

## SCOTTISH HERO

On three previous occasions, we have made major mention in these pages of the turret-type vessels which served on the lakes in the early years of the twentieth century. The last of those features appeared nineteen years ago and much has been learned about them and their various operators in the intervening years. It is time now to revisit the turrets, and to feature one of the least-mentioned of them.

Interestingly, the idea of the turret steamer flowed from Alexander McDougall's whalebacks of lake fame. We already have mentioned CHARLES W. WETMORE's travels across the North Atlantic and the stir that she caused when she visited Liverpool and was opened there for public visitation. The Liverpool firm of William Johnston and Co. Ltd. in 1892 placed an order with the highly respected shipbuilding firm of William Doxford & Sons Ltd., Sunderland, England, for the whaleback freight steamer SAGAMORE, which Doxford built under licence. But back in 1891, Doxford had received enquiries for such a vessel and set about trying to design a type of ship that would have the benefits of the whaleback design while also incorporating some major improvements.

The actual inventor of the turret design was Arthur H. Haver, chief draughtsman for the Doxford shipyard, to whom the idea came at home, and who presented it the next day to Charles Doxford. He tried to patent the design the following day, only to find that the Doxford firm already had applied for a permit. Doxford rewarded Haver (not exactly in an enthusiastic manner) for his work, but as the shipyard eventually built 176 turret vessels, litigation almost inevitably ensued. As a result, Haver finally was awarded a further pittance, but by that time, Haver had left Doxford's employ.

The prime reason for the turret design was to effect a saving in canal (Suez) and harbour dues, and this result was achieved by the reduction of both the net tonnage and the area of exposed upper deck. From the turn of the bilge to a few feet above the load line, a turret steamer did not differ from the conventional form of cargo vessels but, above this point, the side shell plating curved inward to create a narrow space called the "harbour deck" which was, of course, just a part of the shell plating. From the inner side of the harbour deck, the plating curved to rise perpendicularly to meet the narrow flush upper deck on which were erected the bridge structure and the usual deck fittings including winches, masts, derrick posts, hatches, etc. The crew's quarters were extremely cramped as a result of the narrow upper deck (which was only about half the width of the ship) and scarcely provided room for turning around. As one who sailed in these ships during their lake service put it so aptly, "if you walked into a cabin, you had to back out".

The Doxford firm kept building turrets until 1911, and some of them were quite large, but their popularity began to wane after the turn of the century, as even larger vessels came to be required, and the turrets' advantage of lower canal and harbour dues was lost due to a change in tonnage and load line regulations which altered the way such dues were calculated. The turrets were quite difficult to unload, especially with shore-based rigs, as the narrow deck severely limited the width of hatches. As well, although they were somewhat self-trimming with certain types of cargoes, the turrets had a lower cargo capacity than the later "shelter deck" type of ship, and there was a reduced ability to withstand heeling forces due to a loss of buoyancy at the ship's side and deck, and they were known to roll miserably in heavy seas. (Eight of the turrets either capsized or went missing in the early years, despite Doxford's warnings about proper loading and ballasting.) There also (at least on the early turrets that came to the lakes) appears to have been only a limited capacity for the carriage of water ballast, and a number of them encountered difficulties in storms.

The thirteenth turret vessel built, and Doxford's Hull No. 235, was the steamer SCOTTISH HERO (Br.105718), which was completed in August of 1895 and