

IRON SHIPS.

Request for S.S. No. 291
 Survey held at Glasgow Date April 22nd 1881
 the Ship "Hartfell" now Pioneer Master Houston
 Tonnage Gross 1224 Engine Room 44 Built at Glasgow
 when Built 1864 Launched 10th March 1864 By whom built Messrs Barclay, Curle & Co
 Port belonging to Liverpool Destined Voyage India
 Surveyed Afloat or in Dry Dock whilst building

Length aloft		Extreme Breadth		Depth from top of Upper Deck		Beam to top of Floor		Power of Engines		Horse	
Feet	Inches	Feet	Inches	Feet	Inches	Feet	Inches	Horse		Horse	
215		35	45	22	4						
Distance of Frames or Ribs from moulding } edge to moulding edge, all fore and aft } <u>20</u> ✓ <u>21</u>											
Doors, Size of Angle Iron, and No. 1 at } bottom of Floor Plate } <u>5</u> <u>3</u> <u>9/16</u> <u>5</u> <u>3</u> <u>9/16</u>											
depth and thickness of Floor Plate at } mid line } <u>2 1/2</u> <u>7/16</u> <u>23</u> <u>7/16</u>											
depth and thickness of Floor Plate at } Bilge Keelson } <u>11</u> <u>7/16</u> <u>7/16</u>											
Size of Reversed Angle Iron, and } No. 1 at top of Floor Plate } <u>3 1/2</u> <u>3</u> <u>9/16</u> <u>3 1/2</u> <u>3</u> <u>9/16</u>											
Frames, Size of Angle Iron, single or double } Reversed Iron, if to every frame } <u>5</u> <u>3</u> <u>9/16</u> <u>5</u> <u>3</u> <u>9/16</u> every other frame } <u>to the upper part</u> <u>to the lower part</u>											
Beams, Deck (No. 60) double Angle Iron } Plates or Bulb Iron } <u>3 1/2</u> <u>3</u> <u>9/16</u> <u>3 1/2</u> <u>3</u> <u>9/16</u>											
double or single Angle Iron } on upper edge } <u>3</u> <u>3</u> <u>7/16</u> <u>3 1/2</u> <u>3 1/2</u> <u>9/16</u>											
average space between } if wood (No.) sided & moulded } <u>3 feet</u> <u>4</u> <u>3 feet</u> <u>5</u>											
Hold, or Lower Deck (No. 56) } double or single Angle Iron } <u>3 1/2</u> <u>3</u> <u>7/16</u> <u>3 1/2</u> <u>3 1/2</u> <u>9/16</u>											
double or single Angle Iron } on upper edge } <u>3</u> <u>3</u> <u>7/16</u> <u>3 1/2</u> <u>3 1/2</u> <u>9/16</u>											
average space between } if wood (No.) sided & moulded } <u>3 feet</u> <u>4</u> <u>3 feet</u> <u>5</u>											
Paddle, wood, sided and moulded, or } if Iron, size of Plate } " " " "											
Engine " " " " " " " "											
Keelson, single plate, brass or intercostal } Size of Plates } <u>as per sketch</u> <u>10/16</u>											
Size of Angle Irons } <u>5</u> <u>4 1/2</u> <u>9/16</u> <u>5</u> <u>4 1/2</u> <u>9/16</u>											
Ditto Bilge (No.) } <u>5</u> <u>4 1/2</u> <u>9/16</u> <u>5</u> <u>4 1/2</u> <u>9/16</u>											
Ransoms, material <u>unplate</u> , if none, in what manner compensated for.											
Night-heads, and Hawse Timbers <u>iron frames</u>											
The Frames or Ribs extend in one length from <u>middle line</u> to <u>gunwale</u> rivetted through plates with (<u>7/16</u> in.) rivets, about (<u>4</u>) apart.											
The reverse angle irons on the floors extend in one length across the middle line from <u>upper part of Hold Beams</u> to <u>Ditto</u>											
" " " on the frames " " " from <u>middle line</u> to <u>gunwale</u>											
Keelson, how are the various lengths of plates or angle irons connected? <u>by lining pieces</u>											
Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (<u>1/2</u> in.) diameter averaging (<u>4</u> in.) from centre to centre of rivet.											
Edges from Garboards to upper part of bilge, worked <u>carvel</u> with a lining piece (<u>1/2</u> in.) thick, or clencher, double or single rivetted; rivets (<u>7/16</u> in.) diameter, averaging (<u>4</u> ins.) from centre to centre of rivets.											
Butts from Keel to turn of bilge, worked <u>carvel</u> with a lining piece (<u>1/2</u> in.) thick, double or single rivetted; rivets (<u>7/16</u> in.) diameter, averaging (<u>4</u> ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>Yes</u>											
Edges from bilge to sheerstrake, worked <u>carvel</u> with a lining piece () thick, or clencher, double or single rivetted; rivets (<u>7/16</u> in.) diameter, averaging (<u>4</u> in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>Yes</u>											
Edge of Sheerstrake, double or single rivetted?											
Butts from bilge to planksheers, worked <u>carvel</u> with a lining piece (<u>1/2</u> in.) thick, double or single rivetted; rivets (<u>7/16</u> in.) diameter averaging (<u>4</u> ins.) from centre to centre of rivets. Breadth of laps in double rivetting (<u>4</u> in.) Breadth of laps in single rivetting ()											
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? <u>throughout</u>											
Planksheer, how secured to the plating of the sides { Explain by sketch { <u>Gutter Waterway and iron Bulwarks</u>											
Waterway " " planksheer and to the Beams { if necessary.											
Deck Beams, how secured to the side? <u>Welded knees rivetted to beams</u>											
Hold or Lower Deck " <u>Ditto</u>											
Middle " "											
of breasthooks <u>five</u> crutches <u>five</u> how are pointers compensated? <u>round stern and all stringers and beams</u>											
description of iron is used for the angle iron and plate iron in the vessel? <u>Messend Angle</u> Builder's Signature <u>Lloyd's Register</u>											
Bar and Bolts (Plate) <u>Barclay, Curle & Co</u>											

3561 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? *Yes*
Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? *Yes*
Do the fillings between the ribs and plates fill in solid with single pieces, or are they in short lengths of various thicknesses? *Yes*
Do the holes for rivetting plate to frames, lining pieces, or plate to plate, &c., conform well to each other? *Yes* and are the rivet holes well and sufficiently countersunk in the outer plate? *Yes*
Are there any rivets which either break into or have been put through the seams or butts of the plating? *a few in canvas of B*

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

She has **SAILS.**

CABLES, &c.

ANCHORS, and their weights.

N ^o .			Fathoms.	Inches.		N ^o .	W.
<i>A Double Suit of Sails</i>	Fore Sails,	Chain	<i>Tested to 59 1/2 fms</i>	<i>300</i>	<i>1 1/2</i>	<i>Rodgers Patent</i>	<i>30</i>
	Fore Top Sails,	Hempen Stream Cable	<i>90</i>	<i>1 1/2</i>	<i>1 1/2</i>	<i>Tested to 32 1/2 fms</i>	<i>34 1/2</i>
	Fore Topmast Stay Sails,	Hawser	<i>80</i>	<i>1 1/2</i>	<i>1 1/2</i>	<i>Rodgers Patent</i>	<i>1 1/2</i>
	Main Sails,	Towlines	<i>90</i>	<i>2</i>	<i>2</i>		
	Main Top Sails,	Warp	<i>90</i>	<i>6</i>	<i>6</i>	Kedge,	<i>2 6.0.</i> <i>2 3.2</i>
	and	All of <i>Good</i> quality.					

Her Standing and Running Rigging *Good* sufficient in size and *Good* in quality.

She has *a 25 foot* Long Boat and *25 ft 6 in* Boat, *22 ft* Dingy and a *22 ft* Go
The present state of the Windlass is *Four* Capstan *Four* and Rudder *Four* Pumps *Four* and efficient

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 spec*
2nd. On the plating during the progress of rivetting *Survey and seen on the following*
3rd. When the beams were in and fastened, and before the decks were laid *Dated Oct. 6. 21. 29 Sep. 9. 29 Oct.*
4th. When the ship was complete, and before the plating was finally coated *14. 28. Feb. 2. 24. 25 Dec. 3. 10. 17*
5th. After the ship was launched *22. 1863 Jan. 11. 31. Feb. 3. 9. 25. Mar. 2. 29 Apr. 4. 21. 27.*

Middle Line Keelson fitted Intercoastal with a Foundation Plate on each side of Middle Line 12 x 1/2 and four Angle Bars 5 x 4 x 9/16. An Intermediate Intercoastal Keelson fitted midway between Middle Line and Bilge Keelson 1 x 1/2 with double Ang Bars rivetted to Copper parts of Flons 5 x 4 x 9/16. Stringer above Bilge formed with two Angle Bars 5 x 4 x 9/16 and a Built Plate 9 x 9/16. Ceiling in flat of Bottom fitted in Hatches for lifting.

In what manner are the surfaces preserved from oxidation?

Flat of Bottom with Portland Cement, rim with Patent Paint

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

The amount of the Fee £ 5 : 0 : 0 is received by me,

Special £ 61 : 4 : 0

Certificate (if required) £ 10 : 0 : 0

Committee's Minute *10th Mar. 1864*

Character assigned *A 1 for 12 Years*

John B. Darlow
I concur in the above recommendation
8th May 1864 *J.B.D.*
Lloyd's Register Foundation