Notes on Vancouver Shipbuilding Plants.

Some twenty years ago the parts of two or three small steel cargo boats were taken from Great Britain and assembled in Coal Harbor, B.C., but no serious effort was made in shipbuilding until the spring of 1916, by which time the shortage of tonnage was becoming acutely felt, particularly in the export lumber trade. The B.C. Government offered encouragement to the construction of wooden auxiliary

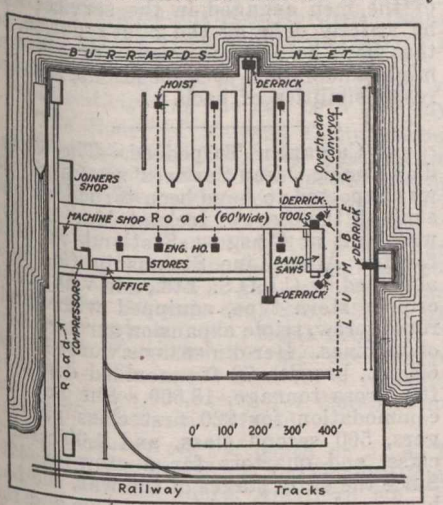

Fig. 1. Wm. Lyall Shipbuilding Co.'s yards at West Vancouver.

steam sailing schooners and a score of them were quickly under construction. They are built to one type, of 2,550 tons dead weight and 1,500,000 ft. of lumber in capacity. Each has twin Bolinder engines of 360 h.p. to give a speed of 8 knots. Many of this first group of ships have been launched and several have made voyages.

Steel steam shipbuilding quickly followed on the first wooden shipbuilding programme, and on May 17, 1917, the first oceangoing steamer built in Western Canada was launched by the Wallace Shipyards, Ltd., at North Vancouver. This was War Dog, a boat of 4,800 tons dead weight, 315 ft. long, 45 ft. moulded beam, 27 ft. deep and 6,750 tons displacement. Engines designed and built in the yards gave her a speed of 10 knots.

The wooden ship yards are, broadly

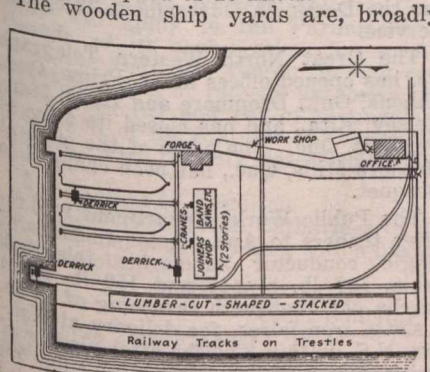

Fig. 2. A typical wooden shipbuilding yard at Vancouver.

speaking, laid out on the same general plan, a typical example of which is the Wm. Lyall Shipbuilding Co.'s yards near Vancouver, shown in fig. 1. There is a wide frontage to the sea or river, with space sufficient for laying down the number of vessels required side by side, with a pier or wharfage for unloading waterborne material and a narrow gauge line or lines to carry it to the workshops, aerial conveyors or travelling derricks to distribute it where required when worked up, and hoists to handle it at the respective ships. In every case the base of the yard is contiguous to railway trackage, with a spur or spurs into the yard. Facing the line of vessels, is a row of machine shops and adjoining these are the compressors, usually three, for furnishing power to the compressed air tools. These consist of boring, drilling and turning machines, a plant for cutting, threading and heading bolts, and another for galvanizing. A model loft, pattern shops, a floor for templates and the drafting office are grouped together. As compared with the plant for building steel ships, that for the construction of wooden vessels is simple. The massive timbers are unloaded from scow, by the travelling derrick on the wharf, and stacked in the space between the lines of the derrick and the overhead conveyors, which carry the material to the band saw shops, where it is cut to the templates and swung over to the second travelling derrick and by it transferred to a third. It is then delivered to the ship cranes and hoisted into position.

Fig. 2 shows the layout by another wooden ship yard, of slightly different

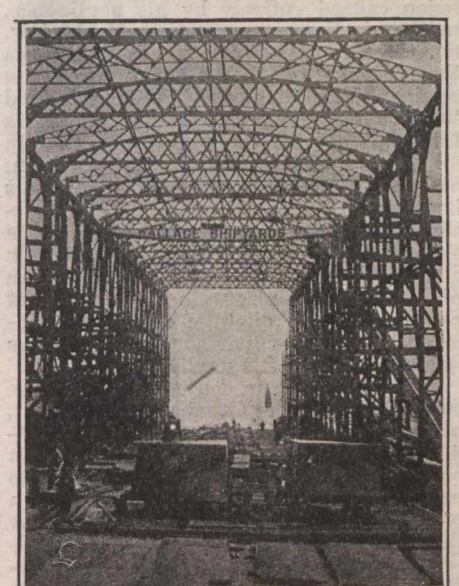

Fig. 3. Steel shipbuilding at Wallace Shipyards, Ltd., North Vancouver.

layout from the Lyall yard, though the plant contained is practically similar. Where the lumber is taken to the yard on the cars, it is stacked along the rails of the travelling derrick by which it is taken to the shops, the overhead conveyor in this case being dispensed with. This derrick also travels on tracks between the shipways which it controls. Ample space is required for stacking the lumber upon delivery and again when shaped and prepared. A great deal of work is done in the open air by hand, such as the shaping of the massive rudder and bow pieces, and stern posts, scarving, trimming knees, etc., the preparation of the masts, yards and booms.

A much greater space is demanded for wooden shipbuilding, in proportion to tonnage, than for building in steel. In the latter yards, materials require much less space. Plates are placed on edge in racks and passed with the minimum of handling to the punching and boring machines. A few months ago steel ships in this territory were assembled rather than built, but a complete change is being brought about. Though no steel is rolled in the province as yet, all shaping, cutting, bending, welding, casting, turning, boring, drilling and punching are now done in the shops of the yards. Engines are designed and built complete, instead of being simply imported and set up.

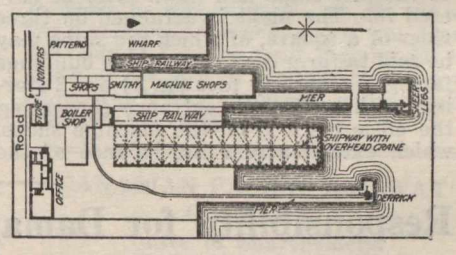

Fig. 4. Wallace Shipyards, Ltd., plant, North Vancouver.

The Wallace shipyard at North Vancouver (fig. 4) is a good example of this type. Here a large runway with overhead crane is placed between two piers. The one to the west is for loading and unloading scows, and the eastern pier has a travelling derrick, but has sheer legs as well, at the pierhead, and the pier is upon a greater scale and is carried out to deep water. Immediately east of the shipway, with its crane, which is shown in fig. 3, is a ship railway of 2,500 tons capacity and parallel with that are the machine shops, smithy, shaping floor, furnace room and galvanizing plant in the order named. The offices and drafting rooms occupy a second story over a portion of the machine shops. Then comes ship railway 2, of 1,500 tons capacity, and more wharfage where an extension of the machine shops

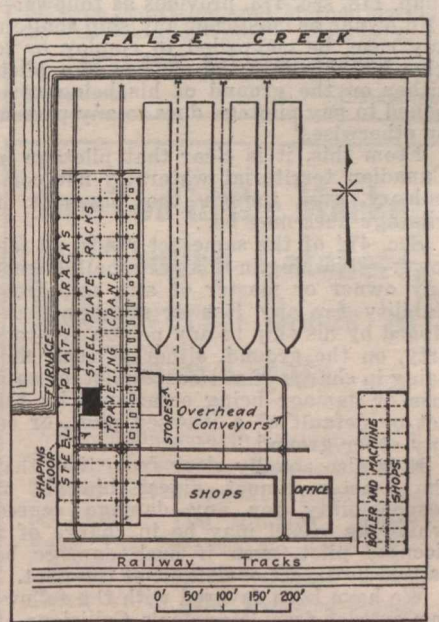

Fig. 5. J. Coughlan & Sons Steel Shipbuilding Yard.

is being made. The crane, it will be noticed from fig. 3, travels on light steel runways braced by overhead trusses. North of the gantry extend the boiler shop sheds, punching and riveting shops, all beneath the same roof. The L-shaped building in the northeast corner contains joiner and carpenter shops and pattern rooms. The forge connected with these yards is on the Vancouver side of the