

ful in the testimony taken before the committee. Specific reference will now be made only to some of the matters therein contained.

In one part of his statement he says:

"I have no hesitation in saying that the modern ships of to-day are vastly stronger everywhere than they were half a century ago, and that they are now, as a rule, perfectly capable of being docked in dry-docks with their cargoes on board. Of course, if they can be docked in a dry-dock (a graven and sunk dock,) they could be docked upon an iron lifting or hydraulic dock."

Again he says:

"I should like to say at first that, as a naval constructor, I have no fear whatever of a ship undergoing any strain in the process of lifting out of the water (as would be necessary in the case of a Ship Railway,) that she is not liable to at present in ordinary docking. I would say, further, that I am quite sure that the processes of ordinary docking, as carried on in a vast number of private establishments, are very negligent and insufficient in comparison with those which would be adopted in the case of the hydraulic lifts connected with the proposed Ship Railway."

Again, in speaking of the allegation made by some that in the transportation of ships by railway there would be much jerking and vibration, which would be liable to cause damage, Sir Edward says:

"They seem to think there are no vibrations or jerking, or forces of some kind the ship would be subjected to on the railway that she is not subjected to at sea. That feeling, I know, is a pretty general one. I can only attribute it to the fact that the gentlemen who so think are not acquainted with the strains that ships undergo at sea."

Again he says:

"The next thing I would say is that we have ships on railways, and we have them in the worst form. Nothing is commoner than heaving up slips upon which ships are pulled up out of the water. They have to take their bearing first at the bow, and gradually come up until they get upon the solid, and are then hauled up by chains."

"That has been done everywhere, all over the world, thousands of times in this country, and it is now carried on to a very large extent indeed. With docks for ships of 3,000 or 4,000 tons, nothing is thought of pulling these ships up, and nothing is thought of any strains they undergo under the circumstances."

In speaking of the liability of ships while in transit to be blown over by violent storms, Sir Edward says:

"If it is sufficient on a Ship Railway to provide against something like the worst hurricanes at sea, then I have no hesitation in saying that it is perfectly impossible for these ships on the railway to come to any grief from wind, because the resistance to hold the ship upright on her cradle on the railway track is, I think, very many times greater than the forces which keep her upright at sea."

After speaking of the track and locomotives which would be required for the Ship Railway, Sir Edward says:

"With a track like that, and with locomotives adapted to it, there would be no difficulty in transporting ships. It would be best to avoid a very high rate of speed. It would not be necessary, I should think, to move these ships at a greater speed than eight or ten miles an hour, although I am quite prepared to believe that, with a proper track and locomotives, vessels could be transported much faster."

Mr. William John, who was for some years the scientific adviser of the committee of Lloyd's Register of British Shipping, London, and who built the Inman steam liner the City of Rome, in a letter dated October 6, 1881, says:

"The practice of lifting a ship of large size clean out of the water has become an