

IRON SHIPS.

No. 8220 Survey held at Sunderland Date 24th Aug 1863
 on the Ship "Antrim" Master T. Webster
 Tonnage Gross 992 1/4 Engine Room 20 1/2 Register 20 1/2 Built at Sunderland
 When Built 1863 By whom built Doe & Co Owners Mr Moore & Co
 Port belonging to Liverpool Destined Voyage Ad Singapore
 Surveyed Afloat or in Dry Dock While building and in dry dock

Length aloft 190 Feet. Inches. Extreme Breadth 33.3 Feet. Inches. Depth from top of Upper Deck } Feet. Inches. Beam to top of Floor 21.45 } Power of Engines.....

Distance of Frames or Ribs from moulding } edge to moulding edge, all fore and aft	Inches in Ship.		Inches required per Rule.		Stem, if bar iron, moulding and thickness	Inches. In Ship.		Inches required per Rule.	
	Inches. In Ship.	Inches. In Ship.	Inches. In Ship.	Inches. In Ship.		Inches. In Ship.	Inches. In Ship.	Inches. In Ship.	Inches. In Ship.
Floors, Size of Angle Iron, and No. at bottom of Floor Plate.....	<u>4 1/2</u>	<u>3</u>	<u>0</u>	<u>4 1/2</u>	<u>3</u>	<u>0</u>	<u>4 1/2</u>	<u>3</u>	<u>0</u>
depth and thickness of Floor Plate at mid line	<u>2 1/2</u>	<u>9</u>	<u>2 1/2</u>	<u>9</u>	Stern-post, if bar iron, moulding and thickness	<u>0</u>	<u>2 1/2</u>	<u>9</u>	<u>3</u>
depth and thickness of Floor Plate at Bilge Keelson	<u>9 1/2</u>	<u>9</u>	<u>9</u>	<u>9</u>	Keel, if bar iron, depth and thickness	<u>33</u>	<u>10</u>	<u>1/2</u>	<u>3</u>
Size of Reversed Angle Iron, and No. at top of Floor Plate..	<u>3 1/2</u>	<u>2 1/2</u>	<u>7</u>	<u>3</u>	Garboard Plates, thickness	<u>30</u>	<u>13</u>	<u>30</u>	<u>12</u>
Frames, Size of Angle Iron, single or double ..	<u>4 1/2</u>	<u>3</u>	<u>0</u>	<u>4 1/2</u>	From Garboard to upper part of Bilge.....	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
Reversed Iron, to every frame	<u>6</u>	<u>10</u>	<u>8</u>	<u>6</u>	From upper part of Bilge to Sheerstrakes.....	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>
Beams, Deck (No. <u>51</u>) double Angle Iron	<u>2 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Sheerstrakes	<u>32 1/2</u>	<u>11</u>	<u>30</u>	<u>11</u>
Bulb Iron with double Angle Iron on top	<u>2 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Breadth & thickness of Butt Straps to outside plating	<u>10</u>	<u>13 1/2</u>	<u>9 1/2</u>	<u>13 1/2</u>
depth & thickness of plate amidships	<u>2 1/2</u>	<u>9</u>	<u>2 1/2</u>	<u>9</u>	Planksheers	<u>33</u>	<u>9</u>	<u>27 1/2</u>	<u>9</u>
double or single Angle Iron, on lower edge	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	Gunwale Plate or Stringer on ends of Up. Dk Beams	<u>5x4x8</u>	<u>5x4x8</u>	<u>5x4x8</u>	<u>5x4x8</u>
average space between	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	Angle Iron on ditto.....	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
if wood (No. <u>50</u>) sided & moulded	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Waterway	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>
Hold or Lower Deck (No. <u>50</u>) double Angle Iron or Bulb Iron with double Angle Iron on top	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Deck	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
depth & thickness of plate amidships	<u>2 1/2</u>	<u>10</u>	<u>2 1/2</u>	<u>10</u>	Ceiling in Hold	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
double or single Angle Iron, on lower edge	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	Ceiling betwixt Decks	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
average space between	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	<u>3/6</u>	Beam Clamps	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
if wood (No. <u>50</u>) sided & moulded	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Stringer Plates on ends of Hold or Lower Dk Beams	<u>24</u>	<u>9</u>	<u>20 1/2</u>	<u>9</u>
Paddle, wood, sided and moulded	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Ceiling between Decks	<u>13 1/2</u>	<u>9</u>	<u>13 1/2</u>	<u>9</u>
if Iron, size of Plate	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Stringer or Tie Plates outside Hatchways	<u>13 1/2</u>	<u>9</u>	<u>13 1/2</u>	<u>9</u>
Engine	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Deck Beam Clamps	<u>6x3x8</u>	<u>6x3x8</u>	<u>6x3x8</u>	<u>6x3x8</u>
Keelson, wood, sided & moulded, iron, size of plate, if Iron, size of Plate	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Stringers in Hold	<u>6x3x8</u>	<u>6x3x8</u>	<u>6x3x8</u>	<u>6x3x8</u>
Side or Bilge	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Deck, Lower	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
Interlocks	<u>3 1/2</u>	<u>2 1/2</u>	<u>6</u>	<u>3 1/2</u>	Deck, Upper, how fastened to Beams	<u>Gal screws</u>	<u>Gal screws</u>	<u>Gal screws</u>	<u>Gal screws</u>

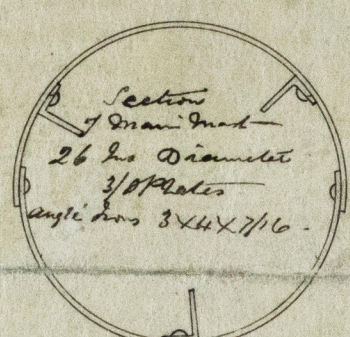
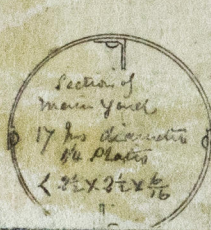
Transoms, material Iron Bulkheads, No. one Thickness of 3/6
 Knight-heads Iron are they free from defects? Yes
 Hawse Timbers Iron how secured to the sides of the ship by angle iron
 The Frames or Ribs extend in one length from Keel to Gunwale rivetted through plates with (7/16 in.) rivets, about (6 1/2) apart.
 The reverse angle irons on the floors extend in one length across the middle line from Plat to head beam
 Keelson, how are the various lengths of plates or angle irons connected? butt straps
 Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (1/2 in.) diameter averaging (5 1/2 in.) from centre to centre of rivet.
 Edges from Garboards to upper part of bilge, worked carvel with a lining piece (1 in.) thick, or clench, double or single rivetted; rivets (7/16 in.) diameter, averaging (3 1/2 in.) from centre to centre of rivets.
 Butts from Keel to turn of bilge, worked carvel with a lining piece (3 1/2 in.) thick, double or single rivetted; rivets (7/16 in.) diameter, averaging (3 1/2 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? Yes by adding pins
 Edges from bilge to planksheer, worked carvel with a lining piece (1 in.) thick, double or single rivetted; rivets (7/16 in.) diameter, averaging (3 1/2 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? Yes by adding pins
 Butts from bilge to planksheers, worked carvel with a lining piece (3 1/2 in.) thick, or clench, double or single rivetted; rivets (7/16 in.) diameter averaging (3 1/2 in.) from centre to centre of rivets. Breadth of laps in double rivetting (8) Breadth of laps in single rivetting (8)
 Planksheers, how secured to the plating of the sides by angle iron
 Waterway Iron planksheer and to the Beams by angle iron
 Side trussing Diagonal breadth and thickness of plates 12 1/2 x 9 1/6
 Deck trussing Diagonal ties in range of each mast? at each deck
 Deck Beams, how secured to the side? by angle iron
 Hold or Lower Deck Iron
 Paddle Iron
 To. of Breasthooks Iron crutches Iron how are pointers compensated? by angle iron
 What description of iron is used for the angle iron and plate iron in the vessel? Plates Witham Leeds. Bars & Co

Builder's Signature William Doyford
 IRON 43 RA- 9.161

3730 Iron
Workmanship. Are the lands or laps of the clenchwork in all cases in breadth at least five times the diameter of the rivets in double rivetted edges and butts, and at least three times the diameter of the rivets where single rivetting is admitted? They are
Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? Generally
Do the fillings between the ribs and plates fill in solid with single pieces, or are they in short lengths of various thicknesses? Solid pieces
Do the holes for rivetting plate to frames, joining pieces, or plate to plate, &c., conform well to each other? They do and are the rivet holes well and sufficiently countersunk in the outer plate? They are
Are there any rivets which either break in or have been put through the seams or butts of the plating? A few occur in the butts

Her Masts, Yards, &c., are in Good condition, and sufficient in size and length. Lower Mast Lower Mast Lower Mast
She has SAILS. Good CABLES, &c. Good ANCHORS, and their weights. Good
N^o. Double Fore Sails, Chain 300 1 1/2 Bower, 3 31.0
Fore Top Sails, Hempen Stream Cable 70 7/8 30.2
Fore Topmast Stay Sails, Hawser 90 5 1/2 30.2
Main Sails, Towlines 90 9 1/2 Stream, 1 12 0
Main Top Sails, Warp 90 5.4 Kedge, 2 5.1.2
and All of Good quality. 2.2.1
Her Standing and Running Rigging Wire Ropes sufficient in size and Good in quality.
She has One Long Boat and Others.
The present state of the Windlass is Good Capstan Good and Rudder Good Pumps Good

General Remarks, Statement and Date of Repairs, extent of corrosion (if any) both internally and externally, and condition of rivets.
DATES of Surveys { 1st. On the several parts of the frame, when in place, and before the plating was wrought Black under
held while building, { 2nd. On the plating during the progress of rivetting Special Survey
as per Section 17. { 3rd. When the beams were in and fastened, and before the decks were laid between 11th Aug 63
{ 4th. When the ship was complete, and before the plating was finally coated and the
{ 5th. After the ship was launched 1st June 1864



A more care was repeatedly requested in fitting the butts some of which were found to be fluted, as the work proceeded this was improved

The area of the section of the keel being less than the rule requirement the Garboard strakes are worked to extra in thickness. The midship portion of the plating from the light mark upwards was punched in butts and edges for 70 rivets within four diameters apart (edge to edge). This spacing being in a few cases exceeded intermediate rivets were inserted at such parts. The whole of this spacing was objected to by Mr Jordan and an intermediate rivet was then added throughout. He also insisted upon the frames to be of Angle Iron on hold beam stringer and intercostal keelsons being double riveted. He refused ^{angle} iron on the frames. This arrangement had been previously agreed to by the London Dockyard and again by me. The double reversed ^{angle} iron is omitted in the range of the intercostal keelson (midway between main and ledge keelsons) which is connected to the floors vertically and to the outside plating by ^{angle} irons. The double ^{angle} iron on top is extended along aft to compensate for the floor plates not being turned up at their ends sufficiently forward and aft. The old chuffs and plates referred to in my letter 20th Jan 64 have been compensated as recommended.

In what manner are the surfaces preserved from oxidation? Cement inside & turn of bitum
Paints and R. Jones' composition outside

I am of opinion this Vessel should be classed A1

The amount of the Fee £ 5 : : : is received by me,
Order No 1428 Special £ 49 : 12 : : £ 50

Certificate (if required) £ 10 £ 10 £ 10

Committee's Minute 6th September 1864

Character assigned A1

W. Munro

* In launching, the rudder was stuck and all the pintles broken off. New pintles were forged and rivetted on in a satisfactory manner. The ribs having been placed in dry dock, some of the keel rivets proving leaky were renewed. The bottom was cleaned and recoated with R. Jones' composition.