structing the Oregon Short Line, which leaves the main line at Granger, Wyoming, and strikes off through Idaho in a generally northwest direction toward Oregon, and is intended to connect with the Oregon system at, or fifty miles east of, Baker City. The road was opened to Shoshone, Idaho, on March 1st, a distance of 321 miles from Granger. Shoshone is at the junction of the Wood river branch, which extends northward. The Short Line not only connects with the Oregon system, but is striving after Puget sound business, and this interest is spurring the Northern Pacific company to put in the projected road across the Cascade range from its trunk line to a Puget sound outlet. Not only are these two great rival trans-continental companies thus reaching and straining after North Pacific traffic, but it is said that the Chicago & Northwestern company is stretching for the Pacific through a region midway between the lines of the Union Pacific and Northern Pacific, and will soon have a road completed to Deadwood, in the Black Hills. Further progress westward across the Rockies is only a question of time. These three great trunk lines will quite thoroughly open the regions of Idaho and Montana, and each is sure to throw off branches as the two that have already penetrated the country have begun to do. It is safe to say that, within from three to five years, Idaho, Montana, Eastern Oregon and Washington will be as well supplied with railroads as Iowa and Minnesota are now. This, of course, means settlement, hundreds of new towns and cities, and the use of any amount of lumber."

FISHERIES.

A cannery is in course of construction near the mouth of Coquille river.

A new floating fishery and canning factory has been built at Victoria upon improved plans.

The tug boat *Mountain Queen* has been built for Mr. Petitt, to be used in catching fish for his cannery at Astoria.

The salmon season on the Columbia opened Monday, April 2d. At Astoria the catch for the first day was about twenty-five to the boat, though several took fifty each, and one brought in eighty-five.

The government fish commission has announced that the fishery on McLeod river, California, will be discontinued, as no appropriation has been made, and the opinion prevails that the McLeod salmon do not thrive when transplanted. If the plant of these works could be removed to some tributary of the Columbia, it could be utilized to some advantage.

The Astoria shops have been unusually busy in preparing machinery and appliances for the canning establishments. An ingenious machine for canning salmon has been invented and is now in use in some of the factories. It automatically cuts the fish and fills the can, doing the work of twenty men, and requires two or three men to feed it. The machine costs $800 and will no doubt come into general use.

The canning of salmon in Alaska is an industry of itself sufficient to justify the expenditure of $7,000,000 paid to Russia for that territory. Several factories are being erected this spring and old ones increased in capacity. The rivers, bays and inlets of the coast and adjacent islands offer unparalleled facilities for this growing industry, and Alaska is capable of supplying the world with this delicious article of food.

The Oregon and Washington Fish Co. has been incorporated for the purpose of building fish traps upon the plan patented by J. M. Frazier. The trap consists of a floating boat or platform, to which is attached a netway extending to the bottom of the river, and guiding all fish that come within the limits of its wide-spread arms into a cage directly beneath the boat, which can be elevated to the deck and be relieved of its wriggling burden. There is but little chance for fish to elude this patent catch-all.

There is one method employed in catching salmon which merits the hearty disapproval of every one interested in the canning industry, and that is the destroying fish-wheel. From a projecting rock on the bank a large wheel is suspended, which is revolved by the force of the current flowing against the paddles. Nets within the paddles scoop up all the fish coming within their reach, and dump them into a chute down which they slide to boxes on the shore. By this means both large and small fish are taken and none once within the net escape destruction. Several of these machines were operated on the Columbia last season, and with such success that others are being put in this spring. One wheel captured 4,000 pounds in twenty-four hours and made money for its proprietor as long as the season lasted. They are very successful near rapids where the fish hug the shore in their passage up the stream. These wheels will undoubtedly come under the ban of the law, but not, probably, until they have multiplied to such an extent as to make the injury they cause perceptible.

It is evident that steps ought to be taken to maintain and even increase the run of salmon in the Columbia. If the government does not establish a salmon hatchery on the river the cannery men themselves should do so for the protection of their own business. The fear that others who might not contribute towards defraying the expense of such an institution would profit by its work, ought not to deter them from providing against the destruction of their business by a great diminution of the fish upon which it depends. The best way would be for the state to take hold of the matter. The canning of salmon is one of the greatest industries of Oregon and should be encouraged to the degree it deserves. The expense of two hatching places, one on the Columbia and one on the Willamette or Clackamas, could be met by a small tax levied upon each fish taken from the water, or upon each case packed. The burden of supporting them would thus be equally distributed among those deriving the benefit, and would be so light as to fall heavily upon none. The old hatchery on the Clackamas, which stream seems to be a favorite spawning place, can be easily put in good condition again. The current annual expense of this hatchery will be about $5,000. We hope the legislature will at least investigate this question at its next session. If it does not, the canners themselves should take the matter in hand.

The twenty factories of British Columbia packed 235,000 cases of salmon in 1882, valued at $1,175,000. Great activity is being displayed in that industry this season, many of the factories on Fraser river and other points being enlarged, while three new ones are going up on Skeena river. The practice of using but part of the fish has been stopped as a wasteful and extravagant one, and the canneries are now allowed to catch only what they can use. A resolution has passed the legislature asking the Dominion government to place British Columbia on a level with other provinces in the propagation of fish, a matter of great importance to the fishing industry. The spring salmon of these waters are called the sockeye, and seldom exceed ten pounds in weight. They are very fat, finely flavored, and the flesh is of a blood red color. The run begins in May and continues about six weeks. In September the coohoes appear, a different variety of salmon, averaging about twenty pounds in weight, though often much heavier. Early in the spring delicately flavored fish about the size of sardines, known as the oolichan, appear in Fraser river in countless numbers. They are very oily and are dried by Indians and burned for candles. Much of the oil has been shipped to London, and is pronounced superior to cod liver oil as a medicine. Sturgeon, cod, halibut and other salt water fish abound. The fishing industry is one of the most important of the province.

A comparatively new feature of the canning business is the packing of fish as a substitute for herring. Three years ago A. W. Berry & Co., of Astoria, built a factory at Rainier for the preserving of Oregon trout, a small fish of the salmon trout variety usually called hardheads or steelheads. These are taken from May to December in countless numbers, and are salted, smoked and canned. Last year they tried the experiment of packing smelt by the same process, and were so successful that they have gone into it extensively, 150 tons being this season's product. The smelt run is about over when the salmon catch begins, and thus the factory is enabled to work its plant nearly the whole year through. Sturgeon in great numbers follow the smelt and feed upon them. These giant fish are also made to yield a revenue to the enterprising canner. Their spawn is purchased at six cents a pound and manufactured into that Russian delicacy known as caviar. The fish are sold in the local market and are served up to the eating public as sea-bass. The smoked salmon and smelt are shipped to Australia, Europe and the Eastern States. Because of the greater amount of meat in proportion to bones, these fish are preferable to herring. The salmon is equal in flavor to the older product, while the smelt is by many considered superior. This is a feature of the canning industry which is bound to grow, and will offer an opportunity for factories to keep busy at seasons of the year during which they now are idle.

The canning season is now in full blast at Astoria, and thirty-nine factories are in operation in and near that city. These have 1,600 boats in the water, and there has been a great influx of fishermen to man them. In addition to these there is an increased number of private boats. A boat and outfit costs $700 and therefore it will be seen that the factorymen have over $1,000,000 invested in this branch of the business alone. The price paid fishermen throughout the season will be about seventy-five cents, though the season is not far enough advanced to determine that point. It will be a question of supply and demand. The