

## WOODEN SHIPS. NAVAL ARCHITECT'S DEFENCE — START OF GREAT INDUSTRY.

Mr. A. C. Barber, A.M.I.N.A., naval architect to Messrs. Kay, MacNicol, and Co., referred yesterday to recently published criticisms on the Commonwealth Government's scheme to construct wooden vessels of Australian hardwoods. Mr. Barber was the architect of 12 of the vessels for which contracts have been let, six being under construction by the Wallace Power Boat Company, Ltd., of Sydney, and six by Messrs. Kidman and Mayoh, of Sydney.

Regarding the financial aspect of the question as to whether the present contracts should be proceeded with, Mr. Barber said that since the estimates on which the contracts were based were drawn up the cost of many of the materials had doubled in price. On the present rates, and those which were likely to prevail during the period of construction, it was not probable that any unreasonable profit would accrue to the contractors.

"As regards the alleged unsuitability of wooden vessels to compete in the maritime trade of the world," said Mr. Barber, "one might reflect for a few moments on the vast quantity of perishable goods which were imported to this country in the early days, when there was no other method of sea transport than in wooden hulls.

"It has been contended that the hardwood vessels will be leaky and unsuitable for cargo other than timber and coal. There are few people in this country who have given more than a passing thought to hardwood vessels, and it is manifestly absurd to compare them with the softwood vessels built in America, as the strengths of the two woods are in the proportion of six to one. In other words, when hardwood vessels are carefully designed they are almost as strong and more durable than steel. The question of water tightness of a vessel depends chiefly on the care taken thoroughly to caulk the seams, and if this is done by hand, as set out in the specification, there should be no necessity for recaulking the Australian vessels to any extent for a period of from six to seven years. In America the vessels have latterly been caulked by pneumatic tools, in order to save labour and time, with the result that the work has had to be gone over by hand at the end of the voyage. The specification of the Australian vessels calls for six threads of oakum in each seam. This amounts to filling the seams of the planks completely with this special water-resisting material, and is on an average of three times more than is usually found in American-built vessels coming to this port.

"The design of 12 of the vessels about to be constructed is rather unique, as they have double bottoms, similar to the present-day

be constructed is rather unique, as they have double bottoms, similar to the present-day steel vessels, and are designed on the most scientific methods known to naval architects, and, therefore, apart from the great advantages of being constructed of specially selected Australian hardwoods, cannot be compared with the soft wood vessels of America. 'Tween decks have been fitted for a specific purpose, firstly to make the vessel more rigid, and thereby eliminate the racking strains which take place in a vessel's hull at sea; secondly, as a separate floor space for carrying general cargo, and thereby giving the ship's master a better opportunity to load his cargo to the best advantage. One of the reasons why the American vessels strain and leak is that there are not any 'tween decks. Lloyd's rules require 'tween decks to be fitted, or other adequate compensation in lieu of them. The vessels to be built in Australia have received Lloyd's highest standard of classification, viz., 100 A1 for 12 years.

"The statement has been made that the specification calls for velvet upholstered easy chairs for the engineers. This is not correct. The cabin's accommodation is of the plainest, and is strictly in accordance with the Commonwealth Navigation Bill.

"The completion of the Government's wooden shipbuilding programme, which will involve the expenditure of over £1,000,000, must have far-reaching effects, including that of stimulating the trade and industry in Sydney to an appreciable extent. It behoves those who have the interests of the State at heart to make this industry a success and a stepping-stone to greater things in the development of Australia's mercantile marine."