

s.s. "CALDER".

This vessel was of the following moulded dimensions:- 240' x 34' x 16'5". There was a forecastle which was partly open, a bridge which was closed at the fore end, but entirely open at the after end, and a poop which was partly open.

The effective length of these superstructures for freeboard purposes was 52% of the ship's length.

The Hull Surveyors have now forwarded a report on the Inquiry which was held at Hull into the loss of the above vessel on or about 18th or 19th April when on a voyage from Hamburg to the Humber.

It would appear that the vessel was loaded with a mixed cargo, including potatoes in bags, and that 760 tons was carried in the holds and 200 tons on the upper deck, and that she was loaded to within 2 inches of her permissible draught.

The after well was covered over with loose covers  $2\frac{1}{2}$  inches thick, held in position by tarpaulins which were nailed to the deck.

Such an arrangement could only provide protection from spray, and it was suggested that as a possible cause of the loss of the ship these covers were carried away, that water entered into the poop and bridge spaces below, and that as a result the ship foundered.

It was stated that the ship had a G.M. of .84 feet when leaving Hamburg. The opinion was expressed that "if the erections are taken into account by the Board of Trade when calculating freeboard it was only fair to consider them for stability purposes" and that "in the case of the Calder, if stability was taken without erections she would require 3'6" G.M., and a draught of 9 feet."

The above assumption regarding erections is not correct, as the allowance for erections is given on account



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of the protection they afford to the ship and not on account of any buoyancy which they may afford.

Curves of stability were before the Court and a copy of these curves has been forwarded by the Surveyor.

It is thought that curve B, which makes allowance for the buoyancy of the cargo in the tween decks, gives the truest idea of the condition of the vessel.

This gives a G.M. = .77, a maximum righting lever of .31 feet, and a range of  $59\frac{1}{2}^{\circ}$ .

This is a very low value for a ship of this description, and if the loose planks covering the well aft were carried away and water entered by the opening the probable resulting loss of stability would account for the loss of the ship.

It is noted that no reflections whatever were made "as regards the materials or construction of the vessel" and it was assumed from the commencement that the "CALDER" "was well built and efficiently equipped".

26.11.31.

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