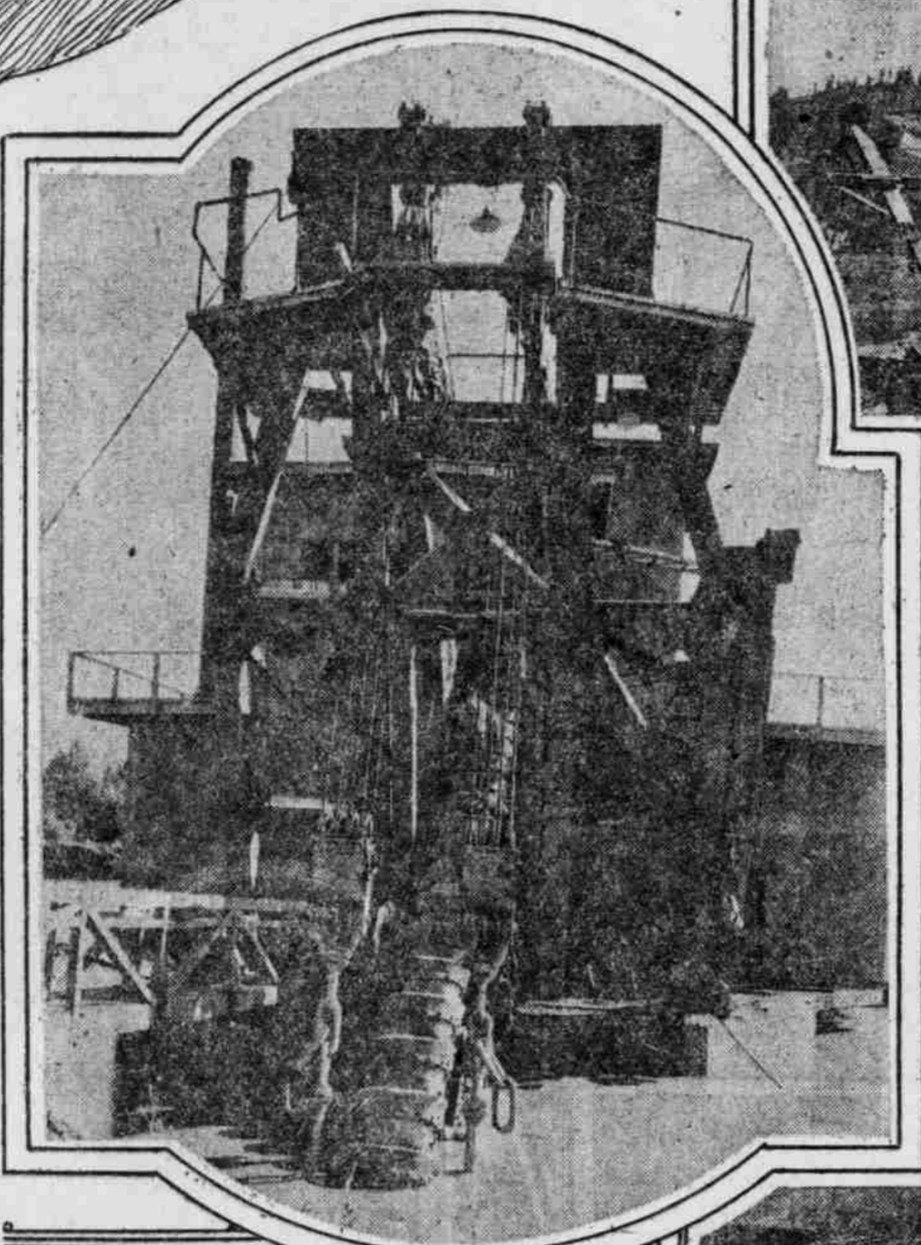
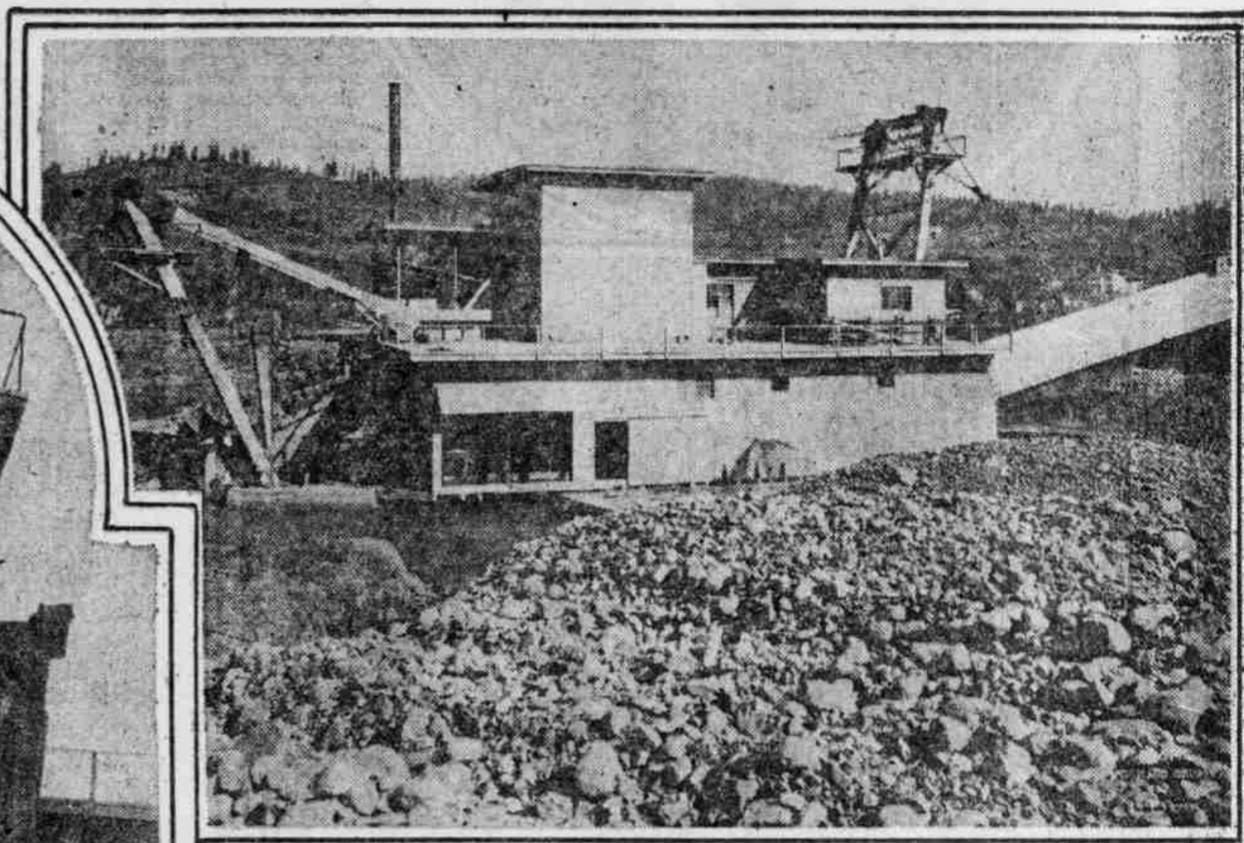


Gold In Gravel Grabbed by Dredges

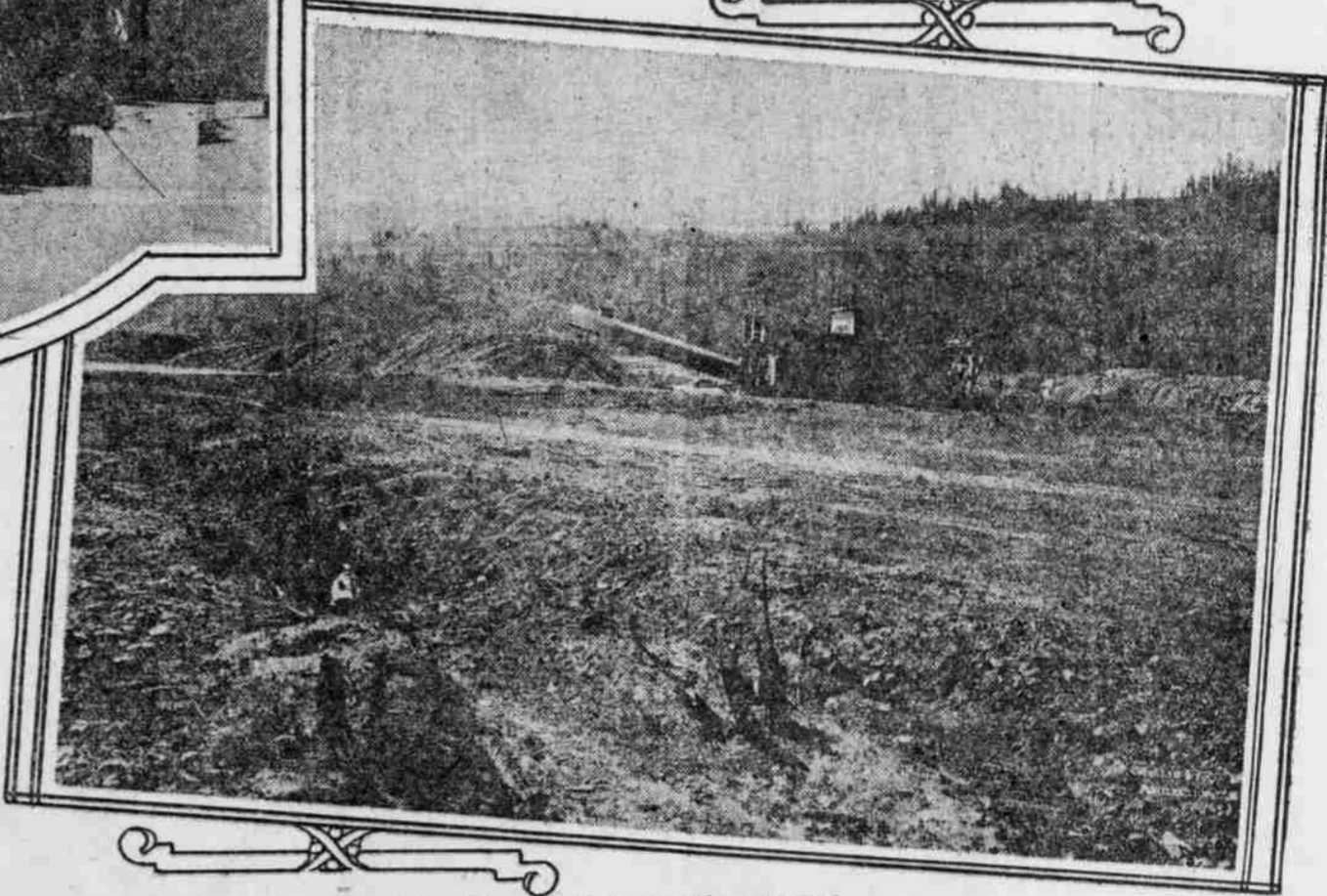
Great Machines Handle Tons of Material Faster Than Old Prospectors Ever Dreamed When Panning Pay Dirt



Business End of Huge Dredge



One of Powder River Gold Dredging Co's. Dredges At Sumpter, Ore. Lake Meares With Boat



Country Turned Upside Down

BY DEWITT HARRY.
THE gleam of gold nuggets in a Sutter creek riffle started the most historical migration in the history of this country. True there had been momentous voyages of discovery, both by land and sea, but this pursuit of the elusive gold to the far west opened up new empires, the richest section of the continent. The first magnetic attraction of the west was gold and gold's pulling power is astonishing; it seems to draw men almost against their will.

The sturdy race of adventurers who made the '49er race to the west went to wrest a fortune from the gold filled streams by hand power. They panned their way to riches, those who managed to obtain that goal, but they could not get all the gold that was in the sands and gravel. Man-powered machinery was not only wasteful but too costly of operation.

Gold Left Behind.

So the result was that the '49er could only work the richest deposits. The continual wear of the weather and of time on the rich gold lodes managed to send down free gold in goodly amounts to the bottom lands. The first men on the ground took advantage of the richest of these deposits and reaped the initial harvest. With their crude systems of panning and sluice boxes they could not work as much of the land as they should and this later caused the employment of the giant or hydraulic wash method and the use of sluice boxes in series with quicksilver in the riffles to catch the smaller particles of gold.

Even then the separation was not complete, there was gold remaining in the sands and gravels the miners had worked. Then came the quartz miners and their successful hunt for the mother lodes. All this time, after the sluice miners had dug out in disgust, the gravel and sands lay in the lowlands, holding a considerable curiferous content but not worth while being worked by the methods then in vogue.

Dry Land Boats Born.

Then came the newer development, the gold dredge. A weird sort of a dry land boat that travels across level fields, taking its lake with it as it goes. The dredge, designed to work low grade gravels, based its claims to attention on ability to work quantities. It could chew its way through a 100-acre field in no time and take out the gold as it went. This then was the solution of the old problem, the way to take the poor land and extract its gold content.

In the vicinity of Sacramento, Cal., there are thousands of acres that have been worked over by gold dredges. Land turned bottom up and worthless, it would seem, for any agricultural purpose. The dredging interests point out that this land was worth nothing in the first place

and that its main value is in the gold it contains. They paid whatever was asked for it and counted on making a profit from the land after passing it through the dredges. Its main value is in the gold it contains, why take the gold out and have it done with, these interests state?

But California was not the only section of the west that had land fit for dredging, there was Oregon, too. Somehow not many Oregonians seem to realize that their state is a prolific producer of precious metals. The district in the eastern part of the state, especially, is exceedingly rich, and that in the southern part has produced millions. But it was in eastern Oregon, in Baker county mostly, that the state had its gold bedded streams, and it is here that the dredges are working at the present time. There are three dredging companies operating in Baker and Grant counties, and a brief description of their work follows.

The Powder River Gold Dredging company operates in the Sumpter district, Baker county. Its home office is at San Francisco, Cal. The capital stock is \$500,000; all subscribed, issued and paid up.

Hard Digging Found Here.

This company owns about 1500 acres of land along Powder River extending from the town of Sumpter down-stream to McEwen, a distance of about five miles. Of the above acreage more than 700 acres proved to be commercial gravel and has been largely exhausted by operations extending from 1913 to date. It is reported that the company has recently purchased additional ground assuring profitable operation for the next two years.

The commercial gravel is in a meandering channel from 300 to 2000 feet wide, and averaging about 1000 feet, and occupies only a part of the valley floor. The average depth of the gravel is 18 to 20 feet. The bedrock is a soft decomposed rock, which dredgers call "clay webfoot." Nearly all of the gold is on bedrock, and the condition of the gravel and bedrock is such as to be called quite hard digging. This fact will be better understood when it is known that the manganese steel bucket lips last only five months, while in California practice they last about 18 months.

The Powder River company has operated two dredges in the past of standard type constructed by the Yuba Construction company of Marysville, Cal. Only their No. 1 dredge is being worked at the present time by this company; their No. 2 dredge having been sold to a neighboring company. The No. 1 dredge has 65 buckets each having a capacity of nine cubic feet and will dig to a maximum depth of 30 feet. The hull is of wood construction. No amalgamating plates

are used, but Hungarian riffles with a slope of 1 1/4 inches per foot are employed to save the gold. The power is furnished by the Eastern Oregon Light & Power company. The horsepower required is naturally variable. The consumption averages about 750 horsepower in seven months.

Cleanups Made Each Week.

The cleanup is made weekly, and the high extraction estimated at 95 per cent, is made upon easily washed gravels, which contain but little clay. The gold is medium coarse. The particles average larger than those in the California dredging field. The largest nugget secured is 3/4 x 3/4 inch, while perforations in the revolving screen are 3/8 inch. It is evident that no nuggets of gold are lost in the oversize material. The average fineness of the gold is 785. The total cost per yard is approximately 3 1/2 cents, which is higher than California practice, due largely to the more difficult digging.

The Western Dredging & Exploration company, another company, is now operating a Yuba dredge on a tributary of Powder river above the town of Sumpter. This dredge has buckets of 7 1/2 cubic feet capacity and was formerly owned and operated by the Powder River Gold Dredging company at the town of Sumpter. At the point of present operations it is reported that the commercial gravel of the Western Dredging company is limited and when worked out the dredge will be dismantled and moved to Willow creek in northern Malheur county, where the company owns 600 acres of gravel having an average yardage value of 19 1/2 cents in gold.

Local Firm Owns Dredge.

The Empire Gold Dredging & Mining company is an Oregon concern and operates in the Canyon district, Grant county. Their office is in Portland, and W. P. Burrell is president and O. L. Kennedy, secretary-treasurer. Their capital stock is \$100,000, with \$72,000 subscribed, issued and paid up according to their 1916 report. This company owns the dredging ground in the John Day valley in the immediate vicinity of the town of John Day, and upon Canyon creek, between the towns of John Day and Canyon City. They began the operation of a standard dredge in June, 1916, and the dredge was constructed and floated within the corporation limits of the town of John Day, and is digging up Canyon creek toward Canyon City. Canyon creek and its immediate vicinity is credited by federal authorities as having produced \$15,000,000 in placer gold. Although most of the upper gravels in the stream bed were worked over in the early days, a deposit as rich as was Canyon creek, handled by the methods then in vogue, must

of necessity leave values sufficiently high to make dredging profitable. Besides, the failures of the workers of many separate claims to reach and clean to bedrock on account of water difficulties and disposal of gravel, must have left much gold easily recoverable with a modern dredge.

But others in this state have had their

dreams of dredging, judging from the evidence. On a recent trip to Huntington the ruins of a fine dredge were in view near the train, just beyond the town of Durkee. This old boat certainly looked out of place in the midst of a young grove of poplars, and its bleaching ribs and rusty buckets gave mute testimony to the vagaries of the mining game.

For fear that many of the readers of this may think the story of little importance, the relative importance of the gold production from dredging had better be given. The state production figures for 1920 show that Oregon produced \$984,421 worth of gold; and of this amount \$358,864 was from dredges.

The House That Is to Be Dedicated to Ghosts

(Continued From First Page.)
counts the experiences her late parent is having on the other side of the veil. But, convincing as are these photographs and the statements of witnesses who saw them taken, there are those who claim that the so-called "spirit" pictures are faked either by double exposure of the plate by means of an X-ray or by the old trick of the double negative. By the latter device the expert photographer is able to present pictorial "proof" of New York with water-filled streets and to make possible the visual paradox of some star in the motion pictures simultaneously playing three roles.

The Scientific American, October issue, contains an "exposure" of spirit photographing. James Black, the writer, is unsparring in his criticism of Sir Arthur Conan Doyle, who has espoused the research movement into "spirit" photography. He cites how William Hope, the "leading psychic photographer of Great Britain" whom Sir Arthur sponsored and vouched for, was "exposed." A Mr. Marriot, a London photographic expert, challenged Hope to a test sitting, but never got it. But another investigator did, however, arrange for a fake picture.

This is how Black describes what happened:

"Edward Bush, a member of the S. P. R. (British), arranged a seance with Hope and sent him a photograph of a man Hope presumed to be dead. At the first sitting a spirit message came through, the second produced a spirit picture of the subject of this photograph. This is doubly remarkable; the subject was the son-in-law of Mr. Bush, who was alive and well! The message received was in the same handwriting as that of numerous other messages received through the same agency, and carried the same error in spelling, too. This message has been admitted to be a forgery; but Hope and his adherents still insist that the picture is quite genuine.

Resources of Culture.

A distinguished lecturer once told a story of an engagement he had made to deliver a discourse in one of the towns of the west on the subject of the "Beacon Lights of Civilization."
"I reached the place," he said, "a little behind time and went directly to the hall. A large audience had assembled. I was introduced in due course by the president of the literary society under whose auspices I was to appear, and laying my manu-

script on the desk before me, I opened it and waited a moment for the applause to subside. Imagine my horror when I found that I had accidentally brought along the wrong lecture—one on the "Wonders of Modern Electrical Science."
"What did you do?" asked one of the group to whom he was narrating the incident.
"I went right ahead," he replied. "The audience didn't know the difference."

Narrow Gauge.

Not long ago there was a collision in Maine in which no one was injured. A certain old chap, who does handsome work with the fiddle at country dances, is "great on time," but unless he is argued with he will play "The Girl I Left Behind Me" from 8 o'clock till 12 for every dance except the Virginia reel.
Some of the old dancers were on the floor and between dances one of them went up to the fiddler, who sat rubbing rosin on his bow.
"Uncle," said the dancer, "all the folks on the floor want you to play old 'Speed the Plow' for the next dance. Can't you give it to them?"
The old man tucked his rosin into his vest pocket.
"I should like to 'commodate ye fust-rate," he said, "but there's suthin' singlar 'bout that tune of 'Speed the Plow.' Just as soon as I 'Speed the Plow' 'long a little ways I run right into 'The Girl I Left Behind Me.'"