

TERMINAL YARDS WORTH MILLIONS

Extensive Trackage and Big Docks for Portland During 1906.

P. & S. BUYS FORTY BLOCKS

P. & A. and S. F. & P. Steamship Companies Propose Erection of Substantial Freight Transfer for Rail and Water.

"The greatest export is on the rails in the railroad yards."
This epigram from that master of railroad finance, construction and operation, James J. Hill, tells eloquently the importance of terminals to any railroad. It was uttered in an address at Portland, October 2 last, conclusively stating the fact that no port can be commercially great without adequate terminal facilities at the end of railroad trackage that brings the traffic from and carries the freight to the interior of the country. It is due to this

it is the expectation that such improvements will be made at an early date.
What the Illinois Central did in building the new Stuyvesant Dock at New Orleans, the Harriman steam and rail lines will accomplish at Portland. Where now stand the Alaska and Alsworth docks will rise great, permanent structures, while on the east side of the stream, below Burnside bridge will be the new Oriental dock. With constantly increasing fleets of vessels carrying grain, American manufacturers and every class of freight from this port to the markets of the world, with the establishment of an Alaska line almost assured for the new year, and multiplying tonnage of freight to be transferred from rail to ship, and vice versa, it is absolutely necessary that the projected improvements be made with the least possible delay, which it is the purpose of the management of the system to accomplish.

MODERN SHOPS AT ALBINA

Plant of O. R. & N. System Doubled in Size and Capacity.

Notable among the improvements of the Harriman system in the Northwest during 1905 was the construction at Portland of the new shop plant of the Oregon Railroad & Navigation Company, doubling the capacity of the general shops of that portion of the system and founding one of the most modern plants of any line reaching the Pacific Coast. The capacity of the plant has been doubled and at the same time better provision made for the increasing demands upon the plant for repair and construction work, with the improved machinery introduced and increased power provided.
Twenty-two stalls have been added to the roundhouse, more than doubling the

OREGON BENEFITS FROM CAREY ACT

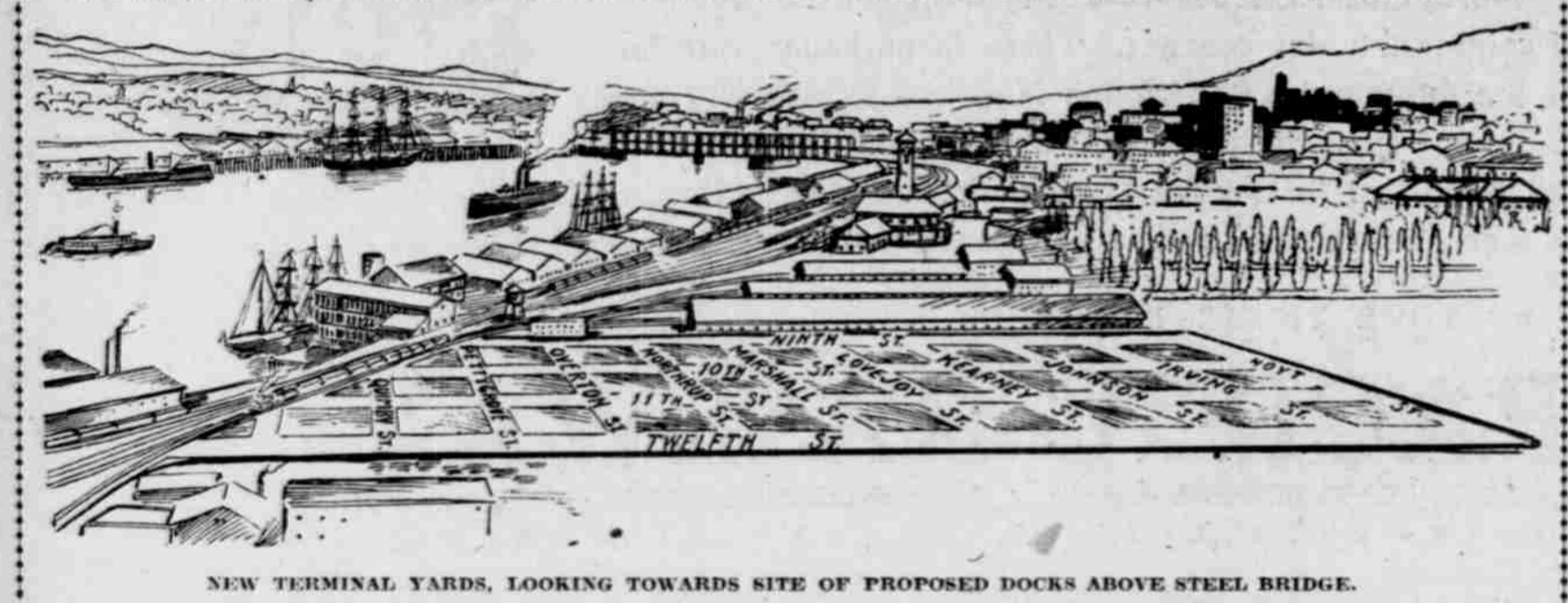
State Land Board Formulates Rules for Protection of Settlers.

LARGE TRACTS RECLAIMED

Three Companies Have Selected Segregations on the Deschutes, One in Walker's Basin and Three in Harney County.

Three companies have claimed the use of Deschutes water up to this time, under the provisions of the Carey act. This law went into effect August 18, 1904, but was amended June 11, 1905, and March 2, 1906. The State of Oregon can, under its acceptance of the act on February 28, 1904, claim up to 1,000,000 acres of reclaimed land as irrigable under its provisions. To land so irrigable the State of Oregon gets title from the United States, and deeds such land to those settlers who shall agree with an irrigation

mate is bright and invigorating, the natural rainfall from eight to ten inches annually. Magnificent forests on the mountains to the west of these irrigable lands supply all lumber needed by the settlers, while the scattering juniper trees yield good fencing material and the best of fuel.
As during the later months of 1905 a long discussion has been pending between this company and the State Land Board regarding the rights of settlers to water supplies, which has been recently closed, and a form of rules arrived at satisfactory on both sides, notice of the main points may be given here. This because a test case is generally regarded as having been so settled as to operate as a guide to future relations between the state, as representing the settlers, and other irrigation companies, under the Carey act.
How Regulated.
The main points, then, are as follows:
First—Generally. The irrigation company shall furnish to each tract settler, water to irrigate and reclaim it so as to prepare it to raise ordinary agricultural crops.
Second—Irrigation season to extend from April 1 to November 1. During 30 days from May 23 to August 20, the amount of water delivered at the highest practicable point on the settler's land to be reached by a gravity flow shall suffice to cover each acre of irrigable land to the depth of 3-16 feet.
Third—Deliver, as above, the point of delivery, to be settled by the State Engineer in case of dispute.
Fourth—Settlers to construct and maintain distributing ditches.
Fifth—Sets the date for payment of the annual maintenance and delivery charge of \$1 per acre.
Sixth—Settlers to use this water only on lands obtained under this system.



NEW TERMINAL YARDS, LOOKING TOWARDS SITE OF PROPOSED DOCKS ABOVE STEEL BRIDGE.

appreciation of the importance of terminals that the Northwestern Improvement Company, the Portland & Seattle Railway and the Northern Pacific Railroad Company have acquired additional property approximating 40 blocks of ground, adjacent to the present freight yards of the Northern Pacific in Portland.
It is not infrequent in the analysis of present value of great railroad systems of the country that terminal property owned approaches in value or even exceeds that represented in the lines themselves. Completion of the Columbia River jetty, deepening of the channel of the river from Portland to the sea and the meeting of the traffic of many transcontinental lines of railroad with ocean carriers at Portland, with the enormous growth of export and import traffic between the United States and Asiatic ports, suggests the enlarged trackage that will be required at Portland.
Although possessed of extensive freight yards and the Northern Pacific Terminal Company tracks, used jointly by all the roads entering Portland, the Northern lines early appreciated the necessity for large grounds, and long before official announcement had been made of the intention to reach this city by a water-level route down the Columbia River, options were obtained on real estate in the desired locality aggregating an expenditure of about \$2,500,000. Extent and location of the larger part of the lots and blocks acquired, with their relation to the present terminals on the west side of the Willamette River, are shown in an accompanying map published herewith.

size of that building, and embodying the latest and most approved mechanical means of making repairs and caring for the locomotives. A new machine shop structure is of brick, steel and glass, 240 feet in length by 162 feet in width and a coach and paintshop occupy a building of equally durable construction 150 feet in length and 60 feet wide. With these buildings finished changes will be made in the present buildings, affording more space for portions of the work heretofore confined to inadequate quarters. The new buildings will be ready for occupancy as soon as the machinery is installed, and represents a total cost for construction and equipment of \$23,000.

IMPROVE LINE INTO CITY

O. R. & N. Making Extensive Betterments on Portland Terminals.

Right in the suburbs of Portland extensive improvements are under way by the Oregon Railroad & Navigation Company, the work under way to furnish trackage for new and growing industries on the Peninsula in the vicinity of St. Johns, and with extension of some 17 miles to a junction with the main line at Troutdale, following up the shore-line of Columbia Slough, thus making the line into Portland a water-level route instead of climbing over the hill at Clatsop and running down through Sullivan's Gulch.
But a fraction more than three miles in

company under contract with the state to repay to the irrigation company the pro rata cost of the irrigation works, as settled by the State Land Board, and a sum of \$1 per acre in perpetuity for maintenance and management of the canals and water supply, but no charge whatever is made for the land.
The Columbia Southern Irrigation Company was the first to avail itself of these provisions. It supplies 27,000 acres from the Tummalo, one of the affluents of the Deschutes, taking its rise a few miles east of the Three Sisters Mountains, in the Cascade Range. It is understood that water has been supplied to 20,000 acres already, most or all of which area is under actual settlement.
Taking Water From Deschutes.
The Deschutes Irrigation & Power Company is a corporation, of which the capital has been furnished by Eastern investors, which has expended up to this time some \$600,000 in its enterprise. It has contracts with the State of Oregon for 24,912 acres. The main canals have been so far advanced that by July, 1905, water was available in those canals for irrigating 5,000 acres. These lands are included in the central part of Crook County, within an area of about 20 miles from north to south, with an average of 30 miles from east to west, or 600 square miles in all. The boundaries of this plain are so

Seventh—If shortage occurs from natural causes, then the deficiency to be fairly distributed over the lands. In case of shortage from other than natural causes, proportionate reduction to be made by the company on the annual charge.
Eighth—The company to construct, maintain and operate a telephone line along its main canals.
Ninth—All persons forbidden directly or indirectly to pollute the water.
Tenth—Rules to be open to change, but stand until changes are approved by State Land Board.
Eleventh—The state to have a copy of these rules recorded in every county where reclaimed lands are situated.
The third Carey act company taking water from the Deschutes is that known as the Deschutes Land Company. It is the purchaser of the interests of the Oregon Development Company, which held the contract with the State of Oregon for reclamation of about 65,000 acres of land situated in Klamath and Crook Counties. Some doubt existed in the mind of the Secretary of the Interior as to the desert character of the land, segregated, and after four years the original segregation was reduced to 21,982 acres, and which is now being reclaimed.

ENTERS OREGON ON SOUTH

McCloud River Railroad Projected to Reach Klamath Falls.

The McCloud River Railroad Company owns large acreage of timber lands in Southern Oregon, along the eastern slope of the mountains, on the Klamath plateau, from some distance south of the Oregon-California state line to localities as far north as Pelican Bay. The McCloud River railroad is an independent line, built from Upton, on the Southern Pacific, west of Mount Shasta, and finds a pass through the range south of that peak, thence its course is almost north to Laird, at the southern end of Lower Klamath

In Walker's Basin.

The water for this tract will be taken from the middle fork of the Deschutes River, which has its rise in Crescent Lake. The main canal will be 90 feet wide at the bottom and 56 miles long, and will have a carrying capacity of four acres foot, that is to say, a body of water that will cover the entire land to the depth of four feet, it being deemed wise to have an abundant water supply. The general course of the canal is north and easterly for about 20 miles, then curving north and westerly, returning again to the Deschutes River.
The land is horseshoe shape, having the Cascades on the west and the Walker Range and Paulina Range on the south, east and north. The valley thus formed contains about 50,000 acres, a part of which is now subject to homestead entry and will no doubt ultimately receive its water supply from this canal.
The company states that a good deal of preliminary work has been done in 1905, in readiness for active construction of canals and laterals in 1906. The land is of the same grade of fertility as that lying to the north of it, but the general elevation is somewhat higher, and, as a consequence, the temperature is lower in winter time. It is generally admitted that all the grasses, alfalfa and clover and the cereals will be produced in abundance.

Where Water Is Lifted.

Another Carey act project is that of the Portland Company, of which W. E. Burk is president. Its sphere of action is 875 acres of sagebrush land about 25 miles southeast of Burns, in Harney County. The specialty of this enterprise is that it depends for irrigating water on sub-surface supplies. Water is found to underlie these lands at a depth of from five to ten feet. Another and stronger supply is found at a depth of 90 feet in coarse sand. The well reaching this stratum runs 1000 gallons per minute, the year round, and rises to within ten feet of the surface. After pumping all day, the pipe is said to have sent out a continuous stream three inches in diameter. Still another large supply of water was found at a depth of 22 feet from the surface of the ground. It is stated that a considerable amount of canal and ditch work has been done, and that one section of the land is already irrigated, and the water is being further distributed.
In the same county a more ambitious Carey act project is that of the Harney Valley Improvement Company, with headquarters at Burns. It includes 38,344 acres. Water is intended to be taken by dams on

Dock and Warehouse Facilities.

It will be observed that the situation presents advantageous features for transfer of traffic between ship and cars. With property along the water front at one side of the tracks, where warehouses to serve both rail and water carriers may be located, the economic value of the acquisitions may be understood. While detailed plans have not been made public, there is every reason to anticipate that the erection of modern dock and freight warehouse buildings is projected, with every convenience for rapid work. Time is of great importance in the handling of ocean freight, and transfer must be made with maximum dispatch without increasing the cost of transportation by needless labor, which ends may be accomplished here.
In connection with right-of-way property acquired in the vicinity of Vancouver, Wash., and on the Peninsula between the Columbia and the Willamette Rivers, the Portland & Seattle is also said to have purchased additional acreage property that may be utilized in part for transfer, where transfer trains may be made up either incoming or outgoing, and as a means of relieving congestion of cars in the Portland yards. The portion of the Peninsula adjacent to St. Johns is rapidly developing an extensive manufacturing district. Here it is to be located the immense sawmill of the Weyerhaeuser Lumber Company, which will have a capacity exceeding that of any lumber-manufacturing plant on the Pacific Coast in operation at present. For this traffic alone several miles of switch track will be necessary. Being situated near the approach to the drawbridge that is to span the Willamette makes it all the more an important feature of the terminal plans at the Portland end of the system.

Portland & Asiatic Line Docks.

President and General Manager R. P. Schwenk, of the Portland & Asiatic Steamship Company and of the San Francisco & Portland Steamship Company, has announced the intention of the Harriman steamship companies to erect at no distant date new and modern docks at Portland, with every possible facility for rapid discharge and loading of cargoes, where traffic may be interchanged with the rail lines without the expense, loss of time and annoyance incident to shifting boats from one dock to another in making up cargoes. While the project has not been definitely passed to a construction stage,

OREGON'S TWO CLIMATES—THE EASTERN AND WESTERN DIVISIONS OF STATE

The following figures, which are compiled from the records of the United States Weather Bureau, show the comparative climate of Eastern and Western Oregon, Baker City and Portland being used to illustrate temperatures and rainfall. The table shows continuous records for 12 months, beginning November 1, 1904, and ending October 31, 1905.

MONTH.	PORTLAND, Altitude, 54 ft.				BAKER CITY, Altitude, 2670 ft.			
	Precipitation.	Clear Days.	Cloudy Days.	Relative Humidity.	Precipitation.	Clear Days.	Cloudy Days.	Relative Humidity.
November	46.67	7.46	3.24	21.1	12.0	1.17	1.18	16.5
December	45.29	7.34	2.3	23.24	12.0	1.62	8.4	19.15
January	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
February	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
March	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
April	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
May	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
June	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
July	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
August	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
September	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15
October	45.26	7.34	2.3	23.24	12.0	1.62	8.4	19.15

marked by Nature that settlers are practically safe, so far as water supply is concerned. From temptation on the part of the company to surmount the limits of the land for which their original ample supply has been planned. The outline of work done by this company is reported as follows: From the diverting point on the main river, three and one-half miles above the town of Bend, the water is turned into a flume one and one-fourth miles long, which is estimated to carry 1000 cubic feet of water per second, equal to 50,000 California miners' inches. A canal 30 feet wide on the bottom is completed for 21 miles, with many laterals. Toward the north the drainage is into Crooked River. A second canal is in progress, 44 feet wide on the bottom, and has at present a length of about 15 miles.
A third canal is projected, running from Benham Falls, on the Deschutes, along the southern and eastern sides of the irrigable area, and also discharging into Crooked River.
On Eastern Oregon Plateau.
The altitude of the lands described varies from 2000 to 2500 feet above sea level. From Benham Falls the river drops toward the north 800 feet in the 150 miles of its course to the Columbia. The cli-

Finest Pears in the World.

Oregon excels in many products of orchard, field, mine and stream. There are mountain-valley valleys of comparatively small areas that possess fertility and natural advantages that make them in advance of other competing districts in particular products. Hood River leads in the fame of its apples and strawberries and has commanded the highest prices for Newtown Pippins and Späzembergs ever paid for apples in the British and Scotch markets. But Medford, in 1905, broke all records for pears when a cartload of choice fruit was sold at \$1 per box in the New York market.

"The Road of a Thousand Wonders"

Is the

Southern Pacific

Linking Together Portland, Oregon, and Los Angeles, California, where the

Summer Girl in Winter Reigns in All Her Glory

Booklets, telling all about the Resorts, free by asking any Agent of the Southern Pacific, or by writing to

C. W. Stinger, City Ticket Agent

A. L. Craig, General Passenger Agent

Portland, Oregon

Schoolhouse Slough and Foley Slough.

These are fed by branches of Silvie's River. No work has yet been reported on this undertaking. The land is selected sagebrush land of excellent quality. It is located from 20 to 25 miles southeast of the town of Burns.
Another Carey act proposition in the same district is one seeking to irrigate 10,000 acres of sagebrush land in the Valley of the Crooked River. The source of supply is Bulger Creek, on which dams are to be built. Headquarters are at Prineville. No work on this project is yet reported.

Lake, and surveys made have contemplated extension from there on toward the head of the Deschutes, where another body of timber land is held. For several months a large force of graders has been employed in building the roadbed, track-layers have followed the advance gangs and gradually the road is progressing northward, evidently destined to play a part in the industrial awakening of the territory, destined to secure transportation facilities for the first time during 1906.

Forestry and the Railroads.

Charles W. Eberlein, of San Francisco, acting land commissioner of the Southern Pacific Railroad Company and Oregon & California Railroad Company, in an address before the National Irrigation Congress last August, at the Lewis and Clark Exposition, presented in a brief paragraph the importance of the forestry question to the railroads and suggested the value of forests of the Pacific Coast. Mr. Eberlein said:
"There are 42 feet of sound timber in a railroad tie. That fact alone discloses the dependence of the railroads on scientific forestry. The man who makes two blades of grass grow where one or even none grew before is a gentleman much esteemed by the traffic managers. But the man who can tell the Southern Pacific, for instance, what it is to do for the next 10 or 15 years hence is even greater than the man who makes things grow. From the point of view of the operation of Western railroads particularly, there is every reason for intelligent and hearty

co-operation on the part of railroad management with the Forestry Bureau of the Government. Between the annual cut for the legitimate needs of commerce and the annual devastation by fire, the life question may become acute before long. Not only for ties, but for bridge timbers and material for car building the annual consumption is so large as to imperatively demand a more conservative policy.

Family Prestige in England.

North American Review.
The greater and nobles are established in a fear which is very like what the fear of God used to be when the common people feared him, and, though they are potent political magnets, they mainly rule as the king himself rules, through the secular reverence of those beneath them for their titles and the visible images of their state. They are wealthy men, of course, with so much substance that when one now and then attempts to waste it he can hardly do so, but their wealth alone would not establish them in the popular regard. His wealth has no such effect for Mr. Astor in England, and more money, though it is much desired by all, is no more venerated in the person of its possessor than it is with us. It is ancestry, it is the long uncontestable primacy of families first in this place time out of mind, that lays its resistless hold upon the fancy and bows the spirit before it.

Save Time

Via

O. R. & N.

- SHORT LINE TO LEWISTON
- SHORT LINE TO PALOUSE COUNTY
- SHORT LINE TO SPOKANE
- SHORT LINE TO COEUR D'ALENE
- SHORT LINE TO SALT LAKE
- SHORT LINE TO DENVER
- SHORT LINE TO KANSAS CITY
- SHORT LINE TO OMAHA
- SHORT LINE TO CHICAGO
- SHORT LINE TO ALL POINTS EAST

PARTICULARS BY ASKING OR WRITING

C. W. Stinger, City Ticket Agent

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Portland, Oregon