded the arrival of many first-class work stallions, many of whom went up the river for Eastern Oregon and Washington, but we name a few to illustrate our improvement. In addition to these large breeds our State has very many stallions classed as "horses of all work," and "roadsters," that produce a class of stock needed for ordinary farming and road work, that come up to the best qualifications known for that purpose. Of course our breeding mares that now come on the stage show the effect of No. 1 sires and we shall rank higher than ever in horse breeding as a State from henceforth. Bunch grass ranges, East of the mountains, produce horses without a dollars' cost from the day they are foaled until they are ready to break, and better horses never grew than this bunch grass country makes.

Within a few years it has been found that horses are in a measure natural to the bunch grass country and there are now many persons who own large bands of horses and make a specialty of the business. The horse usually winters well, even if he has occasionally to paw away the snow to get at the dry grass, which cures when it dries and preserves its nutritious qualities all winter, a fact we believe true only of this variety of native grass. Eastern horse men are constantly bringing good stallions into the Willamette Valley, which is the breeding ground for good stock of the whole Columbian region, or they are importing them direct from California; this insures steady improvement in the produce, which in many cases commenced with Indian mares, or half-breed fillies.

VALUE OF BEAVER DAM LAND.

Beaverton is situated on the West Side railroad, a few miles from Portland, on the edge of Washington county, and derives its name from 160 acres of rich bottom land caused by the labors of the beaver in past ages. Some of this land is in good cultivation and all of it has been well drained at great expense, and its current value is \$200 an acre. Mr. Tucker, of Beaverton, an old subscriber, during a business call gave us valuable information of his success in cultivating this land, of which he owns ten acres, and as there is such land to be found in every direction in this valley, the same will be useful to those fortunate in being its owners, most of whom merely utilize it for pasturage without trying to drain and cultivate it. Lake Labish, near Salem, must have over a thousand acres of such land in one body, merely a swamp in which cattle feed and browse on the swamp growth of bushes.

Mr. Tucker says he has cut four tons of hay to the acre on this grass, but it is too rank to be of first quality, and stock do not relish it as well as grass grown on other and dryer, as well as less fertile land, and it sells for about \$2.00 a ton less price than good timothy hay.

OREGON STATE FAIR.

The board of managers of the Oregon State Agricultural Society met in Salem last week. Members were in attendance from all the valley counties, and some from distant portions of the State. The meeting was interesting, and the members of the board seem to be well pleased with the result of their labors.

The reports of the secretary and treasurer we presented, read and referred to the finance committee; but as the latter was only given to the board on the last day of adjournment the finance committee were compelled to take home both reports and accompanying papers and documents, so that no summary of them can be given here. The secretary, however, informs me that the total receipts of the fair of 1880 were \$18,333 some cents—about \$4000 over last year. Gate receipts were \$10,556 and some cents.

The speed programme was thoroughly revised, and while the turfmen will profit about the same as usual, yet, by the arrangement of the premiums several hundred dollars, (about \$800) were saved to the society. The premiums are free for all, with one exception.

The time for holding the fair of 1881 was fixed from Wednesday, June 29th, to Wednesday, July 6th, to include a celebration on the 4th of July.

Liberal premiums were offered for the exhibit of fruits, while those for grain in sheaf, offered last year, were continued. Several premiums were added to division appointed for all divisions.

The premium list was thoroughly revised.

Geo. Downing, of Sublimity, was re-elected chief marshal without opposition, and only accepted to gratify a special desire of the board,—his former economical and satisfactory management having met their hearty approval. Mr. W. H. Lewis was elected assistant marshal, and it is thought he will make an efficient and accommodating officer.

The floral exhibit for the fair of 1881 will be removed from the pavilion and placed in the floral garden ordered by the board to be completed for the exhibition of next year. A committee consisting of Henry Miller, of Portland, S. H. Lambert, of Milwaukie and the secretary of the Society, was appointed to superintend the work. The erection and completion of the building and enclosure is to be let to the lowest competent and responsible bidder. Mr. Miller of Portland, the chairman, will have immediate supervision. He is authorized to procure from a competent architect in Portland, plans and specifications for the floral hall and enclosure, and when completed to secure the service of a landscape gardener to arrange walks and beds for trees, flowers, etc. The enclosure for the present will be 150 feet in length by 60 feet in width. Through the centre, running the longest was of the grounds, will be erected a building, so arranged as not to exclude light or interfere with walks passing through and across its foundation. The ground within the enclosure (which will be 12 feet high) will be tastefully ornamented with trees, flowers and shrubbery, set out and arranged under the immediate supervision of Miller. The beauty of the arrangement consists in the fact that while the exhibit of flowers in beds instead of upon shelves will greatly add to this feature of the society's exhibit, the growth of the trees, shrubbery, creeping vines, &c., from year to year, will soon render it one of the most attractive features of the fair. The garden will be so connected with the pavilion as not to interfere with its enlargement in the future, while the size of the garden may be increased to any capacity which may be desired. Several premiums on flowers were added to the list, so as to insure the greatest attraction possible.

A special premium of \$200 was offered for the best herd of ten cattle, imported in 1880-1, and exhibited at the fair of 1881.

Several resolutions were adopted, and new rules and regulation made, to conform to the law for the protection of the society, which was passed by the legislature at the session just closed.

Incident to our Climate.

On thanksgiving day Hon. I. W. Case of this city had upon his table something which but very few people, in any portion of America at least, can boast of. It was nothing less than green corn, fresh and nice, gathered from the corn patch in his own garden.

Mr. P. H. Bagley, of Knappa, had ripe Bartlett pears, the second crop from the same tree this year, and there are blossoms now upon the tree for the third crop in 1880.

Up in Polk county, at Lilcoln, green peas were served, fresh from the vines in the garden of Mr. Duncan, and blackberries and strawberries were backed.

Putting this and that together, reminded as we are of the regions of Winter beyond the Rockies—can any man say, as he wanders away this beautiful day, up or down as he may, that he'd rather not say in Oregon—on account of the climate.—[Astorian.

THE COLD SPRING COUNTRY.

A Full and Complete Description of a Newly Developed Section of Country in Umatilla County.

HELIX, Umatilla Co., Or., Dec. 5, '80.

Editor Willamette Farmer:

In that portion of Umatilla county where the State boundary line running west intersects the Columbia river, is a scope of country of which but comparatively little is known, but which is, nevertheless, susceptible of the highest degree of agricultural development, and which is even now emerging from the state of an unproductive bunch-grass prairie, and rapidly attaining its natural pre-eminence as one of the most extensive wheat fields of Oregon's Great Inland Empire.

The country in question is on the Columbia river side of a prairie which runs between and parallel with that stream and the Blue mountains; or, to be more exact, it may be described as the northern boundaries of Umatilla county, of which that part of the Columbia river lying between Umatilla Landing and the State boundary line is at once the base and the water front. The general name for the whole of this territory, which comprises several townships of fine prairie land, the whole of which is open to settlement and immediately available for agricultural purposes, is the Cold Spring Country. It extends southward from the points named on the Columbia river, for an average distance of fifteen miles, the whole of which, with the exception of that portion immediately adjoining the river, consists of a magnificent rolling prairie, producing a wonderfully luxuriant growth of bunch grass and totally devoid of sage brush, with a fine black-loam soil which is peculiarly adapted for the production of the cereals, vegetables and fruits common to the great wheat raising belt of the Northwest interior. Hitherto, this fine piece of country has been utilized only as a cattle and sheep range, for which, indeed, it is admirably adapted, and it has only been the selfish policy of our stock men, who wished to monopolize the range for themselves, their heirs, executors and assigns forever, in misrepresenting it as a region of nothing but sand and sage-brush, in order to discourage intending settlers from prospecting it for themselves, which has prevented it from becoming settled, appreciated and developed as its merits and great advantages as an agricultural district deserves. Of late, however, that is to say in the last three years, as the Umatilla Valley, or Greasewood side of the prairie fronting the Blue mountains, became settled and converted by the untiring hand of industry into a great grain producing district, the hardy land-seekers were compelled to locate higher and higher, till at last the Greasewood Flat was left far behind, the summit of the prairie was reached, settled and cultivated, and then for a time the process of development ceased. This state of things, however, could not exist forever, for as time progressed a few ranchers hunting their stray teams, penetrated into the Columbia river side of the prairie, and instead of finding a region of sage-brush and sand, as it had been grossly misrepresented to be they found themselves traversing a vast wilderness of fertile prairie where the bunch grass was rank and knee high in its wonderful luxuriance, and watered by an infinitely greater number of living springs, which makes it not only a much more fertile and better country for cultivation and agricultural development, but is also, by reason of its contiguity to the great highway of commerce, the Columbia river, which brings it so much nearer to market, a much more desirable locality for settlement than the Greasewood side of the prairie which faces the Blue mountains.

Hence it will be seen that the country under consideration has received no advertising; that it has been kept idle by misrepresentation, and that its locality, bordering on the greatest river of the Pacific Coast, with the O. R. & N. Co.'s line of railroad traversing it along the full length of its water front, and surrounded as it is by the high civilization of Walla Walla twenty-five miles on the east, and by that of Weston and Centerville twelve miles to the westward and Pendleton twelve miles to the southward, and with a soil unequalled in the Northwest for fertility and productiveness, makes it the most desirable locality for settlement in the great interior.

Strictly speaking, the Cold Spring country extends from Umatilla Landing on the west, beyond the State boundary line to Wallula, in Washington Territory, on the east; hence it may be correctly stated to embrace a tract of land containing twenty-five miles of longitude by fifteen miles of latitude, which comprises fully four townships of as good government and railroad land as ever a crow flew over, and which excludes the narrow strip of sage-brush and sand which immediately adjoins the great river of the West, the unprosperous appearance of which has deterred so many from prospecting the interior. In addition to the great advantages it enjoys from its commanding geographical position, which gives it twenty-five miles of water front where are three steamboat landings and a line of railroad already constructed running parallel thereto, the Cold Spring country rejoices

in the possession of three distinct natural outlets, which, because it is a more imposing term than gulches, are dignified by the name of canyons, which, with their forks and tributaries all head near each other on the summit of the prairie, and thence radiating toward the Columbia river and pursuing a general northerly course, they intersect and drain the whole of this scope of country, thus affording it easy natural roadways to the three steamboat landings and railroad depots on its water front.

The names of these gulches are the Vansycle, Juniper and Cold Spring canyons. Of these Vansycle is the most easterly, which heads on the summit of the Columbia river side of the prairie, a short distance from the head of the Big Greasewood canyon on the Blue mountain side, and thence pursues a northerly course for a distance of eighteen miles when it effects a junction with the Walla Walla river two miles above Wallula; in this canyon are two fine springs, but the country to the eastward, in the direction of the Walla Walla Valley is the least desirable for settlement, for in addition to its being badly broken up, the soil is more or less impregnated with alkali and down towards the Columbia river it terminates in the basaltic table lands which border that stream. Westward of Vansycle, towards Juniper, the soil is richer and the country much less broken. The main Juniper canyon is fourteen miles in length, and possesses a large tributary known as the North Fork, seven miles in length, which both head near Vansycle, and which after coming together pursues a serious westward course till it spreads out and disappears in the sage-brush at a point opposite the head of H. Odoo, or, as it is more generally known, the Big Island in the Columbia. In this gulch are some of the finest and largest living springs of the purest water to be found in Umatilla county; it intersects a large extent of fertile prairie whereon are located many old time residents and late tenant farmers of the Willamette valley, who are highly pleased with their new locations and who are here to stay. In the course of another year or two these men will have their places in such good fix that they will have no difficulty in renting them to others, instead of laboring themselves to make other men rich. Five miles above the junction of the North Fork with the main Juniper is the large ranch of the Paine Bros., the great agricultural implement dealers of Walla Walla, who own the whole of a section of school land and the half of an adjoining section, in all nearly one thousand acres, into which they have recently come into possession and are now making extensive preparations to put the whole under cultivation at an early date; in the immediate vicinity of this ranch there is still many thousands of acres of virgin soil only awaiting the hand of Caucasian industry to be converted into smiling fields of golden grain and made to blossom as the rose.

The Cold Spring is much the largest of the series of canyons which intersect the country. The north, or main fork, twenty miles in length, heads a little to the southward of the sources of Juniper and Vansycle; the middle fork seventeen miles long, heads still further south, while the south fork has its origin in the vicinity of Pendleton, and after running in a semi-circular direction for a distance of twenty-two miles it joins the main gulch at what is known as the Badger Springs, where it runs to the westward on a parallel with the Columbia river and then loses itself in the big sand flat at the Umatilla Wells. The head of the North Fork of Cold Springs has of late settled up very fast, so much so that a school district (No. 59) has been organized and the school a ready running. On the south fork of this canyon is a large ranch embracing twenty-five hundred acres, known as the Margin Farm, owned by I. T. Reese & Co., of Weston, of which eight hundred acres are under cultivation in one body. To the north and west of this ranch is the Morehouse, or the great Umatilla wheat farm which was located last year by John R. Foster and Lee Morehouse, of Umatilla, associated with a company of Portland capitalists. This farm comprises several sections, or nearly five thousand acres in one body, with three thousand acres already under cultivation. Another school section on Juniper canyon is owned by Captain Gorman, of Walla Walla.

It must not be inferred from the foregoing that all the land here is taken up, for these great farms, originally located for experimental purposes, comprise only a fractional and by no means the best portion of this large extent of farming country. The Umatilla farm, for instance, adjoins and in places embraces a part of the desert zone of sand and sage-brush which in that particular locality overleaps its usually contracted limits on the banks of the Columbia and extends back from the river for a distance of ten miles, while between Juniper and the Badger Springs the black loam of the prairie invades the domain of the sage-brush right to the waters edge. In addition to the large farms about two hundred locations of quarter and half section farms have been made at different points on the prairie, and there is room yet for fully three hundred more settlers to come in and build up homes for themselves and families, which in the very near future will be worth a fortune to their possessors. Many of the people here have given the wonderful Palouse,

Spokane and Yakima countries a thorough prospecting and have returned to make final locations on the Cold Spring prairie, because here the climate is milder, water is more easily obtained, it is one hundred miles nearer to market and is already in possession of railroad communication with Walla Walla and Celilo, and which in addition to the prospect of the speedy completion of this line to Portland, will soon be traversed north and south by the railroad from the Columbia river across the Blue mountains into the Grande Ronde Valley. The soil and more equable climate of this locality permits the raising of corn, sorghum, tobacco and the finer fruits which are killed by the frosts which harass the far upper country. In this connection the writer states the positive fact that from a half acre potato patch located on the highest point of the Cold Spring ranch and fully sixty feet above water, the average weight of the potatoes was three to the pound for the whole patch. On an adjoining ranch on the summit of the prairie, at a still greater height above water, are several shocks of corn raised thereon, that can be seen for miles, which, when viewed from a distance looks like a great camp of Indian lodges. The head of the Cold Spring prairie is fifteen miles distant from Glassford's Saw Mill on Wild Horse creek, and rails can be bought at any point in the Blue mountains for \$2 per hundred, while the Columbia river at high water leaves an immense amount of drift wood on its banks, so that settlers can make their own rails and cedar posts, and secure firewood by the exercise of their own labor.

The great number of springs on the prairie has been before alluded to, but of course there are large portions where water can only be obtained by sinking. The depths of wells vary from fifteen to forty-five feet, depending upon the depth of the soil, the rule being the deeper the soil the deeper the well, as running water of the purest quality in inexhaustible quantity is invariably found in a porous honey-combed rock a few feet below the bed-rock. Thus, two wells sunk on the summit of the prairie attained a depth of 77 and 85 feet respectively before water was struck, 66 feet of which was sunk through the fine black loam which comprises the soil of the prairie. As a matter of course a soil of that depth is incapable of exhaustion, and when to this is added the fact that the cultivation of timber on timber culture claims is successfully carried on, growing in fact spontaneously, without any attention at all, some idea of the wonderful fecundity of the soil may be gleaned therefrom. It may be as well to state the fact that the Pendleton millers authorize the statement that the best wheat they have received this year was grown on the Cold Spring prairie, which is doubtless attributable to the fact that this prairie possesses a northern instead of a southern aspect, and, therefore, the soil is the better enabled to retain moisture than if it were exposed to the full glare of the midsummer sun. In this the Cold Spring country greatly resembles the topographical features of the Umatilla Indian reservation, for this fine tract of land is green in the early Spring when the surrounding prairie is bare and brown. The philosophy of this remarkable feature lies in the fact before narrated, viz: that like the Cold Spring prairie, the reservation is not directly exposed to the sun's rays, and, therefore, the soil dries out less quickly. As a matter of fact there is as good a grade of vacant land on the Cold Spring prairie as any that is included within the limits of the Indian reserve. The unattainable is always the most desirable, and it is naturally very exasperating to the civilized Caucasian of utilitarian tendencies to see such an immense extent of good land devoted exclusively as a grazing ground for the scrub ponies of a few idle, non-self-supporting Siwases, and, moreover, there are on the reservation many hundreds of acres of alkali and adobe land which would involve the expenditure of large sums of money to render them productive. The soil of the Cold Spring country throughout its whole length and breadth is totally free from these ingredients, and being so much nearer to market, it is decidedly the most desirable locality of the two sections for all who desire to make themselves permanent homes in the bunch-grass country.

Here, then, is room for fully three hundred families to come and locate themselves each 32 acres, or a half section of good land, where they can build up homes for their families. Situated two hundred miles east from Portland twenty-five miles west from the great inland metropolis of Walla Walla, and with the three town of Weston, Centerville and Pendleton only twelve miles distant, and possessing twenty-five miles water front, with three steamboat landings, and the trunk line of the Oregon Railroad and Navigation Company's already completed on the Columbia river, and with another road already surveyed running through its center into the Grande Ronde Valley, the Cold Spring country in Umatilla county offers inducement to the land-hungry which can nowhere be equaled, much less excelled, in the whole of the upper country, for its altitude is lower, its climate is more equable and water is invariably found a few feet below bed-rock. Over two hundred locations have been made on this prairie since March last by men with families from all parts of the Union, all of whom are delighted with the advantages of their new homes. The heads of these families realize

the great advantages of being so near railroad and river transportation and are enthusiastic over their location so near to the city of Walla Walla. Looking at this section of the upper country from a geographical point of view, the northeastern portion of Umatilla county, which includes the Cold Spring prairie, may be justly termed as forming a part of the famous Walla Walla Valley, from which, indeed, it is only divided by the State boundary line. By referring to a map of the country it will be seen that the counties of Walla Walla and Columbia in Washington Territory, and Umatilla county in this State are included in natural boundaries, which comprise the Blue mountains, and the Snake and Columbia rivers. The interests of this scope of country are identical, for the character of the people, the soil, climate and products are alike. The country in question bears the same geographical relation to the Pacific Coast which the Western Reserve bears to the Atlantic Coast, and it is to drain the products of this wonderfully fertile region that the O. R. & N. Co. are expending so many millions of dollars in the construction of railroads. No portion of the upper country is making more progressive strides than that in the three counties named. Its transition from the State of a savage frontier to an earnest and progressive civilization is complete, and the grand work of developing its dormant resources has commenced. The finite mind of man is incapable of comprehending the mighty empire which will be established here when its varied and practically unlimited resources are utilized to their fullest extent. Its progress has not been in this decade, but in the last quarter of this decade. Vast sums of money from the world's great monetary centers are being concentrated here to facilitate the development of its resources, and therefore, new comers making homes here now at such a favorable time, will not have to wait for a very long period to reap the fruits of their labor and enterprise, for the good time coming is already here, and an immediate reward awaits the pioneer and the "carpet-bagger" alike.

In Umatilla county the increase of taxable property for the current fiscal year over preceding valuations is more than half a million dollars, while, comparing the vote cast at the late Presidential election with the vote for State and county officers in June last, the increase in its population is phenomenal. So rapid has been its progress in all the material interests which make prosperity, that an effort was made in the lately adjourned State Legislature to divide the territory comprised in the boundaries of Umatilla into three counties. It is in this rapidly growing country that the Cold Spring prairie is located. The odd sections thereof are included in a Government grant to the Northern Pacific Railroad. The probabilities are that the grant will revert to the Government eventually, but even if it should not, the policy of the Northern Pacific Company has been so liberal (disposing of the lands in its Pen d'Oreille Division at Government price), that it is safe to assume that this successful policy will be continued when these lands are placed on the market. There is, however, no drawback to their immediate cultivation, as an application to purchase, with actual cultivation gives the applicant prior rights. It was the intention of the writer to contrast our bunch-grass prairies with the Albany and other Willamette prairies, and combat the erroneous Webfoot idea that the agricultural lands of the upper country consist of a pot-hole here and there, like the Walla Walla Valley. Many of the older settlers here have not yet begun to realize the future greatness of the upper country. A practical knowledge of its resources is required to do so, and the subject must be studied to appreciate it in all its magnitude.

It might be fair to ridicule the idea of the Willamette tenant farmers laboring to make other men rich, when only two hundred miles distant is good land waiting to be taken up, but we refrain from ridicule, for this portion of the bunch-grass region needs no fictitious aids to create a "boom."

If any of the numerous readers of the FARMER should resolve to prospect this country, they will find that it has not been exaggerated in the foregoing. Facilities for filing on land are handy, as a branch land office has been established by Messrs. Dwight & Bailey at Pendleton, only twelve miles distant. Parties visiting the country with a view to settlement are requested to call on Mr. W. W. Caviness, of the Cold Spring Ranch, while those desiring particular details to suit individual tastes should address the undersigned at Helix, Umatilla county, Oregon, who will be happy to reply to such correspondence. With no object in view other than to promote the settlement of this prairie with that desirable class of practical farmers who read the leading agricultural journal of the Pacific Coast, the writer has endeavored to show the country just as it is, confident that the mere narration of positive facts relating to the fecundity of its location and surroundings, will settle up and develop the resources of the country more permanently than if the truth were embellished with the "high falutin'" language of professional word painters.

A. F. PARKER.

The FARMER is the representative paper of Oregon, and is turned into its XIII Volume. We will send it to eastern readers for \$2 per year. The regular price is \$2.50 per year.

MORE ABOUT GRASSES.

Hon. John Minto writes a Valuable Letter on this Subject—Timothy the best Hay Grass—Mesquite, Alfalfa, and other Grasses Tested.

SALEM, Or., Dec. 12, 1880.

Editor Willamette Farmer:

I have read with some care your article on grasses in last week's FARMER, and as the theme is one of the most important to farmers and stock-raisers, I will try to give what I know on the subject, though at the cost of reiteration of previously published views and experiences to some extent.

As a single hay grass on suitable land there is not yet in cultivation a more valuable grass than timothy. It does well on all kinds of soil in locations inclined to dampness, and on such locations might be added to the grasses in laying down land for pastures for a course of years.

On dry uplands such as the Red hill lands of the Willamette valley, orchard grass in my experience is much superior to velvet grass—mesquite so-called—as a hay grass and is every way and in every place a better grass than the latter, except on land rather too damp for timothy. For seeding and self propagation on rough, brushy, ferny hill and mountain ranges, and for the other property it has, in addition to ripen, its light and easily scattered seeds early; it keeps green under a greater degree of frost in winter than any of the our exotic grasses. But, Mr. Editor, I cannot but believe there is a mistake committed in calling this "soft meadow" or "velvet" grass, "mesquite," and placing its nativity in the dry plains of western Texas, and further on I will indicate why the mistake may be almost a misfortune to the grazing interests of this coast. I just here have to say that I have studied this velvet grass pretty closely since about a year ago. My remarks upon its character led me into a considerable correspondence in the states east of the Rocky mountains in regard to it. My studies led me to these results:

First, Dampness either in the atmosphere or in the soil is an essential condition for this grass thriving well.

Second, As either a hay or pasture plant, under the most favorable conditions, it will scarcely rank as second rate in quality.

Third, On dry soil under a dry atmosphere it is not even third rate in any respect.

Fourth, For making grass on damp or swampy, peaty lands its second only to redtop.

Fifth, It is valuable as a pioneer grass on rough ranges having a moist atmosphere.

For the purpose of quickly changing grain land to pasture my estimate of perennial rye grass accords with the estimate of S. G. Reed. It is easy to get "a catch" and for heavy, rich wheat lands is a good grass, and I think rich in feeding properties. In seeding down such land for pasture rye grass, timothy, red and white clover, narrow leaved plantain—rib grass—and velvet, might be all mixed with advantage, and even orchard grass might be added, but on high, dry land orchard grass should have the first place in the mixture.

In regard to alfalfa or lucerne on the dry hill lands or damp clay land, of this valley, I have never seen it succeed, but on the rich alluviums of the Willamette river I have had it grow as high as my head. On such soils it would be a better soiling crop than clover even and I have no doubt be a good crop for doormen on the lower Willamette and Columbia river alluviums. It is the only plant that our Agricultural College teachers have found to keep green through our Summer season, keeping as green at mid-Summer as it is in May. "In good rich loam it grows five feet high and it will stand several mowings during one season. The fodder is of good quality for stock." So says B. L. Hawthorne in his report to President Arnold, (see pp 9, Biennial Report of State Agricultural College, 1880.) Mr. Hawthorne goes on to say: "Provision is made for extensive experiments with grasses during the next year." For which, if they are thoroughly made and the results extensively published the farmers of Western Oregon will have cause to thank the faculty of the College.

But, Mr. Editor, why has this most important subject not been taken up by every State Agricultural College? Why is it necessary, so long after these institutions were so liberally provided for by a munificent government to have practical farmers call on each other for information in relation to the nature and quality of grasses, as your correspondents have done relative to the "soft meadow velvet grasses" of the Englands, old and new, or wild "mesquite grass" of Texas, whichever it may be? In view of the importance of the interests which a supply of grass underlies, I venture the suggestion that the agricultural press of the country West of the Ohio river join in a demand on the Commissioner of Agriculture, that,

First, He put himself into official communication with the Agricultural Colleges asking them to take up the subject of thorough ex-

perimental test of all the known varieties of valuable grasses.

Second, That he send wide-awake, reliable agents out into the South, West and North to collect what are known to frontier settlers and herdsmen as the best native grasses of that extended country. Place the seeds of these also into the care of the Agricultural Colleges for experimental test and to designate the most valuable. Had some such organized means been adopted a dozen years ago and resulted in the discovery of a grass of a running and spreading character such as the "running mesquite" of the dry, Texan plains is claimed to be, we might reasonably look at the passing away of the bunch grass of Eastern Oregon, Washington, Idaho and Montana, without apprehension perhaps. As it is, no man, who has an interest in that wide-spread grazing region notes how the range is deteriorating without feeling that unless some pasture, plant is found, capable of taking hold of that naturally rich soil, and maintaining itself against close feeding under a bright sunshine and dry cold atmosphere, it is only a question of time when that country and much more to the East and South of it, will become in fact, what we once generally thought it to be—A DESERT.

That such a result is many years in the future, I freely believe, because I feel confident that in all the dry upland region, extending from Western Kansas to Western Oregon and from middle Texas to the British American line, there are, amongst the innumerable rich and native grasses growing there, some (perhaps many) varieties that would give the means to the hand of industry of replacing those which give way before close feeding. The sooner such grasses are found and generally disseminated, and a system of disposing of the grazing lands adapted in such quantities and manner as will give inducements to graziers in that region to make permanent homes, and use their lands as permanent means of livelihood, the better it will be for all interests connected with that country. This article has become extended and yet I have not touched upon what may be done with known grasses in Eastern Oregon. I may, however, return to that subject at some future time. JOHN MINTO.

STATE LANDS.

Probably our readers have not many of them an accurate idea of the lands owned by the State of Oregon, the purposes for which they were donated to the State by the general government, where they mostly are located, and at what prices held. With this thought in mind we lately made a journey to Salem and spent an hour with Mr. E. P. McCornack, Clerk of the Board of State Land Commissioners, who kindly gave us much information on those subjects, though the State records seem to have been handed down to him in a condition that made it utterly impossible for him to do more than to approximate to corrections in many particulars. In his hands those records are kept in a manner very creditable to the State and to their able custodians.

In the first place, the State has, as a means for establishing a general school fund, the sixteenth and thirty-sixth sections in each township in the State, or 3,250,000 acres of land. Of course this includes all mountain and desert lands, and if we count them as one half the area, we shall still have 1,625,000 acres that in course of time will be a means of educational support, as, when sold the proceeds are loaned and the interest, at ten per cent, forms the irreducible school fund. There has already been sold about 500,000 acres, to speak in round numbers, at \$1.25 an acre, and the remainder is held at that price. Those lands were originally located in each township of the State, and as fast as surveys are extended they come into market as school lands.

The State also had a grant of five hundred thousand acres made for a public improvement fund and the land has been all selected and deeded to the State. Of this quantity about 240,000 acres has been sold and of the remainder large lots lie in Baker, Union and Columbia counties, and a small quantity in each, Wasco and Umatilla, and are offered at \$2.00 an acre. The State appropriated \$200,000 of the proceeds of this fund for construction of a steamboat canal around the falls of the Willamette, at Oregon City, and as there was a general grab movement to claim the rest of the land for local schemes, the legislature very sensibly turned what was left to be disposed of, of those lands, into the common school fund.

There was also a grant of 9,000 acres for an agricultural college fund, which has all been listed by the State in various counties, and 23,000 acres, or thereabouts, has been sold. These lands lie chiefly in Lake county, and are held at \$2.50 an acre.

A grant of 72 sections was made for a State University, which land has all been selected, but a small fraction. Locations of University land aggregate about 45,000 acres, of which about 17,000 remains unsold and is mostly located in Yamhill, Marion, Polk and Benton

counties. These lands are held at \$2.00 an acre.

A grant of ten sections, or 6,400 acres, was also made for a Capital Building fund, which was duly located and has been all sold and applied for the purpose stated.

The Educational Funds of the State figure up as follows:

Common School Fund.....	\$562,359
University Fund	57,200
Agricultural College	60,000

This money is loaned on valuable real estate and draws 10 per cent. interest, which is appropriated to the purposes specified.

The State has also millions of acres of swamp lands which has been made a game of by speculators, who have managed to claim titles without doing much towards reclamation. Also the tide and overflowed lands are the property of the State, and a section of land goes to the State with every salt spring discovered. This all constitutes a vast public domain that must do much toward giving us aid for common schools, even though it is lamentably true that in some instances poor lands have been selected at hap-hazard instead of carefully, with a view of building up these important institutions.

An Oregon Ranch.

John Day river, near its mouth, flows in such direction Northwestwardly that it forms one side of a peninsula, the Columbia river, into which it empties, being on the other side. In this peninsula there is much good bunch grass land, that is compared to the general average of Eastern Oregon, Mr. B. W. Griffin, says the Tacoma Ledger, having thoroughly prospected this land and learned its character, came to the conclusion that wheat could be raised profitably on it; and he conceived the notion of going into the venture upon a large scale, strongly prompted by the consideration that it would cost but little to fence the farm, since nature had provided a fence for two sides of the triangle and it would be necessary only to run one line of fencing across the base, from river to river. Of course, the Columbia river is an admirable fence, and the John Day also an effectual barrier, for it flows through a deep canyon. With a view to getting the necessary aid to carry forward so large a project as that formulated in his enterprising mind, Mr. Griffin communicated his plans to Dr. Blalock, of Walla Walla, and induced him to enlist in the scheme. After thoroughly canvassing the subject, in order to determine how best to conduct the affair, what sort of organization and the details of the business, and a corporation was formed, the incorporators being N. G. Blalock, B. W. Griffin, C. W. Colby, Wm. Meriner and W. F. Courtney. It being impossible for this one company or interest to purchase outright a compact body of land, both railroad and government, since the government land could be disposed of only to pre-emption, homestead and timber culture claimants, there was taken into the combination thirty other men, making thirty-five in all. The plan was for each of these thirty-five men to buy of the Northern Pacific railroad company a half section, and file a pre-emption claim upon an adjoining quarter of an even numbered section, and a timber culture claim also on an adjoining quarter, making a full section. For each man; that is, thirty-five sections, 22,400 acres. Some of the sections bordering on the two rivers are fractional, and the good lands lie in irregular form, so that probably for these reasons the quantity of lands claimed by the company has added three sections of school lands—purchased of the State at two dollars per acre with moneys from the common fund—the amount claimed by them if stated at only 20,000 acres, which is all of the land within the enclosure that is regarded as having any value for farming purposes, the balance of the 60,000 acres enclosed consisting of sand and gravel and rocky bluffs along the two rivers which only an occasional spot of good land, which cannot, of course, be utilized to advantage. An item going the rounds of the press recently states that the Blalock farm consists of 60,000 acres; the error of the statement appears from the above. The farm consists of only about one-third that number of acres. The enclosing fence crosses the base of the peninsula from the river to river is seventeen miles in length, and is of wire, post and ditch. Though it encloses 40,000 acres not claimed by the company, very little if any for the rejected grounds within will be settled upon or distributed by outsiders, because they are, as stated, worthless. So that practically, at least, the company is and will, if they desire, remain in possession of 60,000 acres, farming only 20,000. Each of the thirty-five men is bound to prove up his claims and lease his lands to the company for ten years, at twenty-five cents an acre per year which he is at liberty, of course to farm on his own account or make any other disposition of the property that he pleases. Certificates of stock are issued, one share for every forty acres, and assessments are levied for the common use. One very economical feature of this project is, that but very little, if any, money is paid to outsiders for labor which is, of course, the principal item of expense, since

the labor will be performed by members of the company for wages. Ground has been broken for a crop which is expected to foot up between 309,000 and 400,000 bushels. Last Spring they plowed 500 acres, and on August 31st started the harrow on it, and this was all the plowing that had been done upon it up to that date. An experiment having been made with a small Spring sowing of barley, resulting in failure, the company has determined not again to sow Spring grain. In the early part of last Fall they were waiting for the ground to become moist, so as to renew the work of plowing. When the writer was there in September, there was observable but a mere beginning in improvements, aside from the 500 acres plowed, and there were but two of the company on the farm, namely, Messrs. Griffin and Colby. At that time regarding the attempt to raise wheat in that extremely dry district as experimental. The character of the soil and climate are thought to be as promising as were those of Walla Walla at the commencement of wheat growing there.

Fine Stock in Wasco County.

The Dalles Inland Empire.

The fine stock mentioned by us as on the way hither from Kentucky, in charge of S. J. Newsome of Prineville, arrived here safely. Our expectations of a fine horse were realized in Marshall, the splendid son of the unrivalled Almont whose fame as a sire of trotters is as wide spread as that of old Bonnie Scotland among runners. He is a horse of good size and grand proportions. The nearest thing to him is McAlister's Dead Shot, and there is but little to choose between them either in point of size and blood like finish. So far as color goes, the rare dapple brown of the La Grande horse pleases us best, but it is hard to find a prettier blood bay than Marshall, with his white high heel and the narrow strip down his intelligent and good natured face. He is over 15 hands, 34 inches high, weighing about 1,130 pounds and possessed of the greatest liberty of action. His head is large, like all the rest of the Almonts, but clean and bony, and well set upon a long and muscular neck. His shoulder rakes back like the masts of a pilotboat, with the withers of a four-miler. The barrel is round and deep, with vast breathing power, while the arched loin shows nature's skill in bridge building. Nothing could surpass his driving apparatus, the broad strifle and flat thigh being well let into a clean and durable hock which will never curb. His fore leg appears light at the first glance, but the second glance undeceives you. It is his enormous muscular arm that does it. Taking him altogether, he is about as much horses as ever we saw wrapped up in the same expense of hide. From his stall we passed to that occupied by the weanling colt owned by Newsome, the only son of George Wilkes on this coast. He is a wiry youngster and may yet astonish the natives. The union of the Hambledonian and American Star blood in his sire, produced a record 2:20 in harness and 2:28 to wagon. Newsome has certainly outdone himself, as well as all other importers, in the matter of jacks, one of which he sold to Thomas Burgess, of Bakeoven, on private terms within twelve hours after his arrival at this place. The balance of the stock were driven out home on Thursday last and are now thoroughly domesticated in their Oregon home.

Prospects of Coos County.

Coos Bay News.

What work has been done on our bar, is said by men whose experience and opportunities for observation, entitle their opinions to credit, fairly demonstrates that the continuation of the sea wall now commenced, to 1,500 feet, as proposed by the engineers, will result in cutting the North spit entirely away, thus straightening the channel and insuring a regular and permanent depth of not less than from twenty to twenty-five feet. This depth will enable a larger class of vessels to come here and will result in the proportionate decrease of freight. It will enable our coal mines to monopolize the domestic coal trade of this coast, and to reduce the price of it, thereby increasing the demand. It will give a great impetus to the coal trade of this county. The lumber business will also feel the effect, more mills will start up, tramways for logs will be built further into the timber, a home market will be produced that will encourage the opening up and cultivation of more farming lands. The next decade will see Coos county increase at least as rapidly as the last, which will insure a population of about 15,000 in 1890. This estimate does not include the beneficial result that may follow the improvement of the Coquille, and long before that date, the clearing out of that stream by the general government, as far as Myrtle Point, so as to render it navigable for schooners to that place, neither does it take into consideration the certainty of a railroad to the valley. All this we expect to see accomplished during the next decade. The agricultural resources of this county are sufficiently to feed a population of 50,000 people. With her mines, her vast forests, her inland navigation, her valleys of agricultural lands, her fisheries, the best climate in the world, none should despair of Coos county's future. Men with grey hair on their heads will live to see a population of 50,000 in Coos county.

THE COLUMBIA RIVER.

We lately criticised the mismanagement by which the commerce of this whole region was embarrassed, and the ship owners of the world compelled (by evil reports of ship masters, that unfortunately are founded upon their own experience), to discriminate against the Columbia river and send their ships to San Francisco. To-day the price of wheat in Portland is quite ten cents a bushel less than it would be if the portion of shipping we need had come or was coming direct to this port, as it has come and is coming to San Francisco; and there is no reason why it does not come, except that foreign vessels have been often treated with unjust discrimination by the monopoly that has controlled pilotage and towage, and that the river and its channels at its entrance have not been kept in order by the general government, a fact which was made plainly apparent to President Hayes and Secretary of War Ramsay, when they were here this Fall.

The last Legislature passed an act to prevent unfair discrimination on the part of tugs and pilots. An opposition steam tug and pilot's association has just been organized at Columbia bar, and we have reason to hope that the discreditable and inefficient monopoly that has so long placed our commerce at disadvantage will be at an end. It is even to be hoped that the city of Portland will show some enterprise to assist the commerce of the country, though hitherto we have only seen on part of Portland capitalists a cheap expenditure of words, but the time is coming when this city must do something substantial to sustain its prestige and deserve the continued support and patronage from the county, East and West of the Cascades, that has made its millions accumulate so rapidly. Accident located a great city on the Willamette, while the interests of the Columbian region seem now to demand an emporium on the greater river, and either this city must satisfy commerce or it will meet with successful rivalry. The Columbia river offers less obstructions to commerce at its entrance than does the Bay of New York, and will have a sufficient depth of water with reasonable assistance from the government. The records of our commerce show but few wrecks at the bar, and none on the adjoining coast. Where wrecks ever have occurred, the facts show that with efficient pilotage and the presence of powerful tug boats, they could, almost without exception, have been avoided. Our commerce has hitherto been in its early stages and it was not possible in the days when it was being developed to possess all the appliances needed to make it safe. There was so little direct trade, up to within a recent period, that a perfect system could not be provided, though the State has expended \$24,000 to encourage the founding of the monopoly that has grown to be discreditable. But those days are over and natural competition may be expected henceforth, if reasonably encouraged by law, to provide what is needed.

Of course there is competition between the great harbors on this coast, for the great trade of the present and the future. The discriminations in favor of San Francisco as a shipping point will this year cost the farmers of Oregon and Washington not less than \$750,000, in extra freight charges, because we must either ship a great portion of our wheat to San Francisco, to be reshipped, or charter ships at that port to come here and load cargoes, and the ships that come here direct, with probably capacity to transport half our surplus of breadstuffs, will all get charters at the full price it will cost to ship to San Francisco and reship there, or what it will cost to charter vessels in that port to come here and load wheat. In fact, there should be but little, if any, difference between freights from the Columbia river and from California ports, and we are striving to show the immediate need of active efforts to place our river in a favorable light before the commercial nations that control the world's tonnage. While San Francisco does all it can to hold the commerce of the Pacific at its wharves, there is also an effort at Puget Sound to decry the Columbia river as dangerous and uncertain. Every little unfavorable incident is heralded and made the most of to prejudice the world against us. This is natural enough, however unfair, but the records of time are all we need to prove that no extraordinary dangers attend our commerce. We often hear of wreck and disaster near the Golden Gate. Though its entrance is broad and inviting it is not so safe as it might be from fogs and reefs, and off on the ocean are islands that have to be avoided. So with the Straits of Fuca, there has not been a week this Fall (we think we do not exaggerate), when we have not heard of wrecks and disasters of some sort, attending the entrance or departure from this "finest body of water in the world." There are sands, and shoals, and reefs, that threaten, if they do not destroy, and yet the very journals that record these Scylla or Charybdis of the Ocean, find time, between wrecks, to sneer at the Columbia river, where there has been no disaster to make a note of for so long a time that we cannot recall the last.

We have no disposition to decry San Francisco or Puget Sound, which are both magnificent harbors, but it really seems as if these naval croakers, who have a chronic habit of denouncing the Columbia river as the gate of storms and the natural home of wrecks—where the "Flying Dutchman" rides on the wings of infernal gales—can as well look at home for "Chimera's dire."

PANAMA OR NICARRAGUA.

The transportation question is of the utmost importance to the farmers of the Pacific Coast. How we are to transport our products to Europe, to which we must look for a market, concerns us as much as how we are to raise the products themselves. The business of wheat-growing has but commenced in the Columbian region, a fact that Mr. Villard and his associates were well aware of when they commenced the construction of the many-branching roads that are to form our great system for the development of so large a portion of Eastern Oregon and Washington. Our production will double, and soon double again, and we shall be more and more dependent on tonnage in the future than we are now, so the construction of a ship canal that shall shorten the distance over one half, and proportionately reduce the cost of transportation and make the freight season last here until May instead of February, is of the greatest importance.

The construction of the proposed ship canal on the Isthmus of Panama or Nicaragua will accomplish this, but the least expensive canal, and the one that can be completed soonest, is the one we need, and the question of present moment relates to the choice of one route or the other. The scheme of De Lesseps will require ten years for its completion, across Panama, and will cost over \$200,000,000 at any reasonable computation, while the canal across Nicaragua can be completed in half the time and for half the money, and if we can realize this in half the time and not have over half the tolls to pay that will be exacted at Panama, then there is no hesitation about the choice.

This is the view taken of this important matter by the Board of Trade of San Francisco, which has adopted a report favoring the Nicaragua route and has memorialized Congress in its favor. The dispatches lately bring us word that a company that includes Gen. Grant and a number of financial magnates, has organized and applied to Congress for a charter to construct the Nicaragua Ship Canal, thus proposing directly to antagonize the Panama scheme. General Grant asserts that during his administration he had all of these routes surveyed and became firmly convinced that the Nicaragua route offered the most advantages and was the most practicable route. The movement throughout the United States in favor of Nicaragua makes a strong showing, and the selection of that route is of utmost importance to Oregon, because it can be completed sooner and at less cost, and tolls will be much lighter. Still another reason is that it can be used by sailing vessels with more certainty.

In his calculations Mide Lesseps lays no claim to the patronage of sailing vessels, but claims that the commerce via his canal will be entirely by steamers. This cannot interest us, because our grain must be carried to market cheaply, or not at all. Sailing vessels cannot reach Panama with any certainty on account of the protracted and almost eternal calms that rest upon the tropic seas in that vicinity. When we came to Oregon in 1850, we heard at Panama of sailing vessels that were four months reaching San Francisco from there because they could not get out of the reach of those dreadful calms. Ship captains who know those latitudes say they would prefer to make the voyage around Cape Horn rather than go to Panama. It is evident, then, that the Panama canal cannot answer our needs to best advantage. Nicaragua has the further merit of being much the shortest route, saving at least 750 miles of travel as compared with Panama.

For Nicaragua is not entirely out of the region of calms, but so near it as to be far preferable to Panama. If possible to construct a ship canal across at Tehuantepec, north of Yucatan, in Southern Mexico, the scheme would be much in its favor, as it lies within reach of the friendly trade winds and can be much easier reached. This reminds us that at the present time an American company is organized to construct a railroad across from the Bay of Campeachy to the Gulf of Tehuantepec, a distance of 150 miles, and as the construction of a railroad in that favorable climate is not difficult, we may expect to see it soon in operation, and its operation will revolutionize the traffic of the Pacific to some extent, for it will certainly be possible to transport our products by this means from one ocean to the other, at far less cost than the long and tedious five months voyage around the horn, or via Panama canal, even if it was constructed, for Tehuantepec is where trade winds are active and is over 2,000 miles shorter, as a route from New York or England, to reach the North Pacific Coast, than via Panama.

With the Tehuantepec Isthmus railroad in

near prospect, and the Nicaragua ship canal route in the future, it looks as if we would soon have a possible outlet for our commerce in that direction. But the more we investigate the matter the more apparent it is that the Panama scheme is too expensive to make its completion a reasonable certainty, and if completed a toll collected to pay an interest on the investment will be a heavier tax than we can pay, and would make even the Tehuantepec railroad portage a cheaper, speedier and every way more certain and desirable route.

LETTERS FROM "LORAIN."

Butter Making—Summer Following by Planting Corn—Combining Both with Profit—

OREGON CITY, Dec. 4, 1880.

Editor Willamette Farmer:

I have been thinking about farmers and day laborers, because men are much more independent on the farm, though they do not make so much, as a rule. But allow me to suggest that the making of butter would be as profitable, if not more so, than most any other occupation. Butter is very high in San Francisco (47 to 52 cents per pound) and fresh rolls are at a good figure in Portland. It is also high in all of the towns in the interior, and I am inclined to think that it will be higher yet, perhaps 25 per cent. higher, from the fact that very few farmers will have any to sell, many not even having enough for their own use.

Now, Mr. Editor, I will give my ideas as to dairying in connection with farming. We have 15, 20 or 25 acres of land to summer fallow. As a rule we make a bare summer fallow. This is not the just way to deal with our land. It ought to be shaded so that it will not become so loose its ammonia while being fallowed. The better way would be to plant our land that we wish to follow in some kind of sweet-corn that will get ripe about the middle or last of August; cut out corn and set it up in rows about thirty paces apart, so that it may dry; when dry haul to a shed prepared for that purpose, to be used to feed our cows through the winter, and if we will stable our cows, we can make as much butter from them as in the summer time. To cause our cows to come home every evening, have them stabled as soon as they come home and give them a few stalks of corn to satisfy them until we are ready to milk. Be kind to them and they will be delighted to be about you. If the night is not bad turn the cows in the yard around the cow shed. Be sure and save the droppings to enrich your land with; take as good care of the manure as you do of the cows, and apply it to the land with all the precision that you plow, and in two or three years you will have a farm that will produce one-half more than when you began your dairying. As soon as you get your corn set up in rows you can start the plow. Commence plowing in the center of the space between the rows of corn shocks. Do not plow too close to the rows, because you must leave room enough to drive along side of the rows of shocks, for the purpose of hauling them to the shed for winter feed. After plowing all the spaces as directed then haul out the corn and finish the plowing, sow your land to wheat as early as the first of September, there will be no trouble about it not coming up, for the reason that the land is moist and not parched up like it would have been if it had been a bare fallow. Manage thus for a few years and keep your improvements in shape by repairing fences, nailing on the boards that have been torn off by the cattle or wind. Beautify your home by setting but shade trees around the residence, and giving some attention to the cultivation of choice Holland balls and some animals that suit the taste of each member of the family, and you ought to be happy.

LORAIN.

WHEAT YIELD IN WILLAMETTE VALLEY.

State Rights Democrat.

Since our last communication we have received the exact returns from Yamhill and Polk counties, and have also further returns from Lane county. The full returns supplied to us by the millers and warehousemen for the Valley counties are as follows in bushels:

Linn	1,552,900
Beacon	659,000
Marion	1,297,000
Washington	294,300
Polk	695,000
Yamhill	745,000
Lane—estimated	1,000,000
	6,243,200

Add 15 per cent. for wheat in smaller warehouses and yet in farmers' hands

936,480

7,179,680

Or reduced to cents.....4,307,808

A tenant farmer has been murdered in Irwin near Hollymont, supposed to be about a land trouble.

NEW REGIONS FOR SETTLEMENT.

About the time we commenced the publication of descriptive sketches of the great Columbian region we received a communication from Mr. A. F. Parker, brother of Mr. Frank Parker, the well-known editor of the Walla Walla Statesman, informing us that, after various prospectings for a location, he had finally located in the "Cold Spring Country," which he graphically describes in this issue, and saying that he would like to write up its attractions and good qualities in the FARMER. He seems to have chosen this region for his home and to be thoroughly enamored of it, and he can have no personal object, except to induce permanent settlement and prevent the gobbling up of that charming scope of country by speculators, who have already located great ranches on its borders, and to secure by thick settlement good society and all the privileges that altered it. With this commendable intention he writes up the country in a plain and spirited way that is very attractive. We know of few writers in the country at large who have a more graceful knack of using words easily and well, and hope to secure his services in fully describing the whole county of Umatilla, in Oregon, and also the features of Walla Walla county that lies south of Snake river and Whitman county north of it in Washington Territory. If he will do so we shall depend on him also for general details of Union and Baker counties, in Oregon. What we wish to call attention to is that through Eastern Oregon and Washington there are many spots as extensive and fertile as this Cold Spring country, that invite settlement. The remarkable fact concerning this locality is that it is surrounded by the best and oldest settled portions of the Upper Country. The towns of Umatilla, Pendleton, Weston, Centerville, Milton, Walla Walla and Wallula literally surround it, and yet, while the rich farming country that makes their importance is well known, the Cold Spring region, lying on the Columbia river, with better facilities for transportation than any of them, has been actually overlooked. When we were at Walla Walla and Weston last summer, we heard much of it and are glad to direct those in search of homes that way. Mr. Parker's statements do not seem unreasonable and we give them as an indication that through our Eastern counties valuable spots yet remain comparatively unknown. As an illustration of this fact we can refer to the Surveyor General of Oregon, who informs us that surveys made in both Western and Eastern Oregon the past summer, demonstrated the value of lands that had been supposed comparatively worthless. No doubt the Surveyor General of Washington Territory would make the same statement. We shall attempt to get particulars from both offices, to make public in this issue or next week.

Where to Locate.

ARISPE, Kansas, Nov. 7, 1880.

Editor Willamette Farmer:

I enclose you one dollar for your paper, the FARMER, which send as long as the dollar lasts. As I am going to move to Oregon with my family in the Spring, I don't wish to send more money than will be necessary to pay up to the time I leave here, as I am going by wagon. I went out to Oregon last Spring and looked over the Willamette Valley, and believe I would do better there than here. Where would be the best place to go to, where no ague or fever prevails, and where fish are plenty and fruit fails not? Would you recommend South, North, East or West? I have a small income of \$400 per year besides the labor of myself and family. Answer in paper.

Yours truly,

WILLIAM LINTON.

The foregoing is pretty fully answered by the description of the Willamette Valley we published last week. When Mr. Linton arrives here we shall be glad to furnish any information possible to serve his purpose. Here is a man who has been here to look for himself and likes the country well enough to bring his family. With the income he speaks of he ought to succeed well if they are good workers. Good land can be bought in any direction, and a little care will secure a good bargain. Near the mountains all the streams have trout. We published last week, or will this, an article on fish and game. The big Salmon are in the larger streams; Elk are in the mountains and deer in the hills and timber. Pheasants, grouse and quails are the game birds of our country. Fruit does well in all sections, but we shall treat more fully of this soon.

The dead body of a man named Gelder, commonly known as "Crazy George," was discovered in the woods on San Juan island, Tuesday last. Deceased was an old resident of that place, and was engaged in chopping wood at the time of his death, which was probably caused by heart disease.

A meeting of Irish Nationalists is to be held at ...

Cattle-Raising in Eastern Oregon--Life in Harney Valley.

DOUGLAS COUNTY, Jan. 22, 1881.

Editor Willamette Farmer:

I see by your valuable paper, which my brother, Amos Miller takes, and myself and family are at present on a visit to him and read the FARMER, that you invite correspondence. In the year 1869, D. A. Levens, of Canyonville, furnished me with a few hundred cattle and horses enough to use in clearing for the cattle; we drove to Goose Lake valley, arriving there in July of the same year. I was to take care of them at my own expense and to pay him \$22 per head. I remained at Goose Lake three years, and then moved to Harney valley, Grant county, Oregon, it being by far a better grass country. I have had some severe winters and consequently heavy losses in that way. We, as you know, were in the midst of the raids of the Pinte and Bannock Indian war; loss in that way quite heavy, but owing to close application to business, I was able to sell out to Peter French, of Stian's Mountain, last Fall. After all debts and expenses were paid, my cattle interest brought the sum thirty-nine thousand dollars, and I still have a band of 250 horses left. This I think is pretty good, starting as I did, a lion credit. Others can do as well if they will only diligently and attentively stay with it, for I think prices will have a tendency to go up from this time on, instead of a downward tendency, as grass is getting scarcer and the business getting into fewer hands. The larger owners are continually buying out the small bands, and right here I will say that Peter French is the most punctual as well as energetic man in the Harney valley; he is comparatively a young man, only about 33 years old; he has this winter about 3,000 beef steers, which he is holding for a raise in beef. He has as yet always met his promises in money matters promptly, and deserves success.

One great wrong inflicted on the people of the Harney country, and extending through Eastern Oregon, is the so-called Military Roads, known as the Pengra and Hogg roads. They have succeeded in getting the land granted by the government and have not made any road; only surveyed and placed mile stakes; they do not get a patent and will not sell to settlers, only keep the land out of market and pay no taxes.

The Indian reservation that takes in most of Harney valley is another great hindrance; not an Indian on it, nor has there been since the Bannock war, as it is termed, as they were all removed to the Yakima reservation soon after the war was over. There is an agent and a few employees still there, but for what purpose no one here can even surmise. This reserve contained some 2,300 acres to every Indian that was ever on the paper of the agency. It is a very good grass country surrounded by cattle ranches, or men engaged in cattle raising.

Right here let me speak of the gross outrage enforced on a few of us by those very men we have voted and worked for all the time. It is as plain as the sun at noonday that office seekers as a general thing care nothing for the men who elected them; just so they get the money is all they care for. Our votes and our hard earned money is all the use they have for us, and to prove this I will relate to you some facts. Grass you know grows every year now after the Indians are all taken away; we did not for a moment think we were doing any harm to them if our cattle did eat some of this grass on the reservation, so did not try to keep them off, the consequence was we were sued as trespassers, and held to appear before Judge Deady at Portland, some 300 miles away, and then a fine imposed on me to the tune of \$800. This grass would have rotted or been burnt up if we had not used a little of it and watched over it. Judge Deady in his instructions to the jury, said no one but men of disreputable characters would settle near or adjoining to an Indian reservation, and that he would hold them just as guilty as though they had driven their cattle on to this sacred soil. Now every one so sued lived off of this land in question; whilst those who lived directly on it, having their homes and all they had on it, not one of them were molested. One other gross out age to our people is in the pensioning of Old Sally Winemue. She is known to be a princess of easy virtue, often drunk, and of no earthly use to the Government; but the people's money was used to pay her \$75 per month. Not satisfied with this, the General must get her pensioned at \$600 a year, room and rations to live at Vancouver. There is some better use for the people's money than to waste it thus. Would it not have been better to have helped the widows and orphans made by those same Indians. There lives in Happy valley, near Stern's mountain, a crippled widow with five small children; she cannot walk without the use of one crutch. Her husband, John T. Smyth, and his father, were killed and burnt up by those same Indians; their horses and cattle killed and stolen; but not one word do we hear in her behalf. She exists by charity from those who also suffered.

JOHN S. MILLER.

OREGON HORSES.

Sketch of Early Horse History--Splendid Stock of all Kinds--Horse Raising in Eastern and Western Sections--Oregon not Surpassed by Kentucky for Natural Horse Pastures.

BY JAMES WITHEYCOMBE, V. S.

[We are fortunate in being able to present the readers of the FARMER with an able and carefully prepared article on Oregon horses, furnished by James Withycombe, Esq., a veterinary surgeon of education and experience, well known in this city, who has done ample justice to this very interesting subject. In all cases we have to request brevity in such communications, as we shall combine all in a double issue, intended for circulation in the East, but this subject, especially, admits of much fuller treatment. Oregon is the natural home of the horse. We have all grades, from the Shetland pony to the imported Clydesdale or Norman, including the best blood of thoroughbreds. Foster, one of the most noted horses of the modern stud, went from Oregon to win his great four-mile race in California, that gave the final sanction to his fame. But we value most our grand race of roadsters and work horses that cannot be excelled. Mr. Withycombe expresses the belief that fifty draft horses can be picked out in Portland that cannot be excelled in any city in the United States.]

THE OREGON HORSE.

That there is an excellent type of horses in Oregon, all horsemen that ever visited our State admit. While blood is an important factor in producing those superior specimens of the equine species, our soil and climate must be credited with the lion's portion of the honor. There is probably no country in the world that can excel Eastern and Western Oregon in the production of fine horses. We have the advantage of both soil and climate. Eastern Oregon surpasses Western Oregon in producing horses for road and speed purposes, owing to the peculiar climate and unlimited range, comprising a vast open, rather hilly country, of considerable altitude, dry climate and producing generally an abundance of bunch grass, which is very nutritious; water is rather scarce; horses often go ten miles from their range for water, always with a run or fast trot, which keeps them in the highest degree of muscular development from the time they are foaled until taken from the range. It is remarkable that in connection with the facilities afforded for their physical development, the grass should be of such a very nutritious character, which is of such great importance in producing the growth of colts that are required to travel so much. Notwithstanding the severe trials the immature horse is subject to, I have never known one to suffer from an imperfect nutrition of the bones. Rickets and bighead are unknown here.

Western Oregon is more of an agricultural country, consequently the range for horses is limited. Horses generally grow very fast and large that are raised here, largely attributable to the abundance of nutritious food and less physical exertion required by the colt in obtaining feed and water. It is universally conceded by horsemen here that stallions that are brought here from other States outbreed themselves, i. e., the progeny is larger than the sire when matured as a rule. While the horses that are raised here are not generally considered as tough as the Eastern Oregon horses, nevertheless they are strong, healthy animals.

ORIGIN OF THE OREGON HORSES.

The pioneers evidently before starting to this country took into consideration the long, tedious journey that they were going to undertake, consequently selected horses, principally mares that had proved themselves to have had strong constitutions with great endurance, regardless of blood. The principal stallions used here from 1845 to 1860 had a great infusion of the thoroughbred in their breeding; since then the trotters have taken the lead. The first and most successful sire was "Old Georg"; was brought here by the late M. L. Savage, of Salem, about 1845; his progeny stands very high in the estimation of Oregon farmers as horses of all work. They were very powerful, durable and ambitious, combined with good size and great style. They also proved themselves formidable enemies to their antagonists on the race track in both running and trotting. Mares of this stock are very highly prized at present to breed big, fast and hard horses from. About 1850, Mr. Houghton, of Yamhill county, brought "Yamhill Broughton," about the same time Mr. Younger, of Yamhill county, brought a large gray horse of the "Henry stock;" Mr. G. J. Baskett, of Polk county, brought "Laplan-

der" in 1853; he was the sire of the noted horse "Humboldt" owned by the same gentleman; about the same time Mr. Owenby brought "Linnatus;" also Mr. Moss of Oregon City brought "Timoleon" and a Copperbottom horse; about 1855, Mr. Young of Linn county, brought a large horse called "John" said to be of old "Timoleon" stock; in 1858, Mr. John Welch, of Lane county, brought "Rifleman" by imported "Glencoe;" about the same time, Mr. Winkle brought "Marshall" afterwards owned by Mr. E. M. Waite, Salem; about the same time Mr. Smeltzer, of Linn county, brought a "Bertrand" horse.

INTRODUCTION OF TROTTERS.

In 1860 J. Lane of New York, brought "Paul Jones," a Black Hawk horse, sired by McCracken's Black Hawk, he by Vermont Black Hawk; Messrs. C. P. Bacon and Wm. Sherlock, of Portland, paid \$4,000 for half-interest in him; he made a radical improvement in the horses of this country; his get are well-known and esteemed for activity, hardiness and docility; limbs clean, with good bone; heavy, round body, deep chests, short, strong backs and broad quarters, with plenty of speed at the trot combined with great endurance.

In 1861, Mr. Culver brought "Lion Heart," a Canadian bred horse, into Southern Oregon. In 1862 Mr. W. E. Titus brought "Emigrant" sired by Billy McCracken, he by J. G. McCracken's Black Hawk, he by old Vermont Black Hawk. His get were very similar to Paul Jones, some of them developed into fast trotters. The same year Mr. Wallace of Albany, brought "Comet;" in 1873 Mr. Smiley brought "Mystery" both trotting bred horses; in 1864 Mr. H. Welch brought "Jack Minor;" about 1865 Mr. Hudson brought "Vermont" into Southern Oregon; his get were excellent road horses; he also has the honor of being the sire of the two fastest trotters ever raised in Oregon: "Parrot" and "Faustina." About the same time Mr. W. C. Meyer, of Ashland, brought "Colour," and "Captain Shigart," both noted sires; about 1868 M. Bigham, of Wasco county, brought "Bellfounder," afterwards owned by Dr. Mack, of Walla Walla; he was pre-eminently the great sire of trotters of this country; he has probably sired more colts that can trot a mile in five minutes than all the stallions ever brought to Oregon. Mr. Bigham also brought some excellent specimens of the thoroughbred in "Foster," "Doc," "Lindsay," "Wilkes," "Luther" and "Norwich." About the same time Mr. P. Smith brought "Pathfinder;" he sired many excellent general-purpose horses. There are a great many horses of more or less notoriety that could be mentioned, but space forbids. Among the more recent introduction of horses is "Hambletonian," brought here by Dr. J. C. Hawthorne, of East Portland, afterwards sold to Mr. C. P. Bacon, of Portland, and called "Bacon's Hambletonian;" he is a grandson of Ryedock's "Hambletonian;" his get promises to be a valuable acquisition to the State, being uniformly of fine style, large, with good bone, plenty of action and of amiable disposition. "Mr. Nesmith, of Polk county, brought "Black Stanger;" his get are a very useful class of horses. Mr. L. Lindsay brought "Eph Maynard," owned by Mr. C. P. Bacon, a horse and also his colts noted for great endurance. Mr. J. Redmond, of McMinnville, brought probably more useful horses to the people at large than any other person in Oregon, including "Kishar" (son of "Rye Hambletonian"), "Rockwood," "Duroc Prince," very highly bred trotting horses; also "Milton," a celebrated sire, and several fair specimens of draught horses.

CLYDESDALES AND PERCHERONS.

Mr. S. G. Reed, of Portland, has brought several excellent Clydesdales and highly bred trotters. The Clyde stallion "Glenold," brought and owned by Major James Bruce, of Cornelius, is considered the best horse of that breed in the State. Messrs. Grierson and Pugh, of Salem, brought some fine Clydes; also the draught horse "Rob Roy," a noted sire of farm horses. Mr. Rankin, of Illinois, brought several good horses here, Clydes, Percherons and Coach horses. Mr. W. C. Myer has introduced some fine specimens of the Percheron horse and the Shetland pony. Mr. Beane, of Goose Lake, has brought some fine trotters; the public has been repeatedly informed through the press of their quality. It is very doubtful in my mind whether the introduction of the Clydes and Percherons is going to improve the Oregon horses; it will be readily seen by horsemen that the breeding of the Oregon horse is exceptionally good, with a strong bred foundation, and that of large, strong and useful specimens, and lately with "Blackhawk," "Morgan," "Canadian" and modern bred trotting crosses, which, combined with our salubrious climate and abundance of nutritious feed, has given us horses of good stamina, endurance, action, superior style and size, frequently specimens weighing from 1,300 to 1,600 pounds, which certainly are large enough for all practical purposes. I will venture to say that the draught horses in the city of Portland cannot be excelled in any city of the world for strength,

action, style and endurance.

That there is a brilliant future, and not far distant, for the horse raisers of Oregon, is very evident. The rapid growth of our already large commercial interests, and the springing up of large cities, will necessarily create a demand at home for our horses. The most remunerative business for the farmers of the great corn growing States will be in producing meats to supply the enormous demands in England, which will cause them to abandon horse raising and look to Oregon for replenishing their stock. Not only have we the facilities for producing large numbers, but of very superior quality. Whenever they become known they will earn a lasting reputation for themselves.

It is almost impossible to recount, at brief notice, all the good horses of early times; Dan Clark of Salem, had "Leviathan," a well-bred bay horse that left many good colts; Marese Crisp, of Yamhill, brought "Crisp's Jim," a gray very purely bred; A. A. Banks of Scappos, brought "Magna Charta," a Morgan horse, from Michigan; besides many others came here in early times. About 1875 Gen. Nesmith brought two sires of old "General Knox," all Morgan Stock, also, Delaware a thoroughbred. Ben Holliday brought some good horses, but it is almost impossible to name all the good horses that ever came here.

Winter Oats and Wheat in Oregon.

Country Gentleman.

In your valuable paper for Oct. 28, 1880, P. 696, C. P. H. makes inquiry about Winter oats, saying that the farmers in his locality never heard of such oats as these. Winter oats are sowed in Oregon at any time during the year, say from last of September up to the middle of March; provided, of course, the ground is in a favorable condition. The ground should be in as good condition as if to be sown with rye or Winter wheat. The usual yield, depending much on the condition of the soil, is from 40 to 80 bushels to the acre. These oats are used principally for milling. They have a larger grain, heavier and more uniform as to size, than Summer or Spring oats; hence they are better for milling purposes. They usually command from 12 to 20c more per bushel than the ordinary oats. They do very well in this latitude, although we are in about same latitude as Montreal, but we do not have so continuous cold weather, or as much snow as in Vermont. We have had eight inches of snow and a week of cold weather, but the snow has now all disappeared. Such cold weather and so much snow as we have just had, is unusual at this season of the year. The weather has been quite dry. Many farmers could not do the usual amount of plowing, but since the snow and rain fell during the past week, nearly all the farmers in this Willamette valley can start their plows and do very satisfactory work. The wheat crop last season was good, and the quality superior in every respect. In consequence of the lack of the usual number of ships port at this season of the year, only a small portion of the crop has been sold or shipped. The freight to Europe are very high. Wheat commands in sacks, on the warf, \$1.42 to \$1.15 per cental, while if freights were now at the price of last year, prices would be \$1.65 to \$1.80.

READER.

PORTLAND Oregon Dec. 13, 1880

Driving Stock East.

From a Boise City Paper.

Captain John Mullan has written a letter recommending to the people of Eastern Oregon and Washington Territory, in driving their stock to an Eastern market, to take the Mullan wagon road or the Pend d'Oreille river road to Missoula City, then up Hell Gate valley to Deer Lodge valley, and then via the Little Blackfoot to the Missouri river. He claims that the distance is considerable nearer to Cheyenne and the grass is much better on this northern route than up the Snake river valley. Whether this be so or not, it is to be hoped that the cattle drovers will hereafter take the northern route. There is no greater curse to the stock growing interests of a country than the large bands of cattle that have been driven through this country for the last few years. If the same number of cattle should be driven for two or three years more they will consume all the grass in the Snake river valley. Thus far they have driven along the thoroughfares and swept over a comparatively narrow strip of country, but on all they did pass over the grass was eaten out and trodden down so that it will not come again for several years. The stock men of Southern Idaho are already feeling the injury seriously, and while there is much inconvenience and trouble in securing their own cattle from mixing up with these droves and losing them, there is a greater danger that their great ranges in Southern Idaho will be eaten out altogether by the cattle droves. It is fortunate for stockraisers who are able to find a location where these herds do not pass, to do so; and it will be still more fortunate for the country when the railroad comes and takes the cattle and carries them to market.

From the Willamette Farmer of Dec. 31, 1880.
WASHINGTON TERRITORY.

SKETCH OF THE COUNTIES BORDERING ON THE OCEAN AND ON THE COLUMBIA RIVER.

An Immense Amount of Excellent Land Waiting for Settlement.

THE COAST REGION OF WASHINGTON TERRITORY.

While we have always supposed the time would come when the regions along the coast of Oregon and Washington, and the wooded valleys that are found on the lower Columbia, would be valuable and have dense settlements, we were in a measure ignorant of the facilities they really offer for settlement and the actual lay of the country. We have been surprised at times to find the subscription of our paper working its way into far-off nooks that we used to deem inaccessible to man—to say nothing of newspapers. It goes to ports along the Straits of Fuca, to Victoria, to enterprising farmers who settle in valleys on Puget Sound and on the streams that run from the Olympic range into the ocean, on the grand Chehalis river that put into Gray's harbor, and to Shoalwater bay, and to many places we knew nothing of as having an agricultural population when the Farmer was young in journalistic years. And lately, when we went on a prospecting tour down the Columbia, to gather facts concerning Clatsop county, and also the counties north of the Columbia river in Washington Territory, we became strongly impressed that the time is fast coming when population will seek these lands that are so near market, where products bear a good price now, and will for all time, and therefore will so well pay for occupancy and repay the expense of clearing for cultivation.

Of course, in the short time we have given to this subject we have been only able to generalize, and yet the information gained astonishes us with the extent of available lands along the coast and the rivers that put into it that invite settlement. Where we have supposed that regions were mountainous and inaccessible there is in fact, in many instances, a succession of valleys and uplands, sometimes with prairie reaches and openings, but often with vine maple bottoms and wooded uplands, that possess every requisite of fertility and beauty of location, as well as perfection of climate, but require to be cleared for cultivation at more or less expense. Already a steady increase of settlement has commenced, and when the facts are plainly known—that a man with moderate means can soon make a productive farm there—such immigration will increase. The railroad era is upon us, and though the present dereliction of construction is to seek Eastern connection and develop the treeless plains of Eastern Oregon and Washington, two years more will see that result very effectually accomplished, and then the energy and enterprise that is working such a revolution in the Willamette valley, Puget Sound and East of the Cascade mountains in all directions, will turn to the coast counties, and we shall see roads constructed in many directions to connect the Willamette and other valleys with the coast; branch roads will be eventually run to every part of the long coast line that can be made productive.

PACIFIC COUNTY.

On the steamer Dixie Thompson, on the way down to Astoria, we met an old friend, Mr. J. D. Holman, who as far back as 1847 took up his claim on the shores of the bay and ocean, north of the Columbia river, thinking it would possess commercial importance in the future. From him, as well as from other sources, we gained considerable information concerning Pacific county, which the map shows is the southwest land in Washington Territory. On the coast about twenty-five miles above the mouth of the Columbia river is the entrance to Shoalwater bay, and a glance at the map shows that it reaches almost to Baker's bay inside the Columbia bar. The construction of a canal to make the connection complete, is contemplated, and the clearing out of a slough enables boats to transport freight so that three miles of easy land carriage is all that is required to effect transportation between Ilwaco, on the Columbia, at Baker's Bay, and any place on Shoalwater bay. The eventual construction of three miles of canal will be an improvement on present facilities. All the region, for two hundred miles up the coast, has its natural trade outlet at the mouth of the Columbia, and Mr. Holman and others have been already looking out the route for a railroad to connect Ilwaco with Gray's Harbor, the bay that opens from the ocean not far above Shoalwater bay, which our engraver forgot to name, with Olympia on Puget Sound, and with the great valley of the Chehalis and its tributaries, which empty into Gray's harbor. On Shoalwater bay are Oysterville, the

MAP OF WESTERN WASHINGTON TERRITORY.



county seat, and Riverside, Bruceport, Centerville and Willopah are on the bay where streams enter into it, while Ilwaco is on the waters of the Columbia, with a prospect of being the Columbia river entrepot for Puget Sound and the North Coast country when railroads develop that county—and there is enough country naturally centering there to materially advantage Ilwaco, and also to add greatly to the future importance of Astoria. Pacific county has over thirteen hundred population. Along the coast south of the entrance is a sandy peninsula about 20 miles long and from one to three miles wide, on the north point of which is located Oysterville. This peninsula has rich soil, is settled up by thrifty farmers who have stock of all kinds as well as grow good crops. Sheep do well here. The soil is rich sandy loam. There is a waste of mud flats in the bay at low tide, and until quite recently oysters were planted and grown here for San Francisco and Oregon markets, but the trade has declined since Eastern (Chesapeake Bay) oysters have been brought across the continent, because the expense of transportation prevents a profit, though years ago great fortunes were made, even though one-third the cargoes shipped spoiled on the way. The business is certain to revive and become again important, when transportation facilities improve. Several streams put into the bay on which are valleys that are populated. Mr. Holman informs us that the branches of the Willapa offer many good locations for settlement. The Hon. Elwood Evans says: "The lower Willapa is bordered with tide lands subject to overflow—the uplands are adapted to grazing. The river is a mile wide at its mouth. The tide extends to the rapids, 17 miles above its mouth. Prairies skirt it at intervals; the bottom lands are rich, deep soil covered with vine maple and alder, extending 20 miles above the rapids, with average width of ten miles." The advantages of this region induced Portland speculators to make investments in lands in Pacific county, many years ago, before the homestead law passed, but there are many good locations to be had yet. All through this region are openings and prairie reaches, as well as wooded bottoms and bench lands. The tide sets up the streams for ten to twenty miles and the tide lands form valuable grazing ground for cattle. These lands are exceedingly rich and can be often reclaimed at small expense. The first corner have of course taken up the most available lo-

calities, and yet the area open for settlement is practically unlimited and a great portion of the country has never been fully prospected. This whole region will have especial advantage from nearness to market, especially Pacific county. Mr. Holman says that people who settled in the dryer and colder climate east of the mountains come down here and locate homesteads or buy out occupants and express themselves as much better satisfied; also persons who have suffered from drought in California find their way up here and are delighted with the country and climate.

Ilwaco has a safe anchorage, good harbor facilities, is the natural outlet of the North Coast country; has several stores and a hotel, besides which the vicinity is becoming the favorite summer resort of the fashionable, as also of the weary and rest-seeking people of the whole country. Deep sea vessels frequently come down to this point with a part of cargo on board and the remainder is lightered down from Portland and taken aboard at Baker's Bay, in preference sometimes to Astoria.

From the table of lands furnished from the Vancouver District Land Office, it appears that only about half the lands in Pacific county have ever been surveyed, and a little over one fourth of the surveyed lands are still subject to entry. It is probable that much of the good land in this county still remains unsurveyed. It is also probable that much land was located by speculators at an early day and is not settled upon.

CHEHALIS COUNTY.

This county lies north of Pacific county and is destined to become one of the most important districts of Western Oregon—that is, from the stand point of agriculture and production. Its population is estimated at 804. Gray's Harbor occupies fifteen miles frontage on the ocean, and the valley of the Chehalis, that empties into it, constitutes the finest body of agricultural land in Western Washington. It rises in Lewis county, circles north and west to Gray's Harbor, has many tributaries and offers the greatest inducements for settlement. Some writer claims that to Washington Territory it bears the same relation that the Willamette valley does to Oregon. Of course it has not the extent of open country found in the Willamette, but for soil, climate, productions and every valuable quality, it

cannot be excelled on the Pacific Coast. The streams putting into the Chehalis and Gray's Harbor from the north are Humhtulips, Hohkum, Satsop, etc., and offer plenty of region for settlement. What we have said of Pacific county, as to tide lands and general advantages applies to Chehalis county. The whole of Chehalis county can, and doubtless will, be tributary to the Columbia river country when railroad development comes to its relief. The available lands of that river and the valleys of its tributaries must reach a million acres in extent. When the Willamette was settled first, people unreasoningly, often, took up the low prairies as their first preference, while some went into the hills thinking they would do to raise stock. Time has developed that the Waldo hills and red hills generally, of the great valley, and the higher prairie lands, are the best lands. So with the coast region, we may expect to see the bench lands assume greater importances as the country develops. Uplands offer, of course, the most healthful locations.

We shall not attempt any elaborate description of Chehalis county, for we have not the means at hand to do it justice, nor the room for it if we had, though we hope some time to give this fine section of country the justice it deserves. It seems remote at present, and is so. Its products have no convenient market, but when the magician's wand is waved and the railroads of the near future are constructed, it will assume prime importance. We have already a good circulation through there and realize that it represents a good country as well as a thriving community.

The county seat of Chehalis county is Montesano, and the chief towns are Hokium, Satsop, Elma, Sharon, Cedarville, Oakville, and other thriving towns are on the waters of the Upper Chehalis, but not in this county. Chehalis Point is at the south of the ocean entrance to Gray's Harbor. In his interesting description of this country, Hon. Elwood Evans asserts that the Chehalis valley varies in breadth from 15 to 50 miles; that from the mouth of the Satsop through to Hood's Canal, closed in by the Black Hills and Coast range, there is a good open country 14 or 15 miles wide, and that prairie to the extent of 50,000 acres, adapted for grazing, lies northward of Gray's Harbor.

When lately travelling down the Columbia, we met with Lieut. Jones, U. S. A. Quartermaster at Fort Canby, at the north entrance of the river, who had been stationed some time at Quinalt Indian reservation, north of Gray's Harbor, and had hunted and fished over much of this county. He assured us that it had many beautiful prairies reaches, and the Indians had told him of more than he saw. He described the country as containing varied and reliable agricultural resources, both in the way of stock raising and active agriculture. Every fact that we possess corroborates the belief that the Chehalis valley is the most valuable agricultural portion of Western Washington. The enterprising people interested, are trying to work out their own salvation. They have a small steamer almost constructed and as the Chehalis is navigable for quite a distance, the initiation of steamboat navigation will be an important event in their history.

We find the following concerning this county in a pamphlet published by the N. P. R. Co.: "Area 2,800 square miles, about one third of which is bottom land, soil clay loam and sand, producing 40 bushels of wheat, 80 of oats, 20 to 40 of barley, and large crops of vegetables. Prairies are good pasturage and yield good crops. Uplands rough and timbered. Dairying and farming chief occupations, and the county is noted for quantity and quality of its butter." The yield of cereals above given is probably exceptional. We hardly believe that this as an average yield.

PRODUCTS AND RESOURCES.

Away from the immediate effects of the sea all the coast region will produce wheat and probably some varieties would ripen on the coast. The valleys and bunch lands are not only adapted to grain but especially to fruit, and can readily be made available for pasturage. The rich bottoms will produce vegetables of all kinds in greatest profusion. This region will produce whatever will grow in the the Willamette valley, and of course will not successfully grow corn, peaches or grapes. Mr. Holman, of Ilwaco, assures us that the farmers on the peninsula, south of Oysterville, have well cultivated farms and excellent improvements. Mr. Loomis, who lives here, cut and baled four tons of hay from one acre of land. He raises oats, barley, vegetables and grass, has fine stock and carries on extensive farming, as do others, but wheat does not ripen here to a certainty.

From the same good authority we learn that the land around Shoalwater bay affords as good grazing as the world knows. Grass there subject to sea influences and humid climate, is green and growing the year round. Baker, Hutton and other stockmen live here and have bands of cattle, and some sheep are kept, especially on the peninsula. Sheep are also kept on and about the Chehalis river and Gray's Harbor country. Stock men have a good thing of it, as the range is not nearly occupied. They cut hay from tide lands, or raise timothy meadows, to have feed in case of emergency, but seldom require to feed it,

Stock browse a great deal and the uplands grow the different wild pea vines in profusion that cannot be surpassed as stock feed. The openings here for stock men offer inducements equal to any other section. The tide lands supply a vast amount of wild grass, and stock are fenced in by natural barriers of mountain and ocean. Lieut. Jones described to us the fine ranch owned by Mr. Peterson, on Chehalis Point, near the ocean at the entrance of Gray's Harbor, where he kept horses, cattle and sheep and grew fruit and vegetables in profusion, making no provision whatever for wintering his stock. The country along the coast from Shoalwater Bay to Gray's Harbor, is a sandy loam and has settlements all along. What we write here applies in general to all the coast region north of California, but these counties of Western Washington have an advantage that will be always felt, in their location so near Puget Sound and the Columbia river.

The natural resources of the county include coal, which is found on the Chehalis and its tributaries. The forests of maple, ash, oak, spruce, fir and cedar will be valuable in course of time, though now they may be considered a hindrance.

Very singularly this coast region combines the treasures of the ocean with the best game of the mountains. The streams that put down from the mountains abound in brook trout, mountain trout, and salmon trout, and the lower waters with different varieties of salmon that come in from the ocean at the changes of the year; clams and oysters are native to this coast; the outside waters abound in halibut, cod, herring, and most of the best varieties of fish known at the East. Immense sturgeon weigh hundreds of pounds and are finer eating than those at the East. There is a good opening for fisheries on these streams. Lieutenant Jones and others assert that the Quinalt salmon is the finest fish on Pacific waters, as it is smaller in size and better in quality than the famous Columbia river fish. Smelt are so plentiful on the rivers near the sea in the early Spring that people have raked them out with a hand rake from the shore. They are delicious eating. It seems to be true that our north coast is possessed of as valuable fisheries as the ones we have so much trouble with Great Britain about on the North Atlantic, which Mr. Seward believed when he bought Alaska, and there is no such dangerous navigation to contend against as causes such destruction there.

Close by this north coast rise mountains that abound in deer and elk, so that the hunter has a natural paradise about him with game and fish in profusion. It is not often that the ocean and mountains combine to yield up their treasures in the same near vicinity, as is the case here. The settler along these western shores, if a good hunter and fisherman, can manage to provide meat without great expense. Lieut. Jones, who hunted this region extensively, says game was wonderfully abundant.

Dairying is the natural and easy reliance of this coast country. Stock raising and dairying combined promise safe results and then as the country develops the settler will be able to increase cultivation to satisfy the demand. Lieut. Jones suggests that an excellent plan will be for a company to organize and form a settlement, and have mutual protection and support, with stock and dairying as a first means of support.

Chehalis county is not in the Vancouver Land District and we have no data as to the amount of land subject to entry, but suppose that a great extent of rich lands are vacant, as there is an immense quantity of good land in the county and it is but very sparsely settled.

WAKIACUM COUNTY.

Next above Pacific county, on the Washington country, is Wakiakum, a small county that has very little agricultural area, but has some valuable fisheries and canneries upon its shores. Such canneries are also located on the shores of Pacific county, but we have not thought to make special mention of them. We shall probably allude to the fisheries of the Columbia river at length, in a separate item. Wakiakum is chiefly mountainous and has very little importance from an agricultural point of view, so we pass on to greener fields.

Wakiakum county is only about two fifths surveyed and one third of the surveyed land, or nearly 40,000 acres, is unsettled. The land of this county is considerably mountainous and much of it will never be settled.

COWLITZ COUNTY.

East of Wakiakum, has an area of 1,100 square miles and 1,800 population. Its chief town is Freeport, formerly called Monticello, on the Cowlitz river, which has 200 inhabitants. The Cowlitz river rises in the heart of the Cascade mountains and flows south to the Columbia, 60 miles above Astoria. This river is navigable for 30 miles, to Cowlitz Landing, at all seasons. A great many years ago, when the Hudson Bay Company established an agricultural company, they took possession of the rich valley of the Cowlitz and made their farms there forty years ago. The valley now has many fine farms and is a very rich body of land. The river drains its waters from both St. Helens and Rainier and all the Cascade range between, and the valley is extensive,

but the cultivated area is placed at only 26,000 acres. The exports are stated as: lumber, shingles, cattle, hogs, grain, vegetables and farm and dairy produce in general. The general course of the river is also through.

Cowlitz county has been a little over half surveyed, and nearly one third is vacant land at the present time. This county has a very diversified surface and is probably destined to slow development.

LEWIS COUNTY.

Which has an area of 1,800 square miles and 2,094 population. The Chehalis river also has numerous branches in this county and its general character is hill and valley, similar to other counties we have named. The trade of all this region naturally belongs to the Columbia river and will come this way in the future. These two counties (Cowlitz and Lewis) have been so long settled that no doubt the best lands were occupied long ago, but we cannot doubt that a great many opportunities for settlement exist all through there. Though so near Portland we have not at the present time facilities for giving an accurate description of them as we could wish. The North Pacific Railroad passes through both on its way from the Columbia to Tacoma. These counties will develop with time and become populous and rich, but the available area is small and already occupied. To make farms there will require time and hard labor, but that will be done in course of years, and land so made on good soil will be always valuable, because so near a reliable market. These counties grow cereals, fruits and vegetables of all kinds that are common to Western Oregon.

The statements usually published as facts by persons employed to write up State or county, are so often unreliable as to cause great injury to persons deceived by them and to the country itself in the end. We say this because a pamphlet description of Western Washington is before us, published for some corporation probably, that asserts that fifty bushels to the acre is not an unusual yield for wheat and that meadows turn off two to five tons of hay to the acre. While that may be true of occasional and uncommon cases, it is not true of the Willamette valley or any other part of Oregon or Washington as a rule, and in fact the half of it would be a satisfactory average. No man who reads it will believe it, so the whole work goes for little worth. In the course of these papers we shall endeavor to write fully and reliably of the system of agriculture followed, and its results in each district of both States.

CLARK COUNTY, W. T.

What we quote below is from a circular prepared some years ago by a committee of patrons of Husbandry of this county, who present the facts in a plain and reasonable manner. They say: We have "set our stakes down here," in all probability for life, and we are resolved that any statements of ours shall be such as the facts warrant. We are not going to write a fancy sketch, or hold out false inducements to immigrants. Take it any other. But people can never find in this world a place where they will be relieved from the ordinary cares and toils of life. God never designed it to be so. He never adapted any country to the life of a drone, for the reason that he never designed men or women to be such. What we want, and what the interests of the country demand, are live men and women, who will come here not only to stay but to live, and by their industry and enterprise enrich themselves as they may, and contribute to the permanent wealth and prosperity of the country. To such we will extend the kindest greeting.

Clark county is situated West of the Cascade mountains, on the Columbia river, the Southern boundary of Washington Territory. The country is very large, extending some forty miles along the river, and further back than has yet been surveyed or even thoroughly explored. Vancouver, the county seat, a town of about one thousand inhabitants, is pleasantly located on the Columbia about one hundred miles from the Pacific Ocean. It is at the head of navigation for sea going vessels. The place is healthy, and we have reasonably good schools and society, and need additional population and business to render both better.

In most parts of the country the surface is very level; in others hilly, the Northern part bordering on the Cascade ranges being mountainous. But little land in the country is too hilly for cultivation, and that portion which is, furnishes good pasture for stock. In some portions there are small prairies although these are mostly occupied. The greater portion of the land is heavily timbered, but interspersed with rich swales of from five to twenty-five acres, nearly or quite, destitute of timber. These swales are easily brought under cultivation and produce abundantly. This land is generally well watered and abounds in fine timber. Much of the land is still in the hands of the Government but second hand or improved land can be bought for fair price—indeed for low prices; and those who prefer can take Government land under the homestead law or by pre-emption. Much of this land is more easily cleared and superior in fertility to the timber districts of the Eastern States in which enterprise and industry have built up large towns and established wealthy and populous communities. The choicest of these lands lie back from ten to

twenty miles for market. Their distance from market ought not to be considered a serious objection to their settlement, for if the farmer be unwilling to haul his grain fifteen or twenty miles over a road which is almost a perfect level we venture the assertion that there is scarcely a class of lands in the world better adapted for the production of hay or for grazing, than these, which will yield a still larger profit upon labor than the production of grain. As we go farther back, the country, in point of natural range is better adapted to the production of stock, and no one would think that twenty-five or forty miles a great distance to drive cattle to market. But the farmer here would not be compelled to raise cattle or confine himself exclusively to the production of wheat and oats. He could add barley and peas, and nearly every thing else which is cultivated in other countries, except corn, and even that, but perhaps less profitable than most other things, and engage in the raising of pork, a branch of industry almost entirely neglected here but which might be made very profitable.

No country in the world is better adapted to the raising of such vegetables as potatoes, beets, carrots, turnips, parsnips, onions, cabbages, etc. The ordinary yield of potatoes is from two to three hundred bushels per acre, although on swale or bottom lands as high as from seven to eight hundred bushels to the acre have been raised.

The report gives a statement of fruit grown in Clark county, which proves that apples, pears, plums, prunes, cherries, as also peaches in some locations, do wonderfully well, so much so as to astonish all new comers, and that small fruit are equally prolific and delicious, but we shall treat of the subject of horticulture more fully by itself.

Mr. G. J. Tooley, who makes gardening a regular business near Vancouver certifies under oath that he has grown White Belgian carrots 55 1/2 tons per acre; sugar Beet 60 1/2 to a per acre; mangle Wurtzel 96 1/2 tons per acre. He adds: pumpkins, squashes, melons, cucumber, tomatoes, etc, yield enormously with ordinary care. In 1870 a squash raised in Clark county, weighed 205 lbs, was sent to Chicago and placed in exhibition.

We copy further, and rather fully, from this description furnished by our Granger friends, because we recognize that it is not an overstatement of the case, and what is claimed for Clark county applies equally well to all the timbered regions of Western Oregon and Washington we have before described.

Although in a high latitude our Winters are comparatively mild. During the past Winter the mercury on the 17th of January fell as low as four degrees below zero, at Vancouver, the coldest it has been for the past fifteen or twenty years. But once in the past fifteen years has snow remained on the ground for more than two or three weeks; the remainder of the Winter is very mild.

There is perhaps no country in the world that presents the advantages for stock-raising and for the dairy business that this portion of the territory does. This is, especially the case in the eastern and northeastern part of this county where government land can be had along the foot of the mountains, of the best of soil and abundance of springs of water issuing from the hills. In the rear, where the hills are too steep for cultivation the land must remain in the hands of the government for many years to come, and settlers can have the benefit of these ranges for their stock without purchase. These hills furnish fine feed for cattle and sheep, and young cattle can subsist here for the entire year without the trouble and expense of feeding hay. Beef brings a fair price in market, and stock-raising for the amount invested or labor expended, is a very profitable employment.

Horse raising is also becoming an important branch of business. Farmers are taking more pains, year by year, in improving their breeds for draft horses as well as for roadsters. Our mild winters and abundance of grass make this a successful and profitable employment. Sheep raising is another important branch of business and is one of the most profitable in which men can engage. Considerable attention has been given to the improving of breeds and much more attention should be given. Sheep increase very rapidly and are perfectly healthy. The wool is of better quality than in most parts of the country and brings a higher price in market.

We would also call attention to another profitable employment, the raising of hogs. It must be remembered that in a new country things do not always find their proper level at once; that is, the producer does not at once learn what is the most profitable to raise. We do not hesitate to say that the mildness of our Winters, the supply of grass throughout the year, and the abundance of grain, make hog raising one of the most profitable employments in which the husbandman can engage. In a newly and sparsely settled country, no one expects to find the same school advantages that he would in an older settled country. Yet these things have not been neglected. This county now has 39 school districts in which school is taught from three to ten months in a year. An annual tax of four mills on the dollar is levied to support these schools. Two sections of land out of every township of thirty-six sections, have been set aside by the government for the benefit of public schools. When the territory becomes

a state, these lands will be sold, the money invested, and the interest therefrom used to sustain our schools.

In our county most religious denominations are represented in greater or less numbers. Ministers of various denominations hold services in the school houses or churches in the country, while in our towns services are held regularly every Sunday by settled ministers. Much of our land is heavily timbered. In time the greater portion of this timber must become valuable. Fir trees grow to immense size. It is no uncommon thing to see trees six or seven feet in diameter and 250 feet in height. Besides the fir there is plenty of oak, ash, cedar, maple and alder. The cedar (white) is used for finishing and is an excellent substitute for pine.

The chief town in this county is Vancouver and is situated on the Columbia river, about midway between the upper and lower extremities of the county, where a good market is found for the productions of the soil. Portland, in Oregon, a city of about 20,000 inhabitants also furnishes a ready market for any excess of productions, not wanted at Vancouver. Portland is situated on the Wallamette river, about 17 miles from Vancouver by water, and six by land.

Clarke county is a very valuable region and will develop with time, great wealth and dense population, for the greater part of its surface is capable of cultivation. Almost three fourths of its area has been surveyed and it is remarkable that less than one tenth of the surveyed land now stands vacant on the books of the land office.

We are under obligations to Hon. N. W. Newlin, Register of the United States Land Office at Vancouver, for a complete review of the lands in the different counties in his district. The tables he sends us give each township surveyed and unsurveyed and amount of acres in each now subject to entry. With the brief time at our disposal it is impossible to set these tables in time for this issue, but the main facts of importance are contained in the recapitulation which follows, and which we give in tabular form.

The introductory remarks which follow, are furnished by Mr. Newlin.

VANCOUVER, WASHINGTON TERRITORY, LAND DISTRICT.

The Vancouver Land District extends along the North bank of the Columbia river, running Eastward from its mouth for a distance of 180 miles in a direct line, and embraces the counties of Clarke, Cowlitz, Klickitat, Pacific, Skamania and Wahkiakum. A portion of the lands embraced in this district are mountainous, though the greater part is susceptible of a high grade of agriculture. Many have been fine farms opened, the soil in most cases being rich and is well watered, and much of it is covered by a fine growth of excellent timber, such as fir, cedar, oak, ash, etc. Several fine streams of water are tributaries to the Columbia, and furnish some of the best mill sites on the coast, as well as large quantities of trout for the table. The climate is excellent, the average temperature being 52.13. Rains are frequent and but little snow falls during the Winter months. There is at the present time about thirty miles of railroad constructed and in active operation in this district, with a fair prospect of the Northern Pacific Company pushing its line down the north bank of the Columbia and forming a junction with its road running from Kalama to Puget Sound.

Below will be found a table of the lands embraced in the Vancouver Land District, which is compiled from the official township plats. The odd sections were withdrawn from market August 13, 1870, under the grant to the Northern Pacific Railroad Company. Under the head of "vacant and subject to entry" is given only the number of acres in the even sections, the same being now vacant and ready for settlement:

COUNTIES.	ACRES.			
	Total Area.	Surveyed	Unsurveyed	Vacant
Clarke	407,781	298,064	115,677	21,013
Cowlitz	743,867	887,507	355,860	118,360
Klickitat	925,085	754,550	151,149	256,465
Pacific	259,571	123,580	138,092	36,606
Skamania	898,137	68,048	822,013	12,537
Wahkiakum	284,722	119,842	164,880	36,928
Total	3,599,095	1,735,677	1,843,278	481,907

It must be remembered in connection with lands reported vacant on the line covered by railroad grants, that railroad lands are counted out. It is probable that a great area of railroad lands are for sale, or will be for sale, in such counties, above what the land office reports as vacant, which report only refers to lands subject to homestead or pre-emption. It is also necessary to recollect that many persons file on lands they do not remain upon, and the land office goes by the record of filings, which show a much greater amount filed on that is actually occupied, so the area of vacant lands is always much greater than the land office records state the case.

ECONOMICAL GOVERNMENT.

The early settlers of Oregon had braved and endured much to make their homes in this far off country, and they brought with them primitive habits and very economical ideas. While

California went to housekeeping in great state and upon an extravagant scale, so that when the flood tide of golden prosperity began to ebb, her people found themselves saddled with an extravagant system and political habits that were such a burden that almost a revolution was required to amend the State constitution to suit the times, the very contrary was the case in Oregon. Salaries of State officials here are almost too low: Governor \$1,500, Secretary of State \$1,500, Judges of Supreme and Circuit Courts \$2,000.

The economical idea has prevailed, with few exceptions, from the beginning. The State has been liberal in caring for the insane, the blind and its mutes, and nearly half the State expenses go for these objects, but the people keep a strict watch over their officials and hold them to rigid account. It is probably true that the State Government of Oregon is the most economical of all the States in the Union. We are liberal for schools, as the figures we give from the biennial report of the State Superintendent will show. The same economical spirit is evident in Washington Territory, accompanied by the same liberality in connection with State charities and the cause of education.

The State Penitentiary has of late become in a great measure self-supporting, while in the past it has been a heavy tax. The penitentiary building is a solid structure, built at great cost, and will last for all time. Convict labor is utilized to fair advantage on the farm and in many workshops.

The insane have hitherto been well kept by contract, but the late session of the Legislature made provision for the erection of an asylum and purchase of sufficient land to be cultivated by the patients. The cost of maintenance will be greatly reduced when the building is completed.

Our members of the Legislature get \$3 a day. We run things rather too close, in fact, and there seems a need of more liberal expenditure, but the people are afraid to have the constitution tinkered with, and are very jealous of their rights and privileges.

SCHOOL SYSTEM OF OREGON.

The report of Hon. L. J. Powell, Sup't of common school for the State of Oregon, made September 1st, gives much valuable information in the form of tables, that follow: The facts made known in his report are sufficient of themselves to convince any reader that Oregon is alive to the great necessity of public education, and has a well perfected school system. The same is true of Washington Territory, and if we are not mistaken the school system of the two are very similar.

SCHOOL CENSUS FOR 1880.

Whole number of organized Districts.	1,007
Total number of persons over 4 and under 20 years.	59,615
Total number of pupils enrolled in the public schools during the year.	37,533
Total average daily attendance of pupils at the public schools.	27,435
Number of private schools.	142
Number of pupils attending private schools.	4,211
Average number of months of school per district.	4.48
Whole number of male teachers employed holding First Class Grade Certificates.	373
Whole number of female teachers employed holding First Grade Certificates.	306
Whole number of male teachers employed holding Second Grade Certificates.	262
Whole number of female teachers employed holding Second Grade Certificates.	373
Total number of teachers employed during the year.	1,314
Average monthly salary paid male teachers.	44 10
Average monthly salary paid female teachers.	33 38
Number of academies.	15
Number of collegiate schools.	12
Number of teachers in private schools.	212
Number of grade schools.	45
Number of teachers in public graded schools.	155
Number of pupils in public graded schools.	7,814

DISBURSEMENTS FOR 1880.

Amount paid to teachers.	\$210,420.38
Amount paid for repairs on school houses and premises.	7,976.14
Amount paid for school furniture.	6,443.83
Amount paid for fuel and other incidentals.	8,783.16
Amount paid for apparatus, globes, maps, etc.	618.15
Amount paid for grounds, buildings and other purposes.	72,004.73
Grand total paid out during the year.	\$307,031.46
Cost per capita of all persons of school age.	\$5 15
Cost per capita of all enrolled in school.	8 18
Cost per capita of the av'ge daily attendance.	11 15

SCHOOL HOUSES AND VALUATION OF SCHOOL PROPERTY.

Number of school houses previously erected.	883
Number of school houses erected during the year.	51
Total number of school houses reported.	934
Value of school houses.	\$530,455.00
Value of school furniture.	34,781.55
Value of apparatus, globes, charts, etc.	8,636.50

Total value of school property. 567,863.05

THE PRESENT CONDITION AND PROGRESS OF OUR SCHOOLS.

On this subject the superintendent remarks: The present condition of our schools while it is by no means all that we would like to have it in a great many particulars—though the school houses are not what they ought to be in the great majority of cases—yet, when we compare the schools of the present with the schools of the past, the former make a very creditable showing. I might speak of improvement in the modes and methods of teaching in many respects. In particular, the text books are better; they are taught more intelligently and with more direct reference to the development of the reasoning and perceptive faculties of the children. While there not only may be but are, many instances where cramming is practiced, I regret to acknowledge it, yet the instances are fewer than formerly. While inefficiency sits enthroned in many school houses through the land, yet we have a far greater ratio of good teachers to-day than ever before in the history of this State. They are doing better and more conscientious work than has been done heretofore, and the tendency is upwards and the teachers show a commendable zeal in their efforts to prepare themselves to discharge the responsible duties of their positions in a more efficient manner.

Of late the public schools of the State and the system of free popular education in general have been subjected to a sharp, and not in every instance friendly, fusillade of criticism and denunciation on the part of the press of the State and sundry correspondents. Yet as a general thing when the schools have been put to the test, it has been clearly shown that the methods and system of the schools of the present, while they are not what we could desire in every respect, yet, when they are compared, especially with the schools of the past, they made a favorable showing. So severely have our schools been criticised, and more especially the high schools and "the system," the "cramming processes" of the schools of the present time, that at last annual school meeting in the city of Portland, in order to investigate these charges and ascertain whether they were well grounded, a competent committee was appointed by the school meeting and given ample time to investigate the matter so far as the city of Portland was concerned, and after having devoted four months to the subject and thoroughly examined all the charges and criticisms, they submitted the following report at an adjourned school meeting, July 12th, 1880:

REPORT OF INVESTIGATING COMMITTEE.

Your committee respectfully submit the following report embodied in statements and resolutions:

The object assigned us were arranged under five distinct heads. In order to obtain clear and definite views, each subject was subdivided and a series of questions prepared and assigned to five sub-committees, who were requested to examine every point named and make a special report. Every member of the committee felt authorized to visit any or all of the departments, grades and classes of the public schools and seek information from the school superintendent and teachers here and elsewhere, from citizens, from jurists and other professional men, from published reviews and discussions of the subjects in other States.

In justice to ourselves and the objects sought, we must say that the work has been far too great for the time allowed us or that we could give to it.

At the outset of this discussion three great facts meet us:

1. That very large grants have been made by the national government for public schools, amounting since the organization of the Territory of Oregon, August 14, 1848, to one eighteenth of all the public lands, giving to our State alone 3,377,777 acres, besides large tract for an agricultural college and State University. The proceeds of these three and one-third millions of acres, and other lands, constitute an irreducible fund, vested solely in public education. It is a sacred trust, not a fee simple to care of the State as trustee, which pledged Congress on admission as a sovereign State, to guard this fund safely and to use all its increase for the free education of all our youth. Its acceptance as a trust imposed upon the State a moral, and possibly legal obligation to preserve every dollar of the principal, and to restore every dollar wasted or lost. These national grants for public schools and colleges also imply a national education, and place it beyond the power of change or perversion.

2. The State not only received this great trust on this condition but by statute added a large annual tax to support public schools, with power also of local taxes for the same object.

3. The sentiment in favor of public schools of improved quality and grades gained force by these national and State grants, so that successive legislatures have fixed by law the least, but not the highest courses of study to be pursued in the public schools.

Without following the report of the committee further, we sum up their conclusions: which were, that though expensive and accompanied by cumbrous machinery, the committee consider the plan of public schools of Portland both great and liberal. The schools of this city are a pride to the State, and hardly inferior to the public schools of New York or Boston in success and efficiency. The devotion of the citizens of our city and State to common schools is shown by the fact, that nearly all large cities and towns levy, by popular vote, a tax of from three to four mills for maintenance of free schools; and the wealthy districts of Oregon, outside of the towns, have schools supported by a direct tax as well as by their proportion of the public school fund. In all districts the school houses are built by a tax of general subscription.

THE STATE UNIVERSITY.

The superintendent says: This institution during the last two years has fully met the anticipation of its most ardent friends. It has a healthful location in the midst of charming natural scenery. The building is substantial, commodious, well arranged and beautiful in architectural design. It has a numerous, able, and deservedly popular corps of instructors, is furnished with a complete chemical, philosophical and mathematical apparatus, and with a large and increasing patronage from all portions of the State, and is doing a noble part in the general educational work of the State, and should be fostered and encouraged with a reasonably liberal hand.

I had the pleasure of being present and witnessing the closing exercises at the University on the 19th of June last. A class of 15 young gentlemen and 5 young ladies graduated with the honors of the institution, whose graduating orations and essays showed thorough drill and an independence of thought rarely witnessed on such occasions.

THE STATE AGRICULTURAL COLLEGE.

It was my privilege also to pay a visit to the State Agricultural College located at Corvallis, and from personal observation can say that the school is doing excellent work and growing in favor with the people. It being in the Winter at the time of my visit, I could not speak from observation of the work of the agricultural department, but only of the literary department. This was thorough and effective and with a most able and efficient faculty.

Relative to the character of the work they are doing for the State, I may say that judging from the character of the instructors performing their respective duties, I believe it is such as to commend it to the favorable consideration of every citizen of the State and to be looked upon with pride instead of discouragement.

He echoes the sentiment of our people when he says:

The fostering of a thorough system of popular education—one that as Bancroft has well said, would "take every child of the commonwealth from the State for his future good conduct and useful service," has rightly been deemed by every enlightened and patriotic statesman in the land, as the first duty of a republican commonwealth, and the keystone to the perpetuity of an independent form of popular government.

STORMS ON THE NORTHWEST COAST.

The prevailing winds of Summer, with us, are from the North, and their effect is to temper the season and give us cool and delightful nights, even through Midsummer, so that scarce ever a night occurs when a blanket is not needed for comfort. This insures a good degree of health through the hottest season makes harvest work less oppressive on man and beast, and offers the sick better opportunity for convalescence than the heated storms known in all other parts of the United States. Then again, the South winds which prevail through the Winter, being warm air from that direction, while the ocean currents sweep up the Asian coast from the Indian Ocean and curve down the North American Coast with a broad sweep, carrying with them the well known characteristics of the Gulf Stream, also help to modify our Winters, and supply the fogs and rain that create the much abused "Wet-foot," climate of our coast region and Western valleys. It is true that we occasionally have sharp spells of winter, and perhaps once in ten years our rivers freeze up for a short time. November just passed was clear and frosty most of the time, and showed as beautiful fall weather as could be desired.

There was a sharp cold spell early in December and navigation was impeded for a week, when the warm south wind came and swept the snow off the great plains that extend to the Rocky mountains.

We are writing this upon Christmas day. Last night we had a warm rain and this morning we have good weather for farmers to plow, and, indeed, our country exchanges bring us word that plows are doing lively work, for a week or so past through the whole Willamette valley. After the first of January we do not expect cold weather to be excessive and the experience of many years leads us to anticipate a mild winter from now on. In 1872-3 there was not a severe frost all winter and flowers bloomed in all the gardens from November to March. Last year, in December, there was a cold term that lasted three days and one night the mercury dropped for an hour below zero, and within two days the season was like spring-time.

There are storms, of course, on the Pacific Ocean, but we hear of no such wrecks as strew the Atlantic coast, and the mid-ocean storms do not consign ships to the depths as they so often do there. On land here, there never, since the settlement of the country, was anything like a hurricane known, until the 6th of January 1880, when a storm swept up from the Ocean to the Southwest and ploughed its way North-Easterly to the headwaters of the Columbia river in Montana. Much timber was leveled and some houses and barns were unroofed, and with that single exception no storm of magnitude has been known here in a half century. We read of "blizzards" in Minnesota and devastating hurricanes in the Southwest, and terrible gales on the Atlantic coast, but such are actually unknown here. We have Winter storms when the Southwest winds swell to a gale and bring to our ears the surf beat of the Ocean, perhaps a hundred miles away; some timber may fall in the mountains, and the farmer may quit work for a few days and have time to read up his newspaper, but they are only storms that are disagreeable without being dangerous.

Our prevailing winds are off the Ocean, from the southwest and the northwest. They are the regular tradewinds of the North Pacific, which enables vessels to keep a good offing, and when they grow into a storm the tempest bears no comparison to the storms we read of elsewhere. It may be claimed, then, that the emigrant to the Columbian valley can have faith that Nature here—in Summer, Winter and even in storms—will show no vindictive moods.

A thunder storm is a very rare occurrence here, so rare that many persons born and raised here have little idea of the terrific character they have East. It is possible, sometimes in Summer, and occasionally in Winter, that thunder is heard, but it occurs very seldom, and sharp lightning is a phenomenon almost beyond the imagination of a native of the country.

The general healthfulness of the country is of course promoted by the uniformity of seasons and our freedom from the great extremes and sharp vicissitudes known elsewhere and generally throughout the world, and for the same reasons we have surer crops and less care and expense for wintering stock. A country that may be said to have no severe storms possesses an equability of climate and temperament that insures many practical benefits unknown to most other countries.

Hill Lands in Clackamas County.

In our sketch of Clackamas county we made particular mention of the foot-hill lands and their prospective value, and the following from the Silverton Appeal shows what is being done there. It must be remembered that this region is only about 35 to 40 miles from Portland. A correspondent of the Appeal, speaking of a new place called Russellville, says:

This settlement now contains about 25 families. Is situated at the foot of a spur of the Cascades; is bounded on the north by Beaver Creek, on the south by the Molalla. The present site of Russellville was used as a camp and the surrounding country as a stock range by William Russell, a 43er, after the burn of '49, which all old settlers will remember. Later the fine cedar thereabouts attracted shingle makers, who have since about exhausted the supply. At the present time this settlement is a thriving community; land has been cleared, and a rich, productive soil has rewarded their labor, producing when Summer followed from 25 to 26 bushels per acre.

Russellville is the center of the settlement. Mr. Russell will carry on quite an extensive dairy business next year. An excellent district school is taught here, with an attendance this Winter of 60 scholars. Considerable attention is being paid to sheep husbandry. As an illustration of the fertility of the soil, our informant was shown a turnip which was 3 feet 3 inches in circumference.

There is still plenty of land to be had of the railroad and government, and the Russellville community are glad to welcome all immigrants who mean business. Mr. W. says the people are kind and hospitable, and are well and comfortably provided with the necessities of life.

Cyrus W. Field left for China on the 15th ult.

SHEEP AND WOOL.

Sheep Husbandry in the Columbia Region.

We publish this week three several communications, from experienced Wool Growers, that cover the entire ground of sheep husbandry and wool-growing in the Columbia Valley. The editorial comments that accompany each are all that is needed and the subject could not be left to better hands. We have sought to furnish practical information concerning one of the great and most productive industries we have and so have secured these expressions from practical men who have made a success of it. Hon. John Minto, who is a self-made man, well-known as a pioneer and whose name is familiar in our political history, resides at Salem and is a practical breeder of Merino sheep; Hon. A. J. Dufur represented Oregon as Commissioner for Oregon at the Centennial; while he resides at present at East Portland, enjoying well-earned repose, his sons have large flocks in Wasco county and make a sure success as wool-growers; the last paper is furnished by a gentleman whose practical knowledge of sheep and wool covers the entire ground of discussion.

SHEEP AND WOOL IN OREGON.

History of Importing and Breeding Sheep, and of Wool Growing in Oregon, With its Present Status.

BY HON. JOHN MINTO.

The first sheep brought to Oregon, were driven from California by an American named Lease, in 1838, and there is some reason to believe that he made a second drive in 1842. They were light bodied, dry fleeced, kempy, and inferior sheep. In 1844, Mr. Joshua Shaw, and his son A. C. R. Shaw, brought the first few across the plains from Missouri. In 1847 a Mr. Fields brought a lot of good sheep across the plains. In 1848, Mr. Joseph Watt, of Amity, brought 330 head, considerably infused with Saxony merino blood, and among them were 5 rams and 2 ewes that were pure Saxony and six high grade Spanish merino ewes. In 1851 Hiram Smith brought some full blooded Spanish merinos. I never was informed as to the number. In 1854 Dr. Tolmie, of the Puget Sound Agricultural Company drove into the Willamette valley, some 1,500 head, descendants of Lease's California sheep that came in 1838, among which were some pure, or nearly pure, South Downs, Leicesters and Merinos. In 1858 Martin Jesse brought in 20 head of Macather Australian Merinos that were imported into San Francisco by J. H. Williams, U. S. Consul at Sidney in 1857. In 1859 R. C. Geer, of Waldo hills, imported Southdowns of the famous Jonas Webb breeding. In 1860 Rockwell & Jones imported French and Spanish Merinos from Vermont. Later in the same year Jewett & Lane brought in some pure and some graded French merinos. In 1861 Donald McLeod brought 150 thoroughbred Spanish merinos from Vermont across the plains. In 1864 John D. Patterson imported and sold in Oregon, French and Spanish merinos. Mr. John Cogswell imported New Oxfordshires and Hampshiredowns about 1861, and about the same date Hon. Ben Stark imported a single Cotswold ram. Since that date the late Joseph Holman, Mr. Wilson of Ohio, Thomas Cross, Mr. Wilkins, S. G. Reed, and others have imported Cotswolds and Leicesters from the Atlantic side, and James Cameron and others have imported from New Zealand and Australia. Of later date there have been importations and sales of merinos by Jewett and Munson, Peter Saxe & Sons, Severance & Peet, and Mrs. Blacow. Nearly all the sheep imported to Oregon of late were Spanish or American imported merinos, except those sent here by Mrs. Blacow, which were of the largest and highest kept style of French merinos.

The resident breeders of merino sheep in Oregon at present are, Thompson & Sons and Dr. Baldwin, of Wasco county, who imported their own sheep; A. J. Dufur and Sons of Dufur, same county, who have stock of my breeding, and those from the firm of Mills & Luelling, of J. D. Patterson's importation crossed with rams imported by H. Hammond, of Vermont. In the same county are Lewis brothers, who have Australian and French merinos, I am informed. In Umatilla county are Ross & Sutherland, at Pilot Rock, whose flock is crossed with Severance & Peet's stock of Spanish merinos, were imported by Pat Smith, of Walla Walla a sort of free rover in the sheep line. Near Walla Walla is located "By" Geer, a live Oregonian though he lives across the line. His stock is from the flock of the late T. G. Naylor, (Jewett & Patterson's importation) and from my neighbor T. L. Davidson's stock,

(Rockwell) Jones, McLeod, Patterson and myself contributed towards Davidson's stock.

In Western Oregon, in Douglas county, Fendel Southerlin has lately commenced with French merinos from Mrs. Blacow's stock; Judge Thomas Smith is also there, whose stock was the McLeod drove from Vermont, and I think Senator Stearns has some of the same stock crossed by Jewett & Munson sheep. In Polk county D. M. Guthrie breeds largely with French and Spanish merinos. There are a few thoroughbred merinos kept in Linn county by Mr. Knox, of Knox's butte, and by Mr. Thomas Proman, near Albany. In Marion county T. W. Davenport has a flock founded on the Naylor stock and some of mine, crossed with blood of Severance & Peet's importation. Thomas Cross, J. L. Parrish, Hon. F. R. Smith and myself have stock begun with the earliest importation from Vermont and Australia and added to by such later importations as were thought to be a gain.

The breeders of long woolled sheep are: Mr. Wilkins & Sons of Lane county, who have the New Oxfordshires. Mr. James Richards, of Waldo hills, this (Marion) county, keeps Cotswolds; so do, I believe, Mr. Withycombe, S. G. Reed, and Robert Imbrie, of Washington county. The Southdowns and Hampshiredowns are no longer kept here of my knowledge, and of late years there has been less and less interest manifested here in the best long woolled families, as flocks of them once held by Cornelius of Washington, Baker of Yamhill, and Keys of Benton, have disappeared. It is not that these breeds cannot be kept in Western Oregon and made to produce combing wool of the very best quality. The awards of first class medals by the World's fair of 1876, and more recently of Paris, and within a few weeks past at the wool exposition held at Philadelphia, proves that Western Oregon can excel, both in long combing and in fine clothing wools; but our experience proves that combing wool sheep require constant care on the part of the owners, to keep them in the proper condition. There are a few locations in Western Oregon of which this is not true. There are a few ranges of limited extent that are better adapted to long woolled sheep than to any other. There are also farmers who so keep their flock under conditions generally not favorable, that they bring to market a very good article of combing wool. But such are exceptional men at present. The general condition of the climate of Western Oregon, and the pasturage furnished either naturally or by the help of the farmer, are such that there is a steady deterioration from an average standard of Cotswold, Leicester, or New Oxford sheep. The flock grows gradually more and more leggy in appearance, the wool becomes shorter, drier and less lustrous, and in many cases the sheep, while comparatively young, lose considerable of this wool before ordinary shearing time.

For these general reasons, those who take interest enough in the sheep they keep to use any pure blooded sheep for the purpose of improvement, or even maintaining the measure of profits received from their flocks, look, in a large majority of cases, towards the merinos. This is so, to such an extent, even in Western Oregon, that I think that I am safe in assuming that at this time the amount of merino blood in the sheep of the country is equal to that of all other breeds together, common stock included. That is, I believe, the sheep of Western Oregon will grade nearly or quite, half-blood merino.

Owing to the rapid extension of wheat-farming, and an increasing use of sheep as gleaners and weeding wheat-fallows, where they are in many cases kept without water and on short feed during the following season, even the Merino blood is not sufficient to counteract the tendency to deterioration and dryness of fleece, and flocks so treated are retrograding. Also wheat farmers who thus use sheep have, as a rule, not yet adopted the plan of liberal feeding in winter, to make up, in part, for short, dry feed in summer.

Wool growers in Eastern Oregon and Washington, and, in fact, in all the country between the Cascades and the Rocky Mountains, are advancing more rapidly than those West of the Cascade range in the improvement of their wools. This advance is nearly all in the direction of the American-Improved Merino; so much so that I believe there are ten merino rams purchased for use there to one of any or all other breeds. The Southdowns and different families of combing-wooled sheep have been tried there sufficiently often to prove that the climate and other conditions of sheep husbandry in that section of country are still more unfavorable for long-wooled sheep than is the case, as I have presented it, West of the Cascade Mountains in the Willamette Valley. It is found, in practice, that in a flock of mixed breeds the long-wooled keep on the outside of the others in search of feed. Observation proves that when the short-jointed, round-bodied Merino grade, weighing 130 pounds live weight, has fed to its satisfaction and is ready to lie down, the long-wooled weighing 180 pounds, has not had feed according to the requirements of its nature and size, and in consequence is restless at camping time. During feeding hours such sheep require the constant care of the herder to prevent them from leading the flock to travel faster and farther daily than is good for it. Then, when the season renders it difficult for a me-

dium sized sheep to get a fair living—a condition suitable to growing fine wool of the best quality—the combing-wool sheep is not getting the amount of feed necessary to keep its wool in healthy growth, so both wool and sheep are deteriorating. On fresh range this is not the case, and for a while a very good staple of long-wool can be grown on such range, but the causes I have indicated very soon begin to operate, with results that fully justify the wool growers for breeding more and more towards the clothing-wool sheep.

The present wool crop of the Columbia river valley, including East and West of the Cascade range, will very nearly grade as "medium clothing staple." There are, of course, entire clips that would sort into combing, coarse delaine and noils. There are flocks of long-wools that have been kept under the most favorable conditions. There are still larger numbers of flocks of this same kind that have been bred towards the Merino, that a large proportion of "medium to fine delaine wool," according as the flock has taken the first, second or third cross towards fine wool. These exceptional lots of combing and delaine wools receive no discrimination in their favor in our local markets. The custom here is to buy wool by the reputation of the districts where it is grown, as "Douglas county wool," "Willamette valley wool," or "Eastern Oregon wool." But the observing reader will see occasionally, as in a late Journal of Commerce, quoted by the American Stockman, December 9th: "Valley, Oregon, lambs' wool (1st fleece) held in San Francisco at 31 to 32 cents; Eastern Oregon lambs, 26 to 27 cents;" while California Northern (Humboldt and Mendocino counties) are quoted 25 to 26 cents. Those wools, I suppose, are sorted and graded in San Francisco, and the Oregon grower, for the most part fails, under present methods of market, to get the full benefit of good breeding.

One main cause of this is that sheep and wool growing are but in their beginning in Oregon, and very many who are engaged in it are merely learners in the business. While some are apt to learn and soon become skillful in the management of flocks, and consequently are successful, many, and perhaps most, are merely making a living. Others are slowly failing of success at all, as they cannot adapt themselves to the occupation; but out of all this will come knowledge with experience; the men and the flocks are growing that will make this Northwest Coast region one of the first wool-growing, and, ultimately, one of the first wool manufacturing portions of the earth. God has given the conditions favorable for both occupations and man will use them to the full of their adaptations.

At the late National Show of Sheep and Wool, held in Philadelphia, at which Oregon wools made a good record. W. F. Markham delivered an address before the "Convention to promote the sheep and wool industry," in which he said: "Along our Northern border is a region embracing Oregon and Washington Territory, warmed and moistened by the winds and currents of the Pacific Ocean, presenting the same peculiarities of climate and vegetation to which are credited much of the vaunted excellence of the long-wooled sheep of England." Mr. Markham is right; the climate is here, though it is not so wide in its influence as he states. It covers, however, the two counties of California I have mentioned, the Western third of Oregon, the half of Washington and the West end of British Columbia. But from East of the Cascades to Western Kansas and from Middle Texas to Alaska, is all clothing-wool country, for which the Improved American Merino is the best known breed. The portion of coast moistened by the winds of the Pacific, now occupied as wheat fields, needs, as I have indicated, something approaching English methods of husbandry, both as to wheat and sheep, to make it carry combing-wooled sheep. The lands of the coast that are most favored by these "moistened winds," however, are yet under forest and brush wild growth. A little observation will convince any one that the timber belt along our streams, the foothills, narrow valleys and bench lands of our mountain ranges, that carry grass and clover green through the entire season, are surer for the production of such plants as the rutabaga and mangold wurtzel, than the lands of the main Western valleys, whereon natural dryness prevented timber growth, and kept it ready for the plow of the pioneer and the pasturage of his ox teams. But the millions of acres of brush and timber lands are here, Mr. Editor, waiting only for the mind and muscle that is bound to come and utilize them. Meantime, those who are here are fully occupied securing results in what seems the easiest and quickest manner. I have tried to show the present status and tendencies of our wool growing as it is connected with improved breeds of sheep. I have explained the means of improvement and how it came here and is inviting the choice of the wool grower. The field is a wide one, and in time, I have no doubt, will be fully occupied.

WOOL GROWING IN WASCO COUNTY.

BY HON. A. J. DUFUR.

The following statement of facts is an authentic record of the experience of Dufur

Bros., who have a choice flock of well-bred Merinos, that are more than usually valuable. Mr. Dufur values them at \$3 a head, and they evidently pay a large interest on that, but sheep, well bred, can be easily purchased at a much less price. The Dufurs have an excellent range on Fifteen-Mile Creek, south of The Dalles, and in addition to that they have a valuable swamp land claim 20 miles West, on the benches of the mountains, covering thousands of acres of swamp lands, that afford excellent late Summer and Fall pasture. They are exceptionally well fixed, and besides have natural talent for keeping sheep to the best advantage, which is an essential to successful sheep husbandry. Those who lack this can hardly succeed under any circumstances.

EAST PORTLAND, Dec. 21, 1880.

Editor Willamette Farmer:

In perusing your excellent description of the great Columbian basin in the *FARMER* of the 3d inst., my mind involuntarily runs back to time when railroads were unknown in Oregon, and the *FARMER*, with a few of its most devoted patrons, were making an effort to bring before the public the vast natural and undeveloped resources of our adopted State.

Having been closely identified with the agricultural interests of Oregon for more than twenty years, and still believing, as I ever have, that no State in the Union possessed as many advantages for the legitimate accumulation of wealth, and the re-establishment of independent homes, as does this State; and knowing that the *WILLAMETTE FARMER* is read with interest in almost all of the older States, where one of the all-important questions in the overcrowded districts is: "Where can we find safe investment for independent homes?" I will, with your permission, give your readers my views and experience in wool growing and sheep husbandry in Eastern Oregon and Washington Territory. It cannot be expected that a detailed statement will be made in one short article of all the eligible locations for sheep husbandry in a territory of country so extensive that some of our Eastern States might be overlooked as a little patch of territory not worth settling on. And as it is too frequently the case in describing a country for a writer, with a single stroke of the pen, to declare it to be the finest place in the world for everybody and everything, I shall, in this communication, simply give facts and figures as far as my own experience goes in sheep husbandry in Eastern Oregon.

I might, with propriety, refer to the fortunes realized by such men as Frazier, Moore, Field, Rogers, Smith, the Grants, Waldrons, Thompsons, Fargars, and hundreds of others who have come under my observation in Eastern Oregon, or the grand failure of several others I know of who seemed to think they could make a fortune by investing in sheep and running them with dogs without food or shelter, let the cold be ever so severe or the snow ever so deep; but this would not give the practical business men of the East a correct idea of the necessary expenses to be incurred, and the probable profits to be derived from carefully conducted sheep husbandry in the Eastern districts of the great Columbia basin.

My experience has proved to me that a certain amount of forage, with cheap shedding and dry straw bedding is one of the best investments the wool grower can make in wintering in Eastern Oregon. It is true that hundreds of bands are carried through without extra feed or shelter, but I have invariably found that the loss in numbers, the condition in flesh, and the shrinkage in weight of fleece at shearing time has more than doubled the expense of furnishing a few pounds of hay and the light expense of shakes, boards and straw to make wind-breaks, sheds and dry bedding to protect the flock from the cold winds, rain, snow or frosts that occasionally occur in all countries that I have ever seen. It is true we frequently have Winters when sheep will not touch hay if it is fed to them, but I have found that from two to three weeks is about an average time for which the flock master should provide feed and shelter for his flock. In the Winter of '76-7 I find we fed about 16 days; in '77-8, 13 days; in '78-9, 2 days; and the sheep that Winter would have done much better to have been left entirely on the range. In '79-80 feed and shelter was required about two weeks, and the present Winter bids fair to let us off with not more than six or eight days. As our last wool and lamb crop was about an average with former years, it may not be uninteresting to some of your readers to learn the expense and profit of running a band of 1,500 ewes we had selected as about three-quarter blood Merinos:

EXPENSE ACCOUNT.

To 4 tons of salt at \$20 per ton.....	\$ 80.00
To 8 tons of hay at \$10 per ton.....	80.00
To 10 tons of straw at \$5 per ton.....	50.00
To 7 cts per head for shearing.....	105.00
To 39 wool sacks at 62½ cts each.....	24.37
To man and board for herding.....	480.00
To two extramen one month during parturition.....	80.00
Total.....	\$899.37

INCOME.

By 13,560 lbs of wool at 22 cts @ lb. \$2,983.20
By 1,080 lambs at \$2 each. 2,160.00
By 150 selected buck lambs. 750.00
Total. \$5,893.20
Deduct expense account. 899.37

And we have. \$1,953.82

From this sum we will take \$65 for the loss of 13 sheep valued at \$5 each, and \$10 for sulphur and \$7 for tar fed the band, and we have \$4,871.82 as the earning of 1,500 sheep which would sell readily for \$3 per head, or \$4,500.

This may seem to some of your readers as an extra yield for the number of sheep, but same results may be produced by any good flock master with a moderate sized band and good care and keeping. I will not trouble your readers much further with figures, but will close by saying that I find the net earning of our wether band for the last year to be \$1,936. The flock was 1,500 in number, and were purchased in the fall of '79 for \$2,250.

LONG-WOOLS. OR MERINOS.

[The following communication on the important subject of sheep and wool in Eastern and Western Oregon is furnished by a gentleman who has had great experience as a sheep breeder and wool grower, both in this and other countries, and has also an intimate connection with the wool trade, so is well qualified to treat the subject with ability and unquestionable fairness.]

With the variety of climate and feed in Oregon there is full scope offered to the engaged in sheep husbandry to breed any of the varieties of sheep, whether their object may be a good mutton sheep or a good woolled one. That the latter class should have precedence over the former we think might be unquestioned, as the low prices of mutton will certainly not justify a farmer in raising a sheep with a view to its fattening qualities only.

For that section of this State lying to the West of the Cascade Mountains, we unhesitatingly think that a sheep produced by a cross between the Merino and any of the long woolled breeds, is the sheep that yields most profit, as farming is at present carried on, where the majority of farmers only look upon their flocks as scavengers for eating off the weeds of their Summer-fallows. From experience, we know that a first-class article of combing wool can be produced throughout the entire Willamette Valley, provided the farmer performs his duty and keeps his flock in an even good condition. To produce this class of wool it is an absolute necessity that the sheep be kept in good condition, otherwise the staple, though long enough, will be tender and weak and be less valuable than wool of a strong fibre, if one-half the length. But we maintain that both the climate and grass of Western Oregon are perfectly adapted to raising combing wool, provided the flocks have a sufficiency of feed during Summer, and not kept, as is frequently the case, in a pasture with scant feed and no water.

With such a wet climate, flocks of fine-bred Merinos cannot be kept with as much profit as a medium-wooled sheep, as the percentage of increase is so much less in the former compared with the latter. This remark applies to a flock of three to four hundred sheep where they have often to take their chances of our Spring storms without any shelter. That small flocks of fine Merinos can be raised with profit is amply proved by the various breeders throughout the State, who are provided with shed room to shelter their ewes during lambing time. The various flocks of Merino sheep have greatly improved during the last ten years, mainly brought about by a continual infusion of fresh blood which is largely imported every year. A strong impetus has been given to the importation of Merino bucks by Eastern Oregon sheep breeders, as both the dry climate and light alkali soil of that section are best adapted to raising Merino sheep, and while some have deteriorated their flocks by an injudicious selection of short-stapled, heavily yolked bucks, yet others who displayed better judgment have proved conclusively that the Merino is the sheep for Eastern Oregon. Throughout the Willamette there is no question that since wheat farming has been made the chief object of the farmers, the wool of the valley has deteriorated from the fact that but little new blood is being infused into the various flocks, while some as good specimens of long-wooled sheep have been imported as could be secured. Yet even they have been retrograding, as they inevitably must from the want of new blood, and to this cause must be attributed the deterioration of the long-wooled breeds, and not to the idea that the climate is not adapted to their full development. We certainly think that since the natural grasses have become more scanty and less luxuriant than formerly, that the larger framed classes of long-wooled sheep should be avoided, such as Lincoln and Cotswolds, as it requires too much feed to keep those breeds up to anything like a standard of excellence. We feel sure that there never was a time in this State when the Cotswolds could be kept with equal profit to any of the other long-wooled breeds, as they are not adapted for crossing purposes, from the fact

that they breed unevenly, part of the progeny showing most of the Cotswold characteristics and part the reverse, and none of the long-wooled breeds produce so much low-grade wool as does the Cotswold. The Lincoln sheep, while having an almost equally coarse wool, possess a lustre of wool unequalled by any other breed, yet they are too large a framed sheep for Oregon. Taking constitution and adaptability into consideration, we think the Southdown ahead of any of the medium or large breeds of sheep, bred for profit, in this State. They have no other recommendations, as they have but a light fleece of harsh, inferior wool, and being one of the oldest known breeds of sheep, they transmit to their progeny almost invariably their worst faults—a light fleece of poor quality.

Of all long-wooled sheep the Leicester crosses to best advantage with the Merino, and the progeny attained by crossing a pure bred animal of each breed, variably partakes equally of the characteristics of each. The same is almost equally true of the New Oxfordshire breed, but the Leicester has the advantage of being a better fattening animal. And while this State has such a limited supply of good long-wooled sheep to select from, we would recommend sheep owners to breed to Merino bucks in preference to attempting to produce a long staple of wool from any of the long-wooled breeds available here. But on the other hand, if any farmer intends importing his bucks, we venture to predict that he will be fully as successful by importing and breeding from a long-wooled breed, as from a Merino. There is a much larger field to select from in home-bred Merinos than in the long-wools, as there has been a large yearly importation of the former and but few of the latter for several years.

To the farmers belong the blame of the deterioration of valley wool and not to the climate or any other cause. And while wheat raising (this year excepted) remains as profitable as it has been for several years past, we look for but little improvement in the quality of Willamette valley wool for the farmers' object is to improve his land, and not his wool.

METEOROLOGICAL REGISTER FOR 1880.

KEPT BY F. PEARCE, EOLA, POLK COUNTY, OGN., LAT. 44° 57', LONG. 123° 5', ALTITUDE 500 FEET.

1880	TEMPERATURES			No. rainy & snowy days.	No. clear days.	No. cloudy days.
	Highest daily mean.	Lowest daily mean.	Monthly means.			
January	40	27	30.55	19	7.29	11
February	43	23	32.78	8	4.28	18
March	46	31	38.79	12	3.61	9
April	58	38	48.13	14	2.21	7
May	64	47	55.17	18	1.98	6
June	70	48	57.85	9	1.17	14
July	78	55	65.10	2	.25	18
August	72	55	62.39	4	1.39	20
September	69	52	59.73	3	.74	20
October	60	42	51.61	8	1.28	17
November	56	28	40.52	7	1.61	14
December	53	23	31.22	15	1.50	13
Totals				114	37.27	128

REMARKS.

During January 24 inches of snow fell on the 8th, all of which disappeared on the 11th. Snow fell on the 25th, 26th and 27th, which did not leave during the month.
During February 5 inches of snow fell on the 16th; all disappeared on the 22d.
During March a little snow fell on the 2d, 3d and 4th; all disappeared on the day on which it fell.
Thunder at 10 on April 9th.
During June thunder storms occurred on 13th and 23th; no rain.
Mean temperature for January, February and March, 38.04°; for April, May and June, 50.33°; for July, August and September, 62.37°; for October, November and December, 41.08°.
Mean temperature for the year, 48.02°.

SIGNAL SERVICE AT PORTLAND

1880	MONTHLY MEANS.			WINDS	Rain & melted snow, inches.	No. days on which rain or snow fell.
	Bar.	Ther.	Relative humidity.	Prevailing direction.		
January	29.90	11.9	82.5	S	12.27	27
February	30.20	8.1	79.4	SE	5.67	18
March	30.11	11.4	72.0	SE	4.48	19
April	29.90	50.3	67.8	NW	2.92	23
May	30.107	53.9	65.2	NW	8.13	21
June	30.075	60.4	64.4	NW	1.50	14
July	30.085	64.1	61.5	NW	.50	6
August	30.033	63.8	68.7	NW	1.31	4
September	30.095	59.8	70.6	NW	1.34	4
October	30.100	52.7	81.7	NW	1.47	10
November	30.307	42.2	74.1	NW	3.17	11
December	30.086	50.0	83.7	S	61.87	31
Annual Means	29.903	39.7	79.8			

GENERAL ITEMS.

Highest Barometer during the year, 30.845; date, February 2d. Lowest barometer during the year, 28.597; date, January 9th. Annual range of Barometer, 2.248 inches. Maximum temperature, 92 degrees; date, July 15th and 16th. Minimum temperature, 19 degrees; date, December 24th. Annual range of temperature, 73 degrees. Greatest daily range of temperature, 36 degrees; date, April 28th. Lowest daily range of temperature, 3.5 degrees; date, January 22d. Prevailing wind during Spring, S; Summer, N W; Autumn, N W; Winter, N W. Last frost of Spring, April 6th. First frost of Autumn, October 30th. First frost of Autumn killing vegetation, November 28d. Highest water in the Willamette river, 27 feet 4 inches; occurred July 1st and 2d. Lowest water in the Willamette river, 11 inches.

R. B. HERMAN,
Sergeant Signal Service, U. S. A.

ALL ABOUT WHEAT.

The Great Staple for Export—Oregon as Near a Market as Chicago—Transportation in the Future—Importance of the Darien Canal—Wheat Soils of Western Oregon—Wheat Production East of the Mountains.

The demand for bread from foreign nations makes America at the present time the granary of the civilized world. The remarkable wheat-growing qualities of the soil of this Columbia region make the production of wheat the natural dependence of agriculture, and the broad ocean at our doors brings higher shipping from all countries to transport our products.

PORTLAND AND CHICAGO AS WHEAT MARKETS.

We have noticed that for several years back prices in Portland have not varied much from Chicago quotations, the present year causing an exception, as ocean freights are unusually high. It may be said then that we stand in the same plane with the States of the Upper Mississippi Valley as to wheat production, with advantages of soil and climate in our favor to insure the finest wheat known in the world, and an increased yield over what is realized in the best wheat growing sections East of the Rocky Mountains.

The three most available products for export with us are wheat, wool and live stock, with occasional transient demand in California and the North Coast for oats, meats, vegetables and fruits. We do not include the products of fisheries and canneries because we confine ourselves to the domain of agriculture and the products it supplies. The production of wheat immediately attracts the attention of the man who commences farming with a view to making an income. He may plant a garden and orchard, grow oats and hay, improve his pasture and seek to diversify his farming by all practicable methods, introducing stock of all kinds as a matter of course, but when it comes to a means of income to supply the family wants and make it possible to educate and provide for the children, he has to look to his wheat fields as the most reliable source of supply. The farmer has all the resources here for disposal of fruits, vegetables, poultry, butter, cheese, eggs, or whatever the farm yields, that are found elsewhere. He can always find sale for a good horse at a reasonable price; people in towns will pay fancy prices for a good family cow; our wool clip sells to excellent advantage, and the local demand generally exhausts the home production of oats, hay, fruit and vegetables; farmers also can and do grow hops and flax seed to advantage, but wheat is the one crop that is more certain in yield, as well as compensation, than all others, and very naturally wheat has become our great agricultural staple. The wheat fields of the western valleys have a reliability that insures moderate prosperity to that section, and the wheat surplus constitutes the fund from which the farmer draws his chief cash income; that too, while the acreage sown to wheat does not constitute more than one-tenth of the arable area of the different counties.

TRANSPORTATION TO FOREIGN COUNTRIES.

We may look forward to steady increase of wheat production in the future in Western Oregon, because the area for production is constantly being increased by means of Chinese labor, which is utilized to clear lands that have grown up to brush since the early settlement of the country, and the foothills region is also being cleared and made to produce. Also the facilities for transportation, which are now very uncertain, promise to improve, and any improvement must lower freights, make prices more reliable, and stimulate wheat production here.

The world has seriously taken hold of the construction of a ship canal at Darien or Nicaragua, and a few years will see one or the other in operation. The construction of either will make the transportation of wheat from the Columbia river to Europe in a month's time, by means of mammoth screw steamers, possible at reasonable freights, destroy all uncertainty that now occasionally causes us heavy loss, and will insure competition in freighting from all the world at a living price, which is all we can expect or should desire. Then the prospect for the future is most decidedly in favor of more certain ocean transportation at reasonable charges, though we must always labor under the disadvantage of having to make the outward cargo pay the expenses of the whole voyage, but our exportation of wheat and all other products that are in demand in foreign countries, will increase as it shall be proved that they can bear transportation and pay for being transported. Time will increase the variety of products for export no doubt, but we still look to wheat growing as the most reliable dependence for our agriculture for a generation to come.

There is still another point in our favor in the near future. The Sacramento Record-

Union may be considered the official expression of the great railroad magnates of California, and that journal has several times of late asserted that the completion of the Southern Pacific Railroad to some point on the Gulf of Mexico, which is now only a question of a few weeks' time, will result in the shipment of the great bulk of the California wheat crop to Europe by direct railroad conveyance to the Gulf of Mexico, and thence by sailing vessels, at a great saving of time and money as compared with transportation around the Horn. If the Southern Pacific road can secure the transportation of all the grain of California at a fair price, it will derive an immense revenue therefrom, and the carrying of any considerable part of the wheat yield of California by this route will send the wheat fleet of the Pacific to the Columbia river and insure us all the tonnage we need. Thus it seems that we have more favors of a commercial nature to expect from the future than we received from the past; the world is very rapidly drawing nearer to us and has more need of our products than ever, and we need not doubt will pay fairly for them.

FUTURE INCREASE OF PRODUCTION.

The farmer who lives in this region, or who thinks of removing here, has an interest in understanding all that concerns the reliability of our products and their chances for a market. It, no doubt, will astonish the wheat farmers of Illinois and Iowa to know that Portland offers as good a market for grain as Chicago, but such is the case, with a chance for more improvement in the future than Illinois or Iowa can expect. A small portion of Western Oregon has been cultivated to wheat, and it is also true that the yield of 1880 is four times the census returns of 1870; still wheat growing in the Columbian region has but commenced. The resources of the Willamette Valley will be better tested as lands become subdivided more and the brush lands in the valley are cleared and the foothills region develops. The time is not distant, we think, when a better system of cultivation will be found expedient and profitable. It is not too much to claim for Oregon and Washington a capacity to double the present yield of wheat within five years, and when the timber and coast regions, which we lately described at length, commence to be made productive of wheat, for which the soil cannot be excelled in many parts, the yield will be still further increased.

EAST OF THE MOUNTAINS

There is an extensive area that must be counted as an unknown quantity, a power for production that cannot be measured until it is better understood. For the past few years the shipments of wheat down the Columbia river have been no measure of the yield of wheat in the upper country, because the rush of immigration thither has constituted a home demand for bread and seed that has prevented the actual surplus of production from becoming known. Immigration will increase there for years to come and require bread and seed, but the production of that region is certain to furnish a great surplus for shipment from this time on, because transportation facilities are being so much improved. The enterprises of the Oregon Railway and Navigation Company are sending branch railroad lines to every wheat-growing district within reach of their trunk road, and the Northern Pacific is pushing forward to the Spokane country, and following the head waters of the Columbia into Montana. The cumbersome system of waterways and portage railroads on the Columbia that required between Walla Walla and Portland three railroad lines and three steamboat transfers in alternate links, with loading and unloading of freight at each change, will soon be replaced by a connected railroad line and cheaper transportation. With railroad development increased, wheat production will become possible where pasturage is now the only resource; lands that are considered worthless will be animated by the aspects of civilization and home life, for we hear constantly that in different directions settlement is occupying lands that were considered barren, but are brought to life by knowledge of the fact that wherever bunch grass grows well wheat fields can be safely planted. When we consider what vastly increased production must result from the agricultural development of the upper country we realize the greater need of more certain facilities for transportation of our products to foreign markets, and therefore have shown the need we have of the Darien ship canal, and the benefits to accrue to us if the California crop shall reach market by way of the Gulf of Mexico.

SOME WILD ESTIMATES.

It is very easy, but as an effort towards the solution of a practical question it is very unwise, to make a sanguine estimate of possibilities. We have in view the recent enthusiastic summing up by a learned and prolific writer, that if one-fourth the surveyed lands of Eastern Oregon and Washington are sowed to wheat and yield 20 bushels to the acre, the annual product will reach the enormous figure of over 128,000,000 bushels.

There is no necessity to go over the facts and show how improvable the consummation of this hypothesis may be, but the writer alluded to has made possible a much more reasonable and equally satisfactory supposition: That if one-tenth of the supposed arable lands that are included in government surveys up to the present time, can be made available for wheat production, the yield will exceed 25 per cent. the total yield of California, with the yield of Western Oregon and Washington to be added. This shows how important the question of ocean transportation is for our future.

WHEAT CULTURE IN THE WILLAMETTE.

While wheat culture is much the same in all regions, there are questions of climate and soil that affect it everywhere. In our western valleys we have the same climate, and the soils generally have the same clayey characteristics that make them superior and lasting, but take the Willamette Valley and we find timber lands with excess of vegetable mould, the flat prairie reaches that lack drainage, with places where water has stood in winter and left what is called white land that responds poorly to cultivation, and the rest of such prairies needs to be thrown up in beds by repeated plowings to make summer fallowing and fall sowing possible. People who farm those lands have generally practiced spring plowing and sowing of spring varieties. What is called Chile Club is very popular, and as we are apt to have rains all the spring it is nothing unusual to hear in the month of May that these lands have not yet been sown. Such lands are found on French Prairie in Marion county and to a large extent in Linn and Lane counties, but not to a great extent elsewhere. Then we have a great deal of high or rolling prairie land that can be summer-fallowed and fall-sown, which produces with much greater certainty. The hill regions of the valley offer the most certain returns, with natural drainage so that they can be plowed at any time and sowed when the ground is in good order. The Waldo Hills of Marion county resemble the dark soil of the best prairie lands, while the red hills south of Salem, in the same county, have a soil strongly impregnated with iron, which is indeed red, but for lasting qualities in the production of wheat cannot be excelled. Much of the Willamette Valley, especially the hills region, is underlaid with deep deposits of marl, which furnishes a sufficiently porous bedrock, and indicates that a means of recuperation is at hand if the soil becomes impoverished.

We have asserted that much poor farming could be seen here, and have often been disgusted at the sight of fields choked with sorrel or pernicious weeds. Fields are too often run for a lifetime, whereas the best results come from careful work. In some localities it is found to work well to plow in fall or winter and reseed and sow in the spring. The most satisfactory method seems to be to summer-fallow every third year. It may not be a rule without exceptions, but we consider it nearly certain that wheat well put in in October is worth five bushels an acre more at harvest than if put in after that. Yet we have actually known years when the yield of spring-sown grain exceeded that of fall-sown. This must have been because, not being put in properly or sufficiently drained, the fall wheat was drowned out or winter killed. Draining lands for thorough and successful cultivation has not yet troubled the minds of our farmers to any great extent. There are some gravelly lands, though not extensive and not generally adapted to wheat. When you reach the mountain foothills there is less clay in the soil, which partakes more of loam, but the clay lands of the Willamette Valley are the ne plus ultra for wheat cultivation.

SUMMER FALLOWING WITH SHEEP.

We have shown the different soils of Western Oregon and the methods of wheat culture followed here, and how wheat is being sowed on different locations from September until June. Thorough cultivation is needed, but even that can be overdone. Some years ago quite an argument occurred in our columns among farmers as to the best method of summer fallowing, and we recollect that it was decidedly proved by a friend living near Bethel, Polk county, that more than one plowing was injurious. The same fact was made plain to us a short time since by Hon. J. H. Smith, State Senator from Linn county, who lives near Harrisburg. One year he tried to rid a piece of land of weeds and put it in most thorough cultivation, so he gave it a summer fallow, with as many plowings and harrowings as were necessary to kill the weeds and put the land in perfect garden tilth. Across the lane from it is a field a neighbor also had a summer fallow. A heavy piece of clayey soil was thrown up in great clods that baked in the sun, and all the salvation for the piece seemed to be the presence of sheep who kept down all growth. His own field was sowed to wheat early in the fall, in the best manner, while his neighbor scattered seed among the clods, and raked a harrow over them without breaking them, but when the harvest came the neighbor had two bushels to his one. That seems to be the general experience, and now it is an established fact that

a band of sheep is necessary for good farming. The advantage of sheep in a summer fallow is beyond a question, and in this country where fall sowed grain often grows all winter, it is necessary to have the superabundant growth eaten down in the spring, or there will belong straw and little grain. Some friend told us the other day of pasturing a field with hogs and other stock until May, and then making an extraordinary harvest, but light-footed sheep answer the best, and they enrich all the while with their droppings. From what we have said it is evident that wheat farming must be studied from the stand point of the immediate locality and soils. These differ greatly through all the region West of the Cascades, and the mind of the farmer must master all the circumstances before he can successfully produce the best results, though the experience of those before him in that locality will answer all questions. No man need hesitate to locate in any wheat producing region if he believes he can do what others have done.

CULTIVATION AND SOILS EAST OF THE MOUNTAINS.

East of the mountains the soil lacks the clay that stiffens that of the west, and is much lighter. The capacity for production seems stimulated and the hills and plains that are "tickled with a plow" soon "laugh back with a harvest." It remains to be seen if they possess lasting qualities, but it is known that the soil is deep and yields with astonishing prodigality. Wherever arable land is found, over all that wide area, it seems to possess this quick, vivifying principle, and under favorable circumstances yields well. So far as we are aware, there is little difference in soil through the counties in all Eastern Oregon and Washington that border on the Columbia. New land is often broken up in the Spring and sown in the early fall, produces well. Rains are not so certain there either early in the fall or late in the Spring, so the season for sowing grain is not so protracted as West of the mountains. Land is much easier worked there, and as the country is bare of all large growth to a great extent, the new comer unhitches his team from the wagon, when his location is made, only to hitch them to the plow, and he plows and sows wheat without let or hindrance. This, of course, must not be taken too literally, but conveys the idea. Fencing is a matter that comes for after consideration, and is the most difficult problem he has to solve. If you travel far you will find but economical use of timber, that has to be brought from the mountains, usually, ten to twenty miles away. Often ditches are cut and soils piled, to be capped with posts and rails, and occasionally posts are set and a few rails nailed on, and we noticed an occasional attempt at a hedge. The great attraction for the new comer lies in the fact that the country is all open, though often there are steep hill sides, but where a plow can go and a header can follow to save the grain, wheat fields are growing and harvests made. It is truly wonderful how prolific the soil is and how it responds to the efforts of man. Even in the oldest regions we saw few weeds in the growing wheat. More difficulty is anticipated from drought than superabundance of rain fall. While the prairies of the Willamette can be sowed until late in May, the Eastern farmer takes no chances he can possibly avoid, but gets his crops in early as possible. The wheat planting season closes very early in the Spring and should close with February. Drought need not be feared when wheat gets a good start in the fall. There is much upland there, and as the soaking rains are lacking there is no excuse for delay in plowing after Fall rains place the soil in proper condition.

METHODS PRACTICED AND RESULTS EAST OF THE MOUNTAINS.

With the progress of railroads, the increase of wheat culture will be enormous through all the regions adapted to it, and they are extensive enough to keep a good slice of the world's population from starvation. The enterprises of the O. R. & N. Co. and the N. P. R. R. Co. will bring all the Upper Columbia country within reach of market and pour population in to fill these regions up and cultivate them. Our subject lies more with the methods of wheat culture and the success attained than with men's speculation concerning the future. The possibilities do not need to come before us at the present time.

In the regions West of the mountains there is considerable fern land; that is generally the best of soil, but is hard to subdue so that it will produce good crops of wheat, but East of the mountains the whole country is clear of that, or of any other weed or plant that obstructs cultivation to any serious extent. It may be truly said that over a wide extent of open country Nature has rendered farming operations very simple and easy and has done much to induce rapid settlement and cultivation. The ease with which farming is commenced and prosecuted under ordinary circumstances is fully equalled by the exuberance of yield. We have seen many practical farmers who have left Western Oregon for new

homes to the Eastward, who assert that they realize double the returns for land grown to wheat that they used to have in the Willamette Valley, which is probably due to the fact that poor cultivation pays better there than here, and it must also be conceded that the soil is quicker and more prolific under ordinary circumstances, though good seasons cannot be so uniformly depended on. A protracted hot spell cut down their yield in the vicinity of Walla Walla, and in many parts of that wide country, in 1880, but even where they complained of having only half a crop they claimed an average of twenty bushels to the acre, and in favorable localities, or where well put in early in the Fall, they realized from 30 to 40 bushels. We think it safe to concede that the best farming lands of Palouse, Walla Walla or Umatilla, will easily average 30 bushels with only fair cultivation, and we are assured, by what we believe competent authority, that 50 bushels is not uncommon, and that 75 can be sworn to.

The varieties of wheat cultivated East of the Mountains are not so numerous as in Western Oregon. There is no difficulty in securing the best of seed wheat, or in obtaining the best information as to how and when it should be sown. Walla Walla wheat commands a good price, at least equal to best California, and perhaps a little more, when in best condition, which was not the case last year, but it is quoted 2½ to 5 cents a cental below the best Willamette Valley white wheat.

Methods of cultivation differ materially in the different sections. Here we find every known harvester at work; Reapers, Headers, Self-binders, each are busy from the middle of July, when harvest begins, to the first of October, and often to the middle of that month, because the same farmer will have Fall grain ripening in July, Winter-sown fields that come in through August, and his Spring wheat comes along when it gets ready. Thus our harvesting machinery has a long run of it. Many of our large farmers run their header wagons direct to the thrasher, but in this moist climate there are apt to be part of days, and sometimes entire days, when the sea damps give fogs or heavy dews so that headers cannot run all the day, while in Eastern regions the clear, dry climate insures that heading can be carried on all day and all night, if so minded. Here the various harvesters cut the grain and it is hauled and stacked until the time for threshing is convenient, unless it is headed, when no time is lost in threshing it but East of the Mountains where no dews or damps are found, headed grain is cut and stacked in immense ricks, not even being put up in the pointed and carefully built stacks, that need to be practically waterproof in our climate where rains in September sometimes cause trouble and loss. So while here all harvesting machinery that is known competes for use, there the only method used is the header, which they say harvests at a saving of 5 to 7 cents a bushel compared with a reaper or self-binder. Where transportation charges cut down the income so greatly, they say it is necessary to practice every economy possible in production, and so the header is everywhere popular.

In traveling over 100 miles among Walla Walla wheat fields we noticed but one field that had bound bundles, which induced us to investigate the methods of harvesting in most popular use. The self-binder men here are confident that they will make their machines more acceptable in the future, but we have given the facts as we learned them on the ground.

In this essay, if we have placed before the world the important facts relative to wheat production in the Columbian region, shown the different results of soil and climate and explained our prospective relations to the world when future transportation problems shall be solved, we have accomplished all we intended or desired.

WHEAT PRODUCTION IN CALIFORNIA AND OREGON.

We have before us the census figures that show the wheat product of Oregon for 1879, also a leading California journal which gives the summary of wheat production in that State for the same year as returned by the State assessors. According to these returns the total average to wheat in California in 1879 was 2,613,663 acres and the total product was 29,944,983 bushels, or exactly eleven and ½ bushels per acre. For the same year the area in Oregon, in wheat, was 441,665 acres, the total product returned by the U. S. census was 7,396,611 bushels, and a comparative statement shows that while Oregon had but one sixth as much acreage, we had one-fourth as much wheat produced from it. To put it again in a more direct shape, while California had 11½ bushels to the acre, we had 17—as an average of the two States. But another very important matter for consideration comes in to further sustain the superiority of Oregon as a wheat producing State, which is that in 1879 there was an almost total destruction of spring wheat in the Willamette Valley, which cut short the yield from two and a half to three million bushels. For the only time in

the history of the country we had a failure of spring wheat, and only for this we should have shown a yield of over two bushels for one raised in California. The most sanguine claim made for yield in California in 1880, is 17 bushels per acre, and figuring for ourselves from the data they furnish, 15 will fully cover it. So that when their harvests are superabundant, as they certainly are this year, they fall considerably short of the average yield in Oregon in the worst season ever known. In 1879 Linn county lost a million bushels—over half her harvest—by rust, and yet averaged with California; Marion county lost one third of her wheat harvest and yet averaged 17 bushels; Lane lost over one-third of her wheat harvest and yet averaged 11½ bushels; Polk averaged 16 bushels and Benton, the same, though heavy losers by rust, while Washington and Yamhill went 19 bushels—all these in this valley where rust was a destroyer. Eastern Oregon brought up the average as follows: Union county, 25 bushels; Umatilla county, 30 bushels; Baker county 26 bushels. The acreage in our State for 1880, was probably about the same as for 1879, and the aggregate yield must be over 10,000,000 bushels, with an average of over 22 bushels to the acre, which has never been exceeded in this State, and we believe never has been equalled in any State in the Union. It is claimed that our lands, some of them, in this valley have been cropped too long, and that may be true in some cases, but the aggregate harvest of 1880 does not show much damage done. The fairest way to demonstrate the value of any county is by honest comparison, and as the world has to hear much concerning the wonderful fertility of California, we will accept a challenge at any time to compare with her products, and give her at least 15 per cent in the game; that too, when we know well that as a frequent fact, poor farming is done in Oregon.

We unhesitatingly assert that any good farmer who will summer-fallow every third year and work to fair advantage and with good judgment can average 25 bushels per acre in Oregon and by deserving it by thorough cultivation can often realize 30 bushels per acre.

HORTICULTURAL

FRUITS, VEGETABLES AND FLOWERS.

Early History of Fruit-Tree Planting in Oregon—Methods of Cultivation Successful Here—What Fruits and Vegetables Succeed Here.

MANY EXOTIC PLANTS AND FLOWERS PROVE HARDY IN OUR CLIMATE.

The following essay has been carefully and conscientiously prepared for us by Henry Miller, Esq., the well known florist of Portland, President of the State Horticultural Society, whose long experience in the nursery and orchard qualifies him to do the subject justice. No man can be more impartial, and we assure all readers that all his statements are not only reasonable, but give the worst side of our horticulture.

In times past we used to make the assertion with great confidence, that there was perhaps no country in the world that was better adapted for fruit raising than Western Oregon and Washington, but of late we have not been quite so boastful, for as formerly we never knew an enemy to fruit, we have to contend the last three or four years with the bark louse, and now with the apple tree louse, or aphid. The bark louse ran its course, and has mostly disappeared, applications of lime and salt in solution, applied with a brush, helping it along. The aphid was very destructive in the timbered parts of the Willamette valley and Washington Territory, but not on the prairies. This Winter's season, it is hoped, will have destroyed this pest. The lady bug, a great enemy to the aphid, appeared on the scene last fall and destroyed great numbers. But with all these drawbacks, our markets were abundantly supplied with fruit at usual prices. Apples and pears are sent to market in boxes 12x15 inches and 12 in depth; dried fruit in paper packages of two pounds each.

EARLY HISTORY—THE FIRST NURSERY.

Most of the old orchards in Oregon and Washington Territory originated from a nursery brought across the plains in 1847 by H. Luelling in an ox wagon, the trees growing in boxes. He came from Iowa, and made a good selection for this coast. In 1850 he went back for a larger importation, and he made a large addition to his nursery in all branches of fruit, but, in time, we came to find out that but a few varieties were really valuable for our markets, and the more than 100 varieties of apples decreased to about 20

varieties, and much less for exports, which is mostly to San Francisco.

Of the old trees thus imported, very few are now alive, but their posterity are living and thriving all over our country, and have been a source of much wealth and comfort to the orchardist and farmer.

GENERAL REMARKS.

Apple trees do not live as long here as in Eastern States, because they bear earlier and heavier crops continuously than elsewhere, and having but little lime in our lands, the trees require very heavy pruning. High, dry lands with a northern aspect are best adapted for orchards. The foot hills are particularly adapted for fruit growing, but all our lands are more or less adapted for orchards. In Eastern Oregon trees do well along creeks and on bottom lands. The bunch grass land has not been tested long enough to tell whether fruit trees do well there or not. Two-year old trees are mainly set and cultivated for four or five years or fully without any grain grown in the orchard; potatoes are grown for about three years. In about three years after planting some trees begin to bear; after five years' cultivation clover is often sowed, left in for three or four years, and then the land cultivated again for two or three years. The plowing is always done very shallow. One crop of clover is generally taken off each year, but would do more good if left on the ground. With this treatment apple trees will last 30 years or more, peaches much longer apparently, our State not being old enough yet to see; plums, like apples, bear too much and consequently break the limbs and often injure or kill the tree. Cherries are various, the Kentish and Duke cherries grow well most anywhere; but the Heart cherries are more numerous. Of the latter the Royal Ann (Napoleon Bigarreau) will not grow to any age on prairie lands, but does well on timber lands, and is more extensively grown than any other kind, and more money is made off these perhaps than all other varieties together. Two large trees of this variety are yet bearing annually very heavy crops; they are now 37 years old, and are from the first importation across the plains. Cherries are raised in large quantities, many being dried or canned. Prune trees have been set out in large numbers for the last eight or ten years, mostly the Fellenberg or Italian prune, an improvement of the old German prune. This variety bears well, but not too heavy crops; the fruit is large and dries heavy and well. The Plummer dryer is mostly used here. Three or four Alden factories were started, but being very expensive to put up and to run, are not now much used.

The plum and prune trees so far have no enemies; curculio and black-knot are not known. The canker worm is not here; perhaps we have too many flocks of cedar birds. Quinces make healthy, fine trees, and give regular and clean crops of good fruit.

Peaches we expect to bear about every third year in this valley; they curl leadly in the leaf, and the buds are sometimes killed by frost, but do better East of the Mountains.

Grapes of American origin nearly all do well West of the Cascades, but foreign grapes are very uncertain and mildew badly. They probably do better East of the Cascades.

All the small fruits do remarkably well, as currants, gooseberries, raspberries, blackberries and strawberries. There seems to be no exception to their successful and productive cultivation.

BEST VARIETIES.

The varieties of the different fruits most extensively grown here are as follows: Apples: Red Astrachan, Gravenstein, Rambo, Gate, Swaar, Baldwin, White Pearmain, Ortley, Jenning, Red Cheek Pippin, Esopus Spitzenburg, Wine Sap, Lady, Yellow Newtown Pippin, Gloria Mundi, Bellflower and others. These named all do well here. Out of these the foremost is the Yellow Newtown Pippin, which brings the highest price in the market; Esopus next, but both are not good, healthy trees, and not very abundant bearers. The Winesap is the most profitable and best tree, always healthy and large crops. The Gate or Waxen is a very healthy tree and bears enormous crops, also is very fine for drying.

Storing and keeping of winter apples is done mostly in cellars, made frost proof by four inch walls, or built on side hills, well ventilated, on shelves four feet wide, six or eight above one another, the apples eight or ten inches deep. California is our main market for all our late fruit, commencing with Royal Ann cherries, Bartlett pears, but seldom any plums. Afterwards late apples, of which the Winesap is the first as to quantity and the Yellow Newtown Pippin as to quality. These and four or five other varieties are about the only kinds shipped; but in short years in California many other varieties are sent there. Great quantities are dried on home made dryers, or on the Plummer dryer, which cost from \$150 to \$600, and dried apples bring from 5c to 10c per pound in Portland market. Great quantities of fruit are allowed to be eaten by hogs in the orchards; in fact apples are everywhere, and every year.

in the greatest abundance. New orchards are constantly set out and old ones dug up for an apple tree will grow in the place where one has been growing for years, even with fresh soil and manure. The average price in Portland is 50c per bushel box for apples and 50c to \$1 for pears; quinces are same price as pears; plums sell for from 1c to 4c per pound; prunes, 3c to 6c per pound; cherries, 3c to 8c per pound; dried pears sell for 8c to 10c per pound; plums, without pits, 16c to 14c; prunes, with pits, about the same. As to quantity or percentage of different fruits set out, apples perhaps 75 per cent., pears 15, peaches 5, plums 5, cherries 5, quinces 2 per cent of the whole. As to soil, apples like rich clay loam, and dry; pears do well in any deep soil, even somewhat wet; plums like dry, light soil the best; prunes must have a dry soil, even if light and sandy; peaches, dry, light soil in full sun, sheltered from north and north east winds. New land is best for orchards. Holes need to be only dug deep and wide enough to hold the roots; trees are planted 16 to 20 feet apart.

Of pears we raise Bartlett, Seckel, Easter Beurre, Winter Nellis, Madeleine, Fall Butter or White Doyenne, Louise Bonne de Jersey, and many others. Of these the Bartlett brings the most money, bears young, often in the nursery; bears heavy and always, and is in every way No. 1.

Of plums, Peach, Washington, Bradshaw, Italian prune, Petite d'Agne prune, Coe's Golden Drop, Yellow Egg, Columbia, Reine, Claude de Bavay, and Jefferson are excellent. Of these the peach plum bears the heaviest and earliest crops, and is fine for drying. Coe's Golden Drop dries heavy and sweet. Reine Claude is unrivalled for canning, requiring no sugar. Petite d'Agne is a favorite in California for drying as a superior prune.

Cherries—Royal Ann, May Duke, Kentish, Black Bigarreau, Black Tartarian, Elton, all these bear every year, Royal Ann best.

Peaches—Early Crawford is mostly cultivated.

Quince—The Apple or Orange grows very large.

Grapes—Concord, Isabella, and most all native American sorts can be easily cultivated.

SMALL FRUITS.

Of currants the Cherry is the favorite, and bears large crops every year, and the bushes last many years.

Gooseberries are now perhaps only grown on an Oregon seedling called Champion, a large fruit, enormous bearer, and nearly free from mildew.

Of Raspberries, the Red and White Autumn and Franconia are the best, and always sure. Our native Oregon Blackcap is also large and very fine.

Blackberries—Lawton gives large sweet berries and a full crop every year. An evergreen blackberry is grown that bears fine fruit in the fall. The Kittatinny is also successfully cultivated.

Strawberries—Wilson's Albany does the best, and are grown in large quantities and sell for from 3c to 8c per pound. Many new varieties are now tried. By the way, our nurserymen always kept abreast with the newest and best. All new varieties in fruit are readily imported and tested. Many things are worthless in our climate that are highly valued in the Eastern States, and many apples good keepers there are only fair varieties here? Canneries are in their infancy as yet; one in East Portland is doing a good business in a small way. There is no reason why the canning of small fruits should not be a very profitable enterprise, as small fruits of all kinds could be raised of any quantity and of the best quality, yet large invoices of canned fruit are shipped here from California and the East.

Thus, Mr. Editor, I have given your readers a detailed account of fruit growing in Oregon, which equally applies to Washington Territory. What I have said is from an experience of 27 years with fruit and fruit trees of Oregon, and although the fruit interests are not now what they once were, when a box of apples sold in San Francisco for \$82 net (var. Esopus), or three boxes of Winesaps sold in Portland for \$102, yet fruit growing in Oregon is a very profitable business, for many men about Portland, make it their sole occupation, and are doing well by it in supplying the local market, that must immensely increase with the building up of the city into a great metropolis, which it is certainly destined to be.

VEGETABLES.

And now a few words about vegetables. It is the general opinion of all who first taste our vegetables that they are superior to those of most Eastern States, especially of the Eastern States. Of course our mild climate, abundant rains in winter and at the growing time in the spring, and the dry maturing weather in the summer, the cool night reviving what the hot day has wilted, and thus ripening the crops of the garden slowly and completely, produce a succulent, crisp and delicious dish for the table.

Potatoes are often planted in the fall or in February, and can be eaten by the 4th of July, or sooner from volunteers, that is from potatoes left in the ground in the fall.

Cabbage we have by the 1st of July, in fact cabbage is almost perennial. I have in my garden one stalk, three years old, and yet growing, that made last summer several small heads. Cabbage stalks left in the ground furnish excellent greens in spring.

Turnips sowed in October make fine bulls for the table during December and January. Cabbages are raised in enormous quantities on beaver-dam lands, rich, loamy deposits in low places once dammed up by beavers. Good heads sell for 75c per dozen.

Potatoes are raised more for quality than bulk, as they appear on every table twice a day. A choice sort is much sought after. Burbank's Seedling stands at the head for late and Early Rose for early, both unexcelled. Garnet Chile is as yet raised in greater quantity, as the Burbank is comparatively new, price 50c to 75c per bushel retail in Portland. This crop is mostly raised in hills like corn, and largely in orchards.

Carrots are grown very extensively for feed, besides for table. The Early Horn is raised for feed, as these turn out more than any other, and are much richer than the Belgian. Livery stables and dairies use great quantities of them, and pay \$10 per ton. Mangold Wurtzels grow to large size, and the Sugar Beet does well, but its sugar making qualities have not been much tested.

Asparagus is beginning to be brought to market, of Oregon growth.

Onions are exported to California by hundreds of sacks, price 1c to 3c per pound.

In short, all vegetables generally grown in gardens are found in their time at the storehouse. Irrigation, wherever practicable, is used to great advantage, though not often resorted to in Western Oregon.

SHRUBBERY AND FLOWERS.

Allow me, dear reader, to add a few words about our flowers, for seldom will the tourist find more inviting gardens set with beautiful flowers than about the residences of our well-to-do families in Portland and all the villages and towns throughout the country. Many plants he will see grow in the open ground that he used to see in greenhouses at home, and only planted out in summer. Most all the half-hardy shrubbery is hardy here, such as Laurestine, Magnolia, Grandiflora, Acuba, English Laurel and many others. Evergreens play a conspicuous part in our planting, as these do so exceptionally well, this being an evergreen country in more than one sense. Our florists and nurserymen keep a good stock of the best and newest to select from. Our streets are lined with shade trees of many varieties, and many out of town residences are beautiful with choice shrubbery and plants, and thus we add to the useful and delicious fruits the pleasures of the flower garden.

HENRY MILLER.

Portland, Jan. 13, 1881.

RAILROAD LANDS IN WESTERN OREGON.

In connection with land matters in Western Oregon the grant made by Congress and which was transferred by the legislature of 1868 to the Oregon and California Railroad Company, makes a very important item. This grant was made after the Valley regions of the Willamette and Umpqua had long been settled, but as it covers the sections with odd numbers, for a width of sixty miles, and for a length of 200 miles, it contains an immense body of land that reaches the foot-hills and mountains, a great portion of which has not yet been surveyed. At the land office of the O. C. R. R. Co., they estimate that not one half of their lands have yet been surveyed, and much of it will perhaps prove too rough for any practicable use, except that in course of time we may expect to see the timber in both mountain ranges possess a value not thought of now, when it is an incumbrance to the soil, that might also be cultivated.

Col. I. R. Moore, at the Land office of the Company, informs us that the surveyed lands of the Company, in different counties bordering their road, consist of about as follows: Multnomah county, 17,000 acres; Clackamas county, 100,000 acres; Marion county, 40,000 acres; Linn county, 50,000 acres; Lane county, 100,000 acres; Washington county, 25,000 acres; Yamhill county 30,000 acres; Polk county 30,000 acres; Benton county, 20,000 acres; Douglas county, 100,000 acres, making a total of 512,000 acres of their grant, situated on surveyed lands of the United States, that yet remain unsold. The company have had most of their lands appraised by competent persons, and at their office in this city, Mr. P. Sheulge, Land agent of the company, has maps of each township, and plats and descriptions of all the lands, and the price at

which they are appraised. Sales are being made steadily to friends of persons located in their vicinity and others, and the value of their lands is constantly demonstrated by their settlement and cultivation. The average price at which they are held is \$2 an acre, and sales are made on a plan of ten yearly payments and interest charged at the rate of 7 per cent per annum. When cash payments are made a discount of ten per cent is made from the principals.

The foot-hill and mountain bench lands offer inducements that are very attractive to many. When health is a question they have especial value, as they insure pure air and delicious water. The seasons are scarcely more severe than in the main valley and yet the climate is so different as to insure occasional showers through the dry season, so that pastures are greener through the summer. We have personal knowledge of the foot-hill region of the Cascade mountains on the waters of the Santiam river, in Marion county. Five years ago we were spending a few weeks camping out on a trout stream above Mehama, and were struck with the natural beauty of a small unoccupied valley bordering the Little North Fork and found that on the bluff that adjoined it was a large tract of nearly level land, covered with fern that grew like a thicket, about five feet high, denoting a rich mountain soil. On this bottom and upland there was scattering hazel brush, and abundance of timber, several hundred acres of the best of this land can be cleared by Chinese labor at not to exceed \$5 an acre, while quite a farm can be made from land that has no brush nor stone. Timber (fir) is not too abundant; springs abound in every direction, and no better water can be found; about one-third of the whole section is more or less gravelly, but can be easily got into grass. Various kinds of pea vines grow under the heavy fern, but there is not a great deal of native grass. Stock (cattle and sheep) are kept on the neighboring range, summer and winter, with scarce ever any attention, having plenty of browse, some grass, and abundant pea vines and such feed in summer. This region is a perfect paradise for goats and is a natural range for cattle, except that a poison larkspur borders the branches in the early spring. The soil is rich, black loam. Perhaps one-third of this land is too hilly to plow but can be made to yield abundant grass. Say: one-third good farming land and two-thirds good for pasture, and the description is less favorable than the actual fact. The situation is romantically beautiful; swift mountain streams forming North and South boundaries, with deer on the hills and trout in the streams. In the bottom is to be found considerable land that will make the most productive timothy meadow. Also, there and on the bluff is excellent wheat land. The gardens are prolific; this whole region is the best possible for small fruits and for apples, peaches, plums, prunes and cherries. A good rail fence let by contract, costs me a trifle over \$100 a mile. Teams and drivers can be hired at \$2.50 a day to plow, and labor is reasonable in price. Within a mile is a village with shops, stores and hotel. A saw mill is not far off and lumber is worth \$8 a thousand feet. A school house is in sight and a Sunday school is kept every Sunday, while there is preaching occasionally. Standing on the hill there is a beautiful view of fine farms across the river. Each of them has been "made out of whole cloth." The bottoms and hill benches have been cleared to make the fields we see; within view there are probably twenty different homesteads and their improvements. The road down to the Willamette Valley is perfectly level and the narrow gauge railroad is only 13 miles distant. Most of the persons who live up there went there with some seated complaint and now remain, generally with good health, because they love the country. This may be considered to be eight miles above the main Willamette Valley, perhaps less than that distance, and is 27 miles East of Salem. There is a good foot-hill country all around it, with hundreds of settlers whose homes are on the bottoms and bench lands of the low ridges that put out from the main Cascade range. We have penetrated six miles above here on one side of the river, and found as charming a valley as lies out doors, actually uninhabited, and on the other fork of the river fine farms can be found until you run against a grand mountain wall that seems to shut out the world. Chains are taken and settlement commenced further up each year, and will keep pushing into the mountains further and further, for the country is not yet half discovered.

Some years ago the idea was promulgated that up the main North Santiam could be found a natural pass across the Cascade mountains. Our friend, Hon. John Minto became imbued with this idea and he and others prospected through to the foot of Mt. Jefferson, one of the great snow peaks that dominate the Cascade range, and, sure enough, they found a good natural pass over to Eastern Oregon. Following the stream up an almost impassable Canyon, for fifty miles beyond they found it opening into a valley, and far in, surrounded by rugged ranges, in the very heart of those inaccessible regions, at the very foot of Mt. Jefferson and its eternal snows, they realized a beautiful country that showed no signs of unusual severity in winter, large enough and

good enough to almost constitute a county of itself. Some time in the near future a railroad will go up this hidden valley to cross the mountains. A wagon road will soon be constructed for a cattle trail is already made. This region will be a favorite summer resort for the future, and it is very probable it contains some of the wonderful medicinal springs that are abundant among the mountains in Oregon.

We have described one single feature of this foot-hill region, with which we happen to be acquainted, and the valley beyond it, hidden away among towering ranges, as a specimen of the lands that surround the Willamette Valley on every side, and the smaller valleys that nestle among the ranges. The time will come when immigration will push in and occupy all these lands, and when we recollect that they border on a truly civilized and highly cultivated community, and are, after all, not far from market, the question arises, if there is not great inducement to occupy them now. The people who seem to appreciate them the best are German and Scandinavians. These foot-hill benches and valleys are free to pre-empt a homestead, where not already settled upon, and where they fall within the railroad grant are offered for sale at reasonable price and very easy terms, as we have stated. It is doubtless true that a great extent of country that is classed as mountainous, will be found well worth settlement, reclamation and cultivation. The piece of land we described so accurately we purchased of the railroad company, which probably has many locations of equal value for sale. The same is no doubt true of the land grant on the line of the Northern Pacific railroad from Kalama on the Columbia to Tacoma on Puget Sound.

CATTLE IN OREGON.

Historical Sketch and Account of the Cattle Business at the Present Time.

BY THOMAS CROSS, OF SALEM.

[Mr. Cross has been a famous cattle breeder and stock raiser in his time, and we give his views with pleasure, but he certainly cannot be correct in his assertion that cattle breeders East of the Mountains buy no improved stock. We have friends there, who own great herds and take great care to improve them. But Mr. Cross' statement may be, and no doubt is true of the great mass of stock men. It is true, as he says, that the cattle are decreasing in number and the range is deteriorating also. As the bunch grass is eat down more and gets shorter, cattle find it difficult to feed where both horses and sheep do well. Also, when hard winters come, horses and sheep paw away the snow and do well where cattle will die. This wrought a gradual change in the business of stock raising; herds of horses and sheep increase and cattle are driven off in immense bands to Eastern buyers and, no doubt, it is true, that the droves that amounted to 150,000 head in 1880 will never be equalled again. Also, it is true that stock men have kept to themselves in the past the existence of immense bodies of agricultural lands, like the Cold Spring country, in Umatilla county, which cannot be longer kept for stock range, but is being rapidly settled and turned over by the plow. The plow has and will invade the whole bunch grass region, and stock must leave. Wherever bunch grass grows wheat will do as well, and while stock raising will always be a great business, and a great area of country can be utilized in no other way, practical agriculture will supersede stock raising as fast as the rapidly constructing railroads bring available lands within reach of market.]

SALEM, Ogn., Dec. 24, 1880.

Editor Willamette Farmer:

In answer to your request, I will try and give you the early history of the importations of blooded cattle into this State. James Watson, late of King's Valley, Benton county, brought across the plains a very few fine ones in 1847, purchased from James Brown, of Sangamon county, Ill. Mr. King also brought in a few good ones about the same time, living in the same county and valley. In '52 Gov. John P. Gaines imported quite a number of very good Durhams from Kentucky, amongst them some first premium animals. About this time a very good bull was brought in Lane county, called "Duke," and was purchased by Mr. Cogswell; he proved himself a fine breeder. About this time a good Shorthorn cow was brought across the plains into Lane county and purchased by Hon. Mr. Wilkins, which proved to be a good acquisition to his herd. Also, about '52, Mr. John Welch and the Hon. R. C. Geer imported the celebrated thoroughbred cow "Nymph," and shortly after they imported the far-famed and celebrated young bull, "Grand Admiral," by ship around Cape Horn, and have the honor of making the first importation by water. Mr. Welch purchased him from Mr. Samuel Thorn, Duchesne county, New York, and I believe Mr. Thorn's herd was the best in the world. Also, Messrs. Sol King and Moses Wright, of Benton county, imported a number of fine animals and of good blood, about thirty head of cows, heifers and bulls, and they proved themselves all that could be desired.

I think the next importation was by myself, the bull "Illinois" and the heifer "Bellchiana," around the cape. I purchased them from T. H. Spars, of Menard, county, Ill. Then comes the importation of W. S. Ladd and S. G. Reed, of quite a number of as fine bred animals as I ever looked upon. A man of experience and judgment would ask no questions as to where to do better than with these. Probably the last importation was by Col. Younger & Son, from California. Their herd received much comment from the press, and were much admired and very highly spoken of by those seeing them, and they show that Col. Younger understood his business. They were in the best of show order, but if I am any judge, there was only one cow in the lot that was a show animal. Some of the red heifers seemed to be badly inbred. I remarked to Mr. Younger, Jr., when he was currying one of these heifers, "Sir, you cannot recommend her very highly." He replied, "She was young and would fill out." I made the remark purposely to give him to understand that there were men in Oregon who could point out the faulty parts. Now it is not my object to run down any man's stock, but I deem it my duty to give my views as to the best cattle, so that those wishing to purchase can start right, as there are some unprincipled breeders that "have got just what you want," and sometimes big sales are also nothing but a ruse, a blind, a sell.

Now let us see what this little Oregon Web-foot has done. After giving you a description of my manner of breeding, I will give you some actual weights—no sham, no buncombe. I found when I was East that some of their premium cattle were heavier than ours, and at the same time ours out-measured them. I refer to the Chicago Stock Journal and Fat Stock Show, also the Smithfield Market, in London; we are equal and, I think, a little ahead of them, but it will be seen by my breeding that I combined as good blood as was going.

In 1854 I purchased from Mr. Watson four good cows, and each season some of his best heifer calves. I had them from every good cow he had. I then prevailed upon Gov. Gaines to take some of his best cows to the Lane county bull, "Duke," referred to above, and from one of them I purchased from the governor a bull calf. I bred him until I needed a change. I then purchased from Mr. Geer the imported bull, "Grand Admiral." About that time I purchased from Messrs. King & Wright four of their best imported cows; then, to couple upon "Grand Admiral's" heifers, I imported "Illinois." So you see, I had all the earliest importations combined, as I also purchased a young bull from imported "Nymph" and "Admiral."

I will now give you the weight of some steers raised and fattened: The "Oregon Baby" weighed 3,080 lbs at seven years old; the four first years he run in the herd, on native grass; I then took him up and commenced feeding him; the second year he gained 350 pounds; the third year only 50 pounds. I then shipped him to San Francisco and showed him at the Sacramento State Fair and sold him in San Francisco for \$900; he was a grade steer. I put up and fed with him a beautiful four-year old steer, but perceiving that he was done growing, I sold him for a Christmas beef in Salem; he weighed on the scale 2,100 lbs, and weighed, net, 1,428 lbs; now this is making a little over 68 per cent. beef to 100 gross, and I find that the premium cattle in Chicago only made 67 and a fraction. I also sold a Christmas beef to A. H. Johnson, Portland, four years old, weight on scales, 2,100; dressed weight, 1,400. And I shipped to Victoria fifty head of as fine steers as I ever looked upon: I drove them to Portland and shipped them by boat to Monticello; from there I drove to Olympia, and then by ship to Victoria. Their average net weight was 1,000 lbs; five of them netting 1,400 lbs each. Now, sir, had these cattle been housed and fed as they are in the Eastern States, they would have been much better. I see by the papers that our cattle are highly spoken of in Chicago, and when East of the Mountains last Summer I was pleased to see upon the range such improvement in cattle from bulls of my stock. But I am afraid that the range is failing, and it is my opinion that there will be a scarcity of cattle ere long, as the supply is rapidly diminishing and consumption increasing. You ask who are the principal breeders or stockmen? My opinion is that there is not a practical breeder or cattle raiser in this State or even Washington Territory but Ladd and Reed, and they do not get the encouragement they deserve. Cattle business is going like the pork business, only we cannot ship beef from the East, but I venture that those raising cattle in a short time will get well paid. There are large herds in Eastern Oregon and Washington, but I cannot learn of any who are purchasing improved bulls. They reply, when asked about not doing it, "Our neighbors will get the good of them," and cattle thus neglected will fast go to ruin. You ask, what improvement is being made? The general average of cattle is not near as good as fifteen years ago. You ask what it costs per head to raise them? This is hard to answer. It depends upon the value of the lands they are kept upon; but I will say this, it costs much less here than in Illinois, for here they are not affected with heat and cold, and are perfectly healthy, and I venture the assertion that if

farmers in this valley were to sow one-third of their land down to grass and pasture a few cattle and sheep, they would make more money than by raising all wheat. Mr. Editor, I am glad you called upon me for this article, for it is quite encouraging to find that we are fully equal in weights to cattle East and in England. I only find one steer in the Smithfield Market in London heavier than "Oregon Baby," also one in Chicago; and my other steers made one pound more than theirs on 100 lbs gross; this shows good blood and cattle highly improved. I would like if you would call upon some one East of the Mountains and let us know the actual facts about the cattle business there, as to how they come out in collecting and raising, and to what extent the grass is failing. I deem it of the greatest importance to watch and keep up the cattle supply and not get too far behind; or, in other words, when prices are good have none to sell. It will be observed that I have omitted some importations. I did not think them worth mentioning, as the importer, Peter Saxe, was not a reliable man. One animal he had, I challenged his blood, and he replied "he had the best of pedigree," pulled it out and I stopped him, and he remarked, "What do you call him?" and after giving him my views and opinions he frankly admitted that I was correct, and said, "Mr. Cross, they are making that cross in Kentucky, and you have the stock on your farm to make it with, and can make it profitable." But I admit that he brought a few good ones; "Hannibal," purchased by Mr. Myers, of Polk county, is a good one; Elisha McDaniels got a good one also, but I do not hesitate to say that his pedigree was unreliable. Had he dealt in first-class stock and been honorable, he could have done well, but his rope was too long, and, as the old adage is, it hung him. I will answer friend Minto's article on grasses at my earliest convenience, as great men will differ.

REPLY OF THOMAS CROSS TO HON. JOHN MINTO'S ARTICLE UPON GRASSES.

In the first place Mr. Minto says orchard grass is superior to velvet grass for hay is his experience, but does not tell us what experience he has had. I have tried each and differ with him very materially both as to hay and pasture, but do not like either of them for hay. He admits it is good upon mountain fern and mountain ranges, also admits it keeps green under a greater degree of frost but thinks there is a mistake about its being called "Texas Mesquite." Let us now consider that C. P. Burkhardt of Albany sent to Texas and got some mesquite grass. He gave some to S. G. Reed where I saw it growing and believe it the same identical grass as the velvet; and further, I was at Mr. Patterson's, in Polk county, and he gave me a pint of seed. He said a friend of his brought it from Texas. I sowed it by the side of my velvet grass and it was the same. I could discover no difference. Now, Mr. Editor, I think comes the serious mistake of Mr. Minto: he says he cannot but believe there is a mistake in calling this soft meadow or velvet grass mesquite, and placing its nativity in the dry plains of Western Texas, and indicates why the mistake may be almost a misfortune to the grazing interests of this coast, and further says, he has studied this grass closely since about a year ago and that his remarks about its character led him into a considerable correspondence in this State, with people East of the mountains, and his studies gave him the following result: 1st. Dampness in the soil was an essential condition for its thriving well; 2nd. Either as a hay or pasture plant under most favorable circumstances it will scarcely rank as second rate in any respect; 3rd. On dry soil, under a dry atmosphere, it is not even third rate in any respect; 4th. For making grass on damp or swamp lands it is second only to red top.

Mr. Editor, I will here give my reasons for having answered Mr. Minto's remarks. In the first place, we differ in every respect upon this grass, and we have both been East of the mountains during last year, 1880. I give it as my opinion, to those living there, that the velvet grass would grow and do well amongst their bunch grass, and have sent to Messrs. Chapman & Dunlap, and Eldo Brothers, some seed for them to try. I will briefly give my experience: I sowed it first about twelve years ago upon brush and red-hill land, with orchard grass and others, and the orchard grass is now done and the velvet is yet a fine stand. Last spring, in March, it was an excellent pasture. I have nearly one hundred acres in and have ploughed up some pasture. I next sowed it in a wet bottom, and, as Mr. Minto says, it likes damp land. For an experiment I sowed some in thick buck-brush and it took well and is now a foot high and the brush is so thick the stock cannot get to it. Mr. Minto is well aware they have it upon the Clatsop plains, and that it is the only grass upon these dry, sandy plains that will mature and make hay. I have said it will carry more stock than any other grass; I will give a little proof. I sowed twenty-five acres near my stock barn two years ago, and last spring it carried 300 ewes that I had up lambing, to my astonishment. After taking them

off I mowed it, and about Aug. 1st, I took from my band of sheep, 160 buck lambs and put in same field; as it had made rapid growth they thrived finely upon it, and about the first of October I took them off as I wanted it to grow up and get good for my spring lambing, but being away from home it proved too late to take off my lambs. I now have fifty young lambs, and I took out some of my late ewe lambs, making the number eighty, and they are now upon the same twenty-five acres. I put them in the barn at night and feed them the velvet hay; there is a slight sprinkle of clover in it, however, and they are doing as well as sheep can do. The lambs are fat and I think it grows nearly as fast as they eat it; it is a very gravelly piece of ground. I am still seeding and expect to sow 100 acres this season, Texas mesquite, or velvet, or meadow grass, or what any one may please to call it, it is my pet grass; I am satisfied it cannot be equalled. The Hon. F. R. Smith, living one mile south of Salem, has tried it a number of years from seed I gave him, and he is well pleased with it. I saw an article in some paper this season, from some gentleman living in Yakima, saying he had five hundred acres and it had done well there.

I find my article is getting too lengthy and in conclusion I say to all interested: give it a trial. I will send seed to any one wishing to try it to seed one acre, by them sending stamps to pay for sack and mailing, with instructions to sow, and if you like it you can get enough seed from it to seed a big farm. I have tried nearly all grasses and it and the English blue grass are my grasses, but understand me I do not recommend it for hay. I am sorry to differ with my friend, John Minto for he is an old-time friend one I esteem highly, he is candid and honest in all he says, but, did I know nothing of this grass, after reading his article I should not try it, and in my mind I should be a great loser, for it is very common for great men to differ. I forgot to mention that some say that their stock do not like it. I have studied that and probably they let it grow too big, as it vines and lying upon the ground it rots, and of course will in that case give an unpleasant smell, but I have had no stock refuse it. I have had it in my garden where it was not cut off and was so thick on the ground that the under grass was all rotten—it wants pasturage very close.

THOMAS CROSS.

Value of Eastern Wheat.

A subscriber of the FARMER writes from East of the mountains to say that he consigned his wheat to a house in this city that reported sales at \$1.30 a cental. We of course cannot say what the wheat was worth without knowing its quality and the date upon which it was put upon the market. So much Eastern wheat was blighted by the hot weather and failed to fill well that it grades No 1, No. 2, and No. 3, and the price named would be sufficient, say on the middle of November, for a poor article, but if it was really good Eastern wheat we do not think that \$1.30 has been a fair price for it for a month's past. The house named by our friend has a high reputation for all mercantile excellencies.

The Case Dropped.

Detroit Free Press.

Not even a lawyer, however skill in cross examination, can make a witness tell the truth, provided the witness wishes to evade it. It is impossible to put a question in such exact language that it will demand the desired answer. Indeed, nothing is more true than the statement of Talleyrand, that language is intended to cover up one's thoughts, and no one ever practiced the principle contained in the statement more than Talleyrand himself. It was necessary on a certain occasion in court to compel a witness to testify as to the way in which a Mr. Smith treated his horse.

"Well, sir," said the lawyer, in a sweet and winning smile—a smile intended to drown all suspicion as to ulterior purposes—how does Mr. Smith generally ride a horse?"

"The witness looked up innocently, and replied: "Generally a straddle, sir, I believe."

The lawyer asked again: "But, sir, what gait does he ride?"

The imperturbable witness answered: "He never rides any gait at all, sir; but I've seen the boys ride every gait on the farm."

The lawyer saw that he was on the track of a Tartar and his next question was very insinuating.

"How does Mr. Smith ride when he is in company with others? I demand a clear answer."

"Well, sir," said the witness; "he keeps up with the rest, if his horse is able to, or if not, he falls behind."

The lawyer was by this time almost beside himself, and asked, "And how does he ride when he is alone?"

"I don't know," was the reply; "I was never with him when he was alone," and there the case dropped.

EASTERN WASHINGTON TERRITORY.

Description of the Counties North of the Columbia and Snake Rivers--Including the Klickitat, Yakima, Spokane and Palouse Valleys, and the Grand Coulees of the Columbia River.

The area of New York and Pennsylvania, combined, is only 90,000 square miles, and they are two great States, with millions of people and great value of property, mounting up to thousands of millions; they have no great extent of fertile soil, contain wide mountain ranges and have been made valuable to man by centuries of labor. Both of these States are not equal in extent to Oregon which has 100,000 square miles, and Oregon and Washington, with 170,000 square miles are nearly twice as large as both of them. New York and Pennsylvania could be dropped down on the East side of the Cascade range and not cover the area known as Eastern Oregon and Washington. This is the region we are attempting to describe and we take this method of giving the readers some idea of the vastness and importance of a great area which possesses many surface attractions as well as invites development of riches that time will call into existence, not to be found upon the surface. It cannot be supposed that in the brief limits of newspaper articles we can give in detail the merits and peculiar features of this wide scope of territory, but we shall review each county and attempt to place before the reader such facts as will best express the advantages each offer for settlement and a fair description of its topography and characteristics.

The farms in New York State cover 15,600,000 acres of improved land or not more than one fourth the area of Oregon, while Pennsylvania contains in farms 11,500,000 acres of improved land, or not much over one-fourth the total area of Washington Territory. Those States have been for over two centuries and a half growing in wealth and population and we are in our very infancy and the problems of time have yet to be solved in our favor.

It is only lately that we have begun to realize the value of the country East of the Cascade. The idea of planting wheat upon the hillsides and plateaux of that arid region was not entertained by the most sanguine; but cultivation has been gradually attempted and has proved successful over a wide scope of country that was considered only a natural pasture and it has been found that this soil, light in weight and in color, possesses great vitality and has productive forces that are not often equalled. For two or three years past a great immigration has been pouring into the most available sections of the whole interior region. In great part this has come from the older settled portions of Oregon, for many have sent their sons to make homes in that new land of many hopes, and many who have got tired of struggling with hard fate have taken their families thither and claimed homesteads on the widespread hills and plains. Then again, others, with means to invest have gone there to establish stock ranches on the wide ranges. The healthfulness of this clear, dry climate, has allured many who found it necessary to avoid the mists and rains prevailing towards the Western Coast.

Capitol has of course been allured by the rich prizes offered in the transportation for so great and promising a region and we see railroad systems rapidly developing by both the Northern Pacific Railroad Co., and the Oregon Railway and Navigation Company that will soon bring every productive spot of any importance East of the mountains into a speedy communication with ocean transportation. The fact is evident that the influx of immigration has only just commenced. Time will make this region the home for millions, and the greatness of its future is a matter we may well speculate upon. To-day it is eagerly sought, because, as we have before explained, so great an extent of soil remains vacant that has only to be turned over and sowed to grain to produce good crops.

SKAMANIA COUNTY.

This county, on the north, the Washington side, is located directly in the Cascade Mountains and has derived its chief importance from the existence of the Cascade railroad by means of which the portage is made around the falls. This road is six miles long. A steamer landing below receives the freight and passengers from Portland, conveys all to another landing above where they are transferred to another steamer and taken to The Dalles. The county cannot be said to have any agriculture. A very limited area for settlement is found along the shores, and the heavily timbered mountain sides are cut into wood for supply of steamboats and locomotives, or made into ties for the use of the different railroads that are being built in the Upper Country. The portage railroad around the Cascades has the merit of being the first railroad ever constructed West of the Rocky Mountains, as it has been in operation since a very early day.

Klickitat County.

Passing through the gorge of the Columbia we leave the Cascade Mountain summits to the West and open upon a region that, with some intervening ranges, such as the Blue Mountains, the Coeur d'Alene and Bitter Root Mountains, extends eastward to the Rocky Mountains, including Northern Idaho and part of Montana. The river shores are bleak and inhospitable, and for five to fifteen miles on each side of the river it seems that the winds have seized the sand exposed on the banks and bars at low water, and have spread it over a wide breadth on each side; but a few miles back from these barren, sandy or rocky shores, there is a rich and extensive region to be found that year by year becomes more active and instinct with population and prosperity. Bordering the wild shores of Skamania we find the growing country of Klickitat. This county lies in two land districts and we have reports from each which show over a million and a quarter of acres included in Government surveys. We judge from reports received that not one fourth of this surveyed land is claimed by occupants and the balance is ready for settlers to take under government, or to file upon for purchase of the Northern Pacific Railroad. Klickitat valley has an area of twenty by thirty miles and is generally good soil and covered in its natural state with bunch grass. It has long been considered a good stock range, but within a short time it has been considered an inviting field for farmers to occupy, and the valley and its surrounding hills are settling up rapidly and will soon be pouring out a surplus of wheat for export. Klickitat county has its natural outlet on the Columbia river and is much nearer market than Palouse or Walla Walla valleys. The soil is good and there is enough of it to accommodate a large population. How easy it is for energetic people to find homes there and claim plenty of land, can be judged from the experience of Mr. Henry McFarland, of Benton county, who went up the river last Spring and located in Klickitat, forty miles above The Dalles, and only six miles from the Columbia river, with a down hill grade all the way. He took up a homestead on a high hilly region, where bunch grass was growing thickly; he located a timber culture claim and filed upon some railroad land, and has a claim upon about 600 acres of rich, fertile soil, that promises to be good for wheat farming. His claim includes a grand spring on which grows a large quantity of balm or cotton wood, and within a couple of miles there is gravelly prairie that grows scrub oak which answers for firewood, while his rail timber has to be hauled from the mountains, some 12 or 15 miles distant. It is probably as healthy on this high location, and on the rolling hills of all the Eastern country, as upon any portion of our country. The high hills have deep soil and the Klickitat valley very possibly offers no better locations than can be had for the taking, on the hill parts of that country. The county seat is Goldendale, in Klickitat valley, which already has several hundred inhabitants and is the seat of a lively trade. Columbia is a point of coming importance on the Columbia. Klickitat City is a thriving place, and the interests of the county already support a lively newspaper. The Simcoe Indian reservation occupies considerable good land in this country. The Indians have made considerable advance towards civilization; there is a good Industrial school there, and Rev. J. H. Wilbur, for a long time agent there, is supposed to have demonstrated the possibility of inducing the Indian tribes to make some advance towards an enlightened condition.

Klickitat has a present population of over 3000 and is making rapid growth. Stock raising has been a popular occupation but sheep are not so plentiful North of the Columbia; perhaps not more than one sixth of Eastern wool clip comes from the Northern counties. Winters are generally more severe there than South of the Columbia and stock raisers generally are losing heavily there for a few weeks past. The exceptional season that is carrying snow and frost to Georgia and Louisiana on the East of the Rocky mountains is felt somewhat on this coast. While the cold is not intense and the winter in most parts of Western Oregon and Washington has been comparatively mild, because they are sheltered by the Cascade range from the influences that flow from over the Rocky mountains upon our Eastern counties, East of the Cascades the present winter witnesses vicissitudes of climate that are destructive of much property. We look at it in this light: That the day of great stock ranges is about over; where farming can be carried on to advantage it will be encouraged by the building of branch railroads, and wheat growing will replace the roaming herds that sometimes carry the brand of an owner over a hundred miles of country. Stock raising may not diminish, but must be carried on more practically and within closer limits. The first place of all the Eastern country had to be the stock range; now comes the husbandman to claim the best available land for cultivation and combine stock-raising in a small way perhaps, but in a safer and more humane way, with the legitimate pursuits of agriculture.

Yakima County.

Reaching from the Cascade range to the Columbia, where that river runs Southward, as the map will show, to its junction with Snake river, bounded on the South by Klickitat county, and North by Stevens county, is the great county of Yakima. It is not to be so tributary, as its Southern neighbor, to the trade of the Columbia river; that is, when the Northern Pacific railroad completes its line over the passes that cross the Cascade range from Puget Sound, that road will pass through the midst of much attractive country that lies upon the Yakima river, and will claim the traffic of the Northern counties, of Washington, Stevens on the East and Yakima on the West of the Columbia.

Writing from Yakima city, a correspondent of the San Francisco Chronicle speaks as follows of the lands, productions, people and gold mines of Yakima county:

"On arriving at the Upper Cascades you again take a steamer, and about three o'clock in the afternoon you arrive at The Dalles, a very thriving little place of 1,500 inhabitants. Here you will remain over night and at daylight take the Yakima stage. After crossing the Columbia to the Washington Territory side, you travel 12 miles to reach the summit of the Klickitat hills. From here you can take a birds-eye view of the great Klickitat Valley. In the distance you behold Goldendale, the county seat of Klickitat county. To the right and to the left for 25 miles may be seen here and there a cottage, with a few acres under cultivation. After traversing this broad plain you enter the Simcoe mountains, which are well covered with forests of pine, fir and tamarack, and as there is no underbrush, the hills are covered with perfect sward of pine and bunch grasses. On arriving at the summit of the Topuhi spur of these mountains you first behold the Yakima river. At a single glance you behold its meanderings for nearly one hundred miles. Far toward the north it apparently emerges from the hillside, and like a silver thread glistening in the sunlight, you trace its zig-zag course for more than sixty miles to the northwest, until hidden by high mountains near the Columbia. Directly in front of you lies the Simcoe valley, about twenty-five miles in length. Nearly every acre of this is rich farming land, but it is as yet only a desert waste, being the Yakima Indian reservation. For thirty miles you can travel and not see a house, not even an Indian camp, and on this journey you will not pass over an acre but which, if put under cultivation, would raise forty bushels of wheat. Next in order is the Attanum valley, which is twenty-five miles in length, and from one to seven miles in width. This valley is thickly settled and is a very rich agricultural district. Yakima City is situated at the junction of the Attanum and Yakima rivers. This is a village of about 300 inhabitants, and building up very rapidly. One day's staging from The Dalles brings you to this place. The chief occupation of the inhabitants at present is stock-raising. About fifteen thousand head of cattle will be driven from here this coming spring to Montana and eastern markets.

Agriculture here is still in its infancy, simply because we have no market beyond home consumption for cereals. Hops are raised quite extensively, and are the only crop that will pay to export. The land here is, for the most part, of an excellent quality, but now and then a spot is to be strongly impregnated with alkali to be utilized. The average crop of wheat will yield about thirty bushels, but some fields yield as much as sixty per acre. Thousands of acres of good farming land are yet to be reclaimed by settlers. There is one body of land beginning within five miles of town, containing about 480,000 acres, that is all vacant, and other bodies of smaller dimensions are inviting settlers. Our mines are attracting considerable attention this season. For several years past a few miners have been diligently at work opening quartz lodes, and several thousand dollars were taken out last season with arrastras, but this season two quartz mills will be in operation. Our placer mines turned out quite handsomely last summer, and their owners are expecting to do much better this year. This country is comparatively unprotected, but numerous ledges have been found of gold, silver and lead, a few of cinnabar and antimony. There is no doubt that before five years shall have rolled around, Washington Territory will have yielded up millions of the hidden treasure."

We do not endorse the over sanguine assertions as to production, but the soil is very prolific and needs no high statement of its powers. This great county is in a measure open for settlement. It is colder than at the Columbia and South of it, but would not be considered cold to excess by any inhabitant of the Northern States. Stock frequently sustains through the winter without much, if any feed, and cattle and horses are numerous there. But here also, the husbandman is coming too, in a measure drive out the stock man; another year will probably see active commencement of the road from the Sound over the Cascades and when the charming hills and vales of Yakima are brought within a few hours ride by railroad of the waters of Puget Sound there will be the greatest possible incentive to set-

tlement, cultivation and development. That company will no doubt send its branches to every fertile valley within its reach and no person who now visits that comparatively savage region can readily believe what magical changes may be produced in it within two short years, in case the railroad gives it life and attractiveness. There were about 2,000 population in this county about a year ago; taxable property about a million dollars; total area nearly 10,000,000 acres, and while this may include much hill and mountains, that sort of region will not exceed the average in New York or Pennsylvania and Yakima county alone has one fourth the ore of the latter State. Besides the valleys alluded to by the writer above quoted, is the Kittitas valley, 40 miles in length and 15 miles wide.

STEVENS COUNTY.

This county was named after its first Governor Gen. I. I. Stevens, who was afterwards a distinguished Union General, and fell in one of the battles of the civil war. It covers an immense area and will also be traversed, through its whole length in a Northeasterly direction by the North Pacific railroad, which has its road graded beyond Spokane Falls, and the track is laid for a considerable distance, the work being commenced at Ainsworth, at the junction of the Columbia and Snake rivers, to be pushed towards the East from there as rapidly as possible, through Montana. From a published description of this county we take the following:

"On its borders at Ft. Colville and the Chimakane mission, here, and here also were enacted many important events of early Oregon history. In 1811, David Thompson, astronomer of the Northwest Company in his overland voyage to forestall the enterprise of John Jacob Astor, established a post at the mouth of the Spokane. In 1812 the Pacific Fur Company (Astor's) established the Spokane house and Fort Okanagane. Here too, are several of the Indian battle fields fought since the name of Washington has been ascribed to the Territory. The Spokane plains are extensive, a portion rich and covered with bunch-grass. The west-side bounded by high bluffs, running to Spokane river, and to the head of Colville valley, is growing well-watered region admirably adapted to stock raising, which will be described in the geographic memoir of Eastern Washington. The country northeast of Spokane for about forty miles is a level plain, covered with bunch grass, fine for grazing, but not considered extra for agricultural purposes although crops have been grown successfully on the plain. All West and North of Spokane, after leaving the town about six miles, there is a level prairie, the soil being a rich black loam, pronounced by the General Land Office chemist to be the best in the United States for wheat; it is interspersed with timber, and abundantly watered by creeks and lakes. The section is settling up fast, and where one house could be seen last spring, more than fifty can now be counted from any door step—the dead level of the country offering no obstruction to the view. The prairie extends from the Spokane to the Big Bend of Columbia river, sixty miles. South of Spokane the country is somewhat rough, but valuable for grazing. The town of Spokane has the finest water power on the Pacific Coast, and is surrounded by an extensive agricultural and grazing country, on the line of the overland railroad, with an outlet to both seaboard, and the seat of government of the country and region; its future as a manufacturing and distributing point is assured. The Indians are industrious and peaceable. A tide from the several forts that menace them, the comparatively thickly populated country saves as a restraint against depredations, even should they ever contemplate such action. At Coeur d'Alene lake, twenty-eight miles east of Spokane is a four company post, under command of Gen. Wheaton. The drive from Spokane to the lake is the best imaginable, the country being level almost as a floor. The lake is thirty miles long, with a general width of three miles.

We also take the following from the Tacoma Ledger of Sept. 3d, describing the topography, soil and climate.

TOPOGRAPHICAL FEATURES OF THE COUNTRY.

The average contour of its surface is that of a gradual slope rising, imperceptibly to the naked eye, at whatever eminence it may be viewed, from the Columbia river eastward to the foot hills of the mountains in Idaho, having the general appearance of a vast plain devoid of timber and cut up with coulees. At Ainsworth, where the line begins, the elevation is 450 feet above the sea; thirty miles out the elevation is 600 feet; at fifty miles it is 1,130 feet; at one hundred miles, 1,427 feet; at ninety miles, 1,862; at one hundred and eleven, 2,050; at one hundred and thirty, 2,354; and at a distance of one hundred and ninety miles from Ainsworth the elevation is 2,460 feet, showing a rise in that distance of 1,450 feet or 10 feet to the mile. The great expense of country has a light colored soil, and is covered with bunch grass. From a bird's eye view, the whole of Eastern Washington would appear to be a level, treeless plain, prominently marked by a number of tortuous lines, each repre-

embling the course of a river line. One of these lines is Crab creek north of the railroad, one of the longest of the class called creeks, and like the Snake river, flowing to the West, a clear, ice cold stream a dozen yards wide, over peopled with trout, meandering where once flowed a river of conjectural antiquity, between whose high and widely separated walls of basaltic rock lie wealth of grass and grain soil eager for the plucking; others still are the dry channels of old time water courses, bearing traces of a nobility in their prime as grand as that of the Columbia of to-day. Several of these dry water courses, called coulees, are quite wide and deep, and in places have perpendicular walls of basaltic rock, bearing marks of the action of swift water currents. For the greater part, however these banks are less precipitous, and are of successive terraces, rising to high table lands at the general level on either side, and well covered with soil and bunch grass. This country has been commonly referred to as a rolling prairie, which is an inadequate description, conveying an erroneous idea of the character of its surface. It is more than a rolling prairie. Several distinct classes are apparent. Some of the consists of numerous hills well rounded, covered with soil, and bearing grass of thick growth extending quite over their tops. Such land might properly be named prairie, and they lie chiefly on either side of and near the coulees. Further back from the coulees is found the rolling prairie country, and still further away a higher table land of extensive acres more nearly approaching the character of level than rolling prairies. There is yet another kind of land called scab land. In many places along and in the coulees and in the region of the tule lakes to the northeast this dark colored basaltic rock peeps through the soil in spots and clusters of all sizes, but rarely exceeding an acre at any one place; and seen at a distance on the light colored background of a hill side, these spots bear resemblance to scabs on an animal, and hence the name given this kind of surface. But compared to the whole, this rock surface or scab land is of but small proportion, perhaps less than one-twentieth; it is not intended to convey the impression that these large coulees are numerous. A traveler might follow his course for several days without encountering one of them, and that too, over a absolutely unbroken stretch of agricultural country, as in the prairies of Illinois or Texas. Their courses are tolerably direct, and they afford excellent roads for both wagons and steam cars. Their bottoms are comparatively level and being direct and free from hills and steep grades, the Indians have long used them in passing from one section to another, and Indian trail may be seen along the bottom of every coulee. Upward and along the bottom of such a dry river bed, called Esquatzel coulee, the Northern Pacific Railroad, now being constructed, passes for 53 miles north eastward from Astoria, which is at the mouth of Snake river, reaching the foot of a divide that separates it from a similar dry river bed, known as Providence coulee. By 13 miles of easy grade the line passes over this divide into the bottom of Providence coulee along which it continues to Lako Colville which is the head of this coulee. Along side of this graded line of railroad is the wagon and stage road leading to the front. In traveling over this road the vision is confined to a limited landscape in front and rear, to the banks of the coulee on either side and sky above, with never a glimpse of the surrounding country. A mountain must be very high to be visible, at even the short distance of 10 miles, at the side. Besides those named the Grand coulee is noteworthy as being, probably, the largest of all the dry river beds. It heads at the Columbia river, about midway between the Great Bend and Fort Okinakane and, having a course southeasterly, ends in that river. It is indicated on some maps as the old bed of the Columbia, which now pursues a large and more tortuous course around it to the West. From what has been said it may not seem amiss to summarize the topographical features of that portion of the Territory lying East of the Columbia river, as comprising a prairie—level, rolling and hilly—having a general inclination from the eastern boundary to the river named, and traversed by several rivers, deep and dry water courses, and their numerous tributary ravines.

CHARACTER OF THE SOIL.

The soil which covers the whole of Eastern Washington, from one to twenty feet in depth, has peculiarities which give it marked distinction. It is uncommonly light, both in color and specific gravity, varying however, in localities as the eastern boundary of the Territory is approached. Along the bank of the Columbia it is mixed in large proportions with sand taken up by the wind at low water in the river and carried for miles inland. Opposed to common experience elsewhere, the soil is found to be better and better away from the river toward the East. In a belt along the river the admixture of sand has been such that the natural vegetation is confined to sage brush for a width of ten or twenty miles, when the proportions of sand and soil are so altered as to support bunch grass, which is found thence increasing in quantity, and the sage brush lessening, until the latter finally

almost disappears at a distance of say twenty miles from the river. It is believed that nearly the whole of this sandy belt could be made productive by irrigation. For the greater part, it resembles the soil of Tulare county, California, which was thought to be of worthless desert character until reclaimed and brought under profitable cultivation by means of irrigating ditches. Beyond this belt and for an average distance of, say 40 miles eastward and far to the South, and for some distance to the North of the railroad line, toward Crab creek, the soil is of the lightest and finest character. Not differing in appearance from that of the Walla Walla valley. Beyond, it improves in appearance, growing darker and heavier, being of a rich light brown color; and hence eastward to Idaho, this entire portion of the Territory, say from range 32 to 46 East inclusive, an area measured by thousands of square miles, and varying for the better in particular localities, such as we know as the Crab creek, Palouse, Pine Grove and Four Lakes countries, comprises one great region of practically unbroken agricultural land. Nearly the whole of a wide belt of land West of the Grand coulee and between that and the Columbia river, where that river sweeps to the westward, and South from the Colville reservation, has a soil of dark, sandy loam, some of the best in the Territory. The climate there is 20 degrees warmer than the Walla Walla valley. John White, who has resided for fourteen years about 30 miles from the grand coulee, sows his spring wheat in February, while in Whitman and Spokane counties the spring wheat is not in until May.

The northern portion of Stevens county, bordering British Columbia, is not much known but is mountainous to a great extent. Time will have to elapse before the country south of it will fill up and there will be this comparatively unknown region to claim attention in after years. Spokane falls are a great natural attraction, and also the site of a thriving town, with a good country surrounding. Towns and villages are springing up elsewhere. The Four Lakes, to be found on the map, have medicinal qualities, and Medical Lake is visited by hundreds of invalids troubled with rheumatism and nervous diseases, and wonderful cures are said to follow bathing in its waters.

WHITMAN COUNTY.

This county is situated north of Snake river, and east of the Columbia. It contains a great part of the attractive Palouse country, towards which a great immigration has been ending for several years past. We publish elsewhere an interesting and very fair and impartial description of the Palouse country, which includes the necessity of going into details with regard to Whitman county. A very rich region skirts the Western slope of the Coeur d'Alene Mountains and constitutes the Spokane and Palouse countries. Whitman county is rapidly filling up and has already many thriving towns and villages. Colfax is the county seat and chief point of trade; Palouse City, 15 miles east, and close to the Idaho line, has a rich and extensive agricultural country all around it, and is near to large bodies of timber; Cheney is a new aspirant for the chief place in Palouse prosperity; both Colfax and Cheney have their newspapers, and one is also published at Spokane falls. There are thriving villages all through the county and shipping is done along Snake river that do considerable trade.

The Northern Pacific Railroad passes through the most uninteresting portion of Whitman county and is divided from the Palouse country by a range of hills that constitute a barrier to trade, but the Oregon Railway and Navigation Company will cross Snake river another year and construct roads and branches that will penetrate to every portion of Eastern Whitman county. With the projected enterprises of these two corporations in view Stevens county and Whitman county will soon possess all the transportation facilities they can possibly need and this will stimulate production to a great degree. Again referring to the account we give in full of the Palouse country, and the statement as to recent lands that are furnished by the land offices, we leave this county with the simple assertion that it possesses the greatest possible advantages in soil and climate and deserves all that we say of it. In copying accounts of these sections from other sources we omit what appear to us to be extravagant statements of produce, simply because we know that the tendency to give the very best facts attainable, in isolated cases, as the average of production, is the fault of many writers and we avoid it where possible. This Eastern region is wonderfully productive and needs no exaggeration to make it attractive.

We remind all readers that through all new countries are scattered people who are ready to sell their land claims at a very reasonable price. They know they can go elsewhere and frequently sell out their improvements at cost to get a little money to handle. Any person who goes East of the mountains with only moderate means can easily locate to excellent advantage and at small cost.

Easterners who have the WILLAMETTE FARMER six months \$1; or one year \$2.

THE PALOUSE COUNTRY.

Interesting Description of a Great and Growing Region—Topography, Soil and Climate—Grain, Grass, Fruit and Vegetables—Cattle, Horses, Sheep and Swine.

We felt some apprehension concerning our ability to write up properly the country East of the Cascades, and intended to make a personal visit to Walla Walla, and places this side, to secure facts from persons who could best give them, but the season has proved unpropitious, the river is closed, and ill health has been another preventing cause, but we have been fortunate in procuring various publications that cover much of the desired ground and have met persons capable of giving us valuable information.

The Palouse Country is perhaps the most central point of interest in all that region at the present time, and we are fortunate in securing a small pamphlet, published at Colfax, that seems to cover the ground sufficiently, and though evidently written by interested parties does not deal in any exaggerated statements. We have gone over this carefully, and are satisfied that it is reliable, and so present it as showing the character of that peculiar region, and also as being in a measure adapted to the greater part of the Eastern country with regard to soil, climate and products.

GENERAL DESCRIPTION.

In beginning a description of this country it is very proper to first describe the soil. In depth, the soil Whitman county will average about three feet. On the hills, it is a deep rich and loose loam, except in some instances on the South side, it is slightly clayey. In the valleys the soil is similar to that of the hills, except it is somewhat lighter, and in some localities alkali is found to a limited extent. It is equally productive in any spot that can be plowed. The soil is the deepest and richest toward the eastern part of the Palouse valley, and near the mountains, growing gradually lighter and thinner toward the West, until it degenerates, near the Columbia river, into the sand and sage brush soil similar to that of the great plains of Nevada and Utah.

The hills and valleys are alike covered with a dense growth of bunch grass, the most nutritious of the grass species. In summer it grows luxuriantly. About the middle of July the heat of the sun dries it into an excellent hay. This affords the best of provender for stock of all kinds. Bunch grass, when mature, is said to be better feed for horses than alfalfa. As a summer range for stock the middle portion of Whitman county cannot be surpassed, while in the western part the absence of snow and the mildness of the weather affords an excellent winter range.

STOCK

of all kinds do well here, and stock raising, especially horses and sheep, is a profitable branch of industry, owing to the fact that when snow covers the grass, they are enabled, by pawing the snow away, to obtain a bountiful supply of food. In winter it is necessary to prepare plenty of hay for cattle, as they do not succeed in obtaining food in the same manner as horses and sheep. Hogs do well throughout the entire country, but are less profitable than horses, cattle and sheep, owing to the fact that they are forbid by law from running at large. But notwithstanding this, the abundance of bacon in the country for home consumption. During ordinary winters, cattle need but little feed, and generally beef of the first quality is killed off the grass, during the entire winter. The prices for stock are generally good. Work horses sell at from fifty to one hundred and forty dollars per head. Cattle range from seven dollars for yearlings, to twenty and twenty-five dollars for four year olds. Sheep are worth from two dollars to two dollars and fifty cents per head, after being sheared. Hogs are at present, quite cheap, averaging about three and a half cents gross weight.

There is water in great abundance all over the entire country. The hills bordering Snake river abound with living springs, as do also all the hills in the eastern and middle portions of the country. In some localities it is necessary to dig wells in order to obtain water for household use, but the depth to which wells have to be sunk, in order to obtaining a bountiful supply of water is insignificant, say from six to thirty feet, according to the locality.

CLIMATE.

In so brief a description of Whitman county it is difficult to give a full and detailed account of the climate, owing to the fact that since the settlement of this country there has been no two winters alike. Usually, the winters are pleasant and temperate. From the 1st of November to the middle of February the mercury ranged from twenty to twenty-five degrees above zero. Occasionally, how-

ever, the temperature is as low as ten degrees below zero. The winter of 1875-6, was the coldest known since the settlement of the country, the mercury reaching as low as thirty six degrees below zero. During this winter (1876-8) was the mildest one known. During the entire winter the thermometer indicated a temperature no lower than ten degrees above zero.

Compared with localities of the same latitude, East of the Rocky Mountains, the snow fall here is slight. The greatest depth known to have been on the ground at any one time, was during the winter of 1872-3, when it reached the depth of twenty-three inches, since with time it has never exceeded one foot in depth. The ground is seldom covered with snow for one month at a time. Prior to the year 1875, there was but little rain fall in this country, but since that time rain has been quite abundant. The rainy season usually commences about the first of October, and lasts, at intervals, until the first of May. The soil rarely becomes too wet to be plowed. In summer the weather is quite warm during the day, but the nights are cool and refreshing.

The chief productions of the country are wheat, oats, barley, rye, timothy, millet, potatoes, cabbage, beets and in fact of all the hardy cereals and vegetables. Indian corn does not flourish here as it does in localities where the nights are warm. In some localities, however, especially on Snake River, considerable Indian Broom corn and Sorghum is grown. Here too are raised most of the tender vegetables, such as beans, tomatoes, sweet potatoes, etc. The yield of cereals is very large when compared with any of the Atlantic States. Wheat averages for twenty-five to thirty bushels per acre, and a crop of fifty bushels per acre is frequent. Oats average about sixty bushels per acre, and occasionally a hundred bushels is obtained per acre. Barley yields about the same as oats. Rye, forty to fifty bushels. Timothy, two to four tons per acre. Potatoes, two to four hundred bushels per acre, and all other productions in about the same proportion.

TIMBER.

The lack of timber is one of the principal drawbacks of the country. We believe that we but assert the truth when we say that there is not more than timber enough in Whitman county with which to fence the arable lands of the northwestern part of the county. On lower Pine Creek, Rock Creek, and Negro Creek there is considerable good pine timber, from which lumber of good quality and in quantities sufficient to supply the local demand can be manufactured. Pine is used almost exclusively for fuel. The principal supply of rail and post timber is obtained from the Coeur d'Alene Mountains in Idaho Territory. These mountains are covered with dense growth of pine, tamarack, white, red and yellow fir, cedar, spruce and several other varieties of timber, from which an abundance of fence material is obtained. Along the North Palouse there is a narrow strip of pine and fir timber, extending in width about an average of one mile, and in length almost the entire distance across the county from northeast to southwest. Fire wood is drawn upon wagons a distance of from one to twelve miles.

HORSES.

Whitman county and all that country lying North of Snake River is especially adapted to the raising of horses, and we can truthfully say that in no portion of the United States do horses mature on grass in better form, or more perfect proportion, than in this county. Nature seems to have combined in this country all the elements necessary to produce horses of the most perfect type, and that, too, of all classes. Horses, like all other animals, are greatly affected by climate and other influences. We have the high altitude and the mountainous formation of country requisite for the production of vigorous and athletic horses, qualities so essential to the first-rate trotter and race horse. We have also the abundant and succulent forage so necessary for the production of the ponderous draft horse, which is so popular at the present time. Several of our citizens have had the enterprise to procure, at great expense, a number of first class draft stallions, and there is no doubt but that horses of great weight, combined with sufficient action to make them sought after by those who wish to employ horses for heavy work, at a moderate rate of speed, can be produced with certainty and profit to the raiser. This is assumed from the fact that horses brought from the Central or Eastern States, invariably improve in size when brought to this country. To prove that hardy and fleet-footed horses can also be raised here, we have only to refer to the Indian ponies that have bred in and in for generations, and feed wholly on bunch grass, without shelter, and perform wonderful feats of agility and endurance. One of these ponies was known to carry a large Indian one hundred and thirty-five miles in less than twenty-four hours, and seemed to be none the worse for the journey, which shows that the native bunch grass of this section contains in the right proportion, those elements that are necessary to give to the horse a perfect physical development, and firmness of texture of muscle so much prized by horsemen and obtained in most localities only by a careful and painstaking system of feeding. It must be borne in mind that,

excepting work animals, no horses are fed here, either in Summer or Winter. It is wonderful how horses, fed on bunch grass, will perform such journeys as are common here. Bone disease is a thing almost unknown among horses raised on bunch grass, showing the toughness and firmness of the texture of bone. Another advantage that might be claimed in favor of our horses, is that of weight, which is about ten per cent. in favor of Washington territory horses over those raised in the Eastern States. This feature is always a surprise to Eastern men, and when the scales tell the story, they look astonished, and ask where the weight can be? our answer is, "it is in the firmness of the fibre of the animal." We see here, every day, small horses doing as much work as large ones in the East, and with greater ease and safety to themselves. It is very seldom that we see lame horses from any cause, and heaves, never. This country being so recently settled, we cannot refer to a long list of illustrious performances on the turf to prove that in the future gentlemen from all sections of country will look to Eastern Washington for horses of "fine finish and toughness of fibre," so eagerly sought after by gentlemen for road and track purposes. We know of some young horses in Whitman county, in whose veins courses as royal blood as in any of those mighty trotters who have won renown, and made their names familiar wherever the English language is spoken.

CATTLE.

This county, as a Summer range, has no superior. But as a general rule, some provision must be made for feeding cattle for a short time during the winter—say from ten days to three or four weeks. Cattle are raised here as cheap, if not cheaper, than in any other part of the western country. Cattle are not subject to climate diseases in this country. They grow rapidly and are fit for market when two or three years old. The bunch grass, which abounds in this country, is eminently flesh producing forage, and the beef killed from grass of this species is much more palatable and juicy than from any other species of wild grass. In fact, it is equal to beef fattened on grain. Our cattle markets are Western Washington, Oregon, Colorado, Nebraska and Kansas. Quite a number are also disposed of in our towns. During the Spring and early Summer months, parties from the above localities visit this section of country and buy large bands of cattle which they drive to the Eastern slope of the Rocky mountains, where they are herded until winter, then fed and fattened for market in the early Spring. Many cattle that are raised here find their way into the Chicago, St. Louis and then the New York Markets.

FRUIT.

From the landing of the Pilgrim Fathers on Plymouth Rock up to the present day, there probably has never been a country settled without its numerous croakers who declared that there never would be any fruit grown in that country. We cannot see why the Palouse Country should be an exception. From men of experience we learn that this country is especially adapted to fruit raising. Some seasons we may expect a partial failure of the fruit crop, but failures of crops happen in all countries. For the raising of apples, pears, plums, cherries and all the small fruits, there are but few localities better than this.

Men who have traveled the county over and over again, and examined all localities, say that for fruit growing the whole county is equally good. Of course grapes and peaches cannot be grown as successfully on the high lands as on Snake river and on the Columbia near the mouth of the Spokane, yet there are many sheltered places where they will succeed. Apples, pears, plums, prunes and cherries are entirely at home all over the county, and as the seasons are later than in the Walla Walla valley, we sometimes escape frost when fruit will be injured thereby where the seasons are earlier.

We would recommend planting more largely of the well-known and hardier varieties, as there may come some Winters that will kill the more tender sort. For forest trees, there is nothing better than the Ash-leaved Maple or Box Elder. The White Ash, Sugar Maple and Black Walnut are almost as good. The Yellow Locust is also one of the best of forest trees, although some people object to it. The Silver-leaved Alder is probably the hardiest tree of all, and will grow in almost any locality, and almost without moisture. It is easily protected but suckers badly in rich, moist earth. It can be grown in the dryest soil on the high prairies near the Columbia river, where probably no other tree will grow.

As to the adaptability of our climate to the culture of sheep, it is, to say the least, good. From early in the Spring until late in the Fall we have almost endless varieties of vegetation adapted to the wants of sheep. Then we have the bunch grass during the whole year; which is, not infrequently, a substitute for hay. For fear the grass should become bleached or the snow lay on the ground for any length of time, it is advisable to prepare some hay every winter. For the last three years it has only been necessary to feed from two to five weeks during the Winter, and the

last, 1877-8, they kept fat on the range the entire Winter and passed through in good condition. Our varieties are generally limited to the Cotswold and Merino, which seem to be admirably adapted to this climate. Our wool, when properly prepared for market, is second to none on the Pacific Slope. Sheep are generally healthy, although there are a few diseased in the county. There is a move now being made to eradicate and prevent the further spread of the contagion. It is necessary to keep a herder constantly with the flocks to protect them from wild animals, which are quite numerous. Coyotes and lynx are found on the open prairies, and in the timbered districts there are wolves, cougars and bears. But these animals do not trouble properly herded flocks. The usual time for shearing is from the 1st to the 25th of May, which is about the time sheep have done lambing. Our clips range from six to ten pounds per head, and we sometimes find a fleece that will weigh twenty pounds. Flocks are kept near the large streams during the Winter. After shearing they are driven to the mountain ranges where the leaves and brush are fresh.

HEALTH.

In regard to health, Whitman and those counties lying north and east, are most favorably located. Malarial fevers are experienced by those only who were affected before coming to this country. The reason of this is obvious to those who have been living here for any length of time. The altitude is high, and the surface of the country broken, while we occupy an elevated basin between two ranges of mountains, which renders the air pure and invigorating, giving to persons used to inhaling a dense and impure atmosphere a sense of buoyancy and vigor never experienced by the inhabitants of low, flat countries. The water is pure and cold, coming as it does from the mountain ranges on either side of us, in such abundance that it forms one of the chief features of excellence claimed for this country. Pure air and water, with an almost total absence of gnats and mosquitoes, makes this almost a Paradise to those whose nerves have been shattered by diseases, and tortured by Lilliputian warriors. This climate is a specific for asthma in any form. Our Winters are mild compared with those of the Eastern States in the same latitude, and as a rule, are free from dampness. The Summer days are not hot and sultry, and the nights are always cool and refreshing, the benefits of which need not be dwelt upon at length. Fevers of all kinds are rare, especially those of a malignant type. There is no portion of country west of the Rocky Mountains that can boast of a more healthful climate than the Palouse country. This fact will be more obvious when we take into consideration the large number of persons who have emigrated here for the benefits they might derive by living in a country where health may be regained after having been lost while residing in a less favored locality. In a very large majority of cases their most sanguine hopes have been more than realized.

UP THE COLUMBIA.

The Past and Present of the Willamette and Columbia.

Description of Scenery of Marvellous Beauty and Grandeur—a Winter's Journey—The Cascades.

Editorial Correspondence.

WALLA WALLA, August 10, 1881

Almost thirty years ago, when this region was young in civilization, so young that its savages were unsubdued, and no signs of villages and few attempts at settlement could be found East of the Cascades, I journeyed one Summer from Portland to The Dalles in boats, pulling with might and main against the Spring floods of the Columbia. Then there were no steamers to do the work and the shores were unscarred by the hand of man, while the Indian canoe was a very frequent feature, and the lodges of the tribes were clustered about the fisheries at the Cascades, and also at The Dalles. It was a striking feature of those early scenes to see the Indian fisherman toiling amid the boiling waters to lay up stores of fish for Winter use, with spear or scoop net standing on some isolated rock amid furious waters, and swinging to the squaw, who waited on the main shore, the huge salmon he captured from the stream. Then all about was young in civilization, and I was fresh from home and Eastern life, with all the world before me, transferred in a few months from the scenes of early colonial life on the Atlantic and the oldest civilization of the continent to a land so new that the axis of the republic had scarcely stretched to cover it. It was after weeks of buffeting that we reached the Cascades, drinking in all the vision of mountain grandeur as we passed slowly by the wonderful shores, watching the fierce as Cascades we made the long portage through the enchanted gorge, and then journeyed up the strong but placid stream above the falls in a wide bottomed flat boat, whose broad sail was spread to catch the favoring Chinook wind.

FOR BOISE AND SALMON RIVER.

When civilization came, it was borne up

the broad Columbia with fever-stricken miners from California for its standard bearers: they were tired of the worn out placers that remained in California, and with blood heated by the wild reports from the Upper Columbia, were rushing towards Salmon river, Boise, Burnt river, and other points, with the greed of the gold hunter. This civilization was of the wildest, but its effect was magical in causing steamers and rail ad portages to be built, and made settlement of the upper country possible. Again I was borne up the river on this wild flood tide, and pierced the interior on some tidal wave that swept over the mountains and valleys alike. Where now are countless farms or uncounted herds, the bunch grass then waved supreme and uncropped. Towns and villages were coming to life—protoplasm was developing the germs of a reliable civilization—time was drawing the distinct line between savagery and society, and I witnessed, in many journeyings, the slow development of the future.

A WINTER JOURNEY.

One of the wildest episodes of a life that has known some variety and adventure, was realized towards the close of the most terrible Winter ever known in the Northwest, when, determined to reach home, I traveled over one hundred miles on snow shoes to the Dalles, and then down the Columbia river on the ice. The mountains were draped with snow and every cascade or fountain that leaped from cliff or wall was frozen into more fantastic shapes than the waters assumed when they came down at Ladore. So, it is with a wealth of past associations that I travel the river again, after an interval of fifteen years, to find scarce a trace left of the Indian canoe or the savages themselves, though the river shores, where they traveled the disrupted range, are so little changed from the long ago, and are so wild and inaccessible for the most part, that a century may pass and the "continuous woods" remain with scarce a change.

TO-DAY.

My last visit to that region was in 1865, when I traveled as correspondent for several prominent journals and visited the mining centers of Eastern Oregon and Idaho. A few years had then wrought wonderful improvement, but no conception was entertained of the near future, when agriculture should assert its supremacy, grazing herds and flocks be driven away by the plow, and the face of nature reflect the sheen of a universal harvest. Time has wrought such changes as to demonstrate that wherever bunch grass waved wheat will thrive as well. I presume the parallel is true to the latter, that bunch grass denotes the extent of the wheat growing region; though of course it is found growing scant on wild and rocky spots where wheat culture will not be attempted. To-day there are thriving towns, villages and farms on hill and in dale, over a wide region where the wind then whistled past the bending bunch grass and no herds cropped the pastures. The transformation is wonderful, though no more than all new regions have realized—the strangest feature being the fact that for so long a time settlers had little conception of the resources of the country, and agriculturalists delayed their demands upon the soil, confining themselves generally to the river bottoms, while the richest harvests have been found upon the uplands.

VIEWS ALONG THE RIVER.

The Navigation Company now offers to the traveler or tourist delightful facilities, going aboard a magnificent steamer at night you occupy a more than comfortable stateroom, and a breakfast call in the morning find the journey commenced; the boat has passed from the Willamette to the broader flood of the Columbia and a hoarse whistle announces the approach to Vancouver. Though it is August the river is brimming all with the floods that usually spend themselves in June. From all the ranges of Montana, Idaho and some of Utah, as well as those of Oregon and Washington, the snows of a Winter, inclement beyond the memory of man or savage, are still melting and flowing toward the sea. The shores are still brimming full, though the water is falling; islands seen about, and the meadow lands on either side are hidden beneath an inland sea. On either side are dairy farms and grass lands but the story of the flood has disturbed many farmers' calculations. Wheat is scarce known as a product; the great wheat fields of the Willamette have been left behind; the shores are wooded with mountains in the distance, and the country is only gradually being redeemed from its wild state. But this region is so near market that it must be eventually valuable and made the most of. An hour later and we are leaving the valley lands behind and heading in among the near approaching ranges; soon the foothills grow precipitous; one and another point of beauty develops a growing interest; the views of Mount Hood that were surpassing, and of St.

Helens and Rainier to the North, whose snowy crowns looked down on the changing panorama of the lower river with indescribable beauty and grandeur, are all shut off by the out-reaching arms of the giant Cascades. No more charming and subliming picture can be desired than the placid landscape and water reaches of the lower river, on which the grand summits of the snowy peaks are forever looking, with awful and distant majesty, from over and beyond hills and valleys and many intervening ranges. The sensations of the soul are at once soothed and awed by the far reaching view, made sublime by broad based peaks whose towering crests and shoulders wear robes of snow that have been woven by storms of all the ages and are more eternal than the glaciers. But the scene changes and the interest even increases as we pass.

IN AMONG THE MOUNTAINS.

Here is a pillar of basalt, carved by frost and flood, that bears the infelicitous name of Rooster Rock, given no doubt by some early navigator more fond of the grotesque than the sublime. Where towering cliffs are heaped together further on, one rocky summit stands out in bold relief, known as Pulpit Rock. Yonder, on the Washington side, we approach the buttressed walls of mighty precipices, at whose base rise airy pinnacles, and above them for miles, stand mountains that are rock terraced in rudest shapes. We are sweeping past one of the most notable features of this wonderful galaxy of mountain scenes—Cape Horn. Close under the lee of the wide cliffs some venturesome intruder has had the courage to improve a bench of upland, that the mountain has forgotten to tread upon, and place there a home, garden and orchard, that offer a weak contrast to the overwhelming wildness of the surroundings. The river flows by and through these scenes, winding around huge bluffs and past basaltic columns, looked down upon by summits whose crowns overlook the other's forest covered sides; now and then a pebbly beach or maple and alder-covered shore contrasts with the forest of firs that rise above and beyond. Here is a waterfall that pours over a sheer cliff, feathered into a stream of spray ere it reaches the basin a thousand feet below. Yonder is another, which leaps over one mountain brow from a dizzy height, to rush through a canyon and make another leap to reach the rocky pool. These are the most beautiful falls in view, though we catch a glimpse of many lesser streams that make wild leaps among the mountains. We are penetrating the very heart of the great mountain ranges, and wonder by what weary work of countless ages Nature toiled to make this pathway for the greatest of Western rivers, and carved such immortal monuments along its course.

While we pass on through this almost unbroken wilderness of mountain shores, as the magnificent steamer sweeps within stones throw of the deeply wooded banks, a doe and two fawns beside her came out of the forest upon the sandy beach and stood looking at the vessel, a picture of native wonderment an artist would love to see. They stood there too astonished to move, until a shout from the boat sent them bounding through the woods with leaps that told how fright had overcome astonishment. A more charming incident could not have been devised to add attraction to the scene.

THE CASCADES.

Before we reach the portage, in the very midst of the mountains range, the northern shores recede and leave a deep wooded bay, from the centre of which rises Castle Rock, a wonderful feature, for its sides seem precipitous, though shapely, and its summit, with firs growing on shelving heights and occasional clefts, towers nearly 1,500 feet above the wooded plain. Even in this seemingly impenetrable wildness there are settlements, for a territorial post office bears the name of Castle Rock. Landing on a sandy island, we change to comfortable cars and soon go six miles to the Upper Cascades, all the while with abrupt cliffs in view, towering ranges all around, the mad river at times whirling into foam as it dashes over huge boulders in its plunges to reach the lower level. I have been told that there is a fall of eighty feet in the five miles. The Cascades proper are worth seeing. When I first passed here many Indian lodges were built upon the benches of the shore, and to-day, as we gained a glimpse of the river bank, we saw a solitary Siwash fishing with a scoop net from a scaffolding made of poles that spanned a fissure through which the water rushes with diminished force. One of the sights along here is the block house where twenty-five years ago Sheridan and a handful of soldiers were besieged for days by hostile Indians.

THE MIDDLE RIVER.

For about fifty miles above the Cascades the river flows quietly through beautiful mountain scenery, but not possessing the wildness and grandeur, nor any of the remarkable traits that attach to the lower stream and its mountain shores. There are some settlements, but the usual view is a wild natural shore that has

not been invaded by the hand of man. Gradually the mountains grow bare and dwindle to foothills, brown and grass-covered but destitute of timber; the scenery is rugged, with cliffs and hills; occasionally there is room for a farm, but not inviting or attractive to one whose eyes have recently feasted on the homes, fields, groves, orchards and harvests of the Willamette valley.

As the afternoon wanes we reach Dalles City, a busy town that trades with an extensive region and stands sentinel at the gateway of the Columbia, the first champion we met of the "upper country." We have reached another climate and another people. If its dying citizens "babble o' green fields" at this season of the year, it is of those they have left behind them. The Washington shore is "rock ribbed;" a sand island is in the near view, rocky benches form the background of the town, and its busy streets are guileless of shade, though there are pleasant home spots further back. The whistling winds come loaded with drifting sand and Nature's desolation goes hand in hand with man's prosperity. For the Dalles is a thrifty place and has an enterprising population, while beyond the rocky near ground are hills that tell of recent harvests and homes that have hearts to worship in them.

Our day's journey has taken us through varied and wonderful scenery; from the "web foot" climate of the fair Willamette to the dry regions of the wide interior. We have followed the river channel through grand mountain ranges, and now are prepared to realize what great variety Nature assumes in dispensing blessings to man.

THE DALLES OF THE COLUMBIA.

There is a glimpse of life and prosperity at Dalles city, but the prospect would not be inspiring to a poet or landscape painter who wanted foliage and rich coloring. Here we take cars, 14 miles, for Celilo, on the portage road around The Dalles of the Columbia, a weary ride, relieved from monotony only by the glistening river that had carved its bed through a dreary and barren and God-forsaken region as desolation can describe. Everywhere along the river are shifting sands that are continually swept by the wailing winds and are piled in wastes that look like a petrified sea. There are a very few oases, where corn grows and gardens are planted in the bottom, but the scene is usually precipitous upon the South, river and sand and rocky chasms in the near view, and beyond are the rocky shores and bluffs of Washington Territory. We rush and curve along under the bluff with dust and sand filling everything. At last we reach the Dalles proper, known as the Great Dalles, where the swollen river rages with a fury that is grand and magnificent beyond description.

At low water the channel is confined to a deep chasm on the Washington side, so narrow that I have stood on the Oregon rock (lava spread and worn into fissures and rough and rugged in all respects) and have thrown a stone from cliff to cliff that held all there was of the great river, but it is said the narrow gorge is almost bottomless. Now the waters are spreading out far and wide and rush through with fearful velocity, dashing against the hidden rocks and throwing up here and there fountains of angry spray. They seem to send waves in squadrons to waste themselves on these rocks, and now and then one foaming crest seems to gather for the fray and rushing past all the others spends itself in wasted foam. It is wonderful to watch this elemental war and the sight pays well for all the dust and desolation we encounter.

Time was when this fishing season called forth thousands of Indians who camped among the clefts and ledges and fished for salmon to dry and lay up for their winter supplies, but the red man's day is almost over. Here we still see a remnant of tribes living in squalor; there is the lodge composed of material indescribable by words and looking as unkindly as the nature of the surroundings. Women and children are near it and not far off is the tillium with his scoop net, watching for the salmon as they attempt to ascend the crevasse among the rocks where he is stationed.

Celilo is said to be an aboriginal term that signifies "the place of the winds," and they whistle so that the light cordage of a steamer's flag-stag repeats the stormy tune. We round another "Cape Horn" as we approach it, and pass the foaming waters of the Little Dalles, not far below. The steamer Harvest Queen was a very pleasant refuge from the howling winds and whirling sands and a delightful exchange for the bleak and barbarously romantic shores, and there we slept unbroken until sometime before day, when the sound of trundling trucks was exchanged for the clang of the engine bell and rapid stroke of the stern wheel. Looking out, it seemed as if the steamer was afloat among the shadows. The river was as black as ink, and the gray hills and sunburned, basaltic cliffs on either side, were like irregular walls that hemmed us in

with threatening and indistinguishable blackness. But I have been through that portion of the river in the light of day and know that it is well worth seeing and secures admiration. There is not a thing of beauty, viewed from any point of effeminate sentimentality, but it is grandly beautiful from the robust standpoint from which man compels and conquers nature. The shores are varied at Celilo by the junction of the Deschutes, which is walled in by its separate canyon, and up always is the railroad bridge that spans the torrent. Soon we come to Hell Gate, a veritable terrestrial inferno where the waters divide, and the river seems to be lost as it whirls among rocks that bar the way, and past islands that are more inhospitable than the crags whose stratas of changing basalt form the shores. It is a pretty place, speaking from an esthetic standpoint, and one feels decidedly better, and with a memory worth preserving as "a joy forever," when the passage of Hell Gate is safely made, even though Elysium is not yet within view. John Day rapids are a point of interest, and before reaching these we pass a bright-looking village, called Columbus, on the Washington shore, the entrepot for the Klickitat valley that lies over the hills to the north. There is a narrow strip of sand and soil under the bluff that is made the most of, and the oldest inhabitant must have plaited, an orchard, for his home was hidden by trees, and they appeared loaded with fruit, an oasis in the desert. In the hundred and ten miles from Celilo to Wallula we may have noticed a dozen ranches along the river, and the boat frequently whistled at uninhabited places, and put off goods on sandy shores whose desolation was unbroken even by the presence of grazing herds. At one place hundreds of bags of wool were waiting shipment without a habitable sign within view. On the Oregon side, nearly a hundred miles up, was the

TOWN OF UMATILLA.

Staring at a vacancy with its handful of lonesome looking houses. For over a hundred miles this was all the evidence of civilization, except that on the Oregon side there were parties of railroad men, with many camps and working squads in active operation; otherwise than this there was one unbroken scene of desolation.

Above John Day's river the shores of the Columbia gradually lose interest, for the dreariness becomes monotonous, and the shores lose the abruptness that made their desolation attractive. At last the hills, that are at times close by and very much scented and furrowed in their brown, bare steepness, recede from the shore, are replaced by lesser ones, and they at last disappear and the sandy shore is low and uninviting, only now and then graced by willows, and the prospect is one bare, barren reach in all directions. The railroad workers consisted of 1,000 white men and 1,000 Chinese and their line of work was close to the river's edge. The oft-recurring camps, working squads with shovels raising a cloud of dust, the carts and scrapers busily engaged, were the constantly recurring feature of interest, intensified by the frequent sound—at times near and then far off—of the discharges of giant powder were heard, like the echoes of a cannonade, making a roadway through the rocky points. We see a few horses and cattle, but scarce any sheep. The hills in sight are many of them pastured we know, and we also know that back a few miles from the river are stock ranches and farming districts, and that near the distant mountains the once wilderness is thickly peopled, rich with harvests and has blossomed like the rose. But along the great river the scene is dreary and monotonous. Occasionally we find Chinese camps, known by their matting walls, and we see them navigating the river in an clumsy way in uncouth boats that they use to go from camp to camp, for along the sandy shores there are said to be about forty camps of Chinese engaged in washing the river sands for gold, and making wags at least, or they would not work. Since my passage the graders have been replaced by the track-layers, working from each end, and soon they will be done, and the scene will revert to desolation, except when some passing steamer or clamorous train sweeps by to give it a momentary awakening. Above Umatilla the hills assert themselves again, and crow upon the landscape until we meet towering bluffs on either side, whose sides are layered with different strata of basalt, varying in color, or shade rather, with some of perfect columnar formation, and others not. On the north side the cleft mountain was a shape as if Nature's hand had carved thereon features borrowed from the Egyptian Sphinx. The view is still finer, looking back, from beyond Wallula, because it includes on the South a minor headland that stands up like a redoubt, on top of which rise twin pillars called the Sisters, while the ridge they represent has a rocky, ragged crest, that is outlined against

THE DUSKY BACKGROUND

Of the higher range beyond. Only twelve miles above Wallula is the junction of Snake river and the Columbia, the one sweeping up from the South and the other from the North, and at the low shore of the peninsula is the

present terminus of the North Pacific Railroad and the town of Ainsworth. The town is nothing to speak of, neither is Wallula, twelve miles below. All these river towns are makeshifts—mere places to land and get away from as soon as wind and tide or steam will permit. They have a man-defying and God-forsaken look, and architecture has not reached them. Arboriculture is unthought of, the grapes cannot live there, and the only thing of harmony that could exist would be an Eolian harp that should shriek to the measure of the wind, for the winds rave about these river towns, and I catch my thought from the thrilling sounds that come from the telegraph wires. I saw Ainsworth in the night, and prospected the sand dunes where its few houses and several railroad tracks are situated. It is a busy place, and so civilized that no liquor is sold there, thanks to the prudence of the railroad company. Its present is limited to the exigencies of the hour. The sound of whirring saws can be heard cutting up by steam power logs of fir that have been driven down the Yakima river for many a mile and with infinite skill, for which purpose men bred to the trade have been imported, and only for this being successfully accomplished, the company would have a hard time of it getting timber for ties, bridges, lumber and all other uses, for there is no forest within its reach until the road shall climb out of the desert and reach the wooded slopes toward the Coeur d'Alene mountains. Such is Ainsworth, and such the shores of the upper river, for when we pass the basaltic bluffs that confront us below Wallula, we open upon a long reach of low lying shores. At Ainsworth the steamer passed to the right and turns up Snake river, for

OWING TO RAPIDS,

There is not navigation for any great distance up the Columbia, and if there were there is little in that direction to freight down again to meet the world's necessity, while for a hundred miles up Snake river there are landings where thousands of tons of wheat will soon wait transportation to the sea. Wallula is a great shipping point, and above, at Snake river, are warehouses and landings where thousands of farmers haul down their products, generally wheat grown along the Blue Mountains to the South, where the fertile belt reaches along for one hundred miles through Columbia county alone, while to the North are the rich fields and increasing products of the wide and wonderful Palouse region.

WALLA WALLA, August 24, 1880.

This place is reached by a narrow-gauge railroad about 32 miles long, that connects Wallula on the Columbia with the rich farming region that lies close under the Blue Mountains. Wallula is a miserable looking spot, that owes its entire importance to its availability as a landing place for steamers, which led to the construction of the railroad two years ago by a wealthy and enterprising citizen, Dr. D. S. Baker, an enterprise that added nothing to the importance of Wallula, but greatly enriched the projector, who is one of those men under whose manipulations the commonest things in life some way turn to gold or its equivalent. Years ago he drifted, against the current, up the Columbia, became a banker and land monopolist and culminated his career by building the shabbiest rattle-trap of a railroad that was ever made available for commercial uses. It climbed over ridges it ought to have gone through; its schedule was only to be followed when the train was unusually light, but such as it was it held the ground against the world and carried away the wheat from a region that was productive, and is said to have easily paid for itself in one year's operation, which may not be strictly true, but is not impossible. It coined money for the doctor, and when he found it advisable to sell out to the Oregon Steam Navigation Company he did so to great advantage. This road, under new management, has been greatly improved, the grades mended, the track graveled and relaid.

The Walla Walla river empties a small stream at Wallula and threads the surrounding desert with a braid of green willows and sometimes a border of grass that occasionally widens to a meadow, but except the verdure that follows the narrow bed, and that sometimes fades entirely, the railway winds on among greasewood plains and barren hills for many miles directly east, though occasional cattle may be seen cropping the scattering bunch-grass; but a few miles before reaching Walla Walla the sight of farms gladden the eye, even orchards are to be seen, meadows and gardens smile along the river, and we find that we are entering upon the rich, fertile belt that skirts the Blue mountains for 200 miles, and gives importance to the beautiful town of

WALLA WALLA.

This place has a business quarter that is building up substantially; the streets are wide, and in any ordinary season are thronged with country teams and even with pack trains,

though they are not near so frequent as when the distant mining regions had to be supplied from here. The plain on which Walla Walla is located is naturally supplied with water from the spreading branches of Walla Walla river; the residences are many of them quite charming, and some even elegant. The quick soil responds to irrigation, and where was originally a treeless plain now are beautiful streets and clustered homes, all bowered in by rapidly thriving poplars, maples, box elders, or locusts, while occasionally cottonwoods, or rather balm of Gileads grow beside the little streams. The place is attractive and rapidly thriving; has many stores, lots of minor shops, business establishments of all degrees, including three banks, some really good hotels, three live newspapers, one of them a brightly daily that gives the latest news in brief dispatches, and in general trade and population is, and probably will remain, the most important point in the upper country, because the Oregon Railway and Navigation Company (that now controls all transportation, by steamboat or railroad, on the Columbia river, and also the Steamers to San Francisco that are as fine as any that float the ocean) seems to intend to have Walla Walla as the center of its railway system for the entire upper region. So Walla Walla has a good prospect for the future, and as time grows will spread more and improve and beautify, until perhaps its poplar lines and various shade trees will make us forget the dust from the light soil, that is a cloud in summer by day as well as by night.

About a mile out from the town is the garrison and the extensive grounds of the military reservation. Here are barracks and quarters for infantry and cavalry, and as this is a popular station with officers, and a general rendezvous for the military business of the upper country, of course the garrison adds no little to Walla Walla social life. The First Cavalry band happens to be one of the finest connected with the army, and it is as fashionable as it is delightful to drive out of an evening, see the dress parade, the sunset gun and the furred flag, and afterwards listen to as choice music from the band as heart can desire. The leader is a professor who is almost music mad they say, and the band gives many of the choicest classical selections with exquisite effect, so that I shall always remember with delight the summer twilight at Walla Walla that saw night come down and day forgotten, while strains of music served to make one banish the sordid things of earth and dream of Elysium.

THE WHEAT REGION.

The Blue mountains extend for about 200 miles in northeast and southwest direction, on a parallel with the Columbia and Snake rivers, distant 40 to 50 miles, and while the land along the river is in general fit only for grazing, and much of it not even valuable for that, there is a great deal of land along the base of the range, and especially in the foothills, that is wonderfully productive as a wheat-producing region. Thus we find all the pleasant little towns situated about twenty miles in direct line from the river, midway between river and mountain range, located on the different streams within reach of the wheat-growing districts, each town being a natural center of trade, and each having its natural outlet at some landing place on the Columbia or Snake river. The wheat-growing region may be said to commence in the center of Umatilla county, Oregon, and while west of the Umatilla river the principal resource of the people is stock-growing, eastward the country is more universally fertile, hills and valleys alike are unrivaled in wheat production, and except in portions where the hillsides are too steep, the plow and harvester are converting the face of the country into one vast harvest of wheat, oats, barley and corn. I estimated that nearly one fourth of the land in cultivation was summer-fallow—probably plowed too late for the present season and turned over for early fall seeding.

North of Snake river, again, is a region skirting the base of the Coeur d'Alene mountains, which may be considered as an extension of the Blue mountains, northeasterly, the range having been in ages past disrupted by the forces that resulted in the creation of Snake river. Here is an extensive wheat producing country. Like the other, a rolling earth surface, sometimes in level reaches, but more often a hilly region; but the soil is blacker and actually richer than the fertile stretch to the southward. It is claimed that these eastern wheat-growers can produce wheat at 50 cents a bushel with as much profit as the western Oregon farmer has when he gets \$1, because the production is double. They claim 30 to 45 bushels per acre as a common thing, and say they can prove many instances where over 60 bushels have been realized as the average for a whole farm, and talk of 75 bushels per acre as proved in exceptional cases. The present crop in most of Eastern Oregon and Washington has been greatly injured by a week of terribly hot weather in July, that prematurely cooked all grain, much of which was hardly out of the milk. The straw is not over 15 to 20 in. in

IMMIGRATION.

PRESIDENT AND FUTURE.

Henry Villard, a man of broad enterprise, came here a year ago and made a bid for controlling the transportation of all this great region that could be held tributary to the Columbia river. He was backed by capitol, and succeeded in acquiring for his company the river steamers and portage roads of the Oregon and Steam Navigation Company and the railway from Wallula to Walla Walla, which has now a branch into Oregon, and will soon be pushed by complicated lines, through the regions I have described, and the track will shortly be laid along the Columbia river from the Dalles to Wallula. Another season will see railroads continuous from Portland to Walla Walla and all points above there, and reaching to the Palouse country, and Villard's scheme includes a line South that shall seek through connection with some available route to the Eastern States. It is a grand scheme, and has been pushed with wonderful energy and skill. The Northern Pacific is also pushing its work vigorously, and soon the "upper country" can be reached in a few hours and its products will be quite close to a market.

Two hundred and seventy thousand people, young and old, black and white, possess 126,000 square miles of lands within the boundaries of Oregon and Washington—five to a family, say. Divide 27,000 by five and we have 54,000 families. Suppose half of these are land owners—say 27,000 acres. Divide 126,000 by 27,000, and we have five square miles for each; or, in other words, about 2300 acres. Is there any room for immigrants?—State Line Herald.

UNITED STATES LAND OFFICE,
WALLA WALLA, NOV. 29,

Very respectfully,
E. H. MORRISON, Register.

RECAPITULATION.

DALLES Or., Dec. 18, 1880.

Very respectfully, your ob't serv't
CALEB N. THORNBURY, Receiver.

NOTE.—Estimate on settled lands in Umatilla county is exclusive of Railroad land.

"We give below some figures taken from the annual report of the School Superintendent of Clarke county, for the year 1880. It will be seen that the average cost per scholar in this county is very low, while the facilities for common school education are up to the average.

On reaching the summit of the low divide separating Drew's valley from that of Sprague river, says the *State Line Herald*, we have a magnificent view of one of the most picturesque valleys in Southern Oregon. Nestled closely at the base of surrounding mountains, the expanse of level meadow land stretching westward, traversed by a meandering river of clear, sparkling water, along the banks of which quiet herds of contented kine are grazing leisurely, this little vale, with a golden tinted carpet, presents a scene of surpassing loveliness. The river, beneath the surface of whose gently flowing waters myriads of speckled beauties dart hither and thither, halves the valley. On the South the heavily wooded mountains rise rather abruptly and to a considerable altitude, while on the North the hills rise gradually forming a broad table land, which is productive of a luxuriant growth of bunch grass, with an occasional patch of sage or grove of juniper. The range on the plateau is excellent and extends far back into a range of rugged mountains. On the West the valley breaks away into undulating foothills, which are also good grazing lands. On the East, as we have already intimated, the mountains are low and present but little attractive scenery; however, immediately south of the pass the hills rise boldly, forming a range of mountains trending southward and covered with dense forests of "stately fir and moaning pine." The average width of the valley is about four miles, with a length of ten or twelve. It contains 20,000 acres of excellent land. The soil is a rich sandy loam. The natural productions of this soil are sage and bunch grass, and, until quite recently, it was supposed it was adapted to nothing else. Last year a considerable acreage of grain was sown, and a number of vegetable gardens cultivated, and the result of what some then characterized as an experiment was so highly encouraging that a broad acreage of cereals will be put in next season. Vegetables grow rank and luscious. It was supposed that the attitude was too great for successful farming, but since the fact that it is not has been proven by actual demonstration, the valley has nearly all been fenced, and ranches are being laid out on a more extensive scale. New dwellings and barns are being erected as rapidly as the supply of building material will warrant, and ere long we may expect to see Sprague river valley thickly dotted with cosy habitations, and carefully laid out and well cultivated ranches will greet the eye on every hand. The Astoria and Winnemucca railroad will pass through this valley, it it should be constructed on the line favored by Mr. Pengra, and the future of Sprague river country, rich in recourse and easily developed, is certainly a promising one.

THE WALLA WALLA VALLEY.

A Wonderful Rich Region for Farmer and Stock Man—The Most Productive Wheat Lands in the World—Still Room for Thousand

WALLA WALLA COUNTY.

We have heretofore described the wide region contained in the four counties North of the Columbia and Snake rivers, (Klickitat, Yakima, Stevens and Whitman,) counties that possess resources and have an area more than equal to some of the great States on the Atlantic, but which have only lately commenced to attract immigration to any great extent and offer inducements for settlement. A few years ago they were comparatively unsettled wilds, the prospect of railroads building has given them impetus already. In a short time from now they will possess complete facilities for business connection with Portland or Puget Sound, and then the influx of population will be on an increased ratio.

South of Snake river is the region known as Walla Walla Valley, partly in Oregon and the greater part in Washington Territory. This has been a prominent section for many years. Here, in 1835, Dr. Whitman established his mission to the Indians, and until his massacre, eleven years after, welcomed American emigrants and did very much to induce settlement of Oregon from the East. Here too, in early times, the Hudson Bay Co., had its leading post. After the development of the country commenced, Walla Walla became headquarters post for the U. S. Army, in the interior. As early as possible settlement commenced on the streams of the Walla river, which, with many branches, water a beautiful agricultural region, and while agriculture was confined to production of what was immediately needed to supply the post and mining points, the chief resource of the settlers was stock raising. The discovery of rich placer mines in Northern Idaho and Washington created an exciting epoch when gold flowed freely through business channels; many mule trains were employed to pack good to these Eldorados and Walla Walla was the scene of temporary excitement and of greatly extended trade. This, in time, has mostly passed away. Agriculture has changed the face of the country from waving bunch grass and roaming herds, to golden fields of grain and many homes scattered over hill and vale.

Last summer we visited these scenes after an interval of many years, and the editorial correspondence of August last, which our regular readers will remember, and which we reproduce for our Eastern edition, shows the impression made on us at that time and gives an idea of the actual appearance of the country and the people. The country of Walla Walla is not so great in area as it is in point of actual value and productions. This country has not so much vacant land to offer as other portions, because attention was early called to its advantages and immigration naturally centers there and then pushes from there to other districts.

The district that includes Walla Walla and Columbia counties is made of the bend of Snake river, which gives a sweeping curve to the northward, from the mouth of Grande Ronde river, on the East, to its junction with the Columbia on the West. Where the 46° of latitude cuts across this bend, is the dividing line between Oregon and Washington. The country thus cut off is of great value, extending from the Blue Mountains to the river and the greater part of it possessing remarkable fertility.

Since the foregoing was written we have conversed with Mr. A. S. Bowles, of Dyer Bowles & Co., Walla Walla, who is interested in lands in Walla Walla county, North of the Touchet, and informs us that we err in supposing that the region near the Columbia is of little value. He describes the land as of good quality, only a short distance from Walla, and the only objection seem to be the more uneven character of the country and scant water supply. Still there is a great deal of land there that can be cultivated to advantage and the question of water supply has never fairly come up for consideration because there has yet been little effort made for settlement and cultivation here. The great area of open country has given the immigrant choice of lands over such an extent of country that much good land remains unclaimed in the most prosperous districts. Such lands are left for stock range until some enterprising land hunter sees their value for cultivation, and then they are speedily claimed and settled up.

COLUMBIA COUNTY.

This county lies to the Eastward and extends thirty miles South of Lewiston. From Mr. Frank McCully, formerly of Salem, one of the successful teachers of Dayton and Superintendent of Schools for that county, we gained much valuable information as to the area available for settlement. The county already has over 7,000 population and has over thirty townships of good land still unsettled, containing 750,000 acres, at least half a million of which will be available for cultivation. This rough estimate we make from the information obtained and it can be seen

that this county alone, if half the available land is made to grow wheat, can export one million bushels per annum. At Dayton our party last summer ascended a hill from which we had a far reaching view in every direction, counting eight header-parties at work, for the altitude here makes the harvest considerably later than at Walla Walla. When traveling in Columbia county we found harvesting in full progress and many fields were yet untouched. The country is more hilly than to the West and there is more pasturage. The little valley of the Touchet was followed for fifteen miles; we found many charming places along its banks and could see where farmers' homes were nestled in high ravines or on the surrounding hill-sides. When climbing the ridge that separates the Touchet from the waters of the Walla Walla river, returning by the lower road that skirts the cultivated belt, we left the carriage to obtain a view from the highest hill tops and could see, toward the mountains of the South, rolling wheat fields that filled the intervals, occupying the foot-hills and making erratic efforts to surmount the mountain crest in places, while to the Northward there was an almost unbroken vista of bare hills, waving with bunch-grass, with once in awhile an indication that some new settler was establishing his home there. The country grew more broken away from the mountains, and to the northward in the farthest distance stood a dark line that we knew was the range of higher hills between Snake river and the Columbia.

The Eastern portion of Columbia county has many thriving towns springing up, such as Pomeroy, Patoka and Marengo, and there is a beautiful country there, where most of the land is still available for settlement is located. Another year will see branch railroads constructed through these districts and their development henceforth will be very rapid. What is called the "Deadman's creek country," is near Snake river in the northeast, and is quite extensive, not only possessing rich soil, but is well watered by branches of that creek: while to the southeast, North of where the Blue Mountains close in upon Snake river, there is another small river whose branching streams make fruitful another fine agricultural region. This county, offering thirty townships of vacant land for settlement, possesses many attractions for the intending immigrant.

PRODUCTIONS OF THE SOIL.

An old subscriber of the FARMER, who lives in the Touchet bottom, near Waitsburg, Mr. Starr, informed us that he had twenty-nine acres of good plump wheat that would yield 1,000 bushels—35 bushels to the acre—while his wheat on the hill was injured. It is a common thing to hear people talk of 50 to 75 bushels to the acres having been realized in the past, and I was told of one field of 350 acres in the foot-hills, just harvested, that averaged 42 bushels per acre. Mr. Starr also informed us that the same field that promised 35 bushels per acre had been in continuous cultivation for 19 years, having been settled upon by his brother in 1862.

In travelling through any portion of the Upper country one continually sees patches of twenty acres of growing trees of the varieties already alluded to as cultivated in this section and these indicate claims taken and improved under what is known as the timber culture laws of the United States, for the settlers find it convenient to increase their possessions by this means. A few years will show the success with which different varieties of trees can be grown and lead to general cultivation of these varieties. Some of these plantations show good cultivation and successful growth.

Anywhere through the upper country we find corn grown and sometimes on an extensive scale. I felt some disappointment that it did not show greater growth and productiveness, for it was seldom that it stood over four or five feet high, but evidently they do not plant the varieties that grow so tall in the West. Mr. Starr, near Waitsburg had a fine field growing and thought 25 bushels per acre would be a fair average crop. The value of the fodder being taken in consideration, and the benefit the ground derives from a change of crop, as well as the fact that harvest comes much later than for wheat, and it is evident that the Eastern farmer finds corn profitable.

TOWNS AND VILLAGES.

Traveling almost North from Walla Walla over the rolling country, we came down upon the charming village of Waitsburg, upon the Touchet, situated in the midst of a fertile agricultural region and evidently possessing considerable trade. Waitsburg has been settled long enough to grow poplars, box elders and locusts and native bals of Gileads stand along the stream in original luxuriance. The place wears a very pleasant aspect and is independent of Walla Walla, as its port of entry as well as export is at Grange City, on Snake River, at the mouth of the Turkannon. Waitsburg has a large gristmill, two hotels, several stores, a livery stable, the usual mechanical institutions and last but not least a bright local journal that seems to have a healthy support.

Between Waitsburg and Dayton in the Touchet valley, is located Huntsville, designed for an educational point where grounds have been deeded for the purpose and a very handsome and commodious school building erected

under the management of the United Brethren. Huntsville has no claims to trade and it speaks well for the intelligence of the people thereabouts that they have made so important a move in the interest of education.

We follow up the windings of the Touchet in a northeasterly direction for ten miles to find Dayton located where the stream forks. The business street is located on the main stream with residences reaching to the hills, and other residences occupy the valleys beyond, so that the town lies in a triangular shape, high hills all around and the valleys between made into beautiful home spots by care and cultivation. Some of the residences are quite pretentious, but most of them are pleasant cottage homes, bowered in by trees and well-watered by the stream they border. We all pronounced Dayton to be most charming place and evidently prosperous. Its trade is considerable and it bids fair at some not distant time to utilize its abundant water power to good advantage. It possesses a woolen mill that was not in operation at the time of my visit, also has a flouring mill, planing mills and sash and door factory. Lumber is brought here from the mountains and after being dressed in the planing mill is hauled to Walla Walla, or sold to the surrounding country. In the vicinity of Dayton I found some of the best farm residences seen in all my travels. Some idea of the importance of this point may be gathered from the fact that it has two weekly newspapers that are said to receive a good support. Dayton also has its shipping point at the mouth of the Turkannon.

IN CONCLUSION.

In winding up our description of the various districts of Oregon and Washington to which we have been occupied for several months, we have this to say: That we have described this great region without exaggeration and have made no extravagant statements. The WILLAMETTE FARMER during ten years past has had many subscribers at the East, and we have received thousands of letters from people there asking for reliable information. All these we have answered cautiously. When a man was doing well at home we have invariably advised him to stay there and be satisfied rather than to run the risk of spending all his substance to reach some new country where he might, after all, be dissatisfied. But many who have read the FARMER have found their way here, and we know of no instance where they have met disappointment. We have always felt a conscientiousness about sending abroad highly colored statements concerning the country, and have preferred to be within the truth rather than to run the risk of exceeding it. In preparing this extra edition for Eastern circulation we have compiled from the pages of the FARMER for six months past, and, on careful review, have found nothing to modify or retract. Here is a wide scope of country capable of sustaining an immense population and in the future destined to rank with the greatest States of the Union, which has not one inhabitant where in time it must have twenty. The varieties of soil and climate extend from the moist and wooded sea coast to the open interior, 500 miles away, which is dry and colder, but no part of this great Columbia region, except in mountain districts, can be called a cold country, though our latitude is the same as New England.

The writer of this landed here over thirty years ago; has seen the country grow and develop gradually; has travelled all parts of it, and being the oldest journalist in the State has an intimate knowledge of all that concerns the country and its resources. He has been a miner and a farmer and has been identified with Oregon so long that he possesses the means to comprehend the State and to realize its future. Twice he has been East and travelled extensively and unhesitatingly asserts that he has never seen a country that had so many advantages as this, or that rivalled it in his estimation. Something may be allowed for natural partiality for the land of our adoption, but we feel confident that our conviction of the excellence of this country is not misplaced.

We have here variety of climate, and all conditions as to healthfulness are at least equal to the most favored regions of the United States, and in some we excel all. Our soil is very prolific and in the Western regions we rely upon our crops with absolute certainty. Only once since the commencement of wheat farming by the Hudson's Bay company, fifty years ago, has there been a serious failure, and that was in 1879 when rains in July caused the spring grain to be smitten with rust, while the fall grain matured well.

Our winters are mild, as a rule, and so are our summers, with cold nights to always refresh the harvest laborer. We have here all the latest appliances for farming operations. Our markets are supplied with the best of goods. Our society is equal to any Western State, and our educational system is fostered by an extensive land grant from the government. The man who moves to the Pacific finds here a community that appreciate the best social characteristics, and laws that foster them. As the country develops we may believe that it will possess all the good qualities that universal intelligence and great natural energy can secure. We have all the

vigorous qualities insured by the temperate zone we live in, increased by the fact that the great vicissitudes of heat and cold, common in this latitude elsewhere, are here comparatively unknown.

Our population is made up by emigration from all sections of our own and other lands, and many are coming from the far Western States where the distance from market makes products bear a small price, and the uncertainty of crops makes success precarious. They are also allured by the knowledge that our climate is so much more temperate in Winter, as well as cooler in Summer.

This is a safe country for the man with some means—enough to purchase an improved farm or to improve a homestead to advantage. Moderate means will enable a man with family to settle to good advantage anywhere. Our climate is certainly an improvement on that of any other part of the United States. All other things being equal, this alone is sufficient inducement to bring intelligent people hither, and the rapid rate of development of our transportation facilities promises to speedily place all this region within reach of ocean transportation.

The man who lands here with good health and willing hands can find plenty of work or can take up and improve land, with the good will of all around him. Of course, if he wishes to go to the interior he must have some means to use to go there. There is a good region to choose from, and perhaps the greatest embarrassment the immigrant will labor under will be to decide where to seek a location. The information contained in this edition is calculated to be of assistance to the new comer in making his choice of location. It has been prepared with that intention and with the determination that no person shall be misled by it.

Weather Report for January 1881.

During January 1881, there were 11 days during which rain and snow fell, and an aggregate of 7.79in. of water; 5 clear, and 15, cloudy days, other than those on which rain and snow fell.

The mean temperature for the month was 39.21°. Highest daily mean temperature for the month 52° on the 11th. Lowest daily mean 29° on the 22d.

Mean temperature for the month at 2 o'clock P. M. 45, 42 deg

Highest record of thermometer for the month 54 deg at 2 o'clock P. M. on the 11th. Lowest thermometer 24 deg at 7 o'clock A. M. on the 23d. Frosts occurred on the 8, 12, 14, 16, 20, to 31 inclusive.

Lunar halo on the 12. The prevailing winds for the month were from the North during 19 days, South 5 days, S. W. 6 days, N. W. 1 day. 5in. snow fell at this point on the 25, which all disappeared on the 28.

During Jan, 1880, there were 19 rainy and snowy days, and 7.92in. of water, 1 clear and 11 cloudy days. Mean temperature for the month 39.54deg. Highest daily mean temperature for the month 49deg on 15, Lowest Mean temperature for the month 27 deg on 28.

EOLA, Jan 31, 1881.

T. Pearce.

VESSELS ON THE WAY TO PORTLAND.

As there were some errors in the statement of tonnage published by the Roseburg Farmer's Meeting, we publish this week a correct list of vessels on the way to the Columbia river and of shipments already made of wheat and flour:

	VESSEL.	TONS.	FLAG.	FROM.
Mar. 6	Canada	1,180	Am.	New York via Rio
July 10	Wm. Patterson	638	Br.	New C's'e via Rio
" 24	Odulia	430	"	Liverp'l via Hon'u
Aug. 13	Lizzie Iredale	693	"	" "
Sept. 1	Viola	583	"	" "
Oct. 15	County of Ayr	499	"	Glasgow.
" 15	Passitheas	587	"	L'rpl via Victoria
" 24	Glencarn	624	"	Cardiff.
Nov. 8	City of Agra	1,074	"	Melbourne.
" 20	Ethel	495	"	Liverpool.
" 21	Clan Grant	908	"	" "
" 25	Selkirkshire	1,192	"	Cardiff.
" "	Argo	653	Ger.	Rio Janeiro.
Dec. 10	Agnes Oswald	1,380	Br.	Cardiff.
" "	George Bewley	1,071	"	Yokohama.
Dec. 16	Merom	1,204	Am.	New York.
" "	Clan McLead	671	Br.	Yokohama.
" "	Thurland Castle	1,301	"	Shanghai.
" "	Serica	944	"	Guaymas.
" "	River Boyne	499	"	New Castle NSW
" "	Emily Chaplin	777	"	Guaymas.
" "	Kate Davenport	1,349	Am.	New York.
" "	Empire	1,122	"	" "
" "	Palmyra	1,360	"	" "
" "	Countess Rothes	709	Br.	Cardiff.
" "	Victoria Cross	669	"	Calcutta.
" "	Marian King	929	"	Rio Janeiro.
Jan. 18	Columbia	1,472	Am.	New York.
" "	Carrie Winslow	944	"	Philadelphia, Pa
Jan. 3	Loe	742	Br.	L'rpl via Victoria
" "	Doxford	682	"	Liverpool, loading
" "	Henry S. Sanford	1,159	Am.	New York.
Total..... 28,606 tons register.				

RECAPITULATION.

We have exported to date
 741,715 cents of wheat, 37,985
 145,702 lbs of flour, reduced to wheat, about 21,854
 We have in port two vessels carrying about 2,500
 We have on the way 28,606 tons register, about 44,340
 Total.....105,779

EASTERN OREGON.

A Territory of Great Fertility, as Large as New England open to Immigration.

Eastern Oregon is a much more extensive region than Eastern Washington, but has attracted less attention of late than the latter because it lies more remote from transportation facilities. The steamers which reach the Upper Columbia and Snake rivers find the products of the Walla Walla and Palouse valleys waiting to freight them back, while the agricultural areas of Eastern Oregon, except in Northern Wasco and Umatilla counties are so distant as hardly to justify extended production. Immigration also, seeks a country nearest to transportation, so the settlement of Eastern Washington has of late gone on more rapidly than in the counties of Oregon to the Southward. More has been written about Washington than Oregon because the Northern Pacific has an immense land grant that lies in that country; covering its best agricultural lands, and has been anxious and willing to make its advantages known, whereas the people of Oregon have done nothing to encourage immigration, and the Oregon and California railroad, whose grant lies in Western Oregon, was only interested in attracting attention to the Western valleys. So we enter upon the work of describing Eastern Oregon with no published statements prepared, to consult, and have to work the matter up from current facts and material and from our own personal experience, but fortunately, during past years, we have traversed nearly all this country, and are moderately familiar with its contour, its resources of all kinds, and so speak with a measure of confidence of what we have seen and experienced in person.

WASCO COUNTY.

Only a few years ago the Willamette valley was Oregon, but here is one single county East of the Cascades which has an area equal to that of the nine counties of the Willamette valley and must contain land available for settlement equal to half the farming lands of the Willamette. A rough estimate of the domain of Wasco county shows that it contains at least eight millions of acres. It is naturally divided into districts, as follows: The streams that have their rise near Mount Hood and pour into the Columbia or Des Chutes rivers, reaching from the Cascade mountains to the Des Chutes, and from the Columbia on the North to the Warm Springs Indian reservation on the South, with Dallas City for its center; we call this the Dalles district. Another locality, bordering the Columbia and reaching from the Des Chutes river to Umatilla county, we will call the John Day district. The Middle district includes Antelope creek, Trout creek, Hay creek and Willows creek, that pour into the Deschutes, and other streams that head with them and pour their waters eastward to John Day river. South of this lies the Ochoco district, with Prineville for its center; containing a good deal of excellent land now utilized for stock range, with limited farming operations to supply the home demand and gold mines that are worked to the Eastward among the spurs of the Blue mountains.

The Dalles district commences at Dallas City and contains already considerable population and diversified interests. Dallas City lies under and upon a bluff and is a place of great importance, as it has an extensive trade with Klickitat and Yakima to the North, and with the rest of Wasco and Grant counties to the South. It contains several thousand inhabitants, has many charming residences and its back streets are beautiful with foliage, while the business portion of the town is building up in a substantial form. Back of it are high hills, and from the very highest of these hills there looks down upon the town a splendid farm of 500 acres, owned by Mr. Bird, who has thus demonstrated that the hill lands of dry, Eastern Oregon can be made very valuable for production of grain, hay, fruits and vegetables. He last Summer cut his wheat green and made hay of it because it was most profitable to do so. Settlers at an early day made their homes upon all the creeks to utilize the intervening hills for pasturage, but the hills have proved to be available for practical agriculture. Back to the Tygh river all the bottoms were claimed twenty years ago, but of late we hear that settlers are making homes on the high plateaus. Last Spring we had a letter, and published it, showing that the Oak Grove country, and the Tinnicum settlement, South of the Tygh valley, offered much good land to emigrants, and people there were very anxious to treat new comers well. We instance this to show that homes can be found, on good land, within easy reach of so important a place as Dallas City. There are many wealthy stock men and farmers in this part of Wasco county. Dufur Brothers have their sheep ranch on Fifteen Mile creek and their Summer and Fall pasture is an extensive swamp land claim, on a bench of the mountains, at the base of Mount Hood.

The John Day District consists of uplands, bordering the Columbia and extending South fifty miles between the waters of Des Chutes and John Day rivers, and East to the boundary of Umatilla county. Col. T. S. Lang, who has interests in this section, represents the soil as excellent, a very good grass country over all that distance. The bunch grass grows vigorously almost from the banks of the Columbia river and it is equally good for grain. Wherever water is found there is rich bottom land. Water comes near the surface in many places and can be easily had by digging. Springs are more abundant than was supposed to be the case at an early day. Wells have been dug ten miles from the Columbia, at Spanish Hollow. The question will soon be tested as to the productiveness of the soil on these uplands, as the Blacklock ranch, which has been described in our columns, is in this district. This ranch is located at the junction of the Columbia and John Day rivers and contains over 60,000 acres, and is taken up by a company of enterprising men with a view to co-operative farming on a large scale. If this section proves as available as is hoped, it will afford homes for thousands of families. Thirty Mile creek, which is near the Umatilla line, is settled its whole length and is a good farming country. Rock creek, which empties into the John Day river, has a rich valley, settled thickly for thirty miles, extending towards the Blue mountains in Umatilla county. Col. Lang, who is at home in this region, informs us that people raise only what they need for home supply, but have not grown farm products to send abroad owing to the difficulty of reaching market and because stock raising has always been more profitable than farm crops. They will grow grain extensively when transportation is perfected to encourage it. The scheme of the Oregon Railway and Navigation Company includes branch lines to bring all the rich farming country along the Blue mountains for two hundred miles, into connection with the river and their main trunk line of road.

The Middle District of Wasco county reaches from the Des Chutes river to the Blue mountains and is more than large enough to constitute a great county of itself. A glance at the map will show that it is well watered by streams running into both the Des Chutes and John Day rivers. It has thriving villages; Willoughby, Antelope, Bridge creek are trading points and the country is well adapted to agriculture through its whole extent, but farming operations are chiefly restricted to supplying the local demand. The country is devoted to stock raising, and therefore sparsely settled upon. Whenever railroads can reach Middle Wasco, and encourage farming and denser settlement in this well watered region, the result will be a magical change from pastoral to active farm life. Col. Lang has visited this region and represents it as possessing many desirable qualities that will develop when transportation is possible.

One of the most promising portions of Eastern Oregon is the Ochoco district, located on the branches of Crooked river, the Southeastern fork of the Des Chutes. This region has Prineville for its trade center, a thriving place with several hundred inhabitants, a newspaper and a brisk trade with the country and mining districts in the Southwestern spurs of the Blue mountains.

One great advantage claimed for all the country south of the Columbia is that the Winters are milder and stock do much better in severe seasons than North of the Columbia. For this reason Middle Wasco is desirable as a stock country and some of the most successful stock men we have are to be found in Grant and Wasco counties. November 26th we published a letter from Dr. L. Vanderpool, an old resident of Crooked River valley, which will be reproduced in the extra edition we compile from the files of the FARMER for Eastern circulation, and this lively account of that region, and stock raising therabouts, answers the purpose so fully that we refer the reader to it for a complete idea of the Ochoco district. Dr. Vanderpool looks to the future, when railroads shall come to their relief, and explains the wonderful resources of that valley for production of farm crops. The time is coming when railroads will reach even there. The present indication is that the narrow gauge will cross the Cascades to effect a junction with the Nevada Northern road, and that road, when completed, will give the Crooked River country an outlet towards both the East and the West. When the time comes for Wasco county to settle up, the land table furnished us from the United States Land Office at The Dalles shows that 3,000,000 acres of unsurveyed lands are vacant. A correspondent wrote us not long since that Wasco county offered as great inducements for settlers as either the Palouse or Yakima countries, and such seems to be the case.

The census tables show the population of Wasco county to be 10,228; number of farms, 875; land actually farmed, only 80,000 acres; value of live stock, \$1,771,380 which ranks all other counties in that respect; farm products, in value, \$287,000. Wasco is first in both sheep and horses and next to Baker and Grant in cattle. So far as climate and health are concerned, there is probably no pleasanter climate nor any more healthy region in the world. Stock thrive better here than in any other portion of the Columbia region.

LAKE COUNTY.

This county is in South Middle Oregon and takes its name from the fact that it is a great lake region. A gradual divide separates it from Grant county, and much of Lake, as well as the portion of Grant south of the Indian reservation, is of light character of soil, consisting of a mass of volcanic ashes, but Lake, though a high and frosty country, has many charming valleys and good land. Sprague river has a beautiful valley, flows West into Klamath lake, and thence through the Cascade range the Klamath river seeks the ocean. Other streams in Lake county flow into lakes and the waters sink. This region will be traversed by the projected railway from Reno, Nevada, north, to connect with the road projected by the Oregonian Railway Company. Lake county has about 3,000 population, and there are any number of chances for homesteads. Stock raising is the chief source of income; Lakeview, the county seat, on the shores of Goose Lake, is a thriving town and has two newspapers. Linkville, at the West, is also a good point for trade. This county has no direct connection with the Columbia river and can hardly deserve to be described as a part of the Columbian region.

GRANT COUNTY.

This county is very extensive and has the Western slope of the Blue mountains for its boundary. It used to have rich placer mines that supported an active population and a brisk trade, but the placers are mostly worked out. Quartz mining is offering inducements for enterprise and may be expected to form a permanent source of prosperity for all future time, even though not yet making returns for outlay. The farming operations on Upper John Day valley are for supply of the mines and stock ranches, for this county has the great cattle herds of the northwest in its limits. We publish elsewhere an account of cattle ranching in this county by Mr. Miller, now of Douglas county, who has been successful in Harney valley as a cattle man and also with horses. His letter gives a graphic sketch of life on the plains of Middle Oregon. There is an immense area of vacant land in Grant county, soon to be added to by the throwing open of the Malheur reservation, which is no longer needed for the use of Indians. Grant county may in time be reached by railroads, but it will not be soon, unless some unlooked-for enterprise comes upon the world, and the advance so rapidly making for the development of the country East of the Cascades leaves it very possible that Grant county will be brought within reach of market. This county is diversified by mountains and valleys and plains. Its altitude may interfere with good results from promiscuous farming, but there is so great an area of vacant lands awaiting settlement that it is not necessary to forestall time to say what every section of the country can promise for the future.

UMATILLA COUNTY.

Coming back to the Columbia river, we find, on the East of Wasco county, a grand agricultural region, joining on the Southwest Walla Walla county of Washington Territory, including a fair part of Walla Walla valley, which is divided by the 46 degree of latitude so that a good slice of that beautiful valley is Oregon soil. Rock creek, which empties into the John Day river in Wasco county, has its best lands in Umatilla and is thickly settled for twenty miles. Along the Columbia is a grassy region of upland that promises less than similar land in Wasco county. Leaving out the river shore region, Umatilla is a splendid country. The Blue mountains extend through it, parallel with the river, distant 50 to 60 miles, running West with a trend toward the South, as the map shows. Following the mountains for 125 miles, through Umatilla county, is an arable stretch of country that averages 25 to 30 miles in width, and above Umatilla it extends to the very shores of the Columbia. Not long ago it was range for cattle, but to-day settlement is coming in to claim and cultivate every plain and every hillside. It is true that from the Umatilla river, West, this county is chiefly devoted to stock raising, and in value of live stock it is second only to Wasco. Transportation favors the Northeast end of the county more and there wheat farming is carried on very extensively. Before long branch railroads will favor the whole arable belt of Umatilla county and then the era of production will commence in earnest, and Umatilla county will have an immense wheat surplus. A glance at the map shows that the streams branch out and water well all the country near the mountains and afterwards flow into the larger rivers. The Umatilla Indian reservation occupies as fine a portion of country as can be found East of the mountains, much to the annoyance of white settlers adjacent, and of many who would like to claim these lands for settlement. A glance at the land tables we publish will show the amount of land in this county subject to entry. We consider Umatilla county in many respects the cream of Eastern Oregon. Its arable land cannot be excelled; its climate is fine; its nearness to the Columbia river, and the certainty that railroad facilities will reach every part of it,

makes it at present the most attractive region now open for settlement. While it has only about 10,000 inhabitants, it can easily accommodate ten times that number. It offers such excellent lands away from the mountains as the Cold Spring country, which has been fully described in our columns, and which is yet in a great measure vacant. It has a splendid region of valley and foot-hill lands for 125 miles in length and 25 to 30 miles broad, and the Blue mountains themselves we expect to see occupied in course of time by industrious farmers and stock men, for the soil is excellent and many sloping reaches of mountain lands, covered with scattering pine forest and no underbrush, can easily be transferred to fields of golden grain and orchards of luscious fruit. The region to the Eastward is so undeveloped that we cannot gauge its future by the accessories of the present. Development once begun will continue at a rapid rate, and with railroad connection completed to the East the stream of emigrants to come will fill up the land with busy industry.

The Blue Mountain region now affords a great Summer range for the flocks and herds of the Umatilla and Wasco plains. Stock men build cabins and corrals and so establish claims that are respected as rights of precedence. Year after year they drive their stock to these mountain ranges and they fatten on the native grasses and save the bunch grass of the lowland for Winter pasture. Rye grass grows in swails and along water courses; a long grass grows through the open pine forests that have no underbrush, and there is a short sheep-grass, much liked by that stock, found in the foot hills and which takes the place of bunch grass when it is fed down in the foot hills. There is no reason why this mountain land, containing many sloping reaches of the richest soil, well watered and timbered, and not so elevated, by any means, as the Cascade range, shall not, in due time, be appreciated for agricultural purposes and made use of for settlement.

There are many thriving towns all through Umatilla county; Heppner, Pendleton, Pilot Rock, Umatilla, Weston, Milton and Centerville, are all growing places, surrounded by an excellent farming country. The immigrant can find at present, room for his homestead in the Cold Spring Country, or along the scope of valleys to the Westward there is abundant room to locate the domain the United States government stands ready to bestow.

UNION COUNTY.

Ranges of mountains extend from the Nevada line, northward, through Eastern Oregon, known as Steins' mountain on the South, and developing into the broadly spread Blue mountains to the northward. The interior country, along the Cascade range, on the East, is much higher land than is found in the Willamette valley, on the West; therefore there is much less drainage from the Cascade Summit to the East than to the West; the distance from the eastern plains to the summit is everywhere less than on the West, and the mountains are less rugged to climb. While the Blue mountains are not so inaccessible as the Cascades, they are still a grandly outlined mountain region, spreading from the Columbia, South, in irregular form, over a wide district, containing many pleasant grassy reaches, wooded with open pine forests, that will certainly be at no distant day appreciated for settlement and cultivation. This range of mountains supplies, from its fountains, the various streams that make the beautiful valleys of Columbia and Walla Walla counties in W. T., the Umatilla river and all the streams that empty below it into the Columbia and John Day river in Wasco county is fed entirely from them. Not only so, but Crooked river, the main fork of the Des Chutes, heads far around to the Southeast, so that these mountains are the source of fruitful streams which create the arable lands of nearly half of Oregon and the richest portion of Washington Territory. On the East, also, they supply the flow of the streams which reach Snake river. Some of the most fertile and beautiful country East of the Cascades is found hemmed in by the walls of surrounding ranges, for Snake river is for quite a distance, in Idaho, bounded by inaccessible mountains. The course of the early emigrations followed down Snake river, hundreds of dreary miles, over sage brush plains that were parched and desert in appearance, and through canyons and over burnt hills that saw many a wayside grave that buried family hopes, and were strewn with carcasses of animals that died along the road. Coming at last to the divide that separates the waters of the Grande Ronde from Powder River, they found spread out below them as beautiful a picture as eye has ever looked upon. It lay in native wilderness, untouched by the hand of civilization; a few Indian camps may have been seen there, and perhaps herds of Indian horses fed on the rich prairie grasses, but otherwise it was untouched by man. Here was a valley, cradled among the mountains, watered from innumerable streams and springs, averaging ten miles in width by thirty miles in length, spread out broadly but lying in a winding shape, with coves and inlets of prairie reaching into the hills where streams permitted and with abundant feed for stock to compensate for the burnt plains they had

left behind. The traveller felt here that his troubles were over. Across the range, only a two days march, were the valleys of Umatilla and Walla Walla.

There are several lively towns in Union county, chief of which are La Grande and Union, each of which supports a newspaper and does a good business. While Union is the county seat, La Grande has the land offices both of the State and United States.

MINING DISCOVERIES.

Before this valley had a settler, in 1802, led by the discovery of gold on Powder River, thousands of prospectors found their way in early Spring over the Blue mountains to hunt for the new gold fields. The snows of the preceding winter had been heavier than ever were known; paths had to be made through them, and the road to the gold fields was a hard one to travel. It was after a week of such toils and hardships as cannot easily be told, that we stood upon the brow of the ranges that overlook Grande Ronde Valley on the West and saw with delight the most beautiful valley eye ever looked down on, all bright and verdant in strong comparison with the snows that surrounded us. The mines did not prove rich enough to reward all who went there, and many preferred to locate homes in this land of promise rather than to dig for gold. It was three years after the outbreak of the civil war, and the same fall thousands of families crossed the plains and made homes along the streams and on the prairies of Powder River and Grande Ronde, or crossed to the attractive fields of Umatilla. From that time Eastern Oregon has had prominence. At an early date farmers found a good and remunerative market at the mines. Pack trains, and wagons of immense strength drawn by ox or mule teams, made paths and roads from the Columbia river in all directions. Gold was discovered in many districts and fabulous riches were gathered from the wonderful places of Salmon river in Northern Idaho, and Boise Basin amid the high mountain ranges of Southern Idaho. Through the Blue mountains were found many rich placers; on the waters of John Day's river, in Grant county, millions of gold were dug, and Canyon City was a mining center; on Grand Ronde river there were placers worked; while in Baker county, on Powder River, and the waters of Burnt river, there were extensive and profitable diggings. These mining discoveries gave the first impetus to settlement and cultivation in all Eastern Oregon and Washington. But, while mining is carried on yet, with some degree of success, the day of the prospector and placer mining is nearly over. Efforts are conducted on a greater scale, by large companies, and there are some discoveries of quartz ledges that are paying well. No doubt the business of mining will be carried on through the future and will prove more extensive as new discoveries are made and as the science of quartz mining becomes perfected and gold can be saved at less cost. We have slightly alluded at different times to mining operations, but time has come to explain the settlement and development already attained in Eastern Oregon, so we digress somewhat to present these facts. No doubt many who shall come here will be attracted by the fascination of gold and silver mining, but the truth seems to be that gold and silver has often cost more than it was worth. Mines materially aid agriculture when they offer a market for farm products. They gave the first impetus to all the Upper Country. For many years Dalles City and Walla Walla were the scene of much riot and gambling and the hardly earned gold was squandered with lavish hands. Portland was filled, in winter, by the miners who came down here to spend the months when water existed only in the form of snow or ice, and the detadence of the mines made a very heavy deduction from the incomes of hotel keepers. We were in the mines of California at a very early day, also had official connection with the mining regions of Eastern Oregon at the best paying period, but while there are exceptional instances where prospectors and miners acquire wealth, our experience shows that the best success follows agricultural development. In its train comes schools, churches, good society and happy homes, and the farmer, while he can only claim a reasonable share of benefits, enjoys them most and is most independent in enjoying them.

DESCRIPTION OF UNION COUNTY.

Union county is a very attractive region, has varied character of soil as we go from the rich valley land to the foot hills, or climb to the higher valleys, such as Wallowa, between the Grande Ronde Valley and Snake river. Grand Ronde river seeks an outlet through a mountain canyon and the valley is fairly hemmed in by mountain walls. The climate is healthy and winters seem tempered by the sheltered nature of the situation. Wallowa is a higher location with more severe winters, but is a favorite region for stock men. La Grande and Uniontown are the chief towns, but other thriving villages are scattered through the county. Union has 6,703 inhabitants by the census of 1880. It is devoted to farming and stock-raising; value of live stock is nearly a million dollars; Union has a great many horses and the number of milch cows and quantity of butter made shows it to be favorable for dairying. Swine do well there

and pork products constitute an important part in farmers' incomes. This county stands well in the production of wheat, oats, hay and orchard products. While the best lands of Union county are no doubt taken up, the land table shows that there is vacant land that has been surveyed to the extent of 300,000 acres. It is also true that improved lands can be bought here, as elsewhere at a reasonable figure. The great objection to this region has been its remoteness from market and the great cost of transportation. This difficulty will soon be removed. Already the track for a railroad is being cleared, across the Blue mountains, from Umatilla, and the scheme of the O. R. & N. Co., includes an early building of a railroad from the Columbia river, through Union and Baker counties, to connect with the Utah Northern road, and form a through line to the East, so that it is certain, as human events can be, that Union county will shortly have railroad connection with Portland in one direction, and the Atlantic States in the other.

BAKER COUNTY.

This county has an area nearly two hundred miles long and from the mountain summits to Snake river and the Idaho line. It contains on the North, the valley of Powder river which presents quite a surface for cultivation and has several thriving towns and villages. The mines of the Blue mountain region offer a market for what is produced, and quartz veins of rich ore are found and worked at the very edge of the valley. This valley is rather cold, but produces all the cereals and most of the vegetables in profusion and of excellent quality. Powder river has good grain lands for some distance into the mountains, where stock ranges, though agriculture has not been seriously attempted. The speedy construction of the railroad from the Columbia river gives a hope for future growth and prosperity that induces settlement already; we notice that the Baker city newspapers (the place has two) speak of the fact that quite a settlement has been made the past season on lands South of Powder river and Burnt river valleys, on the waters of the Malheur. We used to traverse nearly the whole length of Baker county, sixteen years ago, when going to the mines of Southern Idaho, and found, along the way, much good land, rich with grass. Since then, Baker county has become the great grazing ground for cattle, of which the census returns over 45,000. The population of Baker county, last spring, was 4,631, a trifling population for such an extensive region. There are not many sheep in this county but much attention is paid to horses, in which connection Baker county stands fourth in the State. Powder river valley is the most populous portion of Baker county, and in the Northern part are several mining districts. In the central portion is the Malheur country, containing extensive cattle ranges and time will probably demonstrate its availability for regular farming. In the Southern part is the Owyhee river and tributaries, and some farming is carried on in the vicinity of the mining districts in Idaho, near the line. East of them is the Stein's mountain country, a famous stock range. The Malheur Indian reservation is partly in Grant county and part in Baker, but we have information that as it is no longer required for occupation by Indians, it is soon to be thrown open for the settlement by the whites. Baker and Grant counties constituting nearly one-third of the total surface of the great State of Oregon, remain to this day in a great measure vacant lands, roamed over by great herds of stock, utilized only partially in this way, with their resources only slightly understood and waiting the development of the future. In Powder river valley the capacity for production is well established and we have no doubt that in time a great part of the valley lands of Baker county will be cultivated to good advantage. There is more or less of sage brush plains in this county, especially along the upper part of Snake river. This sage brush land is in many instances the richest of soil. We remember reading years ago how a farmer in Powder river valley brought an irrigating ditch to bear upon a piece of heavy sage brush land, strong with alkali, for all sage land has this characteristic, and after grubbing the sage, plowed and sowed to wheat, and realized forty bushels to the acre. The lack of water prevents successful agriculture over much of this interior region, but the remedy of artesian wells may be tried there with as much success as in Lower California. The government has made an appropriation to test this matter and it is probable that the question of water supply will be some way solved so that the great wealth of soil that seems wasted over a wide stretch of country between the Sierras of the Pacific and the Rocky mountains, will be made available for habitation and cultivation.

Within two years a railroad will be in operation from the Columbia river to Baker city, and will bring all the region along that distance within a reach of market. It is possible that within that time the Utah Northern railroad will push North to make a junction and establish through connection with the East via the Union Pacific railroad. The time rapidly approaches when the hitherto waste lands of Oregon will have all the value that transportation facilities can give them and this great section of valley and mountain land that has so long been utilized only for

stock ranges and mining ventures, will assume the greater importance that attaches to permanent homes and steady cultivation of the soil.

OREGON AND CALIFORNIA RAILROAD COMPANY.

This is the oldest railroad in the Willamette valley. Based on the land grant made to the State of Oregon in 1866 for constructing a road from Portland South to California, and a later grant was made of lands from Portland to Astoria to the mouth of the Columbia river. Work was commenced in 1868, and the road was completed through to Roseburg, 200 miles, soon after. Beyond that point great difficulties presented themselves. The company also has a road on the West side, running West, through Washington county for thirty miles, and thence South to Corvallis, with intention of making connection ultimately with the main line at Junction. This West branch from St. Joe, in Yamhill county, to Corvallis, was completed in January, 1880, the rest of the road having been in operation a number of years. During the present year the company has constructed a feeder or branch road, from Albany to Lebanon, in Linn county, and a switch a mile long to the river bank at Salem. During the past year the largest part of the road on the West Side has been ballasted and it is now one of the best roads on the Pacific Coast. During a year or two past the times have not been very prosperous for railroads in Western Oregon, but the company is not discouraged by this fact, but contemplates the construction, in the near future, of other feeders on both the East and West Side. The construction of the main line South from Roseburg, to the California line, and also on the West Side from some point on this road to Astoria, is under advisement. Nothing definite can be said as to when work will begin in these directions, as more surveys will be needed and careful estimates must be made. Both of these routes are difficult, or more difficult than the roads heretofore constructed. The original bondholders in Germany became the owners of these roads some years ago and have not only manifested considerable enterprise in developing the country generally, pushing these roads as fast as circumstances seemed to justify, but have done much to make the advantages this country offers for settlement known in the Eastern States and Europe. Their land office is located in this city, where all information possible will be given about the company's lands and the country generally. The present owners acted in so fair a manner as to secure the respect and good will of the people generally living on the lines traversed by these roads. All actual emigrants are furnished with passage over the road, on arrival, at half the usual rates.

OREGON RAILWAY COMPANY LIMITED.

This company a year ago purchased the narrow gauge road, just then constructed from Dayton, at the head of steamboat navigation on the Yamhill river, to Sheridan and have now cars running to Dallas, in Polk county, with the intention of pushing on further South on the West Side another year. At the present time a large force is at work grading a road down the Yamhill to a point on the West Side, opposite Ray's Landing, at which point work is progressing for building a railroad bridge across the Willamette river. From this place, during the present year, a road has been constructed on the East side of the Willamette, that runs back to Silverton; then skirts the foot hill region through Marion and Linn counties to Brownsville, in the latter county. This line is just completed, and has been turned over for the transaction of regular business. The company talks of continuing this road South into Lane county in another year. It is positively certain they intend to construct their line North of the junction from Portland to Ray's Landing, on the Willamette, as soon as possible. The present connection with Portland is by means of a line of steamboats running on the river from Portland to Ray's Landing. Mr. Wm. Reed, formerly of Dundee, Scotland, is the general manager, and has pushed the work with great energy, supplied liberally with Scotch capital for the purpose. The Earl of Airlie, President of the road, was lately here, and carries back, he assures us, a good opinion of this country and its immense resources. His visit will probably result in renewed energy in the prosecution of the company's enterprises. The general belief is that the policy of this company looks to an independent eastern connection. Preliminary surveys have been made of different passes through the Cascade mountains, from this valley, and the reports encourage the belief that all the known passes are practicable without excessive cost. Of course, more specific surveys must determine which route will be eventually adopted. It is probable that another year will more than see the work in hand in this valley completed, connection made with Portland, wharves and depots constructed, and the Willamette bridged at the junction. That will be a great work of itself. The officers of the company are very reticent about their intentions in the future, but we gather that some engineers will look after the surveys of the mountain passes, and the company will decide if they will or not carry their enterprise over the mountains. Should they push

on over the Cascades, strike the Ochoco and Upper Deschutes region, and push South to the connection with the Nevada Northern, also a narrow gauge road, supposed to be countenanced by the Central Pacific Company, which connection would naturally be made in the vicinity of Goose Lake, the road will develop an immense inland region that now lies dormant waiting for the wakening hand of progress, and will require a system of branches that will develop great wealth in Southern and Middle Oregon. But much of this speculation is problematical, as our Scotch friends say they have no favors to ask of anybody, and are decidedly reticent towards reporters. They evidently "mean business," however, and are pushing work ahead at a lively rate, even if they are close-mouthed about it.

THE NORTHERN PACIFIC RAILROAD.

The people of this country have looked for many years past to the completion of this road for the realization of their hopes of railroad connection with the East. The difficulties the company have encountered seem at last to be fully overcome and the work of constructing the road is now being rapidly pushed from both ends of the line. It is true that we have now a prospect for railroad connection in other directions, but the completion of the Northern Pacific is a very important fact in developing this country and will bring into connection with the Columbia river a great scope of Northern territory that will rapidly settle up and must add to the commercial importance of Portland and Puget Sound.

The company is at present engaged in making thorough surveys of the several mountain passes, leading over the Cascade range from Puget Sound to Yakima county, Washington Territory, with a view to locating their road and commencing operations as soon as possible on that section. The intention is, so far as made public, to make connection at an early day, with the road now being made from Ainsworth, at the confluence of the Columbia and Snake rivers, already graded nearly to the Montana line, and track laying completed for about forty miles. It was deemed necessary to commence building road at some point in the interior, as the location of the route over the Cascades could not be readily decided upon. It is perhaps a question if the construction of a road over the mountains from the Sound was permanently settled until quite lately, but there seems now no doubt that it will be pushed with all possible rapidity. Our map shows the projected road from Ainsworth West, to the mountains, which has not yet been definitely surveyed, but must be located nearly as we have stated.

The material for construction, used from Ainsworth East, has been transported up the Columbia at heavy expense and it is probable the company will push work from Tacoma East for the purpose of being able to transport their own material and supplies for the continuance of the work through Montana. The original scheme contemplated a road down the Columbia river to Portland, but the Oregon Railway and Transportation Company have this road already made to The Dalles and will continue it to Portland another year, and no doubt some arrangement will be made for exchange of traffic and mutual use of this section, which will be over two hundred miles in length.

When completed, the Northern Pacific will have a terminus at Tacoma on the Sound, and either through its own trains or those of the Oregon Railway and Navigation Company, will reach and leave Portland. Gen. J. W. Sprague has been here for many years in connection with this enterprise and superintends the business of the Western division. He is much appreciated in all circles and pushes the work as fast as possible. In our description of Yakima and Stevens counties we have shown that a fine agricultural region will be opened up and made available when this road shall be completed. The interests of the company will center on the Sound and no doubt they will build up a great city there in the future, with an extensive commerce, but it will be readily seen that the Columbia river offers a natural highway for commerce, and the products of the interior that is naturally tributary to this river will always seek Portland, which can be made available for deep sea commerce by such improvements of the ocean bar and along the course of the river below it, as the government bestows on other important rivers and is certain to bestow on the Columbia.

Great interest attaches to the completion of the Northern Pacific railway and it will be of the greatest importance to the Pacific Northwest. We look for this work to be done and through traffic established within three years, and anticipate a rapid settlement of the country it will traverse in anticipation of that event. So much difficulty attends transportation of its material to a point hundreds of miles in the interior that as speedy progress cannot be made on the Western end of the line as at the Eastern. All iron and manufactured material is brought around the Horn, in vessels, involving delay and uncertainty. But the work is to be pushed through Montana as rapidly as possible and the prosperity of the country indicates that the completion of the road will be certain within three years time.

OREGON RAILWAY AND NAVIGATION COMPANY.

ONE OF THE GREATEST ENTERPRISES OF THE PRESENT DAY.

Transportation Facilities Promised for the Upper Country Through to the East in Eighteen Months.

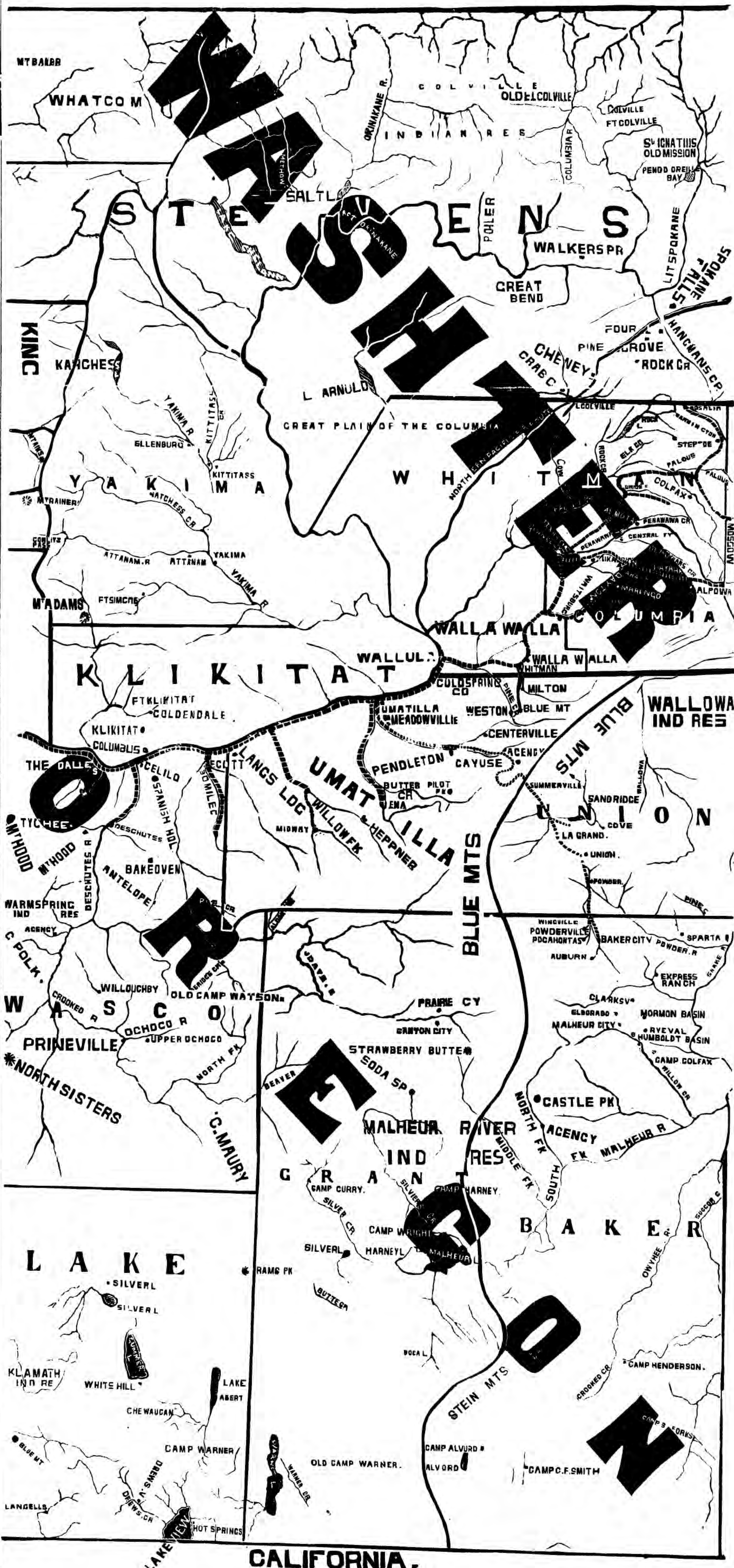
A year and a half ago transportation East of the Cascade mountains was limited to the operations of the Oregon Steam Navigation Company, a corporation which owned the steamboat lines on the Columbia river which were connected by portage railroads at the Cascades and the Dalles, and carried on an immense but very unwieldy transportation business, without any possibility for successful competition. The same company also acquired ownership of the Walla Walla and Columbia river railroad, a narrow gauge road 32 miles in length, reaching from Wallula on the Columbia to Walla Walla City. The products of that valley were transported by this road to the river, taken on boats and carried, when the stage of water permitted, to Celilo. All along Snake river there were shipping points where wheat grown in the Palouse region to the North, or in the Blue mountain region to the South, was stored for shipment. At Celilo the grain was unloaded and put on cars, and at Dalles City, 14 miles distant by rail, was transhipped for a voyage of 45 miles from the Dalles to the Upper Cascades, where there was another portage road on the Washington side, five miles in length, over which the much-handled grain was hauled to be again shipped by boat 70 miles to Portland, to be loaded there on ships waiting to transport it to Liverpool. So the transportation of products 400 or 500 miles, from the rich agricultural districts of the Upper Columbia, involved alternate handling and carriage by three railroads and three steamboat routes, at of course great expense and considerable delay. All travel and shipment of supplies for the immense Columbia region followed this tedious routine. The possession of the canyons of the Columbia, where portage roads formed the connecting links, gave this corporation the key to the vast interior until some more potent hand should come to its relief. But the time had arrived when the prize was worth contending for, and could not be retained by any ordinary grasp. In the summer of 1879 the country was suddenly interested in the report that Mr. Henry Villard, who had for some years been in charge of the roads originally built by Ben Holladay in the Willamette Valley, in connection with other Eastern capitalists had acquired possession of the property and franchises of the old O. S. N. Co., and would immediately proceed to construct a system of railroads to develop the whole Upper Country.

The facts seem to be that Mr. Villard had formed a correct opinion of the vast resources and coming importance of the whole Upper Country, and had breadth of mind to conceive, and sagacity and skill to effect a great combination of capital, which has resulted in acquiring all the rights of the O. S. N. Co., and with them the field for development of the agricultural regions of the interior. It was a bold stroke for fortune, and may be considered one of the greatest achievements of enterprise peculiar to our time. Certainly no person among us had the least perception in the summer of 1879 that the country was on the eve of such great changes and such rapid development as have been effected by this corporation, and several others, in both Eastern and Western Oregon and Washington. Mr. Villard has enlisted capital in all his lines of development, and millions of other capital is engaged under the name of the Oregon Improvement Company, in prosecuting other enterprises and in aiding the progress of the greater corporation, but interest chiefly centers in the operations of the corporation which is successor of the Oregon Steam Navigation Company, now known, far and wide, as the "Oregon Railway and Navigation Company."

Mr. Villard's original purchase included the fleet of steamers navigating the Willamette river from Portland to Eugene, and the Locks and Canal around the Falls of the Willamette at Oregon City; also the many fine river steamers and barges running between Portland and Astoria and from Portland to the Lower Cascades; the portage railroad six miles long at the Cascades; boats running on the Middle River from the Upper Cascades to the Dalles; the Dalles and Celilo portage railroad, fourteen miles long and quite a fleet of splendid boats on the Upper River, navigating it for a distance of over 250 miles from Celilo to Lewiston. It also included the narrow gauge road 32 miles long, reaching from Wallula to Walla Walla. Besides these transportation lines constituting an imperial possession, they acquired title to wharves and warehouses of great value at Portland, Astoria and other points on the lower river, and at Cascades, Dalles, Celilo and other points East of the mountains.

About the time of the first acquisition the corporation bought out the Oregon Steamship Company, which owned a fine line of ocean steamers and controlled the passenger and freight traffic between Portland and San Francisco, and has added already one magnificent ship to their iron fleet.

From the moment they commenced acquiring this property, this corporation has been at work with untiring energy, planning and building roads and pushing to perfection the system destined shortly to connect the great wheat fields of the interior with ocean transportation and people them with productive industry. The map we publish shows the



roads which this company has planned, and we proceed to explain what is already accomplished and what is promised in the near future.

In the first place, we will state that their system includes direct connection to the East, by means of the Northern Pacific road, through Montana, and also on the South they will connect with the Oregon branch of the Union Pacific road, a road only recently announced, which will commence at Granger city on the Union Pacific, 156 miles East of Ogden, build up Ham's fork, down Bear river, to Haspice, thence to Old Fort Boise in Idaho, and connect with the road of the O. R. & N. Co. at Baker City Oregon, within eighteen months from the first day of January 1881. For this enterprise \$10,000,000 capital has already been raised, and no doubt need be entertained that it will be pushed through as announced. The route described is one of the original surveys made for the Union Pacific road on its trans-continental line. This corporation has already surveyors in the field and graders will be at work as soon as frost is out of the ground. The Oregon Railway and Navigation Company promise to have their road constructed through from the Columbia river to Baker City within one year; they have already made surveys and let contracts to have the track cleared, which is now being done. So by this route we seem to have a reliable promise of through connection with the East, via the Union Pacific road, within 18 months, while the Northern Pacific is not expected to be completed until the Fall of 1883, almost three years from the present time.

During the year 1880 the Oregon Railway and Navigation Company pushed surveys to all important points of the Walla Walla valley, and through the Palouse region North of Snake river, and have had grading done on a great part of their located lines East of Walla Walla. They have almost completed the construction of their railroad along the Columbia river, on the south bank, from Celilo to Wallula, a distance of 113 miles. Only that the weather was unusually severe in December, the cars would now be running through from The Dalles to Walla Walla; the track-laying of the unfinished section will be easily done when the season permits. The present year will see the road continued down the Columbia from The Dalles to Portland, and branches constructed to all parts of the Walla Walla valley. The work of clearing the track from The Dalles to Portland is now going on. The present Winter has shown the imperative need of railroad connection between Portland and the Upper Columbia, as travel and transportation have been very uncertain for weeks at a time.

Mr. T. F. Oakes, Vice President and Manager of the O. R. & N. Co., informs us that they expect to have the road completed from Walla Walla to Grange City, on Snake river, within four months from this date. As it will be necessary to bridge Snake river at this point the road cannot cross it and reach Colfax, in Whitman county, Palouse country, before the Spring of 1882. The road will reach Dayton, Columbia county, W. T., thirty miles from Walla Walla, within ninety days; the natural terminus for the main branch South of Snake river, will be Lewiston, Idaho Territory, but no definite period can be fixed to reach that point, and surveys have not yet fully located the line that far.

To afford temporary relief to the Yakima trade, until the Northern Pacific Railroad is constructed across the mountains from Tacoma, the O. R. & N. Co. will soon commence running steamboats to Priest's Rapids, fifty miles North of Ainsworth, on the Columbia, which is as far in that direction as the river can be navigated.

The year 1881 will see great activity on the part of this company, as they will have a heavy grade to make along the banks of the Columbia river from the Dalles to Portland, a distance of 86 miles; also there will be heavy work grading the line across the Blue mountains to Grande Ronde valley, and thence to Baker City, the entire distance from Umatilla on the Columbia, being 170 miles. The lines East of Walla Walla present no unusual difficulties, but add materially to the sum of their undertakings for 1881. The company seems to possess abundance of both capital and energy and will push work with all possible rapidity.

Eventually, their scheme includes building branch roads wherever they may be necessary to bring the cultivatable area between the Columbia and Snake rivers and the Blue mountains within reach of market; also to reach into Wasco county as far as traffic can repay their enterprise. The branch roads laid down on the map indicate the probabilities of the near future, but these branches will naturally have to wait until the main lines are constructed from the City of Portland to Baker City, where connection will be made with the Union Pacific road, a total distance of 351 miles.

After obtaining possession of the business of the O. S. N. Co. the present corporation made considerable reduction in rates for transporting products from the Upper Country to market, and it is understood that, as their lines are completed, freight and passenger tariffs will be as nearly as possible made to correspond with charges made on Eastern lines for similar service.

SENTENCE TO BE PASSED.—The Alaska Hoocheno makers brought down by the last steamship from Sitka, who plead guilty in the United States District Court several days ago, will receive their sentence to-morrow. The lucky one of the crowd is Dimetry Sepagen, who plead not guilty, and two juries trying him failed to reach a verdict. Owing to the great expense of obtaining additional testimony against him, the proceedings will probably be dismissed.

TRANSPORTATION LINES OF THE OREGON RAILWAY AND NAVIGATION CO.

The following circular issued by the O. R. N. & Co., fully explains the present transportation lines of that corporation, and also their plans for future construction:

OREGON RAILWAY AND NAVIGATION COMPANY.
Vice-President's Office,
Portland, Oregon, Jan 15, 1881.

In order to readily answer the large number of letters received, inquiring as to the extent of the transportation lines of this Company, the scope of their projected extensions, as well as of the territory directly or indirectly traversed by them and the facilities they furnish, the following brief statement is presented:

The lines of the Oregon Railway and Navigation Company, as at present constituted, acquired by purchase and consolidation, are as follows:

1st. That formerly owned and operated by the Oregon Steamship Company, being a line of first-class Passenger and Freight Steamships, now consisting of the "Columbia," "Oregon," "Geo. W. Elder," and "City of Chester," making regular trips every five days between San Francisco and Portland.

2nd. The line formerly owned and controlled by the Oregon Steam Navigation Company—a fleet of 30 river Steamboats and Barges, plying daily on the Lower, Middle and Upper Columbia and Snake rivers, and the Willamette—traverse that river to the head of its navigable waters—together with the Steamboats and facilities formerly owned by the Willamette Locks and Transportation Company.

3rd. A standard gauge line of railroad, fully equipped, running along the valley of the Columbia river from the Dalles to Wallula, together with the narrow gauge railroad known as the Walla Walla and Columbia River Railroad, from that point, affording continuous railroad facilities between The Dalles and Walla Walla.

The purpose of the Company is, to change gauge of the line from Wallula, to Walla Walla, early in the Spring, to conform with that West of Walla Walla, thus affording a continuous standard gauge line between The Dalles and Walla Walla; the Blue Mountain Branch from Walla Walla to Blue Mountain, and the Cascade Railroad Portage in Washington Territory, between the Lower and Upper Cascades.

The mileage of these several lines of Transportation is as follows:

From San Francisco to Portland by Steamships	670 miles.
On the Willamette, Columbia and Snake Rivers, North and East, from Portland by Steamboats	540 "
On the Willamette River, South of Portland, by Steamboats	172 "
From The Dalles to Walla Walla, by Railroad	158 "
Blue Mountain Extension, (14.) and Cascades Portage, (5.)	20 "
Total now operated	1560 "

In addition to which are the following projected lines of Railroad now in course of construction:

From Portland to The Dalles, location and work commenced	80 miles.
Umatilla to Baker City, located and work commenced	170 "
Walla Walla to Grange City, grading nearly finished	52 "
Grange City to Colfax, located, work about to commence	64 "
Dayton Branch, located, work about to commence	13 "
Pataha and Lewiston branch, located, work about to commence	96 "
Farmington and Pine Creek branch, located, work about to commence	45 "
Moscow branch, located, work about to commence	25 "
Elk Creek branch, located, work about to commence	16 "
Total projected and to be completed	537 "
Total completed and projected	2097 "

These lines, tap the rich valleys of the Columbia, Willamette and Snake rivers, and are rapidly reaching out into the other wheat producing regions of Eastern Washington Territory and Oregon; whence, by continuous transportation through the channels described, communication may be had with Portland and San Francisco for the largest possible surplus of products, and which immigrants, seeking homes and farms, may reach direct, by rapid and comfortable conveyance, instead of by the long and tedious wagon road journeys which formerly so taxed their time and patience, and which, until lately, have kept this great treasure of fertile soil so locked up from the knowledge and benefit of the outside world.

Further information, in regard to the Company or the country through which its lines are located, can be obtained by addressing:

T. F. OAKES,
Vice-President and Manager.
A. L. STOKES, Gen'l Eastern Passenger Agent, 52 Clark St., Chicago.
JOHN MUIR, Gen'l Freight and Passenger Agent, Portland, Oregon.

HOW TO COME TO OREGON AND WASHINGTON TERRITORY.

To parties intending to go to Oregon it is of importance to understand the best time to go, and the best route to be taken.

For the benefit of such the following has been carefully compiled, and can be relied upon as accurate. Immigrants and others, acting on this information can "be sure they are right and then go ahead."

First, as to time: the resumption of transportation over routes that have been partially closed, particularly to sections only accessible by navigable steamers, and the commencement of the supply trade from commercial centers to points where exhausted stocks need replenishing, as well as the recurrence of the natural season when the land, prepared by our unrelenting rains, is again in readiness to be tilled, combine to make Spring pre-eminently the best season in which to reach Oregon. Employment can then be more readily obtained and with farmers or land-settlers work can be immediately commenced. After spring the desirability of the seasons for reaching this section follow in regular order: Winter should never be chosen, but the trip had better be postponed a few months.

Second—as to route to be taken. It is perhaps well to state that all who come to Oregon first reach Portland. This city is the gateway and distributing point for Oregon and Washington, and in fact of the entire far Northwest. From Portland all transportation routes diverge. The intending emigrant can go to Portland; there decide upon and select his location, and reach it as cheaply as if he had gone directly there. Portland then, is the point which the emigrant first desires to reach.

Emigrants from Europe can reach Portland,

Oregon, either by way of steamer to New York and thence by way of Panama, or by rail overland; or can go direct by English or German steamers to the Isthmus, taking the regular steamers from Panama for San Francisco and Portland. Emigrants from Eastern Canada and the Atlantic States have the choice of two routes; one is by the Pacific Mail Steamship Co.'s steamers from New York to Aspinwall, thence across the Isthmus by rail to Panama, and from there by the same line of steamers to San Francisco; thence by the splendid steamers of the Oregon Railway and Navigation Company to Portland. The other route is by rail across the continent to San Francisco and thence to Portland by O. R. & N. Co.'s steamers, as we have before stated. The time spent on the journey from New York to Panama is about thirty days; by the Pacific railroads the journey is made: first-class, in ten days, and emigrant trains go through in fifteen days.

From the table of rates given below a comparison of cost of travel via Panama and by railroad across the continent can be obtained. By the Panama route cooked food and sleeping accommodations are furnished without extra charge; by the overland route the fare charged pays for transportation only, as far as San Francisco, while on the steamers from San Francisco to Portland food and berths are included. For emigrants from the middle and Western States the overland route is unquestionably the best.

Though it is not practicable to charter cars for colonies, the use of a special car, westward, from Omaha, or Kansas City, can be obtained, when the number is sufficient, upon application to the General Ticket Agent of the Union Pacific railroad at Omaha.

Sleeping-car rates overland are as follows:

	BERTHS	SECTIONS
New York to Chicago or St. Louis	\$ 5.00	\$10.00
Chicago or St. Louis to Omaha	3.00	6.00
Omaha to Ogden	5.00	10.00
Ogden to San Francisco	6.00	12.00

From Ogden to San Francisco the Central Pacific R. R. Co. has now third-class sleeping cars fitted with upper and lower berths. The upper berths swing freely on iron rods and when not in use can be hung up on the roof of the car. The lower berths are formed from the seats and are made up after the manner of first-class sleepers by turning down the backs, etc.

These cars are a great convenience to emigrants as heretofore they have been compelled to sit up, or make shift to rest as best they could. The only difference between these remodeled cars and first-class sleepers is that the former are not upholstered. No additional charge will be made for berths in third-class sleeping cars. One hundred lbs free baggage is allowed for each whole ticket, and fifty lbs. for each half ticket, between Eastern points and San Francisco. Excess of above weight will be charged for at the rate of \$10 per 100 lbs. from Omaha to San Francisco. From San Francisco to Portland, the O. R. & N. Co. allow free, 150 lbs. of baggage with each adult passenger; half passengers in proportion. All baggage above this weight will be charged for at the rate of 2 cts. per lb.

Portland is reached from San Francisco by steamers of the Oregon Railway and Navigation Company which leave each port every five days. Their steamers are large, new, a No. 1 ships and rank among the finest steamships afloat upon the ocean. They are fitted up with every convenience and luxury known to modern travel. The trip between Portland and San Francisco is made in about two days and affords the traveller full opportunity to enjoy the great scenic beauty of the Lower Columbia river.

There is another route to Oregon, overland, via Sacramento and Redding, which involves change of cars at Sacramento and includes 285 miles of staging, over high mountains, and still another change to cars at Roseburg, a point 200 miles South of Portland. This is frequently travelled in the summer by tourists, but involves much greater expense than emigrants will often be willing to pay. If parties going to Oregon and passing through Chicago will call at the office of the Oregon Railway and Navigation Company, No. 52 Clark St., full information in regard to routes, connections, etc., and locations in Oregon or Washington will be freely given and pamphlets furnished.

It is always best to purchase through tickets, as money is saved and trouble lessened by so doing. Railroad fares are constantly changing, but the annexed list contains the present rates of fare to Portland via San Francisco and the steamers of the Oregon Railway and Navigation Co. from there to Portland. The rates charged are sometimes less than at others, occasioned by cutting upon the part of certain lines, of which fact passengers will obtain the benefit by purchasing through tickets:

NAME OF PLACE	DISTANCE.	FARE.
Albany, N. Y., to Portland	3,398	\$75 00
Austin, Texas, "	3,388	81 85
Boston, Mass., "	4,098	78 00
Buffalo, "	3,619	71 00
Baltimore, "	3,888	75 00
Chicago, "	3,080	65 50
Cincinnati, "	3,381	69 80
Cleveland, "	3,426	73 50
Detroit, "	3,335	71 50
Galveston, "	3,589	81 30
Harrisburg, "	3,707	73 50
Indianapolis, "	3,280	67 50
Kansas City, "	2,778	60 45
Louisville, Ky., "	3,313	70 45
Montreal, Canada, "	4,223	75 00
New York, "	3,392	75 00
via Panama, "		75 00
New Orleans, "	3,690	78 00
Omaha, "	2,580	55 50
Pittsburg, "	3,543	70 00
Philadelphia, "	3,902	73 50
Quincy, "	2,939	65 50
St. Louis, "	2,960	65 50
St. Paul, "	3,247	69 35
Toledo, "	3,323	71 00
Washington, D. C., "	3,884	75 00

Upon arrival at Portland immigrants will find it to their advantage to call at the office of the Oregon Railway and Navigation Company, corner Front and D streets, where valuable information can be obtained.

But one class of tickets (first-class) is sold over river lines.

Emigrants movables are carried at greatly reduced rates. The steamers of the Oregon Railway and Navigation Company leave Portland daily for The Dalles, Walla Walla, Eastern Oregon and all Columbia and Snake river points, connecting at Klamath with the Northern Pacific Railroad for Tacoma, Seattle and Victoria.

Through tickets to Portland, Oregon, via Oregon Steamship Company, can be obtained at ticket-offices of following-named railroad lines:

Boston & Albany, Baltimore & Ohio, Central Vermont, Chesapeake & Ohio, Chicago, Burlington & Quincy, Chicago & Northwestern, Chicago, Milwaukee & St. Paul, Chicago, Rock Island & Pacific, Central Pacific, Grand Trunk, Hooch Tunnel, Indianapolis, Bloomfield & Western, Kansas City, St. Joseph & Council Bluffs, Lafayette, Muncie & Bloomfield, Lake Shore & Michigan Southern, Michigan Central,	Missouri Pacific, New York, Lake Erie & Western, New York, Central & Hudson River, Pennsylvania Central, Philadelphia, Wilmington & Baltimore, Pittsburg, Fort Wayne & Chicago, St. Louis, Kansas City & Northern, St. Paul & Sioux City, St. Louis, Iron Mountain & Southern, St. Louis & Southeastern, St. Louis, Terre Haute & Vandalia, Toledo, Peoria & Warsaw, Union Pacific, Wabash, Wisconsin Central, Western Union.
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Local ticket-agents of above-named lines will, on application, procure tickets.

Passenger holding through tickets to points in Oregon will, on presenting the same at Council Bluffs, be allowed one hundred pounds of baggage free.

When parties are unprovided with through-tickets, the same can be obtained at ticket-office of Union Pacific Railroad at Council Bluffs. Capt. H. E. Paine, agent of Oregon lines at Omaha, will furnish information and assistance to passengers, and forward names to the San Francisco office, insuring space on steamers and attention on arrival. At San Francisco, J. E. Shephard, agent (at 504 Battery street), will meet passengers, and render assistance in transfer to steamers for Portland.

Emigrants are advised to rely upon the above-named agents, who are especially employed to render them information and assistance.

Oregon Railway and Navigation Company.

OCEAN DIVISION.

Between San Francisco and Portland.

Steamship Leaves Every Five Days.					
LEAVE SAN FRANCISCO AT 10 A. M.			LEAVE PORTLAND AT 3 A. M.		
Oregon	State of California	Columbia	Oregon	State of California	Columbia
Feb. 10	Feb. 5	Feb. 15	Feb. 17	Feb. 12	Feb. 22
Feb. 25	Feb. 20	Mar. 2	Mar. 4	Feb. 27	Mar. 9
Mar. 12	Mar. 7	Mar. 17	Mar. 19	Mar. 14	Mar. 24
Mar. 27	Mar. 22	Apr. 1	Apr. 3	Mar. 29	Apr. 8
Apr. 11	Apr. 6	Apr. 16	Apr. 18	Apr. 13	Apr. 23
Apr. 26	Apr. 21	May 1	May 3	Apr. 28	May 8

Right is reserved to change steamers or sailing days.
Through Tickets sold to all principal cities in the United States and Canada.

RIVER AND RAIL DIVISIONS.

Columbia, Willamette and Yamhill Rivers.

FEBRUARY 1, 1881.						
Leave Portland for	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Dalles, Walla Walla, Umatilla and upper river points.	5 AM	5 AM	5 AM	5 AM	5 AM	5 AM
Astoria, Kalama, Tacoma, Seattle.	6 AM	6 AM	6 AM	6 AM	6 AM	6 AM
Victoria, New Westminster, Cathlamet, Bay View, Skomckway, Brookfield, Westport, Clifton, Knappa.	7 AM		7 AM		7 AM	
Dayton, Salem, Albany, Corvallis and intermediate points.	6 AM			6 AM		

General Offices—Cor. Front and D Streets.

J. McCRAKEN & CO.,
Ag'ts State of California.
A. L. MAXWELL,
Ticket agent O. R. & N. Co.
JOHN MUIR,
General Freight & Pass'r agent.
T. F. OAKES,
Vice-President & Manager.

MAPS.

MAP OF OREGON AND WASHINGTON TERRITORY.

WE HAVE COMPLETED ARRANGEMENTS whereby we can furnish Colored Maps, complete in a neat cover, of Oregon and Washington Territory, either singly or combined, at the following prices. We will send them postage paid:

Map of Oregon	\$1.00
Map of Washington Territory	\$1.00
Map of Oregon and Washington combined	\$1.50

Make remittances by Money Order or Registered Letter payable to

Sam'l A. Clarke,
Portland, Oregon.

THE LABOR MARKET.

The question of labor comes in as a very important factor in relation to the prosperity of any country, and in connection with immigration to a new country it is important to all who shall go there. The laboring man wishes to know what wages he may expect to earn, and the farmer or manufacturer will be anxious to know what rates they will have to pay, and whether labor can be had when wanted.

Of course there is a difficulty in transporting the common laboring classes to so distant a country, as there are not many who have the means to emigrate such a distance, who are willing to take service as laborers when they get here. There is with us a somewhat scant supply of white labor. Farm hands are generally to be had when needed and receive wages according to the work and the season. A common rule may be accepted, as follows: The farmer engages a man for a year and pays him one dollar a day and board, for working days, and the man may be expected to assist at chores when stormy weather prevents out-door work. Of course men receive wages according to their work-value, and while farm-hands range from \$20 to \$26 a month, some extra hands receive \$30. H. W. Prettyman, an extensive nurseryman, who lives a few miles East of Portland, gives hands \$20 to \$30 a month. We have known good hands work for \$15 a month in the winter season, and they would receive \$1.50 and perhaps even \$2 a day in harvest, but average farm labor may be placed at \$1 a day, for actual work, and board, the year round.

The presence of Chinese causes great opposition, but in the present lack of steady-working day-laborers they are a great necessity in the country. In the Summer time thousands of them go to the canneries and fisheries, and they soon become adepts in making cans, curing and packing fish, etc., while the proprietors are troubled to secure white men enough to man the fishing boats and do the work they need while labor for. August sees the fishing season close, and then the Chinese are ready to take contracts for grubbing. They aim to clear \$1 a day and board themselves out of it, but they frequently work for much less. One of the railroad companies, that contracts for Chinese laborers to do all the grading, informs us that the average cost is 86 cents a day, actual working days of ten hours each. They pay the white laborer more than twice that—\$1.75 a day—and they consider that while a Chinaman works with steadiness, a white man will do one third more labor, but as the Chinaman boards himself at half what the white man receives, it will be seen that it costs \$1.20, or less, to get work done by Chinese that the white man receives \$1.75 for doing. So the railroads engage Chinese to grade the roads and have white men to superintend as "bosses." Of late they are setting Chinese to work as teamsters, because white men cannot always be found when needed.

The Chinese are invaluable for grubbing and clearing land, which they do at a price that enables farmers to have their brush land cleared. We have paid \$14 an acre for grubbing land and made the money clear off the first crop of wheat, which sold at \$1 a bushel.

In the absence of white labor Chinese are employed in light manufacturing and answer very well at it. They are also employed in great numbers as house servants—not those who are day laborers, but a more intelligent class that take up that branch of life. Where white girls are so scarce, it is a great benefit to find Chinese so useful. Many farmers employ them in the kitchen as well as in the field. We have known farmers, in harvest time, when unable to procure white laborers, to go to town and bring out Chinamen, and soon break them in to be of use. At the present time we have a Chinese in our kitchen who is a good cook, clean and neat, economical and we think thoroughly honest, who does his duty in a quiet way, has learned our ideas of work, and we pay him \$3.50 a week. Home servants receive from \$12 to \$25 a month in the towns, and in the country any good girl or woman who is willing and capable can always secure a good place and fair wages.

Desirous of giving correct information, we have visited different manufacturing establishments in this city, and the officers of steamboat corporations, and learned the current wages paid in different departments of labor and will proceed to give the result.

J. B. Congle & Co., harness makers, inform us that they make all their harness and saddles for wholesale and retail trade; good harness makers average \$3 a day, and wages run from \$2 to \$4 a day, the fact being that extra hands will clear \$4. Saddle hands make from \$3 to \$5 a day, generally working on piece work where the most skillful makes the most wages.

Cabinet making is carried on quite extensively and successfully as we have stated. We learn from Messrs Shindler & Chadbourne, the oldest furniture house in the State, also

from I. F. Powers, a very extensive manufacturer, that their hands at steady work, the year round, average to make \$2.25 to \$2.50 per day. They inform us that skilled labor has not been difficult to obtain.

Carpenters wages average \$2.50 to \$3 a day, and a good workman gets the latter.

W. W. Espy carries on the most extensive carriage making establishment in the State, and is located in this city. He informs us that he employs in all 26 men as workmen in wood and iron, trimmers and painters, and that the skilled ones have all been brought by him from the East, because he could not easily find competent men. He complains that he pays too high wages to be able to fairly compete with Eastern work. In his employ wagon makers earn from \$2.50 to \$3 a day, and men working by the piece frequently average \$3 to \$3.50 a day. Blacksmiths make from \$2.50 to \$4 on his wagon works. It is not probable that such wages are made by blacksmiths generally, in the country; the reader will form his own conclusions as to the difference between first-class work in towns and the average of blacksmith work done in the country. His painters and trimmers average \$3 to \$3.50 a day. Mr. Espy informs us that so far as he can judge, good, skilled workmen find ready employment.

The Willamette Iron Works conduct very extensive foundry and machine works, and turn out machinery for our largest river steamers. The scale of wages is: Ordinary helpers \$2 to \$2.50 a day; moulders \$3.50 to \$4; machinists \$3 to \$4.

The Oregon City Woolen Mills have their office and store in this city, and Mr. Jacobs, the Superintendent and chief owner, informs us they work a total of 130 hands, two thirds of whom are white and one third are Chinese. As the country grows older they find it easier to procure white labor, and are replacing Chinese with whites. Their scale of wages rate: Common labor \$1.25 to \$1.50 a day; Chinese 90 cents to \$1; weavers average \$1.75 a day; spinners \$1.25 to \$1.50, these last being children and youths, who have become easily adepts in the trade. The mills of this company are at the falls of the Willamette, twelve miles above Portland.

The Oregon Railway and Navigation Company is an immense corporation with railroads in operation and process of construction and steamboats by the score running on all our rivers. In answer to our request for information we have the following schedule furnished of wages paid by this company:

CONSTRUCTION ACCOUNT—Engineers (assistant) \$125 to \$150 per month and expenses; rodmen \$35 to \$40 a month and expenses; transit men \$100 a month and expenses; blacksmiths \$2.50 to \$4 per day; carpenters \$3.50 to \$4; carpenters' assistants \$1.75 to \$2; track-layers (ironmen) \$2 to \$2.50; laborers with teams \$6.50; engineers of construction trains \$3.50; conductors \$8 to \$100 per month; brakemen \$66 per month; foremen of gangs \$75 to \$100 per month.

OPERATING ACCOUNT—Station men: Clerks \$75 to \$125 a month; truckmen and laborers \$66 per month; longshoremen per hour 30 to 42 cents.

BOATMEN—1st engineers, with board, per month \$100 to \$125; 2d engineers \$60 to \$75; firemen \$50; deckhands \$45 to \$50; mates \$75; stewards \$60 to \$75; waiters \$25 to \$30.

TRAINS—Telegraph operators \$75; conductors \$80 to \$100; yardmasters \$70; brakemen on train \$2 per day; engineers \$100 to \$120 per month; firemen \$60 to \$66.

SHOPS—Machinist per day \$3.50 to \$4; boiler makers \$4; helpers \$2 to \$2.50; blacksmiths \$3 to \$4; blacksmiths' helpers \$2.50 to \$3; carpenters \$3.50; car repairers \$2 to \$2.50; painters \$3.50; laborers \$2 to \$2.50; track laborers \$1.85 to \$2 a day.

In the printing business we pay 40 cents per one thousand ems for day work and 50 cents for night work. Good printers wages run from \$15 to \$20 per week.

HEALTH OF OUR COUNTRY.

Our Moist and Dry Climates Contrasted—Facts As Regards the Health of the Whole Columbian Region.

The world is especially interested in knowing what the conditions of new regions are with regard to health, and in furnishing information with regard to the Pacific Northwest it would be a great omission to neglect to place reliable facts before the world upon this important head. Ever since the country has been under the U. S. flag the general army reports have invariably been favorable with regard to the health of all posts established on the Northwest coast. These reports show a better average condition of health in all this region than for any other portion of the nation domain. Here is the most positive and reliable evidence that can be had, which is of course strictly official and disinterested, as to the health of the country.

To be able to give reliable information on this subject we have consulted two eminent physicians of our State, both of whom have had great experience, Dr. W. H. Watkins and Dr. H. Carpenter, and from them have gathered the points which follow. Western

Oregon and Washington possess a moist climate. The winds that usually sweep this region in Summer are from the Northwest; in Winter from the Southwest, in each season these winds, direct from the ocean, bring no miasma or infection. The present Winter has seen a very unusual prevalence of Easterly winds, but these came off the snow mountains, or were swept over the dry interior country and had no miasmatic taint. In many respects this has been an unusually severe Winter, with snow and continuous frosts and heavy rains and floods, quite astonishing the memory of the oldest inhabitant. But for all that it has been a remarkably healthy Winter. Physicians agree that Winter rains constitute the most healthy season we have.

Owing to the usual absence of severe cold or extreme heat, the vicissitudes of climate common to this latitude in other parts of America are unknown here. Equability of temperature favors health. In Western Oregon rheumatic and nervous disorders are less felt, and when felt are less severe than in most other countries. Dr. Carpenter suffered in Iowa, several times a year, from severe attacks of rheumatism, while here, he has had but one attack of consequence in twenty years.

This climate is not so favorable for weak lungs as that East of the Cascades, which has greater altitude, is lighter and drier air, and considered, in Summer and Fall especially, very favorable for pulmonary complaints, but there is no tendency here to lung complaints unless induced by undue exposure. There is a part of this valley, a narrow strip, swept by the winds that come from the ocean through a low pass in the Coast range, where lung complaints are more common than elsewhere. As a usual thing diseased lungs are inherited or imported, and not native in their origin. It is not in any sense a consumptive region—lung diseases do not commonly prevail; and deaths seldom occur from that cause, while East of the Cascades the climate is peculiarly favorable for weak lungs.

The Coast region and the wide interior country are free from miasma, of which we have enough in the Western valleys, except Rogue river, to cause slight attacks of chills and fever occasionally, but it is not such a disease here as is known in the Mississippi valley region, or in the Sacramento and San Joaquin valleys in California, which are decidedly unhealthy. There seems no necessity to suffer from chills and fever where ordinary prudence is exercised. Mr. L. Herrichson, a subscriber who lives on Sauvie's Island, an extensive bottom at the confluence of the Columbia and Willamette rivers, has lived in this sort of locality for thirty years and says he has a very healthy family by always taking a little care to use preventives when any of the family look a trifle out of sorts. Take this valley through, and there is little disease from malaria, and what little there is leaves no serious effects. The North wind of Summer, when permitted to ventilate our homes, sweeps away all impurities and secures health. While we cannot say that we have no chills and fever, we can say that it exists in a very mild type, need not be dreaded and can usually be avoided by caution in observing its approach. In an article written on the health of this region Dr. Watkins says: "In the Willamette valley we have the soil, the alluvial deposit, the moisture, which in Indiana and Illinois would cause ague and intermittents to be rife through the community, but they invariably yield to remedies in small doses when occasional cases are found. The type is commonly where a chill occurs every other day." He attributes this freedom from malarial disorder to our Northern latitude, daily sea breezes, cool, bracing nights and the medium temperature of our warmest days. He adds: "typhus and typhoid fevers have never been epidemic in Oregon."

This country is unusually free from liver complaints, though of course the climate is not responsible for effects produced by alcoholic stimulants or other abuses of nature.

Dr. Watkins asserts that residence in the country East of the mountain is a specific for asthma so complete that a sufferer will often obtain relief from breathing that atmosphere for only forty-eight hours. The only exception to his rule seems to be when the disease has continued so long that organic changes have taken place that are incurable. The same patient, after long residence in Eastern Oregon, on returning to Western Oregon will become again a sufferer. And yet, this valley is not unhealthy in this respect. Asthma is not a common complaint and is not severe, but there are occasional cases; residence in the foothill region has often been found to relieve those who have it. We know of a case where a man aged 50 moved to the foothills after suffering much from asthma for years, and was well for twenty-five years afterwards.

The climate East of the mountains, as it has greater heat in Summer and cold in Winter, is less favorable to rheumatism than this valley. Local causes produce disease here as elsewhere. Diphtheria causes sad ravages, at times, and this Winter scarlet fever has claimed victims. Whenever contagious or epidemic diseases occur, physicians claim that their malignant features are often greatly modified by the effects of climate. In all respects, in production of farming result, and as well in respect to health, the unusual evenness of our climate is a strong factor in our favor.

We hear occasionally of pneumonia, but not often, and seldom with fatal results, while its prevalence and destructiveness in the States of the Mississippi valley is well understood. It is recorded by the United States Army Surgeons that fevers and wounds get well here much quicker than in the Atlantic States.

This is a country where women need to take good care of themselves. Long residence has shown us that female diseases and weakness are very prevalent. Perhaps this humid atmosphere has something to do with it. Whether this is also true of the Eastern climate we cannot say, but it seems to be the fact in the Willamette valley.

Western Oregon has much the same climate as England and it is noticeable that we have already a tendency to the diseases prevalent in that country, and while England is the most healthy portion of Europe we believe that our State bears the same relation to the continent of America. So far, this region has in a great measure immunity from many diseases that prevail elsewhere. This cannot always last; the settlement of a country and its cultivation will necessarily produce changes; disease is a product of too much civilization, and though it may be some generations hence, our Western valleys will in time no doubt be subject to the diseases which prevail elsewhere in the world in similar moist climates.

EXPERIMENTAL FARMING.

[The following from Judge Wait, a distinguished lawyer and jurist, now engaged in farming is of interest.]

CANBY, Feb. 4th, 1881.

Editor Willamette Farmer:

My experience in farming has been confined to about six years; but at your request I give you something of that experience. I have given especial attention to the introduction of choice varieties of potatoes, and have introduced and tested many new varieties. Some varieties really good in the Atlantic States are comparatively worthless here. Farmers generally would do well to test several varieties and learn which are best suited to their soil. It is just as easy to raise a good potato as a poor one, and some are much more productive than others. Last season I raised five bushels and thirty-one pounds of potatoes from one pound of the "Andras" White Rose, and nearly as many from one pound of "Sutton's Magnum Bonum" (English potato.) There are varieties which would not produce half as much with the same treatment.

Last year I planted, side by side, one ounce each of six varieties of winter wheat, to test their relative productiveness, and gave them the same treatment. The varieties tested were "Molds," "White Velvet," "Clawson," "White Winter," "Defiance" (Spring and Winter) and "Chester-headed."

From the one ounce each of the above, I threshed and saved, as follows:

One Ounce Molds,	30 1/2 pounds.
" " " White Velvet,	23 1/2 "
" " " Defiance,	23 1/2 "
" " " Clawson,	23 "
" " " White Winter,	21 "
" " " Chester-headed,	23 "

They are all choice varieties of wheat, except the last named which I do not think worth raising. The Clawson grown in Oregon is pronounced a flint wheat. The difference in yield, you see, is immense. I have been told in the past, by good men, that they did not want, and did not believe they could get a better wheat than the old "White Winter;" and yet, its product was only about two thirds as much as the "Molds" wheat. Every large wheat farmer should raise some "Clawson" wheat, because it ripens earlier and can be harvested and put out of the way before other varieties are ready to harvest. The White Velvet and Clawson are very fine; but I think that the Molds is superior—it's heads are nearly a third larger than the heads of the White Velvet. I also planted, side by side, one ounce each of twelve varieties of oats and gave them the same attention, for the purpose of testing their relative productiveness and quality. The oats produced as follows:

One Ounce White Zealand,	32 1/2 pounds.
" " " White Probestin,	31 1/2 "
" " " Somerset,	30 "
" " " Board Slade,	30 "
" " " White Russian,	28 1/2 "
" " " Hopeton,	25 1/2 "
" " " Side,	24 1/2 "
" " " Potatoe,	24 "
" " " White Norway,	24 "
" " " Surprise,	20 1/2 "
" " " Scotch Gray,	16 "
" " " Chinese Hulless,	12 1/2 "

The Scotch Gray is a winter variety, and being sowed in the spring with the others was not fairly tested. I regard the Chinese Hulless oat as unworthy of cultivation. The White Probestin, Somerset, and Board Slade are very fine oats; but I like the White Zealand and White Russian better. The two latter are White Side oats, and like the Potatoe oat are very thin hulled. I am testing them as winter oats and they are now looking fine.

The perfection of Oregon wheat is owing to a great extent to our climate. Our wheat ripens slowly, or in other words it grows into ripeness and perfection.

AARON E. WAIT.

THE CENSUS OF 1880.

We publish this week tables carefully compiled by Mr. Sukstorf, Superintendent of the Census for this State, from the very voluminous returns from the various counties, forming a valuable summary of facts relative to population, lands, property of all kinds, products and manufactures, which will go forth to the world as an evidence that Oregon is making rapid advancement. These tables have been prepared at great cost and are the private property, by virtue of a right, of J. K. Gill & Co. and Mr. A. A. Bynon, who are publishers of the forthcoming directory for which these census tables are intended. They are published by us by consent of the owners of the copyright, and, of course, no person has any right to republish them from our columns, which fact we are requested to make known to avoid difficulty. The readers of the FARMER are fortunate in being able to have the results of the census presented to them in this manner, far in advance of their publication at Washington.

We should be glad to have similar tables concerning the census of Washington Territory, if they could be procured at reasonable cost, but are not able to get them.

The first columns show the census enumerations taken in 1850, 1860, 1870 and 1880. Many counties had no organization in 1850, four were not organized in 1860, and Lake county has been organized since 1870. There are 16,466 farms in the State and 13,870 owners of farms. Reuters to the number of 768 pay money rent for farms, and 1,648 persons rent farms and pay a share of the products. The number of acres in cultivation is summed up thus:

ACRES.

Tilled, including fallow and grass in rotation.....1,229,318
Permanent meadows, pastures and orchards.....985,283

Total.....2,214,601

To sum the matter up briefly, this State covers an area of almost one hundred thousand square miles and contains over sixty millions of acres, and there is only within all this bound, that owners claim to be reduced to any sort of cultivation, a little over one acre in thirty. To make a very liberal estimate of mountains and waste lands through all this wide expanse, there must be over ten acres of good soil not in cultivation for every acre cultivated, and there must be many millions of acres that are unsettled, uncultivated, and still waiting for new comers to locate and subdue. That are well worth occupying.

The Willamette valley is supposed to be thickly settled, and is the oldest portion of the State. The Oregon City land district includes most of this valley, also the coast to the West of it, and the Oregon side of the lower Columbia river. In the whole district there is 6,808,000 acres, of which 3,740,000 acres has been surveyed, of which 2,599,000 is settled, leaving nearly 1,200,000 acres of the surveyed land uncultivated, while a great portion of the 3,059,000 acres of unsurveyed land in this district is known to be very rich soil that will sometime invite dense settlement.

Comparing the tables furnished us from Hon. L. T. Barin, Register of Land Office at Oregon City, showing quantity of land surveyed and occupied, with the census tables, we find that only a little over one-third of the occupied land is in cultivation, and the cultivated area is only one-fifth of what we may suppose to be good soil that will eventually become available. We by this means arrive at a comprehensive idea of the conditions that prevail in this, the most populous portions of the Northwest coast region, and can easily imagine what its future will be.

Extending our comparison to the whole of Oregon, we find that while 2,200,000 acres of land is cultivated, there is, if we only claim two-fifths of the whole as arable land, still an area of 20,000,000 acres through the State that is good, arable land not in cultivation. The Oregonian who imagines that his State is about developed and that land is scarce here, is greatly deceived. The most available regions only are occupied. We who came early find homes in Oregon and Washington on lands not yet appreciated at their worth.

The area in cultivation in the whole State is scarce more than one-half the arable land in the Willamette valley, and while the greatest got onto the smooth places, but millions will area of cultivated land is in this valley, it is yet true that not over one-third of the land here is in cultivation.

The census valuation of property is not very high as it strikes us, and foots up as follows:

Land and improvements.....\$53,723,643
Farm machinery and tools.....2,913,750
Live stock.....13,116,720

Total valuation.....\$69,754,113.

It is safe to say that the property above described could not be bought for less than twice the sum total above given. Sales of farm machinery in this city, and from the branch houses through the country, aggregate half the amount given as value of farm implements, annually.

The estimate of farm products foots up handsomely; i.e. \$12,215,070 and that, too, under

Abstract of the Census of Oregon, 1880, Compared in Important Points with the Census of 1870.

COUNTIES.	POPULATION.				FARMS—TENURE, ACREAGE AND VALUE.									
	1880	1870	1860	1850	Number of Farms.	Number of Owners.	No. Rented for money.	No. Rented for shares.	Tilled, including fallow and grass in rotation.	Permanent meadows, pastures and orchards.	Value of lands, fences and buildings.	Value of farm implements and machinery.	Value of live stock.	Amount paid for wages.
Baker.....	4631	2804	.....	.....	390	337	11	11	26441	21380	530450	54509	943728	45138
Benton.....	6354	4584	3074	814	606	502	22	80	66070	73466	3171495	149095	415871	172261
Clackamas.....	9287	5993	3466	1850	1374	1197	81	54	35687	31652	2817544	126576	365177	88220
Clatsop.....	6025	1255	498	643	161	137	9	17	5200	4744	273730	8294	42682	13901
Columbia.....	2045	863	532	462	158	143	11	4	1562	13025	408215	10128	76115	10772
Coos.....	4849	1644	445	.....	597	509	14	15	9231	16096	934939	28004	157333	23116
Curry.....	1210	504	393	.....	171	167	.....	4	1751	3938	409695	8655	95772	12133
Douglas.....	9560	6066	3203	.....	1053	856	81	116	87902	219781	3897375	177306	669343	127396
Grant.....	4304	2251	.....	.....	374	317	4	33	15745	24542	440875	46390	943655	66752
Jackson.....	8160	4778	3736	.....	612	506	29	50	45335	44663	1705455	117943	384400	59019
Josephine.....	2493	1204	1623	.....	270	251	9	10	12921	6628	370805	25237	97760	18267
Lake.....	2807	.....	.....	.....	347	237	6	15	9691	33312	439025	48630	506201	40633
Lane.....	9376	6426	4789	.....	1667	1050	62	152	93580	135088	4789330	253161	616609	107112
Linn.....	12711	8717	6772	994	1532	1123	63	346	174119	104120	4052022	371143	896161	145424
Marion.....	14801	9965	7088	2749	1452	1210	69	173	159264	34800	7867303	322898	740870	103236
Multnomah.....	29092	11510	4150	.....	507	434	55	17	10584	16286	2279980	65549	186445	71933
Polk.....	6513	4701	3623	1051	789	582	39	167	101164	66365	4534719	194685	546049	139952
Tillamook.....	970	408	95	.....	235	232	3	.....	6202	3653	371648	10997	67047	5409
Umatilla.....	9014	2916	.....	.....	1096	1004	20	83	118235	26000	2861065	265522	1673265	183219
Union.....	6703	2552	.....	.....	657	591	36	45	36542	55728	1429995	12780	986584	55402
Wasco.....	10228	2509	1689	.....	875	837	9	29	64715	14469	1724490	116009	1771380	147341
Washington.....	7091	4261	2801	2652	935	808	50	79	46540	14380	3231703	143595	382519	110729
Yamhill.....	7950	5012	3245	1512	1008	780	85	148	100837	21077	5181735	241563	551754	149267
Total.....	176704	90923	52465	13294	16466	13870	768	1648	1229318	985283	53723643	2913750	13116720	1896632

COUNTIES.	Estimated value of all farm pro- ductions.	Estimated value of all farm pro- ductions.	Grass Lands.				Horses.	Horses.	Males and Asses.	Working Oxen.	Milk Cows.	Milk Cows.	Other Cattle.	Milk Sold.	Butter Made.
	1880. Dollars.	1870. Dollars.	Acres Mown.	Tons Hay.	Bushels Seed.	1880. No.	1870. No.	No.	No.	1880. No.	1870. No.	No.	Gallons.	Lbs.	
Baker	239,114	84,616	11,373	14,119	20	9,680	287	217	152	4,250	605	41,004	2,190	46,970	
Benton ...	638,016	417,063	6,339	10,638	.....	3,326	2,263	83	143	2,197	2,665	3,653	130	85,547	
Clackamas.	565,555	319,556	5,403	9,196	65	2,562	869	136	929	3,252	1,329	5,956	350	148,490	
Clatsop ...	49,208	50,214	3,166	2,257	148	191	147	12	160	843	517	925	50,992	44,645	
Columbia..	63,882	71,244	4,738	3,559	.....	396	307	5	195	862	724	1,028	60	47,208	
Coos.....	94,757	163,102	2,006	4,352	249	844	347	55	405	2,582	949	5,190	2,590	88,061	
Curry.....	69,760	69,849	483	1,018	.....	492	373	76	98	1,076	925	2,243	170	47,365	
Douglas, ..	829,177	674,094	13,201	19,316	433	5,030	5,265	75	231	4,329	4,948	8,781	1,965	120,894	
Grant.....	144,111	122,579	6,254	8,445	.....	9,709	507	254	100	1,800	1,384	84,555	5,475	19,765	
Jackson ...	477,058	105,995	11,687	20,226	201	5,022	1,404	171	34	2,168	1,007	8,309	6	68,982	
Josephine .	104,032	24,775	3,460	4,533	35	1,000	48	74	17	1,120	120	2,949	.....	26,686	
Lake.....	225,971	.....	11,844	12,651	36	5,318	.....	224	97	1,405	.....	31,342	.....	53,515	
Lane.....	864,304	619,603	9,593	15,955	362	5,988	4,874	118	122	5,300	5,158	7,751	21,540	185,323	
Linn.....	1,368,090	782,915	13,107	18,999	847	7,827	9,244	129	261	5,000	4,005	7,281	50	292,434	
Marion.....	1,511,336	417,834	8,322	13,474	235	5,734	1,707	222	117	4,348	1,830	6,051	18,250	224,019	
Multnomah	586,704	318,839	5,655	9,655	61	1,253	838	35	139	2,735	1,966	1,382	58,520	222,673	
Polk.....	1,093,858	555,045	8,479	14,351	157	4,774	3,863	52	49	2,340	3,092	4,195	840	92,844	
Tillamook..	60,146	30,030	1,543	3,415	56	330	86	13	101	1,157	374	1,154	400	79,802	
Umatilla ..	958,965	514,816	7,655	15,453	36	16,905	12,712	250	65	4,606	7,317	28,588	2,031	131,395	
Union.....	430,145	285,936	16,991	25,289	357	12,659	7,204	70	110	4,617	3,585	20,630	2,210	113,551	
Wasco.....	441,068	287,762	8,614	14,975	1	17,761	2,432	127	73	2,655	1,291	38,329	34,502	49,248	
Washington	677,836	430,158	7,623	9,628	230	2,720	1,718	81	255	2,614	1,503	3,173	362	151,982	
Yamhill...	1,322,785	770,765	6,706	12,347	223	4,464	4,202	173	126	2,750	3,031	5,078	101	136,749	
Total...	12,815,076	7,122,790	714,332	263,851	3,752	124,085	51,702	2,660	3,079	64,102	48,325	320,497	202,694	2,478,148	

COUNTIES.	Cheese Made.	SHEEP.					Swine.	Barley.	Barley.	Barley.	Indian Corn.	Indian Corn.	Oats.
		On Hand	On Hand	Fleeces.	Weight.	Weight.							
		1880. No.	1870. No.	No.	1880. Lbs.	1870. Lbs.							
Baker.....	8,982	11,305	560	22,654	113,656	2,775	1,583	1,718	77,838	17,732	30	975	2,784
Benton.....	8,625	28,812	12,957	27,907	128,063	68,970	5,467	155	5,172	7,414	21	779	8,853
Clackamas.....	450	14,180	5,220	14,300	54,619	15,628	9,222	179	5,449	1,255	127	2,736	8,339
Clatsop.....	5,800	1,557	1,208	1,251	1,959	4,945	979	6	59	.....	14	420	235
Columbia.....	80	1,830	1,602	1,569	6,663	4,382	1,115	9	292	254	12	682	147
Coos.....	10,518	6,280	236	4,733	19,726	644	4,697	234	7,838	1,182	254	8,839	504
Curry.....	100	28,756	7,722	22,949	95,229	24,110	1,260	107	3,440	740	69	2,880	335
Douglas.....	16,072	159,124	94,963	133,118	510,613	321,643	14,531	1,437	38,269	22,737	956	25,698	14,280
Grant.....	1,285	79,868	1,154	56,310	296,767	8,000	2,886	837	21,874	22,172	6	200	1,019
Jackson.....	6,995	39,571	2,108	30,709	109,975	1,015	13,257	1,795	60,827	8,020	2,192	46,318	4,399
Josephine.....	680	13,215	214	10,403	36,188	550	2,690	299	4,421	.....	528	8,335	811
Lake.....	2,350	25,809	.....	21,919	65,576	.....	679	731	18,215	.....	.....	332	.....
Lane.....	24,900	40,561	52,745	43,252	108,200	167,893	10,978	1,830	43,629	24,687	260	8,249	11,727
Linn.....	3,453	55,820	41,171	46,395	227,463	108,714	12,690	2,221	50,117	21,917	148	4,911	25,704
Marion.....	15,784	35,230	12,760	33,277	163,458	51,169	13,808	368	9,996	5,199	134	4,067	23,901
Multnomah.....	42,160	2,771	2,583	2,173	9,605	4,626	3,345	48	1,189	3,724	28	1,029	850
Polk.....	60	24,177	16,046	21,442	107,470	55,203	10,433	957	25,037	7,805	60	1,000	11,882
Tillamook.....	8,174	2,537	278	2,193	8,908	1,527	1,078	19	497	890	3	63	372
Umatilla.....	650	291,477	29,960	264,831	187,359	97,564	3,787	11,588	352,762	11,782	329	5,926	3,355
Union.....	7,420	27,906	2,711	22,185	117,555	8,154	9,934	3,035	110,966	29,666	55	1,040	6,586
Wasco.....	325	332,276	6,859	272,702	146,787	38,106	5,352	1,718	44,388	7,203	184	4,792	3,379
Washington.....	2,930	11,537	6,135	9,781	53,249	29,920	8,597	121	3,277	4,724	68	1,956	9,226
Yamhill.....	360	23,447	18,851	17,030	88,054	65,100	10,733	571	12,195	11,627	73	2,032	12,335
Totals.....	168,153	1258,046	318,323	1083,143	5754,398	1080,638	140,101	29,983	897,747	210,736	5,557	132,927	151,462

COUNTIES.	Oats.	Oats.	Rye.	Rye.	Wheat.	Wheat.	Wheat.	Flax.	Flax.	Flax.	Flax.	Hops.	Hops.	Potatoes.	Potatoes.
	1880.	1870.	Area.	Area.	1880.	1870.	Area.	1880.	1870.	Area.	1880.	1870.	Area.	1880.	1870.
	Bushels.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Bushels.	Acres.	Bushels.	Bushels.	Acres.	Bushels.	Bushels.
Baker.....	101,681	37,426	.....	.....	1,301	33,905	2,306	.....	.....	.....	.....	.....	.....	127	17,932
Benton.....	257,794	146,235	.....	.....	30,511	485,561	196,598	.....	.....	.....	.....	.....	.....	214	32,932
Clackamas.....	214,999	58,017	.....	.....	13,592	217,508	48,650	.....	.....	.....	.....	.....	.....	1525	208,810
Clatsop.....	6,508	2,007	.....	.....	15	408	295	.....	.....	.....	.....	.....	.....	162	18,143
Columbia.....	5,282	2,260	.....	.....	144	3,011	1,617	.....	.....	.....	.....	.....	.....	117	21,740
Coos.....	17,205	3,386	.....	.....	1,734	42,108	2,802	.....	.....	.....	.....	.....	.....	336	46,454
Curry.....	11,100	2,601	.....	.....	65	1,612	1,821	.....	.....	.....	.....	.....	.....	90	11,644
Douglas.....	347,132	188,761	5	30	29,797	441,383	104,246	.....	.....	.....	.....	.....	.....	429	52,394
Grant.....	35,268	23,426	48	1,190	2,427	44,403	17,259	.....	.....	.....	.....	.....	.....	89	8,708
Jackson.....	137,523	47,800	5	130	10,194	220,493	15,226	.....	.....	.....	.....	.....	.....	183	28,771
Josephine.....	16,056	4,900	41	621	1,486	20,281	100	.....	.....	173	.....	.....	.....	236	31,043
Lake.....	7,031	.....	.....	.....	612	9,635	.....	.....	.....	.....	.....	.....	.....	49	5,299
Lane.....	286,216	235,722	26	358	39,662	507,038	294,771	837	7,187	121	.....	131	92,798	412	52,795
Linn.....	629,164	343,298	10	200	75,109	861,593	490,294	1,479	13,757	33	28,176	32	25,830	709	72,235
Marion.....	693,630	164,087	10	320	62,922	1,055,886	232,091	17	130	2	3	41	67,080	1131	153,355
Multnomah.....	23,809	11,882	12	248	599	11,554	5,003	.....	.....	.....	.....	.....	2	1,425	1560
Polk.....	343,745	199,495	3	66	52,342	830,214	299,338	.....	.....	.....	.....	35	17,020	177	21,724
Tillamook.....	10,586	2,719	.....	12	19	369	2,899	.....	.....	.....	.....	.....	.....	112	11,417
Umatilla.....	138,766	56,634	98	1,948	30,937	911,273	28,209	.....	.....	.....	.....	.....	.....	715	81,393
Union.....	257,658	69,660	26	556	11,443	279,856	61,338	.....	.....	.....	.....	.....	.....	223	25,826
Wasco.....	105,251	26,593	216	3,240	4,683	84,778	10,599	.....	.....	.....	.....	.....	.....	442	44,362
Washington.....	315,489	183,151	13	291	20,103	375,813	157,187	.....	.....	.....	.....	4	3,540	762	115,013
Yamhill.....	379,033	219,939	13	526	52,008	957,929	374,898	.....	.....	.....	.....	14	6,150	460	63,400
Totals.....	4,340,926	2,029,900	526	9,736	441,665	7,396,611	2,340,746	2,333	21,074	329	28,179	259	213,843	10260	1320,416

COUNTIES.	Apples.	Apples.	Apples.	Peaches.	Peaches.	Peaches.	Total value of all Orchard products.	Nurseries.	Nurseries.	Vineyards.	Vineyards.	Vineyards.	Market Vegetables.	Bees.	Bees.
	1880.	1870.	Area.	1880.	1870.	Area.	Dollars.	1880.	1870.	1880.	1870.	1880.	1870.	1880.	1870.
	Acres.	Bearing Trees No.	Bushels.	Acres.	Bearing Trees No.	Bushels.	Dollars.	Acres.	Dollars.	Acres.	Lbs.	Gallons.	Dollars.	Honey Lbs.	Wax Lbs.
Baker.....	43	1,845	637	26	1,241	580	3,273	.....	.....	3	1,730	.....	6,532	425	20
Benton.....	856	54,154	58,973	.....	254	101	14,167	.....	.....	.....	.....	.....	6,005	14,398	331
Clackamas.....	2,671	165,428	130,136	20	2,185	832	32,995	.....	.....	8	6,060	80	5,338	6,830	334
Clatsop.....	202	5,617	2,372	.....	2	5	435	.....	.....	.....	.....	.....	.....	339	12
Columbia.....	145	8,648	10,846	2	11	32	2,769	.....	.....	.....	.....	.....	.....	1,880	26
Coos.....	582	22,785	20,797	1	292	389	10,128	.....	.....	.....	.....	.....	3,666	17,044	196
Curry.....	87	2,718	1,309	.....	31	33	227	.....	.....	.....	.....	.....	30	5,960	156
Douglas.....	1,773	118,993	257,476	15	1,219	584	53,080	.....	.....	29	2,865	120	4,312	10,917	300
Grant.....	122	4,904	2,790	.....	157	66	6,245	.....	.....	.....	.....	.....	5,470	.....	.....
Jackson.....	412	34,488	96,748	31	4,303	6,289	24,900	10	600	37	32,850	5,440	20,995	11,475	328
Josephine.....	278	13,682	22,654	66	4,228	5,006	12,472	.....	.....	2	4,300	.....	3,127	1,930	36
Lake.....	27	83	66	.....	.....	.....	75	1	50	.....	.....	.....	1,995	.....	.....
Lane.....	2,007	85,304	121,712	1	599	490	37,144	10	55	.....	85	3	2,892	7,297	607
Linn.....	3,491	155,777	199,185	45	473	787	65,748	1	145	.....	50	.....	5,012	7,637	173
Marion.....	3,177	191,221	213,416	2	436	22	54,448	11	2,700	.....	.....	.....	2,520	8,529	144
Multnomah.....	957	58,219	34,893	5	1,141	51	26,268	25	3,000	10	3,200	750	48,600	1,115	171
Polk.....	1,725	117,685	164,286	6	36	.....	28,814	.....	.....	.....	.....	.....	1,225	3,059	117
Tillamook.....	104	7,405	1,345	.....	.....	.....	2,587	1	1,512	.....	.....	.....	22	480	4
Umatilla.....	390	21,446	58,074	80	9,645	22,085	41,888	.....	.....	20	11	12,340	7,795	65	.....
Union.....	438	19,657	23,619	4	450	770	24,725	5	1,200	.....	.....	.....	2,349	.....	.....
Wasco.....	230	32,494	39,245	126	17,748	12,472	33,317	.....	.....	21	12,300	360	8,400	2	.....
Washington.....	930	64,744	73,540	.....	55	30	19,472	10	925	.....	.....	.....	3,405	969	75
Yamhill.....	1,817	118,557	216,147	2	290	40	52,054	4	300	.....	.....	.....	5,621	4,974	194
Totals.....	22,464	1,305,854	1750,230	432	44,856	53,676	547,501	78	10,507	121	75,780	9,295	145,297	105,538	3,224

COUNTIES.	Establishments.	Establishments.	Capital invested.	Capital invested.	Hands employed.	Hands employed.	Wages Paid.	Material.	Products.	Products.	Water.	Engines.	Engines.	Engines.
	1880.	1870.	1880.	1870.	1880.	1870.	Dollars.	Dollars.	1880.	1870.	No.	Horse-power.	1880.	1870.
	No.	No.	Dollars.	Dollars.	No.	No.	Dollars.	Dollars.	Dollars.	Dollars.			No.	No.
Baker.....	28	33	79,650	55,675	91	74	18,405	60,580	125,380	154,055	9	297	2	40
Benton.....	55	63	158,995	124,750	200	119	35,622	122,230	207,530	186,588	8	320	7	142
Clackamas.....	62	31	692,600	317,100	853	164	114,473	860,227	1,159,540	638,070	53	998	2	47
Clatsop.....	45	19	301,475	58,940	736	80	122,850	312,336	551,309	100,403	.....	.....	8	99
Columbia.....	8	14	52,800	93,105	106	59	15,516	77,130	700	76,433	1	40	.....	372
Coos.....	29	8	244,550	101,850	331	71	83,663	164,803	150,852	197,041	1	3	13	513
Curry.....	2	.....	73,000	.....	103	.....	18,700	10,000	22,000	.....	.....	.....	1	60
Douglas.....	63	56	278,175	152,900	314	112	57,293	158,210	288,134	217,970	35	615	8	258
Grant.....	22	22	59,150	86,882	83	54	16,530	39,175	104,806	86,545	15	98	1	24
Jackson.....	40	8	293,400	25,250	187	26	65,440	166,345	288,847	53,590	12	282	7	112
Josephine.....	15	.....	27,650	.....	52	.....	5,950	16,295	34,263	.....	11	131	.....	.....
Lake.....	30	.....	59,350	.....	102	111	17,250	34,458	89,571	.....	10	103	3	40
Lane.....	54	47	250,069	116,325	240	.....	60,200	156,984	297,410	104,239	34	688	8	186
Linn.....	110	120	456,090	289,617	306	226	90,648	569,190	854,060	577,655	25	696	1	24
Marion.....	85	38	527,250	572,260	378	193	126,952	959,561	1,265,991	680,488	31	931	17	375
Multnomah.....	152	307	1,545,325	1,573,875	1,732	1,142	593,469	1,322,975	2,602,544	2,698,817	9	81	38	957
Polk.....	46	47	122,810	127,460	161	96	39,848	185,550	233,931	213,491	12	364	8	207
Tillamook.....	3	1	15,000	1,500	19	1	5,250	4,450	9,600	750	3	98	1	25
Umatilla.....	26	13	186,400	31,125	178	57	44,550	187,050	226,587	90,775	6	220	9	211
Union.....	48	21	172,425	139,500	180	56	28,085	166,739	705,846	167,731	16	303	5	97
Wasco.....	40	14	113,850	30,000	246	35	31,280	217,044	1,148,222	30,617	5	131	.....	84
Washington.....	33	32	112,200	74,550	170	61	26,871	142,025	434,940	90,097	36	458	7	215
Yamhill.....	95	75	268,123	404,185	301	147	42,815	332,485	494,720	443,032	15	438	12	234
Totals.....	1,092	969	6,002,652	4,376,849	7,069	2,884	1,670,666	6,265,842	11,296,783	6,877,387	347	7,295	170	4,322

In ten years our horses have increased from 15,702 to 124,085, which milch cows have only increased from 48,325 to 64,102. Total cattle enumeration about 400,000.

We make in round numbers, two and a half millions of pounds of butter, and only 168,153 pounds of cheese.

The wool clip (1879) aggregated 5,754,366 pounds, against 1,080,000 pounds in 1870, and it is supposed the total wool sales the present year will reach fully 8,000,000 pounds.

Take the census through and it shows good healthy progress in Oregon; nothing sporadic or ephemeral, certainly nothing sensational, but reliable advancement that we have every reason to be satisfied with. It is evidently enough that agriculture must always be the groundwork of all the success we attain.

MANUFACTURING INTERESTS.

Oregon is now approaching that stage of progress when we are able to attract the attention of capital in all departments of business and can invite the manufacturer to come here and establish works in many departments of trade. Heretofore, we have developed little in the way of working up native products, except that we have extensive saw mills, and large flouring mills. We have also woolen factories where our native wool is worked up into cloths, cassimeres, blankets, flannels and staple goods, that in great part supply our home demand and are readily marketed in San Francisco. These goods are also manufactured into suits, and all sorts of clothing, and are superior to most imported goods. There is an opening here for the establishment of a large business in the manufacture of clothing for home demand. The turning of

Salem woolen mills left no mills of great capacity but those at Oregon city, which have been successfully conducted and evidently return large profits to the enterprising owners.

To commence with, it must be understood that all the country West of the Cascades possesses unlimited water power, easily controlled and which can readily be made available for manufacturing. There is no country where power exists in greater profusion and is easier of control. The Willamette region must some time, in the not distant future, realize for the Pacific all that the New England States have accomplished for the East coast, and become the scene of wonderful manufacturing energy. Here Nature has made it possible for the industrial arts to accomplish all that can be desired, and the question is: How can success be brought about. Labor must be had in cheapness and quantity to answer the purpose

before success can be realized. The mills at Salem used only white labor and paid fair wages, getting all the help that was needed. The Brownsville mills use white labor and are conducted successfully by men who are practical manufacturers. We have no doubt that manufacturing can be carried on with success in any town in this valley, and operated by labor to be procured in the vicinity. The extensive mills at Oregon City employ both white and Chinese labor and find the latter serviceable and profitable.

The completion of railroads to realize connection with the east will make it possible to introduce labor at small cost from the Atlantic States, or Europe, and whatever difficulty the labor question may now present will disappear in the near future. The manufacturer who

MARKET REPORT.

SILVER COIN—In Portland the bank quote at par buying, selling.

HOME PRODUCE MARKET.

The following represent wholesale rate, from producers or first hands:

FLOUR.—In jobbing lots standard brands, \$4.75; best country brands, \$4.25@4.50.
WHEAT.—Valley \$1.30.
OATS.—White, feed \$40@42½; bushel
ONIONS.—2@2½c.
POTATOES.65—@70 per cwt.
MIDDLINGS.—Jobbing, for feed, \$20.00
 5.00 # ton. Shorts, \$20.00. Chop, \$22@
 \$22.00 # ton.
BRAN.—Jobbing at \$14@15 # ton.
BACON.—Sides, 14 cents; Hams, country
 at, 13@14; City cured, 14@15c; Should-
 ers, 10c;
LARD.—In kegs, 12½@13c. Oregon leaf,
 ns, 13½c; do in pails, 13c.
BUTTER.—Wm. quote: Extra fresh roll,
 37@40c; fair to good, 25@30c; common, 18
 20c solid in kegs, 25@30c; best pickled rolls
 in bbls or half bbls, 30@32½c
CHEESE.—Oregon, 16@17c.
DRIED FRUITS.—Apples, sun dried quar-
 tered, 8c; sliced, 9c; machine dried, 9@10c;
 Pears, machine dried, 8@10c. Plums, sun dried,
 pitted, 11@12½; machine dried, ditto, 13@15c.
EGGS.—Near by fresh laid, 20.
POULTRY.—Chickens, small and medium,
 \$2.50@3.00 per doz.; Full grown, \$2.50@3.50
 and large receipts.
HOGS.—Dressed, 6@6½c.
BEEF.—Live weight, 2½@3c for choice
SHEEP.—Live weight, 2½@3c.
WOOL.—Eastern Oregon, 20@25c; Wil-
 lette Valley, 25@30c. Market firm.
HIDES.—Butchers' hides, dry, 15@16c;
 country cured, dry, 15@16c; culls, ½ off; Green
 hides, salted, 7@8½c; Country, ditto, 7@8½c;
 Deerskins, dry, 30c # lb; Dry sheep pelts,
 each 25@31; Dry elk, 8c # lb.
TALLOW.—Quotable at 5½@6c.
HAY.—Market from, \$17 # ton, baled
GREEN APPLES.—60@80c, latter for
 choice eating.

GENERAL MERCHANDISE.

RICE.—China, No. 1, 6c; China No. 2,
 5½c; Japan, 7c; Sandwich Islands, 8c@9c.
TEAS.—Japan, 40@50@65c; Black, 40@75c;
 Green, 65@80c.
COFFEE.—Costa Rica 16@20c; Java, 28@30.
SUGARS.—Crushed A 13c; Fine Crushed
 13½c; Cube, 13½c; Extra C, 12c; Golden C.
 No. 1, 11c.
SYRUP.—No. 1, 90c.
CANDLES.—No. 1, 10c.
RAISINS.—California, port, \$2.75 #25 lb
 box.
SOAP.—Good, 75c@1.75.
OILS.—Ordinary brands of coal, 25c; high
 grades, Downer Co., 37½c; Boiled Linseed,
 Raw Salmon oil, 40c; Turpentine, 70c;
 Pure Lard, \$1.10; Castor, \$1.25@1.40.
YEAST POWDERS.—Donnelly, \$2 # doz;
 Weston & Merrill, \$2.25 # doz;
SALT.—Stock, bay, \$12 # ton; Carmien
 island, \$15; Coarse Liverpool, \$20; Fine qual-
 ity, \$25; Ashton's dairy, ditto, \$30.

Our Subscription Price.

While our regular price is \$2.50 a year, we
 will send the WILLAMETTE FARMER to any
 Eastern States address for \$1 for 6 mos. or
 \$2 for one year. If you wish to keep posted
 about this country, send us a subscription.

Cost of Living in Oregon.

The price list taken from our regular edition
 shows the figures at which the staples of life
 are sold in this city to farmers when laying in
 their supplies for the season, and also the
 prices paid to farmers by grocers and com-
 mission men for their various products. Of
 course these prices vary through the country and
 with the season and country merchants sell
 supplies at a higher rate than we quote here.
 As a rule we may claim that all staple goods
 are sold in this country as low as through the
 States West of Chicago, and perhaps lower.
 There is sharp competition in trade and there
 is no lack of merchants and merchandise.
 The greatest rivalry exists between the agents
 of different manufacturers of wagons, carriages,
 plows and all agricultural machinery. Of
 course all the products of the soil are very
 cheap here and a plain family that is satisfied
 to live comfortably can get along on much
 less than it would require to pay for the same
 staple of living in an Eastern State. We could
 spend considerable time giving further list of
 prices, but our regular list covers the staples
 of existence and we need only add that dry
 goods, clothing and general merchandise are
 remarkable in the same proportion.

NORTHERN IDAHO.

Camas Prairie and Life in the Mountain Val-
 leys Near the Mines—Farming and
 Stock Raising.

The Northern portion of Idaho Territory
 contains some very excellent country that is
 tributary to the Columbia and invites the at-
 tention of immigrants as naturally as any
 part of the region we have already described.
 This country is bounded on the east by the
 waving line of the Bitter Root and Cou-
 r d'Alene Mts. and is watered by streams that
 rise in these mountains and flow to the Col-
 umbia on to Snake river. A portion of the
 Palouse country lies in Idaho and the map
 shows that the whole of Idaho Territory North
 of the 46° of latitude is remarkably well-
 watered, possessing streams and lakes in all
 directions. The description of the Palouse
 country applies to that portion in Idaho as
 well as in Washington. To the north of this
 is the Couer d'Alene Indian reservation and
 still further North the Columbia river sweeps
 around the Northern point of mountains from
 the Montana line.

We have just received a letter from a sub-
 scriber who describes the place where he lives,
 Camas Prairie, a little over 100 miles due East
 of Walla Walla and sixty miles South of
 Lewiston. This place is now very attractive
 to immigrants and has a brisk agricultural
 population that is kept busy raising supplies
 for miners in the various camps and mining
 towns not far to South and East of them. It
 was near here that thousands were at work
 twenty years ago, washing out places that
 were as rich as ever you read of in romance or
 fable, but years ago the richest ground was
 marked out and the mining population grew
 much less numerous, though there is still
 mining carried in many camps by both whites
 and Chinese. Our correspondent goes into
 details of description and writes so fully as to
 give an idea of the social life and principal
 features of existence in the far away settle-
 ments so we give his letter entire, very glad
 to hear this opportunity to do justice to the
 great and growing importance of Northern
 Idaho.

CAMAS PRAIRIE, Idaho, Jan. 1, 1881.

I suppose you can find Lewiston on the map of Idaho;
 it is at the confluence of the Clearwater with the
 Snake river. Well, Camas Prairie is situated fifty
 to sixty miles Southeast of Lewiston. In extent it
 measures about thirty miles between the Clearwater
 and Salmon rivers, and about fifteen miles between Craig
 and White bird mountains. Its surface formation is
 similar to that of the North Yamhill valley, in Oregon.
 Its drainage is by the Cottonwood and Three-mile
 creeks emptying into Clear water river, and by Rocky
 Canyon emptying into Salmon river. Its soil is a black
 rich looking loam, from ten to eighteen inches in depth,
 which in its wild state is covered by bunch-grass.
 Springs of water break out here and there all over
 the prairie, and beds of rocks project from the hills and
 sides of some of the ridges. There are also, occa-
 sional tracts of from one to one hundred and sixty acres,
 the surfaces of which are so completely with rocks,
 as to seriously interfere with cultivation, yet when
 once brought into cultivation produce well. There
 is still another kind, in small tracts called adobe,
 which, though productive, is difficult to cultivate. The
 altitude of the prairie is about three hundred feet above
 sea-level. The atmosphere pure and healthy, invigor-
 ating and exhilarating. The Summers are short and
 pleasant; the Winters long and cold. People pos-
 sessing robust constitutions can enjoy such a climate as
 this; weaklings soon perish. The two towns, Mt. Idaho
 and Grangeville and the principal settlements on this
 prairie, are situated at the base of White bird mountains
 south side of the prairie. White-bird mountains are
 covered from base to summit with a dense growth
 of timber, consisting of pine, red and white fir, and
 tamarack. And, at short distances from each other,
 small streams of clear, pure, cool water, course down
 the mountain side. From these mountains on the South
 we get our supply of timber, it being from seven to nine
 miles distant from our home on the prairie. Craig's
 mountain, is, in most part, a high table land with one
 or two high, projecting peaks. It is also well-timbered.
 The road leading from Lewiston to this prairie crosses
 Craig's mountain. Neither the Salmon nor the Clear-
 water rivers are navigable to any point near enough to
 this prairie to be convenient for shipping purposes for
 anything except wood and saw-logs in rafts. The moun-
 tains, heretofore, abound in game, and fish inhabit the
 streams.

Up to five years ago, stock-raising was the principal
 pursuit on this prairie, since then the farming interest
 has been making itself felt and too much so, I guess,
 for its own good, as prices of farm products are now on
 the decrease. Last year, wheat was worth two cents
 per lb., oats two cents; barley, two cents; potatoes two
 cents and onions four cents. This year wheat is worth
 one cent; oats one and one-half cents, potatoes one cent;
 onions same as last year. In stock the prices are better.
 Hogs are worth eight cents; sheep about two dollars
 per head; heaves, three years old, fifteen dollars;
 beef on the block six to eight cents. Cows twenty
 to thirty dollars; yearling calves five dollars and upward;
 two-year olds, ten dollars; horses from ten to one hun-
 dred and fifty dollars. Besides the products named in
 the foregoing comparative price-current, cabbage, tur-
 nips, beets, carrots, parsnips and all of the hardy roots
 and fruits grow to perfection. Early vines and corn are
 also grown to some extent. These maturing are very
 apt to be caught by frost. In the fall, the stock men
 drive their herds to the Salmon and Snake river valleys,
 where they spend the winters in a comparatively mild
 climate. On the return of Spring and grass they migrate
 back again to the prairie.

There are five common and one high school organi-
 zations on the prairie, the latter is located at Grangeville
 and is placed under the supervision of the Methodist
 church which is also located at Grangeville, and which,
 too, is the only church organization of any kind on the
 prairie.

There is quite a large Chinese population in this
 country; they are mainly habituates of the towns moun-
 tains and mines. The white or American population
 is made up of representatives from nearly every State
 and Territory in the Union and among others a company
 of soldiers, is the most important factor in the make-up
 of this border colony. This company occupies camp
 Howard, which nestles at the base of White-bird moun-
 tains, and in the vicinity of Mt. Idaho and Grangeville
 —these two towns being but three miles apart.

The business portion of Grangeville consists of a store;
 a flouring-mill, general merchandise store, confectioner,
 flour, carpenter shop, blacksmith shop, tin-shop butch-
 er shop, drug-store, assayer's office, saloon, postoffice
 and Chinese wash house. That of Mt. Idaho consists of

a steam-saw and flouring mill, three general merchan-
 dise stores, confectioner, hotel saloon, agricultural im-
 plement warehouse, drug-store, livery stable, Chinese
 store, butcher shop, one jeweler, one doctor, Chinese
 wash-house and postoffice, the county buildings and
 offices. Besides, the camp in the vicinity of these towns
 two saw and one shingle mill. One of the saw mills is
 run by steam, the other by water and the shingle mill
 by horse-power. Shingles are worth four dollars per
 thousand; lumber from fifteen dollars for fencing to
 thirty-five for matched flooring. One butchering cor-
 poration furnishes the principal part of the beef that is
 used on the prairie. Our beef bill, so far, has been a
 great deal larger than our doctor's bill. LARIMER.

LETTERS FROM INTENDING EMIGRANTS.

We publish below a few of the many letters
 we are constantly receiving, to show the in-
 terest felt in this region and to answer some
 of the many questions constantly asked con-
 cerning Oregon and Washington Territory.
 From all indications it appears certain that
 immigration to the Pacific Northwest will set
 in early in the spring and attain far larger
 proportions than we have ever before known.

E. P. Vaughn sends us the constitution and
 by-laws of the Western Oregon Workingmen's
 Colony which has headquarters at Topeka
 Kansas. The Constitution says the colony is
 organized in order that its members may be
 self-sustaining in respect to schools, churches
 and all social matters; that the colonists may
 be of advantage to each other for purposes of
 mutual protection and assistance.

Mr. Vaughn writes as follows:

TOPEKA, KANSAS, Jan 15, 1881.

Editor Willamette Farmer:

Have just been reading your valuable paper of Dec.
 17th, 1880, and think it a capital number and a farmer's
 friend. We are organizing a colony down here in
 Douglas, grasshoppery Kansas, to come to your favored
 State, and would be pleased to receive communications
 from such of your subscribers and readers as will take
 the trouble to write us, and will forever be under obli-
 gations to them for letters descriptive of their various
 localities, character of country, whether timbered or
 open, soil, chances for obtaining Government Land, for
 Townships and Millsite and any other information which
 they think would be of interest to intending emigrants.
 If they will direct letters to me, I will read them at our
 colony meetings and some of them will catch our colony.
 I was through your State in 1876 and am coming again
 and this time to stay. I am doing all in my power for
 Oregon. We are all workers.

We have been shown letters received from
 F. P. Arbuckle, one of the leaders of the Pa-
 cific Colony, organized at Russell Kansas, for
 the purpose of locating somewhere in this
 region. Mr. Arbuckle is now on the way with
 his family, as location agent, and will examine
 this country extensively with a view to select-
 ing the best possible site for the colony. He
 explains that the pioneers who located in
 Russell county, after giving a fair trial of
 ten years hard work and prudent management
 now give it up that Western Kansas is not a
 farming country. So this association has been
 organized by the best people there and will
 propose to bring the old civilization with
 them and Mr. A. says they are the kind
 of people to succeed where success is possible,
 which was not the case in Kansas. Other
 parties are working for the same purpose in
 Wisconsin and Minnesota, and there are al-
 ready a hundred families enlisted in the
 movement.

C. D. Stoner writes us from Osceola, Polk
 county, Nebraska date January 23, as fol-
 lows:

OSCEOLA, Polk County, Jan. 23, 1881.

I have lately been reading your valuable paper, which
 some one kindly sent me a few days since and I have
 about concluded to leave this country, where crops are
 as a rule failures and try your noted land beyond the
 mountains. But before starting I wish to ask you a few
 questions, knowing you are better qualified to give me
 the desired information than any one else. What is the
 character of the soil near or within three miles of
 Portland? Can broom corn be raised there? Do you
 know of a small farm for sale—say 40 acres with or-
 dinary improvements thereon—such as a house, stable,
 etc., with fruit trees in bearing condition? If so what
 is the price of such land? Are there any broom factories
 in Portland? What is the price of broom per dozen?
 Could a person find employment readily on a
 farm as a hand, or rent land on the state, the
 landlord furnishing everything? What is the usual
 way of renting farms? What are the wages of farm
 hands? I will come first, leaving my family here and
 see how I like the country and if it is half as good as re-
 presented, I will sell here 100 acres and make that our
 future home.

Samuel Cliff writes from Foristell, St.
 Charles county, Missouri, Jan. 15th, 1881:

A copy of your paper of Dec 3rd, 1880, was sent me
 by a friend, and I have been highly edified in the per-
 usal of it. I have always felt a great interest in regard
 to Oregon, but have never succeeded in obtaining any-
 thing in regard to its climate, soil, timber, and water
 resources. I see that you propose to publish a truthful
 statement in regard to Oregon, its resources and in-
 ducement held out, etc. I have concluded to subscribe
 for your paper, desiring of coming to your State and
 make a permanent home, if all things are fair and true,
 would like to make a home in the Willamette Valley—
 not higher up, however, than Marion county. I would
 like to know the prices of attainable farm lands in any
 of the coast or Willamette river counties. Whether
 there is any Gov't lands in any of these counties. If you
 could give me any information in regard to it, I would
 be glad or if I could enter into correspondence with
 persons in any of those counties, that were truthful and
 reliable, I would be pleased to have their address and
 address of parties that have lands for sale, also. Lack
 of water and timber is a great inconvenience. I want to
 get somewhere where you can raise good crops and
 stock, have plenty of timber and living water that
 continuously flows.

A McCowan writes from Little River, Rice
 Co., Kansas, Jan. 17th, 1881.

I received a copy of the WILLAMETTE FARMER, dated
 Dec. 3, the first page of which is filled with an article on
 the Pacific Northwest and you state that it is to be
 continued. I was well-pleased in reading the first and
 I want to see all the other articles too, as I and

some others here have made up our minds to come West
 as soon as we can sell our property here and our choice
 is made for Eastern Oregon. Now I wish to ask the
 following questions and I want you to answer them in
 your paper, as I enclose in this six months subscription,
 hoping by the time it expires to be a citizen of Oregon.
 What does lumber cost to build with, what is the cost
 of fuel, wood or coal, what is a good cow worth; and
 I am a shoemaker by trade, where would I have to buy
 my stock? Information on these points would be very
 acceptable. What do hired hands get per month on a
 farm?

ANSWER TO QUESTIONS.—Soil near Portland
 in all directions, good quality though differing;
 well calculated for grain, vegetables and fruits
 of all kinds. Write to real estate agents for
 price of lands and farms for sale.

Broom corn does not grow to best advantage
 in Oregon. There is an extensive broom
 factory that imports brooms and uses home
 wood.

The article on the labor market in this issue,
 gives all we know on that topic. Alvin M.
 Grim, of Vail, Crawford Co., Iowa would like
 to come to Oregon, says he is a good hand and
 wants work as soon as he gets here. Perhaps
 some farmer here will do well to write and
 engage him.

There are always farms to rent, and the
 terms are: when the renter furnishes all be-
 sides land he pays one-third the crop ground
 rent. When the owner furnishes team and
 seed one half the crop goes for rent.

The shoemaker will find plenty of stock for
 sale in Portland where there are great whole-
 sale houses in all branches of trade.

In Western Oregon we use narrow track
 wagons; East of the mountains they use wide
 track.

OREGON FARM LANDS. T. A. WOOD & CO., Real Estate & Loan Brokers, 141 First Street - - - Portland, Oregon.

WE HAVE ALL CLASSES OF REAL ESTATE
 for sale. Land in a high state of cultivation.
 Land partially improved. Wild land. We have
 5, 10, and 20-acre lots near the city of Portland. Also,
 40, 80, 160, and up to 21,000-acre tracts scattered up
 and down the Willamette and Columbia River valleys.
 Portland Lots \$100—10 minutes walk from the
 Court House.

We have lived in Oregon THIRTY YEARS and
 have the right to say that we know more about
 Oregon than any five or ten men in the business.

300 FARMS; or 200,000 Acres of Land for Sale

\$2100 80 acres, 7 in cultivation; frontier house;
 body should buy a mill when offered so cheap.

\$1200 80 acres, 7 in cultivation; frontier house;
 rich soil; send me \$325 and I will send you
 warrant deed; located 20 miles from Portland.

\$1200 80 acres, 7 in cultivation; frontier house;
 rich soil; send me \$325 and I will send you
 warrant deed; located 20 miles from Portland.

\$6000 200 acres, all fenced; 150 wheatland; house,
 barn, living water; 14 miles to railroad
 stations at North Yamhill; Edward Wilkes' place; half
 cash.

\$1600 10 acres, all in cultivation, and nearly all
 in garden and fruit; house and barn on it;
 four miles from East Portland on Base Line road; re-
 markably cheap.

\$10,000 560 acres; 500 fenced; open prairie; 40
 acres drained beaver dam land; 60 acres
 timber; soil rich and black; good wheat or grass land;
 15 miles East of Albany, 3 miles northeast of Lebanon;
 mill, school, etc., near; one-third cash; railroad near, or
 will be soon.

\$4100 184 acres; 90 in cultivation; two dwelling
 houses, barn, shop, living water; near
 church, mill, school and postoffice; 3 miles from railroad
 depot at Dayton.

We have invested money in Real Estate for many
 non residents. In every instance they have made from
 50 to 200 per cent. \$100 laid out in land here this year
 will be worth two or five times that amount in one or
 two years. You can send draft on New York.

Send for a MAP and LIST OF PROPERTY. We will
 BUY LAND for you and guarantee the title; or we will
 LOAN MONEY for you on improved farms.

We refer to B. P. Cardwell, G. W. Walling, W. S.
 Ladd, banker, and Hon. H. W. Corbett, all of Portland,
 Oregon.

T. A. WOOD & CO.,

Odd Fellows' Temple, PORTLAND, OR.



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