



71, Fenchurch Street,
London, E.C. 3.

24th September, 1943.

My dear Thomson,

I expect now that you are in possession of Mr. Colley's Report on the Steel Concrete Barge "ST ANNE", and Sir Owen Williams' remarks on the question of the design of bulkheads at the forward and after swims in vessels of this type, you will be considering whether a more definite basis for the scantlings and reinforcement of such bulkheads is necessary in the case of barges which are to be classed by this Society.

Sir Owen Williams, in his letter, points out that on the plans which he used for guidance in designing barges which are to be constructed of reinforced concrete, these bulkheads were shown to be non-watertight. The Owners of the "ST ANNE", Messrs. Everard, maintain that in their barges the end bulkheads are watertight, that is to say, are not provided with holes at the sides and centre of the bulkhead to enable communication between the swims and the cargo hold to be established. I was rather surprised to hear this and informed Messrs. Everard that their statement did not agree with what was known to me as usual in my experience in surveying barges at Messrs. Pollock's Yard at Faversham.

As it may be helpful to you to have my views on this question, I have decided to write to you and supply you with the following information.

Pollocks have built a large number of barges and in practically all of these barges the end bulkheads consist of 5/16" plating with vertical stiffeners spaced at least 24" apart consisting of 3 x 2½" or 3 x 3" angles without any end attachments. The bulkhead plating is lapped on to a channel or zed frame and to the 5" bulb angle frames on the Port and Starboard sides. The riveting through side plating and side frame also through bottom shell is not at watertight spacing pitch, but is the usual 6 to 6½" diameter for riveting of frames to shell. These bulkheads usually have the corners sniped away at the chine angles at the bilge. There is also usually a triangular hole at the centreline and at the deck there are similar openings to those at the bilge, but these openings are somewhat smaller. This is the standard practice in building barges as used on the Thames.

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In one or two exceptional cases, the Purchaser has asked to have the bulkhead intact, and Messrs. Pollock informed me that in such cases they constructed the bulkhead with a 3 x 3 boundary angle and closed up the rivet spacing to watertight pitch. Personally, I have never had a bulkhead of this type under my survey.

In a few other cases where it was desired to have the bulkhead intact, the holes at the deck, bilges and centre line have been closed by fitting riveted or welded plates, but nothing further has been done to increase the scantlings of the stiffeners or to provide these stiffeners with attachments. The inference that may be drawn from all this is that these bulkheads have never really been regarded as watertight bulkheads in the sense which we understand in the Society's Rules.

If it is decided to adopt Sir Owen Williams suggestion to increase the strength of the bulkhead to the extent he proposes, it will mean that in the reinforced concrete barges and bulkheads are really superior to those normally fitted in steel barges.

I hope this information will be of some value to you in dealing with the general question of the design of these bulkheads.

With kind regards,

Yours sincerely,

A. Christy

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GLASGOW.



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007626-004638-0075