Editorial

SHIPBUILDING IN CANADA.

A shipbuilding industry may soon be established in Canada. The Canadian government, with a view to granting aid to this industry, obtained offers for the building of different classes of ships, but these were unsatisfactory. A subsidy equivalent to the difference in cost of construction as between British and Canadian shipyards appears to have been under consideration. At present, however, prices are at such a high level as to make aid on that principle unsatisfactory. This is one of the difficulties at present under consideration by the government, which promises to bring before parliament a measure for the encouragement of shipbuilding with a view to increasing the available tonnage. According to the deputy minister of marine and fisheries, the average value of the vessels on the register of the Dominion at the end of 1914 was $30 per ton, and on this basis the value of the net registered tonnage of Canada at that date would be $27,972,660. The new tonnage constructed in 1914 was 43,346 tons, valued at $45 per ton, or $1,950,570. At present, Canadian shipyards in Quebec, Montreal, Collingwood and at other points are busy, but only at Collingwood are commercial vessels being built.

Some time ago the New York Chamber of Commerce formulated a scheme which it thought might well be adopted as the shipbuilding policy of the United States. Sir George Foster, Canadian minister of trade and commerce, in discussing the question of ocean transportation in the House of Commons, April 26th, 1916, outlined this scheme, and commented on the way it might be applied to the Canadian problem.

Under this plan a commission would be appointed consisting of any three members of the cabinet whose departments are interested, say, commerce, navy and finance. The government side of that commission would be the ministers of these three departments. Added to these would be a naval instructor and three practical and experienced men in shipping matters, selected by the government. That commission would have general oversight and direction of the classes of vessels to be built under the scheme, how they should be named, everything in connection with them, and to the extent that it would be possible, the regulation of the rates as well. That committee would then be empowered to enter into contracts with shipbuilding companies to build according to the plans and regulations laid down in Canadian shipyards, and the builders of ships would be allowed the difference between the cost of construction in Canada and in European ports.

The object would be to enable the Canadian shipowner to have his ships built in Canada at exactly the same cost as if he had had them built in a European port. If this tonnage could be built in a European port at a certain percentage per ton cheaper than in Canada, then the subsidy for construction would be that difference in cost, whatever it was, so as to put the Canadian shipowner on an equality, in the after-competition, with his competitor who had ships built in European shipyards. The time during which this should be carried out would be limited to a period of, say, ten years, so that during that ten years this operation of building would go on.

Furthermore, the commission would be empowered to enter into contracts with the shipowners, when the ships were built, and to guarantee to the owners the difference in cost of operating the ships under the Canadian flag and under a European flag, that subsidy to continue for the life of the ship. The commission would ascertain the difference in cost of construction and operation, and pay that difference alone. In that connection the government would place at the disposal of the commission the sum of $15,000,000 or $20,000,000 and empower the commission to guarantee the bonds upon the ships built up to 50 per cent. of the value of the ships. Such bonds would be 5 per cent. bonds, and the government commission would get one-half of one per cent. on these bonds returned to its treasury for its work and its supervision.

If the plan as outlined above could be applied practically it would go a long way towards placing the shipbuilding industry on a sounder basis and would mean the establishment of a great industry. Never was there a time when the opportunities in this field were more attractive than they are to-day.

ARTISTIC EFFECT IN ENGINEERING.

Artistic effort and mechanical craft are academically considered to be as wide apart as the poles are asunder; yet a power unit or a bridge span have possibilities from the point of view of beauty. The remarkable aesthetic differences between various structures serve to show that there is a consideration underlying not usually taken into account.

One meaning of artistic is fitting and it is conceded that design must take into account the material employed. Correct construction in stone or wood is obviously incorrect when applied to steel or cast iron which have their own methods of treatment and do not need to follow exact architectural precedent.

In this question of abstract beauty, for sins against which the engineer is too often blamed, lies a matter little realized. It is best to make this clear by definite statement and concrete example.

If a structure is designed purely economic financially, at absolute least first cost the result will be offensive and ugly. Again, if a structure is designed with strict regard to economy of material, then the result will have merit from the artistic point of view.

Proportion is one underlying factor of all art and that disposition of material giving equal stress results in natural outline and consequently must be proportionate.

The actual limitations imposed by necessity upon the designer led in the case of architecture to certain forms and proportions which are accepted as satisfying the eye. It was not so much a conscious effort after beauty as a natural evolution for sufficient strength by the economical disposition of material which gave us style in building.

The structural engineer is accused of defacing the landscape with hideous structures possessing the merits of utility and strength, but which offend the eye. In part the accusation is just and must be admitted.

If we take a much debated case—that of bridges—and compare, for instance, a flat girder commercial railway span with, say, the Forth Bridge, we are forced to a