

JAMES J. HILL SPENDS MILLIONS TO TAP INTERIOR

OREGON TRUNK WILL OPEN VAST EMPIRE AND MAY BUILD THROUGH LINES EAST AND SOUTH

APPROXIMATELY \$5,000,000 is the amount of the initial expenditure to be made by James J. Hill and his associates in constructing the Great Northern extension into Central Oregon, known as the Oregon Trunk Line.

The greater part of this \$5,000,000 will be expended in reaching simply the outskirts of the great territory that lies practically undeveloped in Central Oregon. The incorporation articles of the Hill road authorize an extension to Klamath Falls but when cost of construction is considered and knowledge is obtained of the tonnage that will be available off the main line of road designated in the incorporation papers no one can believe that the Oregon Trunk Line will cease construction work with a railway from its North Bank connection until an extension is made south to the California line.

In Central Oregon there are men whose interests in that country who assert they know absolutely that engineers for the Hill road are now working in the Malheur canyon, the one good route out of Interior Oregon toward the East. Purchases of large property interests in the vicinity of Lake View have been made by men intimately connected with the construction of the Oregon Trunk Line. Prediction is made, founded on actual indications as well as on logical argument, that the Oregon Trunk Line will be extended to Lake View and will also build eastward across the state, tapping the high plains, then through the Burns country, down the Malheur River and across Idaho to a connection with the Burlington.

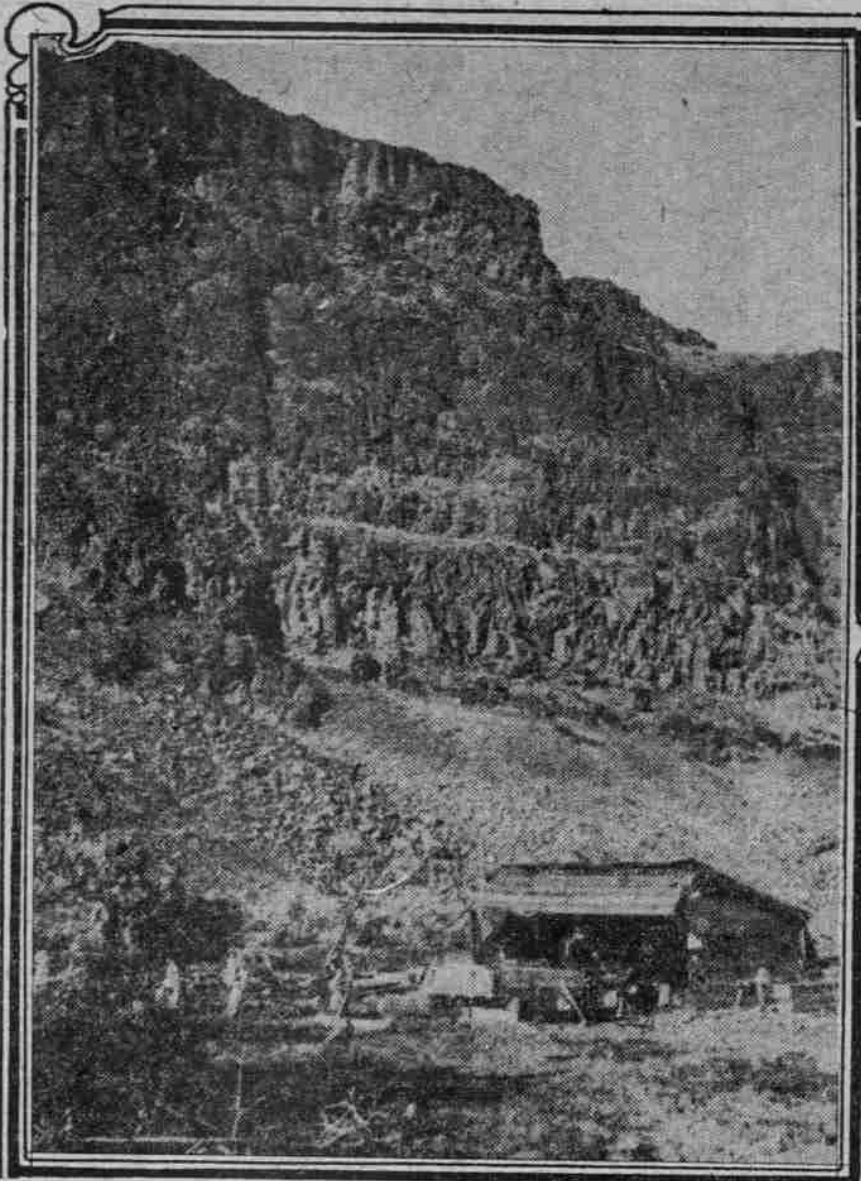
The lumber tonnage of Interior Oregon, it is argued, will demand a line to the East. The yellow and sugar pine of unlimited quantities which exists on the east slope of the Cascades is particularly adapted for competition with Southern and Northern pine in the Middle West markets. It is about 25 per cent lighter than fir and in hauling it East the railways will not so seriously be affected in rate making by water competition. Interior Oregon timber holders admit that their market is toward the East and not toward the West which is already supplied with its own fir forests.

From Bend, running southeasterly, is a dry river bed, flanked on the south

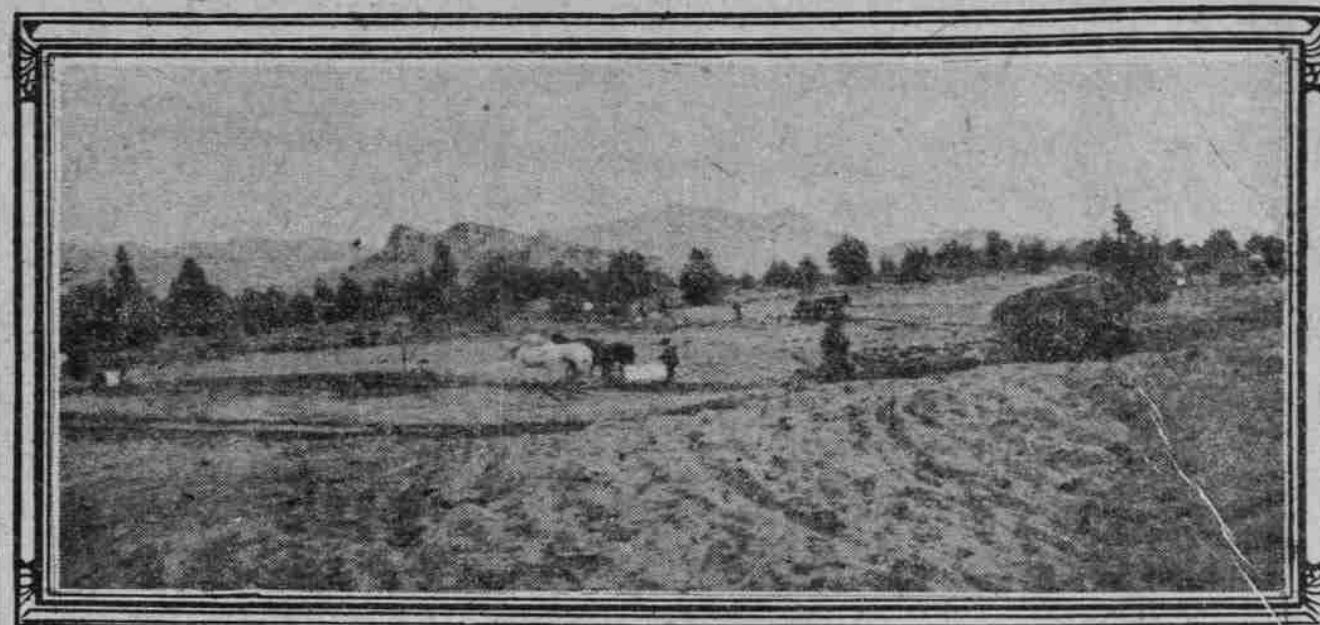
means of a small car running on a single strand of wire cable.

The bridge will give the Oregon Trunk line an overhead crossing of the O. R. & N. main line and a roadway 55 feet above the Celilo Canal. From the Oregon side of the bridge to the mouth of the Deschutes River the distance is four miles, and the railway grade gradually climbs along the face of rock cliffs and curves into the Deschutes Canyon through a tunnel cut in solid rock. The railroad must clear the bottom of the Deschutes Canyon 150 feet in order to get over the Moody power dam site, located three miles above the mouth, and for seven miles there will be an up grade. Beyond the Moody dam the road will continue at some elevation above the water's edge, for it is necessary to clear the Government dam site 24 miles above the mouth of the Deschutes.

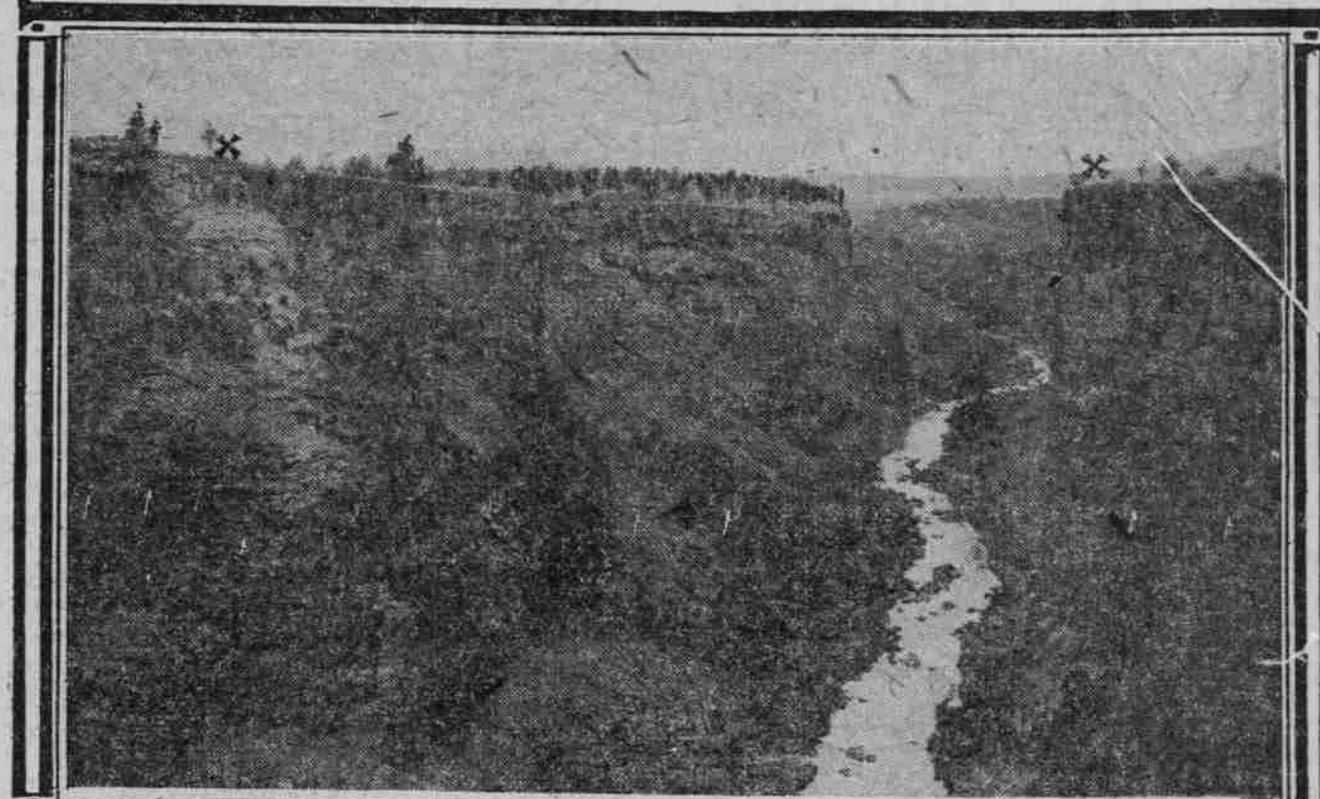
The Government dam is to be 100 feet high, and the original survey of the railroad was located so that it just cleared the proposed structure. After thousands of dollars had been expended in construction work, the Government required the railroad to go still ten feet higher, and 12 miles of road have been relocated, and the work already done in those 12 miles has been abandoned. About 40 miles from the mouth of the Deschutes the first conflict occurs with the Deschutes Railroad Company's line. The Oregon Trunk line



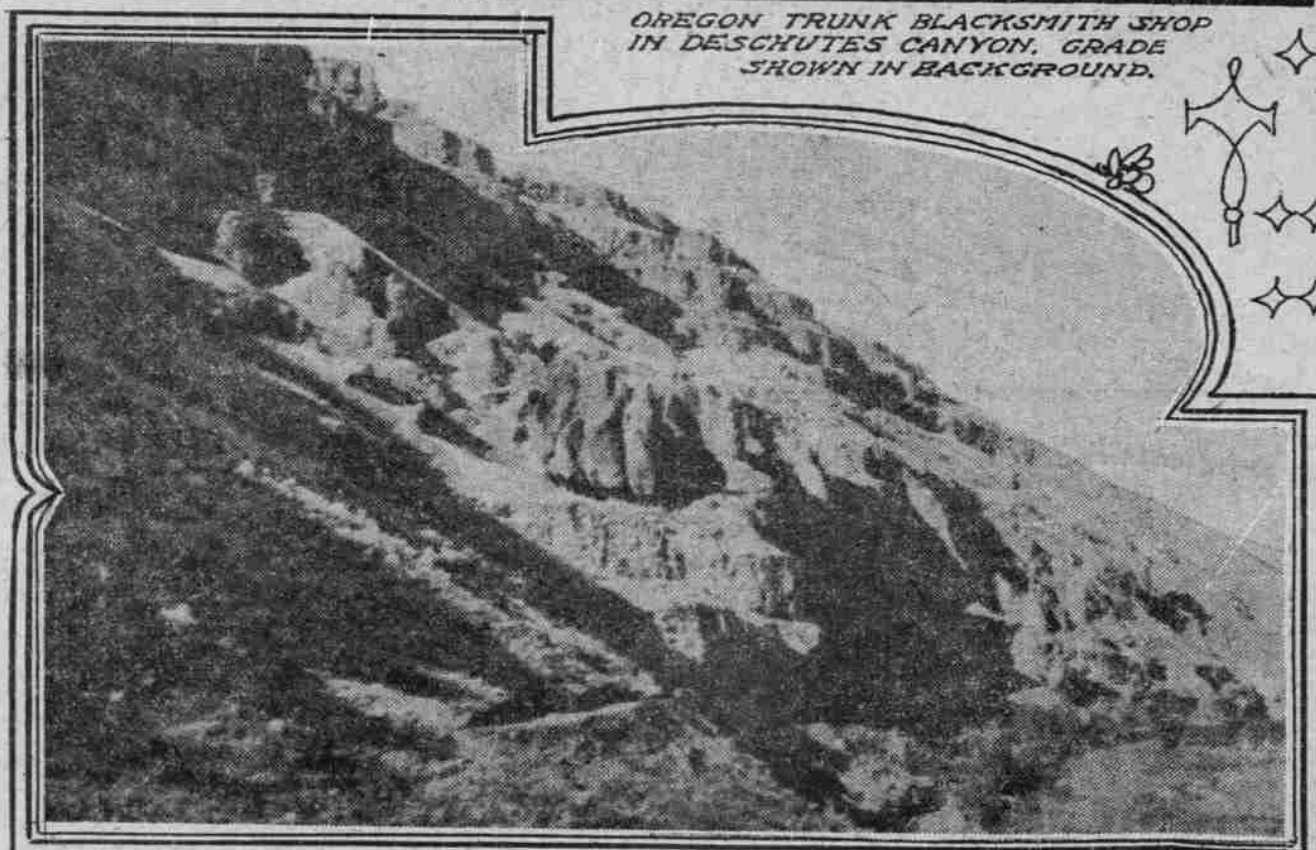
OREGON TRUNK BLACKSMITH SHOP IN DESCHUTES CANYON, GRADE SHOWN IN BACKGROUND.



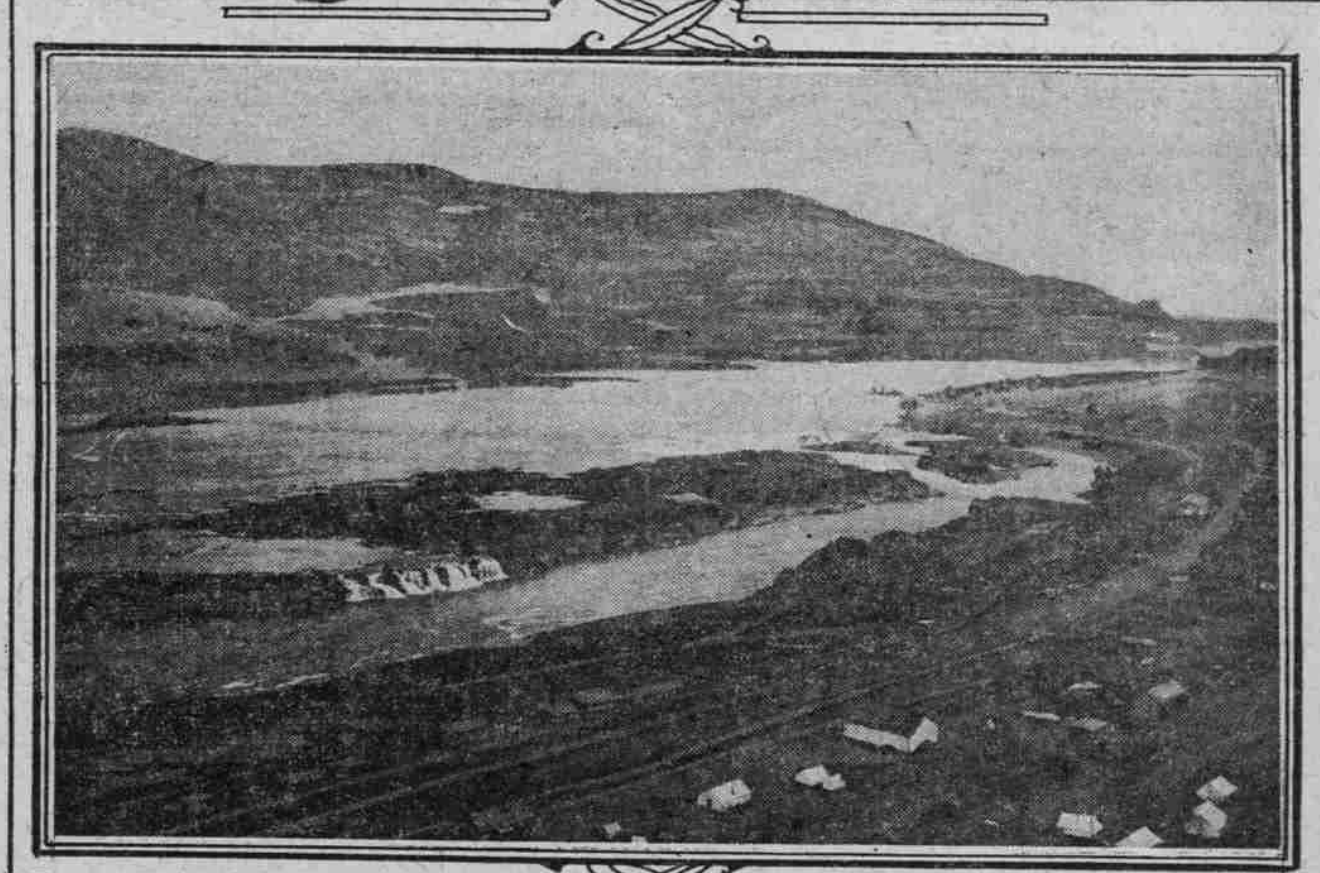
OREGON TRUNK LINE'S WORK FARTHEST SOUTH, BETWEEN MADRAS AND REDMOND.



WHERE OREGON TRUNK WILL BRIDGE CROOKED RIVER AT HEIGHT OF 382 FEET. CROSSES INDICATE WHERE APPROACHES HAVE BEEN BLASTED.



DESCHUTES CANYON WITH HILL GRADE SHOWN IN FOREGROUND.



WHERE OREGON TRUNK WILL BRIDGE COLUMBIA, CONSTRUCTION CAMP, MAIN LINE OF O. R. & N. AND CELILO CANAL SHOWN.

FEATURES OF OREGON TRUNK LINE.

- Under construction contract—109 miles, Celilo to Madras.
- Definitely located—Celilo to Crooked River, 140 miles.
- Probable Oregon Terminus—Klamath Falls, with California extension and branches to Lakeview and extension to Ontario on Eastern Oregon border.
- Approximate cost Celilo to Madras—\$5,000,000.
- Number of men at work—2600.
- Maximum working grade—Six-tenths of one per cent.
- Maximum curvatures—Six degrees.
- Character of construction—Rock and gravel ballast, 25 to 30 pound steel, standard North Bank construction.
- Estimated time limit for completion to Madras—Latter part of 1910.

by the Paulina Mountains and on the north by the Pine Mountains and Bear Creek Buttes. This draw is known as Milligan Gap and it is believed to be the intention of the Oregon Trunk Line to branch off through Milligan Gap to the Burns Country, while from a point 50 or 60 miles southeast of Bend on the Burns line will branch due south the Lake View extension striking a heavy timber belt on the eastern shore of Summer Lake and the great borax deposits of that region. The Klamath Lake extension will, it is predicted, run due south from Bend and skirt the west shore of Upper Klamath Lake. The Southern Pacific Natron extension is occupying the east Lake View line as through California route, inasmuch as by extending down the Pitt River into the Sacramento Valley a through route between San Francisco and Portland can be secured on water grades between mountain ranges. It is claimed for such a route that the type of engine that pulls a train of cars out of Sacramento could haul the same train, without assistance, the entire distance into Portland.

While prospective extensions of the Oregon Trunk Line beyond Bend have not yet been authoritatively announced, the entry of the road to Interior Oregon is assured. Approximately 2600 men are engaged in construction work between Celilo and Crooked River and surveys are working as far south as Hoodland, 20 miles beyond Bend.

The Oregon Trunk Line begins with a bridge across the Columbia River, one mile west of Celilo, thereby forming a connection with the North Bank railroad to Portland. Celilo is just 100 miles east of Portland. There the Trunk Line engineers have selected a natural bridge site. At Celilo the mighty volume of the Columbia River divides into several channels and plunges through narrow gorges among basaltic rock islands. Five spans, the longest of which will be 320 feet, will complete the bridge and every pier will be constructed on solid rock above the surface of the water. To reach one of these islands the railroad engineers have had to construct an aerial tramway and now carry their instruments over a gorge of foaming water by

for 72 miles follows the west side of the river without crossing. The rival road follows the east bank for 40 miles and then, to avoid heavy construction and tunnel work through a projecting cliff, bridges the river, follows the west bank about five miles, and then crosses back to the east side.

To grasp the situation, one should understand that in the Deschutes Canyon there are few, if any, places where precipices have been formed on sides of the river opposite each other. A great wall of perpendicular rock may be washed at the base by the river, but invariably the opposite side, slopes to towering, rounded hills. On the cliff side, railway construction is costly and difficult; on the other side it is comparatively easy. The cliffs alternate from one shore to the other, and almost always where the Hill line is finding easy work, the Harriman road is blasting a roadbed through solid rock, and vice versa. To avoid one of

the frowning cliffs where rock tunnel work would be necessary, the Oregon Trunk line jumps the river 12 miles from the mouth, and again there is a conflict with the Harriman survey. This conflict exists for 12 miles, and to a point near the mouth of Trout Creek, where the Deschutes line leaves the Deschutes to follow other canyons to the plains. The Oregon Trunk line continues on up the Deschutes 12 miles farther, and then turns up Willow Creek.

On the 12 miles of conflict, the Oregon Trunk line has construction crews at work, but the Harriman road is awaiting a court decision before proceeding further in that territory.

For ten miles up Willow Creek the Oregon Trunk line will be working in solid rock. In that ten miles there will be six tunnels, and the cost of construction will approximate \$150,000 a mile. Camps for construction work in Willow Creek Canyon were established

by the Oregon Trunk line about one month ago at Madras, and soon 2000 men will be employed in building that portion of the road.

The next camp south established by the Oregon Trunk line is at the crossing of Crooked River, 20 miles beyond Madras. There grading is under way on each side of the river, and approaches are being blasted in the rock for what will be one of the most remarkable bridges in the United States. Crooked River cuts a meandering gash through what is in that vicinity a level plain covered by juniper trees. One hundred yards from the canyon the stranger traveling through the country might look across it and not know that the canyon existed. Across this chasm the distance at the bridge site is about 220 feet. From either side one can drop a stone straight down into Crooked River 382 feet below. One steel arched span will leap this chasm. When the traveler journeying to Cen-

tral Oregon over the Oregon Trunk line leaves the Columbia River and enters the mouth of the Deschutes he will be in bare and unproductive canyons while the train speeds over 100 miles of track. He will gain no inkling of the extent of the rolling fields of grain that lie on the plains of Sherman and Wasco counties 2000 feet above him. The train will emerge from Willow Creek Canyon with startling suddenness through a gap in a wall of rim-rock that forms the western edge of the saucer-like basin in which Madras is situated. The train will come from a wild and rock canyon as if from a tunnel, onto the cultivated fields of Central Oregon. From there southward the Oregon Trunk line travels through grain fields, irrigated lands or timber, all of which will contribute to its tonnage.

It has been a big undertaking alone to get the construction work of the Oregon Trunk line under way. Construction equipment must be taken into the canyon either over roads that wind down the sides of the canyon or via the mouth, and thence up a wagon road constructed by the railroad for 40 miles along the shore of the river. Distributing depots have been established at Dufur, on the Great Southern Railway, at The Dalles and at Shaniko. The construction camps are reached from The Dalles via the Free bridge wagon road, with a haul of about 22 miles; from Dufur the distance by wagon road to Hill's ranch, where the railroad has constructed a new road into the canyon, the distance is 17 miles; Sherar's bridge, 40 miles up stream from the mouth, is reached from Dufur after a wagon haul of about 20 miles. From Shaniko the

haul to the camps varies from 20 to 45 miles.

Much of the energy of the contractors during the first few months after work started was in the construction of wagon roads. Railway construction work progressed, however, in the meantime, and the entire work to Madras is now under contract, sub-contract or let to station men. Miles of grade have been completed, interspersed with uncompleted links where the construction work will be slow and tedious or by tunnels where the men are now drilling and blasting. It is promised that Oregon Trunk line trains will be running into Central Oregon before the close of 1910.

Celilo Canal Is Great Project

First Section of Improvement to Cost \$6,000,000 Nearly Ready.

THE portion of the Celilo canal now under construction will be completed, according to present prospects, six or eight months within the time limit set by the Government. The contractors now are endeavoring to have the work finished by May, 1910, and with this done the canal will be about one-sixth completed, so far as the expenditure of money is concerned. The contracts under way, for which \$1,000,000 has been appropriated, cover about three miles of the work. The length of the canal will be eight and one-half miles, extending from Celilo west to Big Eddy.

Efforts are to be made by the Congressional delegations interested to se-

sure continuing appropriations until the canal is completed, and the additional cost, it is estimated, will be from \$5,000,000 to \$8,000,000.

The purpose of the canal is to form a waterway around Celilo falls, about 100 miles east of Portland, making possible through river transportation for vessels of six feet draft to Wallula, Pasco and up the Snake River to Lewiston, Idaho.

The canal plans call for five locks, one of which has been completed. Two of these locks will be at Big Eddy, arranged tandem plan and similar in construction, although much smaller, to those to be constructed on the Panama canal.

The two contracting firms having the present work in hand, are Smith & Jones, of Portland, and Coughren, Winters, Smith & Co., of Spokane. About 250 men are now engaged in the work, which progresses night and day.

The canal is being cut through basaltic rock and huge blasts of dynamite are set off to break up this rock, so that it can be lifted by steam shovels into dump cars. An electric light plant supplies illumination so that the trains of dump cars and the steam shovels need not cease work when darkness comes.

Frank E. Lefe is the Government engineer in local charge.

The upper end of the Celilo Canal is just four miles west of the mouth of the Deschutes River, up which the Hill and Harriman railroads are now pressing. The canal is on the south side of the Columbia River, and is passed in close proximity by the main line of the O. R. & N. Across it, about one mile below the upper end, the Oregon Trunk Line plans to build the bridge that will span the Columbia River and make its connection with the Spokane, Portland & Seattle Railway on the north bank of the Columbia.