

**A POWERFUL HYDRAULIC DREDGE.**

There is at the present time being built at the Polson Iron Works, Toronto, the most powerful and complete dredging machine in the Dominion. It is a self-propelling hydraulic dredge, which has been ordered by the Government, for the improvement of the Fraser River, and the Pacific Coast ports of British Columbia.

The rapid advancement of that Province has made it necessary to deepen its harbors and channels, so that ships of large capacity can navigate with safety; and after long and careful study of the question, it was decided to build a powerful dredge of the special type referred to, which although primarily intended for the Fraser River, can steam itself to any other point and do a great variety of work.

The dredge has a capacity of 1,000 tons per hour, dredged and delivered at a distance of 4,000 feet. This is accomplished by an immense centrifugal pump about eleven inches in diameter, having a steel suction pipe, which can be lowered to a depth of forty feet. At the end of the suction pipe is a powerful rotary excavator of steel, which can cut or disintegrate any material short of rock or large boulders. This material is then sucked up by the pump with sufficient water to carry it along at the rate of fifteen feet per second, and discharged through a pipe. The dredge is arranged so that it can discharge in any desired way, either into scows, or over an embankment, or to a long dis-

tance through a flexibly connected floating pipe.

The boilers and engines on the dredge are of 1,000 horse-power. The engines are of the triple expansion surface condensing type, with water tube boilers capable of carrying 225 pounds working pressure.

The dredge is fully equipped for either fresh or salt water service, with complete appliances of the latest pattern and fully up-to-date. The hull has a steel frame throughout, and will be shipped from Toronto in sections, and put together in British Columbia, where it will be sheathed with wood.

The main deck of the dredge is entirely devoted to machinery, while the upper deck contains accommodation for the officers and crew. Here are several state-rooms, separate mess rooms for the officers and crew, kitchen, pantry, bath room, etc. The dredge is fitted with electric light, and has a complete machine shop for making ordinary repairs while in remote places. The dredge is also a complete self-propelling steamboat, with pilot house and steering gear, so that when her work is completed at one locality, (which will not take long owing to her large capacity), she can pick up her anchor and go to another.

The designer of the dredge is Mr. A. W. Robinson, M. Am. Soc. C. P., a Canadian mechanical engineer, whose work in this line is well-known not only in Canada, but in the United States, and other countries.

It is a matter of congratulation that

this dredge is entirely a Canadian production, and that we possess sufficient enterprise, and have the manufacturing facilities to execute the entire work in one establishment. The Polson Iron Works not only build the hull, but also the main pump, triple expansion engines, propelling engines, auxiliary engines, and water tube boilers, and in fact the complete dredge, set up and delivered under steam at its destination, ready for work.

The construction of this dredge marks a new era in the method of carrying on our public works, in which dredging is required. The modern demands of increased capacity and economy, have developed high-powered dredges capable of doing from six to ten times the work of the old-fashioned machines of a few years ago, and at a fraction of the cost.

Mr. Robinson has also designed a still larger dredge for the St. Lawrence ship-channel. This dredge is also being built by the Polson Iron Works, and will be one of the most powerful in the world. The hull is entirely of steel 160 feet long, 42 feet beam and 12 feet 6 inches deep.

It has a thirty-six inch floating discharge pipe 2,000 feet long, carried by cylindrical pontoons wholly of steel, which will weigh 400 tons.

Mr. Robinson has been commissioned to examine the seaport channels of Nova Scotia and New Brunswick, with a view to designing a large self-propelling dredge, which will be suitable to the conditions there existing.

Mr. Robinson has designed and built over one hundred dredges of all kinds,

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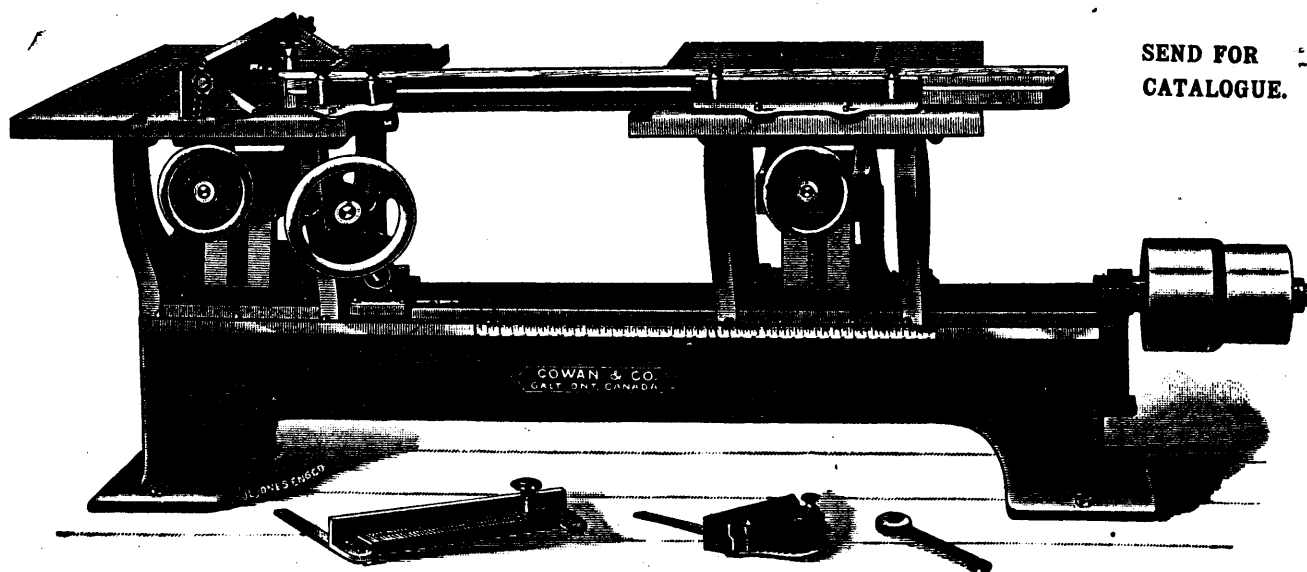
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