

colony, and came to a resolution recommending the Government to give a preference to unsinkable ships. Upon the report being presented, this recommendation was received with a good deal of derision, but I am calling the attention of my Government to your article, and pointing out that the matter is not one for derision when you attach so much importance to it, and when you predict that the "unsinkable ship" is a thing that will have to be built very soon.

Sir Edward J Reed, M.P

I have, &c.,
F. D. BELL.

Enclosure 2 in No. 22.

Sir E J REED to the AGENT-GENERAL.

Broadway Chambers, Westminster, London, S.W.,
20th November, 1883.

DEAR SIR FRANCIS BELL,—

Absence from England has prevented me from acknowledging earlier your favour of the 13th instant, which I find to be most interesting.

I have read through the pamphlet on Mr Isbister's sectional ships, and, although I do not fully understand his details, I hold them to be correct enough so far as I do understand them. The competition between shipowners has vastly more to do with the sinkability of ships as now built than any difficulty in designing and building unsinkable ships, and I am quite ready to stake any professional reputation which I may have upon the perfect practicability of designing and building a New Zealand line of steamers which should be exempt from loss on the ocean by collision or stress of weather. I am therefore of opinion that the recommendation of the Joint Committee of both Houses of the New Zealand Parliament was not only reasonable, but, if acted upon, would confer great advantages upon the colonial world, for any such example of the adoption of unsinkable ships would necessarily be largely followed in the future. I need hardly say that, if at any time I can be of service to your Government or yourself in this momentous matter, I shall be proud and happy to be so.

Sir F D. Bell, K.C.M.G, Agent-General for New Zealand.

I have, &c.,
E. J REED.

Enclosure 3 in No. 22.

The AGENT-GENERAL to Sir E J REED.

7, Westminster Chambers, London, S.W.,
21st November, 1883.

DEAR SIR EDWARD REED,—

I have to acknowledge, with many thanks, your letter of yesterday in answer to mine of the 13th on the question of unsinkable ships. Since I wrote to you I have received from the colony some drawings of Mr. Isbister's sectional ship; and I am encouraged, after what you say to me, to submit these drawings for your inspection. If you should be able to spare any time to looking over them, and would let me know what you think of the design, I should be under a fresh obligation to you.

Sir Edward J Reed, K.C.B., M.P.

I have, &c.,
F D. BELL.

Enclosure 4 in No. 22.

Sir E. J REED to the AGENT-GENERAL.

Broadway Chambers, Westminster, London, S.W.,
29th November, 1883.

DEAR SIR,—

I am obliged by your favour of the 21st instant, together with the drawings of Mr Isbister's sectional ship.

I have carefully examined these drawings, which, as I anticipated from the perusal of the pamphlet, are very ingenious, but the designer is evidently not sufficiently acquainted with the construction of modern iron and steel merchant-ships. The longitudinal view of the vessel shows her to be 260 feet long and 44 feet broad, and divided throughout her length into five compartments by four transverse watertight bulkheads, and a middle-line bulkhead is worked, which further subdivides her into a total of ten watertight compartments, the bulkheads being carried, as they should be, to the height of the upper deck. I do not think, however, that the number of transverse watertight bulkheads is sufficient, and what is known as a collision bulkhead should certainly be introduced.

With regard to the details of construction, there is a great deal of superfluous material and work used, which adds both unnecessary weight and cost to the vessel. For example, I notice that each transverse frame is bracketed at the middle-line bulkhead on either side of it, both at the keel and at each deck, as well as at each side of the vessel, above and below each beam. This is quite unnecessary, and if each beam were connected to the transverse frame and bulkhead by means of the ordinary beam-arm it would be quite sufficient, and any further additional strength that might be required could be obtained by means of deep frames worked every 20 or 24 feet apart.

No reverse frames appear, from the drawings, to be worked, and the keel arrangements are both complicated and unsatisfactory. There is no reason why, in a vessel built with a longitudinal vertical middle-line bulkhead, that the ordinary keel arrangements should be departed from, and the transverse frames and floors worked continuously across the keel with intercostal vertical keel plates worked between them, and a sufficient lap left above the top of the floor-plates to connect the middle-line bulkhead plates with the vertical keel, or this arrangement may be varied by having