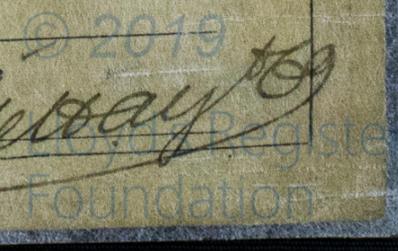


IRON SHIPS.

Rev 7/1/64

Survey held at Sunderland Date 29th June 1864
 the Ship "HOWRAH" Master Hawkins
 Tonnage Gross 1097.70 Engine Room Register 1097¹⁰⁰ Built at Sunderland
 When Built 1864 Launched 4th June 1864 By whom built W. Pile, Hay & Co
 Owners Sykes Port belonging to London Destined Voyage Cape of Good Hope & Negapatam
 Surveyed Afloat or in Dry Dock Whilst Building

Length aloft	Feet. Inches	Extreme Breadth	Feet. Inches	Depth from top of Upper Deck Beam to top of Floor	Feet. Inches	Power of Engines	Horse
207	7	33	65	21	2		
Distance of Frames or Ribs from moulding } edge to moulding edge, all fore and aft }	23		23		Stem, if bar iron, moulding and thickness 9 1/2 2 1/2 8 3 " if plate iron, breadth and thickness		
Floors, Size of Angle Iron, and No. 2 at } bottom of Floor Plate p. Rule }	4 1/2	3 1/2	8	4 3/4	3	8	Stern-post, if bar iron, moulding and thickness 9 1/2 2 1/2 8 3 " " if plate iron, breadth and thickness
" depth and thickness of Floor Plate at } mid line	22	"	10	22 1/2	"	10	Keel, if bar iron, depth and thickness 9 1/2 2 1/2 8 3 " if plate iron, breadth and thickness
" depth and thickness of Floor Plate at } Bilge Keelson	12 3/4	"	10	"	"	10	Garboard Plates, Description of Iron. Breadth and thickness <u>Castell's</u> 28 13 30 13
" Size of Reversed Angle Iron, and } No. / at top of Floor Plate ..	3	3	7	3 1/4	3	7	From Garboard to upper } part of Bilge
Frames, Size of Angle Iron, single or double } " Reversed Iron, if to every frame }	4 1/2	3 1/2	8	4 3/4	3	8	From upper part of Bilge } to Sheerstrakes
to Hold Beams & every alternate frame to Gunwale }	3	3	7	3 1/4	3	7	Sheerstrakes, Breadth and thickness
Beams, Deck (No. 52) double Angle Iron, } Plate, or Bulb Iron	8	"	8	8	"	8	Butt Straps to outside plating, Breadth and thickness
" double or single Angle Iron, } on upper edge	3 3/4	3 1/4	7	3	3	6	Planksheers ... and
" average space between	3 1/10	"	3 1/10	"	"	"	Gunwale Plate or Stringer } on ends of Up. Dk Beams } Iron 3 1/2 10 29 1/4 10 5 x 4 1/2 x 10 5 x 4 1/2 x 9
" if wood (No.) sided & moulded							Angle Iron on ditto Diagonal Tie Plates on Beams 12 x 1 1/2 x 4 14 11 12 10
Hold, or Lower Deck (No. 51) } double Angle Iron, Plate, or Bulb Iron }	8	"	8	8 1/4	"	8	Waterway Iron Gutter
" double or single Angle Iron } on upper edge	3	3	7	3	3	6	Deck Yellow Pine 3 1/2 " 3 1/2 "
" average space between	3 1/10	"	3 1/10	"	"	"	Ceiling in Hold to upper Bilge & Beams, B.C.P. Pine 2 1/2 " " "
" if wood (No.) sided & moulded							Ceiling betwixt Decks ... Batten 2 1/2 " " "
Side intercostal Keelsons p. Rule, plates } Paddle wood, sided and moulded, or } double angle iron along top edge, or } if iron, size of Plate	18	"	10	"	"	10	Beam Clamps or Spirketting } " Shelf
" Engine " " " "							" Stringer Plates on } ends of Hold or } Lower Dk Beams } Iron 24 10 22 10 angle iron on ends 5 1/2 x 4 1/2 x 10 5 x 4 1/2 x 9 Batten B.C.P. Batten 2 " " "
Keelson, single plate, box, or intercostal } Size of Plates on top	15 3/4	"	12	15	"	13	Ceiling between Decks ... Iron 12 1/2 10 12 10
" Size of Angle Irons	5 1/2	4 1/8	10	5	4 1/2	9	Stringer or Tie Plates out- } side Hatchways
Ditto Bilge (No. 1) double angle iron } with Bulb plate between } " " " " "	5 1/8	4 1/8	9	5	4 1/2	9	Deck Beam Clamps or } Spirketting .. }
Transoms, material <u>Iron</u> or, if none, in what manner compensated for.							" " Shelf
Knight-heads, and Hawse Timbers <u>Slack Chocks</u>							Stringers in Hold double angle iron 5 1/2 x 4 1/2 9 5 x 4 1/2 9
The Frames or Ribs extend in one length from <u>Keel</u> to <u>Gunwale</u> rivetted through plates with (7/8 in.) rivets, about (5 1/2 in.) apart.							Deck, Lower Yellow Pine 3 " " "
The reverse angle irons on the floors extend in one length across the middle line from <u>Mid of Bottom</u> to <u>Lower Deck</u>							Deck, Upper, how fastened to Beams <u>Nut & Screw Bolt</u>
" " " on the frames " " " from <u>Mid</u> to <u>Gunwale</u> at alternate frames							Bulkheads, No. / Collision <u>1/10</u> Thickness of <u>1/10</u>
Keelson, how are the various lengths of plates or angle irons connected? <u>Butt Straps</u>							" how secured to the sides of the ship <u>double framed</u>
Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (3/8 in.) diameter averaging (5 3/4 in.) from centre to centre of rivet.							" size of vertical angle iron and their distance apart <u>3 1/2 x 3 1/2 x 10 & 2.0</u>
" Edges from Garboards to upper part of bilge, worked carvel with a lining piece (in.) thick, or clencher, double or single rivetted; rivets (1/8 in.) diameter, averaging (3 1/2 ins.) from centre to centre of rivets.							
" Butts from Keel to turn of bilge, worked carvel with a lining piece (12/16) thick, double or single rivetted; rivets (1/8 in.) diameter, averaging (3 1/2 ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>at alternate strakes</u>							
" Edges from bilge to sheerstrake, worked carvel with a lining piece () thick, or clencher, double or single rivetted; rivets (1/8 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? <u>at alternate strakes</u>							
" Edge of Sheerstrake, double or single rivetted?							
" Butts from bilge to planksheers, worked carvel with a lining piece (19/16) thick, double or single rivetted; rivets (1/8 in.) diameter averaging (3 1/2 ins.) from centre to centre of rivets. Breadth of laps in double rivetting (5) Breadth of laps in single rivetting (3)							
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?							
Planksheer, how secured to the plating of the sides							Explain by sketch } <u>Iron Gutter</u> if necessary.
Waterway " " planksheer and to the Beams							
Deck Beams, how secured to the side? <u>Bracket ends forged on Beams</u>							
Hold or Lower Deck " <u>Bracket Knee plates 9/16 thick</u>							
Paddle " " "							
No. of breasthooks <u>five</u> <u>Planks</u> <u>three</u> how are pointers compensated? <u>Planks</u>							
What description of iron is used for the angle iron and plate iron in the vessel? <u>Plate from the Castell's & Builder's Signature</u> <u>The Beams and Angle-iron from Hopkins & Co. Middlesex.</u>							



3691 given

Workmanship. Are the lands or laps of the clenwork 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? they do
 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, lining 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 into or have been put through the seams or butts of the plating? a few in the butts.

Her Masts, Yards, &c., are in Good condition, and sufficient in size and length.

No.	SAILS.	CABLES, &c.		ANCHORS, and their weights.			
		Certificated produced test strain in tons	Fathoms.	Inches.	Certificated produced test strain in tons	No.	Weight.
✓	Fore Sails,	Chain	300	1 3/4	Bower,	3	39.3.2
	Fore Top Sails,	Hempen Stream Cable	75	1 5/8		2	39.2.0
	Fore Topmast Stay Sails,	Hawser	90	7 1/2	Stream,	1	38.0.8
	Main Sails,	Towlines	90	10			
	Main Top Sails,	Warp	90	6	Kedge,	2	6.2.2
	and	All of <u>Good</u> quality.					2.3.20

Her Standing and Running Rigging Wire Rope & Manilla sufficient in size and Good in quality.

She has one Long Boat and three others
 The present state of the Windlass is Good Capstan Good and Rudder Good Pumps two Metal good

General Remarks, Statement and Date of Repairs, extent of corrosion (if any) both internally and externally, and condition of rivets.

- DATES of Surveys held while building, as per Section 17.
- 1st. On the several parts of the frame, when in place, and before the plating was wrought Built under Special Survey between the 30th of November 1863
 - 2nd. On the plating during the progress of rivetting Survey between the 30th of November 1863
 - 3rd. When the beams were in and fastened, and before the decks were laid and the present date.
 - 4th. When the ship was complete, and before the plating was finally coated
 - 5th. After the ship was launched

The Fore & Mainmasts and Boomsprit are of Iron constructed with plates 5/16 thick & quadruple rivetted in the butts, single rivetted in the seams, stiffened with 3 angle-irons 4 x 3 x 7/16.

It will be seen that the floor plates are 1/2 inch less in depth than required by the Rules the reverse angle-iron is small & the frames are large, some of the angle-iron on deck beams is small on the flanges, while some is 1/16 thicker, the keelson plate in the centre is 1/16 thin and 3/4 deeper, with the angle-irons at top & bottom edges 1/16 in excess, and a flat plate on the top not required by the Rules; the garboard strakes are 3 narrow & the sheestakes 4 1/2 broad, butt shaped 1/2 wide, the Deck & Hold Beams stringers on ends and part of the tie plates on top in excess. In other respects the vessel is eligible for the Class recommended below.

In what manner are the surfaces preserved from oxidation? Portland Cement to the turn of the Bidges & Red lead above internally, Oxide of Iron & McQuinn's Paint externally.

I am of opinion this Vessel should be classed 12 A. 1

The amount of the Fee£ 5 : : : is received by me,
Order No. 1498 Special£ 54 : 17 : :
 Certificate (if required)£ : : : "

Committee's Minute 12th July 1864
 Character assigned A

[Handwritten signatures and notes]
 as this vessel has been constructed according to the registered plans the full & true name of owner is James & Sons
 11 July 1864