

known as to position and quantity, the exact consequence of sinking her further in the water could be accurately arrived at.

By Captain Commerell: I did not officially superintend the inclining of the ship at Portsmouth to obtain the necessary data for calculating her stability. Mr. Barnes, one of the Constructors of the Navy, superintended the experiment, and recorded his own facts. Speaking roughly, the *Captain* appeared somewhat crank when the experiment was made. As far as I remember, I mentioned to Captain Burgoyne on the day the ship was inclined that she appeared rather crank, at six or seven degrees inclination but he assured me that she was a very stiff ship to an angle of six or seven degrees, beyond which it seemed difficult to carry her. Taking the maximum of stability at twenty degrees, I should not have thought it prudent to heel her enough to have brought the water on deck. If the *Captain* actually drew two feet of water in excess of her design from an increase of scantling distributed throughout the ship, the stability of the ship would probably be but little affected, but could only be known from trial. The freeboard would, of course, be much lower.

The President: Is the experiment of inclining the ship to obtain the data for calculating the centre of gravity made because the calculations are not relied upon, or for testing them?—The calculated position of the centre of gravity in a new design is occasionally approximate, and therefore the Admiralty designers verify their calculations by experiments. The *Captain's* stability would increase less in proportion as the deck became immersed in water, and would decrease after the maximum point of her stability had passed until she had none. The turning over of the *Captain* without check, as described in the evidence, would appear to indicate that she passed the maximum point of stability at a comparatively small angle. A well conditioned ship, with hatches battened down, thrown on her beam ends by sail or wave pressure, when relieved of the weight of her sails and masts by their being carried away, might then be expected to right herself, if a ship of a high freeboard. At the conclusion of Mr. Robinson's evidence, the Court expressed its sense of the evident care with which he had prepared the information he had laid before the Court.

Captain MAY, Her Majesty's ship *Northumberland*, one of the members of the Court, then gave evidence to the Court of his experience of the wind and sea, and general state of the weather on the night the *Captain* was lost. He said with regard to the *Captain*, "She was the crankiest iron-clad I have up to the present seen. She was heeling twelve degrees when the *Northumberland* was heeling five. Her topgallant mast was the largest I ever saw.

Captain COMMERELL, V.C., C.B., Her Majesty's ship *Monarch*, also one of the members of the Court, being examined, said,—I had frequent conversations with Captain Burgoyne respecting the seaworthiness of the *Captain*. Two days after arriving at Vigo, Captain Coles, in presence of Captain Burgoyne, expressed to me his greatest possible confidence in the *Captain*, and that beyond a certain point she could not go over. Captain Coles altogether laughed at the suspicion of her going over. I have reason to know that Captain Burgoyne had thought the ship overweighted, but the recent trial had quite set his mind at rest on that point. I saw the *Captain* at 11 p.m. on the 6th. She looked just as usual, and was not heeling

over in any degree, and when she was running in the morning I had not the slightest fears for her safety. I had such fears on the morning of the 30th of May.

By the President: I know now, and have no doubt in my mind, that double-reefed topsails was too much sail for the *Captain* to carry. I presume Captain Burgoyne was holding on to the reef with both watches the moment the middle watch had been mustered. The weather had been changeable, and the squalls heavy. If the *Captain's* sails had been furled and she had been placed under steam, I do not think she would have foundered, but the weather did not warrant her falling out of the line. She had weathered worse in safety, and therefore I consider Captain Burgoyne would not have been justified in hauling out of the line. I do not consider that he could have furled his topsails with the wind abeam. If they had been aback, the ship would have gathered sternway, which happened to me that night, and then I only succeeded, by filling my foretopsail, in being able to save the sails.

The Court adjourned soon after 6 p.m.

When the court opened on Friday, the 30th ult., Mr. ROBINSON was recalled—A diagram having been forwarded to one of the members of the Court, showing the inclination of the *Captain* at different degrees, witness said he would have it verified as far as possible, and would have two of the copies of the diagram prepared, one of the actual flotation of the *Captain* when she left the harbor, and that of her original design.

Mr. MAY recalled—Was not aware if the hands were stationed at the topsail sheets and halyards in the first watch of the 6th and middle watch of the 7th of September. Should think that the topsail yards were braced in. Between nine and ten observed two reefs were in the topsail. Does not know if it was customary to station hands by the topsail sheets and halyards when under double reefed topsails and lower sails. Some of the boatswain's axes were kept on the forecastle.

By Captain MAY: Thinks it was a rule to have hands by the upper halyards on all occasions.

JAMES ELLIS, gunner's mate, recalled—The topsail yards were braced in. It was not customary to station hands by the topsail sheets and halyards. The axes were kept two on each side of the forecastle.

By Admiral Yelverton: There was always a great difficulty in rough weather in rounding in the topsail yards.

By Captain RICE: After the reefs were taken in at quarters, the lower yards were braced up.

LOUIS WELLY recalled—The topsail yards were not well braced in. The axes were kept on the bowsprit.

By Captain Hancock, The topsail yards always went very sharp up, the lee rigging always assisted the yards being rounded in after being once started. The *Captain's* yards with reefs would brace up as sharp as some other ships without reefs.

By Captain Commerell: The *Captain* had the ordinary spread of the topmast rigging, but went further aft.

The remaining survivors were recalled, and gave confirmatory evidence to that given by Mr. May and the other previous witnesses.

Staff-Commander KIDDLE recalled—Knowing the angle of stability of the *Agincourt*, it is possible that her stability might have been sufficient to have carried topgal-

lant masts; should have carefully watched the pendulum so that no heave of the sea should ever have thrown her over beyond the angle of safety, without knowing that angle; would have put three reefs in the topsails and reefed the courses.

A letter was then read from the Lords of the Admiralty to the effect that their Lordships had ordered the summary of the correspondence on the construction of the *Captain* to be printed. The Judge Advocate read the pamphlet forwarded with the letter, the substance of which has already appeared in the daily journals. Mr. Robinson was then instructed to have the papers read the day before printed at the cost of the Court, and placed in the hands of the members. The diagrams were to be furnished also, on a reduced scale, for publication.

Captain J. G. GOODENOUGH, examined: Would certainly have ordered the *Captain* and *Monarch* to be differently dealt with in regard to sail, had he been in command of the Channel Squadron. With the broadside ships on the night of the 6th, thought it was necessary that a general signal should be made to reef or shorten sail, the barometer falling, for the safety of yards and masts. Ordered *Minotaur* to furl main-sail and second courses, and should have further reduced sail had it become necessary. As to a matter of fact, the lights of the ship on the weather line were seen from the *Minotaur* from time to time till about twenty minutes after eleven. A signal could not have been made to have insured its being carried out simultaneously, but could have been passed from ship to ship.

By Captain Commerell: I do not believe, from the appearance of the weather on the night of the 6th September, a captain, believing in the seaworthiness of his ship, would have been justified in hauling out of the line. On the gale rapidly freshening, as it did at 11.30, considers that the hands should have been placed by the officer of the watch by the topsail halyards, but not under treble-reefed, neither under close-reefed, topsails.

Mr. NATHANIEL BARNABY, president of the Council of Construction to the Admiralty, examined: Prepared the summary previously read. Can produce all the original reports, letters, and documents referred to in it; cannot produce the curves of the stabilities of the ships named in the appendix. None of them have ever been calculated except that of the *Captain*, these calculations would be long and tedious. Messrs. Laird and Co. requested that the *Captain* might be inclined, in order that her centre of gravity might be obtained by experiment, but her proximate position must have been found by them when designing the ship. The examination of this witness was continued for some time, the evidence being chiefly by reading quotations from the summary of the correspondence, all tending to cast the responsibility of the designing and constructing the *Captain* on Captain Coles and Messrs. Laird, and so remove any responsibility from the officials of the office of the Controller of the Navy, with the exception of that of inspection of her progress and construction.

By Captain Commerell: Has already stated that Mr. Reed had only three days to consider the design before making his report. When that was forwarded their Lordships were informed that a more careful inspection of the drawings and specifications would be necessary, if any responsibility were to be placed on him. On the 23rd of July, no further examinations having been