

# The Canadian Engineer

*A weekly paper for Canadian civil engineers and contractors*

## Enclosed Shipbuilding Berth for Canadian Vickers, Ltd.

Speedy Erection at Montreal of Double Berth 500 ft. Long by 152 ft. Wide—Can Accommodate Freighters of Ten Thousand Tons Carrying Capacity—Largest Totally Enclosed Berth in Canada, Requiring a Thousand Tons of Steel

**T**HE largest enclosed shipbuilding berth in Canada has just been completed at Montreal for Canadian Vickers, Limited. It is a double berth, 500 ft. long, 152 ft. wide, 74 ft. 3 ins. from the floor to the underside of the bottom chord of roof truss at the land end and 99 ft. 8½ ins. at the water end, and includes about 1,000 tons of steel. The overall height at the water end is 110 ft. 6½ ins. Each section has 69 ft. clear width between steel, each crane span being 70 ft.

Freighters up to 10,000 tons capacity can be built in either section of this berth, but it is now being used largely for the construction of smaller boats, and since the completion of the berth it has at times accommodated as many as eleven ships at once. In all of the accompanying illustrations can be seen preparations for laying the keel of a boat even before the completion of the berth.

Canadian Vickers, Limited, have one other covered berth, 120 ft. wide, all in one section, which can accommodate a bigger boat than the new berth even though the latter is 152 ft. wide, owing to the fact that the new berth is divided into two sections.

The new berth is built on a natural slope which is 10 ft. in 160 ft. at the water end, then 15 ft. 5½ ins. in 330 ft., the last 10 ft. at the land end being level. The columns were erected on concrete footings, built on piles.

The berth occupies all the space between two other large buildings of the Vickers plant, so that no side walls were necessary excepting on one side for a comparatively short distance where the berth extends further than the wooden building which adjoins it on that side. On the other side is a long modern steel building which was almost entirely glass, on the side facing the new berth. Fig. 2 shows the start of the erection of the first section

of the berth and the glass side of the adjoining steel building. This entire side was later removed, as can be seen in Fig. 1, which is an interior view of the berth when nearly completed, also showing (on the right side) the interior of the wooden building, one wall of which was likewise removed, thus practically throwing the three buildings into one.

The roof of the berth consists of 3-in. x 1½-in. boards laid on edge and spiked together and to a nailing strip on the purlins. The purlins are at 9-ft. 6-in. centres. A continuous skylight, 16 ft. wide, runs the whole length of the berth over the centre of each section. On the side adjoining the wooden building there is a steel framing, with wooden window sash, 20 ft. high, above the roof of the

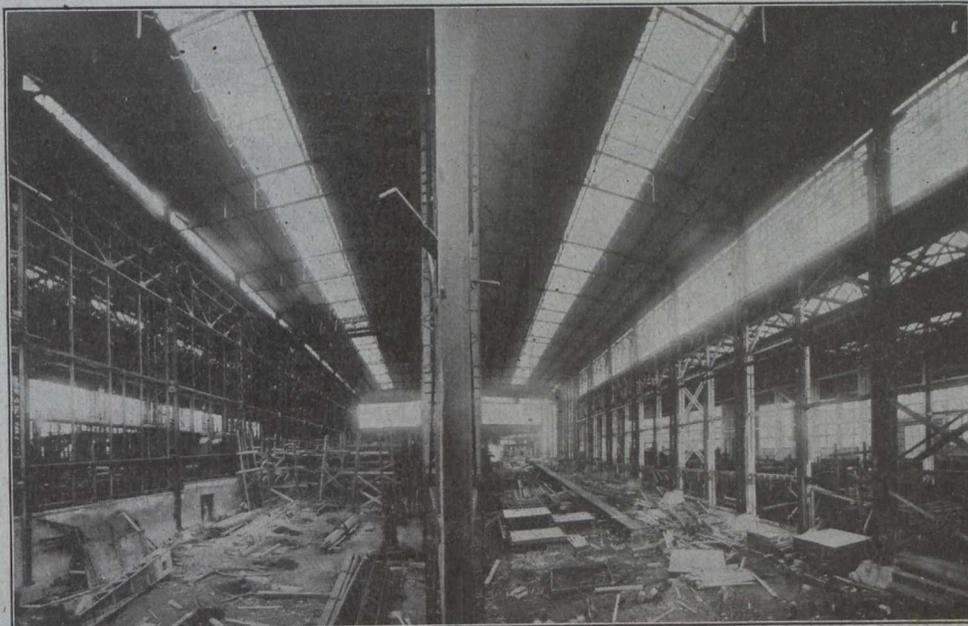
wooden building, thus providing ample light.

Each of the centre columns of the berth consists of two 24-in. Bethlehem I-beams, latticed at 2-ft. 8-in. centres with 3-in. x 2-in. x 5/16-in. angles.

The side columns next to the steel building are 10-in. x 10-in. Bethlehem H sections, attached to the columns of the adjoining building. Next to the wooden building the side columns consist of two 20-in. Bethlehem I-beams latticed at 2-ft. centres with 3-in. x 2-in. x 5/16-in. angles.

The Warren roof girders are 9 ft. 6 ins. deep at the centre and 7 ft. 7 ins. at each end, made up of 6-in. x 6-in. x 7/16-in. angles, the centre panel, carrying the skylight, being reinforced by a pair of 6-in. x 4-in. x ½-in. angles at the top and by a pair of 5-in. x 7/16-in. flats at the bottom.

The purlins are pairs of 4-in. x 4-in. x 5/16-in. latticed chord angles, all 4 ft. deep excepting at the ends of the berth, where they are the full depth of the truss, to carry the bottom chord bracing, as all the wind bracing is in the



**Fig. 1.—Interior View of Berth, Showing Both Sections. Looking Toward Land End. Beyond Columns at the Left is Another Covered Steel Berth. Beyond Columns at the Right is a Covered Wooden Berth**