

IRON SHIPS.

No. 2950 Survey held at West Hartlepool Date, First Survey 01st Decr 1870 Last Survey 12th May 1871

On the Screw Steamer Mary Master

Tonnage under Tonnage Deck <u>699.47</u>	ONE, OR TWO DECKED, SPAR, OR AWNING-DECKED VESSELS.	THREE DECKED VESSELS.	Built at <u>West Hartlepool</u>
Ditto of Third Spar, or Mast Deck. <u>79.02</u>	Half moulded breadth <u>14-4</u>	Half Moulded Breadth <u></u>	When built <u>1871</u> Launched <u>6th April</u>
Ditto of <u>Raised Q. Dk.</u> <u>34.03</u>	Depth from upper part of Keel to top of Upper Deck Beams <u>20-9</u>	Total Depth if three or more Decks <u></u>	By whom built <u>Denton Gray & Co</u>
Ditto of Houses on Deck <u>24.06</u>	Girth of Half Midship Frame (as per <u>20-9</u>)	Total Girth of Half Midship Frame <u></u>	Owners <u>Joseph Johnston & Co</u>
Ditto of Forecastle <u>047.53</u>	1st Number <u>60-4</u>	3rd Number <u></u>	Port belonging to <u>Montrose</u>
Age <u>29.40</u>	Length <u>203-9</u>	Length <u></u>	Destined Voyage <u>Baltic</u>
Acc. <u>24.21</u>	2nd Number <u>12410</u>	4th Number <u></u>	If Surveyed while Building, Afloat, or in Dry Dock.
Beam <u>24.02</u>	Depths to Length <u>122</u>	Breadths to Length <u>16-3</u>	

Feet. Inches.	Feet. Inches.	Feet. Inches.	Feet. Inches.	Power of Engines, <u>96</u>	Horse.	Nº. of Decks with flat laid	Nº. of Tiers of Beams
Rule, <u>203</u>	Moulded Breadth, <u>9</u>	Depths from top of Floors to Upper and Main Deck Beams, as per Rule <u>16</u>	Rule <u>3</u>				
Dimensions of Ship per Register, length, <u>203</u> breadth, <u>9</u> depth, <u>16-3</u>							
Inches in Ship.	Inches required per Rule.	Inches in Ship.	Inches required per Rule.				
Bar iron, depth and thickness <u>0 1/2 x 2 3/8</u>	<u>8 x 2 3/8</u>	Flat Keel Plates, breadth and thickness <u>42</u>	<u>9 1/16</u>				
Centre through plate, depth and thickness <u>7 1/2 x 2 3/8</u>	<u>7 x 2 3/8</u>	Plates in Garboard Strakes, breadth and thickness <u>42</u>	<u>9 1/16</u>				
if bar iron, moulding and thickness <u>0 1/2 x 4 1/4</u>	<u>1 1/4 x 4 1/4</u>	Do. from Garboard to upper part of Bilges <u>42</u>	<u>9 1/16</u>				
Post for Rudder do. do. <u>0 1/2 x 4 1/4</u>	<u>1 1/4 x 4 1/4</u>	Do. of doubling at Bilge, or increased thickness, and length applied <u>7 1/16</u>	<u>30</u>				
Post for Propeller <u>22</u>	<u>22</u>	Do. from up. part of Bilge to l. edge of Sh'rstrake <u>42</u>	<u>10 1/16</u>				
Distance of Frames from moulding edge to moulding edge, all fore and aft <u>22</u>	<u>22</u>	Do. Main Sheerstrake, breadth and thickness <u>42</u>	<u>10 1/16</u>				
Size of Angle Iron, for 1/2 length amidships <u>4</u>	<u>3</u>	Do. of doubling at Sh'rstrake, & length applied <u>42</u>	<u>10 1/16</u>				
for 1/2 at each end <u>4</u>	<u>3</u>	Do. from Main to Upper or Spar Dk. Sh'rstrake <u>42</u>	<u>10 1/16</u>				
Secured Frames, size of Angle Iron <u>4</u>	<u>3</u>	Do. Upper or Spar Dk. Sh'rstrake, breadth & thickness <u>42</u>	<u>10 1/16</u>				
Depth and thickness of Floor Plate at mid line for half the length amidships <u>10 1/2</u>	<u>10 1/2</u>	Butt Straps to outside plating, breadth & thickness <u>42</u>	<u>10 1/16</u>				
Do. at the ends <u>10 1/2</u>	<u>10 1/2</u>	Lengths of Plating <u>44</u>	<u>44</u>				
Do. do. do. at Bilge Keelson <u>14</u>	<u>14</u>	Shifts of Plating, and Stringers <u>44</u>	<u>44</u>				
Do. height extended at the Bilges <u>37</u>	<u>37</u>	Gunwale Plate on ends of <u>41</u>	<u>9 1/16</u>				
Beams, Upper, Spar, or Awning Deck (No. <u>36</u>)	<u>7</u>	Upper Deck Beams, breadth and thickness <u>42</u>	<u>10 1/16</u>				
Single or double Angle Iron, Plate or Tee Bulb Iron <u>2 1/2</u>	<u>2 1/2</u>	Angle Iron on ditto <u>13 1/2</u>	<u>13 1/2</u>				
Single or double Angle Iron on Upper edge <u>4 1/4</u>	<u>4 1/4</u>	Tie Plates (fore and aft), outside Hatchways <u>13 1/2</u>	<u>13 1/2</u>				
Average space <u>44</u>	<u>44</u>	Diagonal Tie Plates on Beams (No. of Pairs, <u>7</u>)	<u>7</u>				
Beams, Main or Middle Deck (No. <u>25</u>)	<u>7</u>	Planksheer material and scantling <u>3 3/4</u>	<u>3 3/4</u>				
Single or double Angle Iron, Plate or Tee Bulb Iron <u>2 1/2</u>	<u>2 1/2</u>	Waterways do. do. <u>3 3/4</u>	<u>3 3/4</u>				
Single or double Angle Iron on Upper Edge <u>2 1/2</u>	<u>2 1/2</u>	Flat of Upper Deck do. do. <u>10 1/16</u>	<u>10 1/16</u>				
Average space <u>44</u>	<u>44</u>	How fastened to Beams <u>10 1/16</u>	<u>10 1/16</u>				
Keelson Centre line, single or double plate, box, or intercostal, size of Plates <u>13</u>	<u>13</u>	Stringer Plate on ends of Main or Middle Deck <u>26</u>	<u>26</u>				
Do. Bulb Plate to Intercostal Keelson <u>4 1/2</u>	<u>4 1/2</u>	Beams, breadth and thickness <u>7 1/16</u>	<u>7 1/16</u>				
Do. Size of Angle Irons <u>4 1/2</u>	<u>4 1/2</u>	(Is the Stringer Plate attached to the outside plating?) <u>Yes</u>	<u>Yes</u>				
Do. Side Intercostal Keelson, size of Plates <u>4 1/2</u>	<u>4 1/2</u>	Angle Irons on ditto (No. <u>2</u>) <u>3 1/2</u>	<u>3 1/2</u>				
Do. Angle Irons on tops of Floors <u>7</u>	<u>7</u>	Tie Plates, outside Hatchways <u>3 1/2</u>	<u>3 1/2</u>				
Do. Bilge Keelson, Bulb Iron <u>7</u>	<u>7</u>	Diagonal Tie Plates on Beams (No. of pairs, <u>7</u>) <u>7</u>	<u>7</u>				
Do. do. Intercostal plates riveted to plating for length <u>4 1/2</u>	<u>4 1/2</u>	Waterways materials and scantlings <u>3 3/4</u>	<u>3 3/4</u>				
Do. do. Angle Irons <u>4 1/2</u>	<u>4 1/2</u>	Flat of Middle Deck do. do. <u>10 1/16</u>	<u>10 1/16</u>				
Side Stringers (No. <u>one</u>) size of Angle Irons <u>4 1/2</u>	<u>4 1/2</u>	How fastened to Beams <u>10 1/16</u>	<u>10 1/16</u>				
Do. Intercostal plates riveted to plating for length <u>4 1/2</u>	<u>4 1/2</u>	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams <u>26</u>	<u>26</u>				
Transoms, material <u>Plate</u> or, if none, in what manner compensated for.		(Is the Stringer Plate attached to the outside plating?) <u>Yes</u>	<u>Yes</u>				
Knight-heads <u>Plates</u> Hawse Timbers <u>Plates</u>		Angle Irons on ditto (No. <u>2</u>) <u>3 1/2</u>	<u>3 1/2</u>				
Windlass <u>Patent</u> Pall Bitt <u></u>		Stringer or Tie Plates, outside Hatchways <u>3 1/2</u>	<u>3 1/2</u>				
The Frames extend in one length from <u>Keel</u> to <u>gunwale</u>		Flat of Lower Deck <u>2 1/2</u>	<u>2 1/2</u>				
The Reverse Angle Irons on the floors and frames extend <u>across</u> the middle line <u>to top of bilge</u>		Ceiling betwixt Decks, thickness and material <u>2 1/2</u>	<u>2 1/2</u>				
Keelsons. Are the various lengths of Plates and Angle Irons properly connected? <u>Yes</u>		Do. in hold <u>2 1/2</u>	<u>2 1/2</u>				
Plates, Garboard, double or Riveted to Keel, double or <u>at upper edge</u> , with Rivets (<u>1</u> in.) diameter, averaging (<u>5</u> ins.) from centre to centre.		Main piece of Rudder, diameter at head <u>3 1/2</u>	<u>3 1/2</u>				
Do. Edges from Garboards to upper part of Bilge, worked Clencher, double or single Riveted; with Rivets (<u>3/4</u> in.) diameter, averaging (<u>3 3/8</u> ins.) from centre to centre.		Do. do. at heel <u>3 1/2</u>	<u>3 1/2</u>				
Do. Butts from Keel to turn of Bilge, worked carvel with butt straps to strakes (<u>9/16 x 7/16</u>) thick, double or single Riveted; with Rivets (<u>3/4</u> in.) diameter averaging (<u>3 1/2</u> ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? <u>no</u>		(Can the Rudder be unshipped afloat?) <u>Yes</u>	<u>Yes</u>				
Do. of <u>Two</u> Strakes at Bilge for <u>half</u> length, treble riveted with Butt Straps <u>7/16</u> thicker than their plates <u>three butts lapped & treble riveted</u>		Bulkheads No. <u>4</u> Thickness of <u>3/16</u>	<u>3/16</u>				
Do. Edges from bilge to Main Sheerstrake, worked carvel with a lining piece (<u>3/16</u>) thick, or clencher, double or single riveted; with rivets (<u>3/4</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre.		Do. Height up <u>Main Deck, after one to Cabin Deck, then over an</u>	<u>Main Deck, after one to Cabin Deck, then over an</u>				
Do. Edges of Sheerstrake, Main, double or single Riveted. Upper, double or single Riveted. At upper edge <u>single to bilge</u> At lower edge <u>double</u>		Do. How secured to the sides of the ship <u>Double frames & double plates</u>	<u>Double frames & double plates</u>				
Do. Butts from Bilge to Main Sheerstrake, worked Carvel with Butt Straps (<u>9/16 x 7/16</u>) thick, double or single Riveted; with Rivets (<u>3/4</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre.		Do. Size of Vertical Angle Irons, <u>3 x 3 x 7/16</u> and their distance apart, <u>30 in</u>	<u>30 in</u>				
Do. Butts of Main Sheerstrake, double or treble Riveted. Butts of Upper or Spar Sheerstrake, and Upper Deck Stringer Plate, double or treble Riveted for <u>half</u> length amidships. Breadth of laps of plating in double Riveting (<u>4 1/10</u>) Breadth of laps of plating in single Riveting (<u>2 3/4</u>)		Do. Are the outside Plates doubled two spaces of Frames in length? <u>Yes</u>	<u>Yes</u>				
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? <u>Double</u>							
Planksheer, how secured to the plating of the sides. Waterway, how secured to the planksheer and to the Beams. (Explain by Sketch, if necessary.)							
Beams of the various Decks, how secured to the sides? <u>Beam ends turned & lapped & riveted</u> No. of Breasthooks, <u>Five</u> Crutches, <u>Two</u>							
Description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>Good</u>							
Manufacturer's name or trade mark, <u>Johnston & Co. (T. & H.)</u>							

We certify that the above is a correct description of the several particulars therein given.

Builder's Signature, Denton Gray & Co Surveyor's Signature,

IRON 448-0354

Workmanship.

Are the butts of plating planed or otherwise fitted? *Planed*

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? *Solid in one length*
 Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes* and are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes*
 Are there any rivets which either break into or have been put through the seams or butts of the plating? *A few in butts*

Her Masts, Bowsprit, Yards, &c., are in *Good* condition, and sufficient in size and length. If they are of Iron or Steel give the Scantlings of Plating, Angle Irons, &c., and further explain by a Sketch showing how the lower Masts and Bowsprit are constructed, showing the number of Plates and Angle Irons, mode of riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit *Main Mast 61 ft. 4 in Diameter 19 in*
Fore Mast 69 ft. 9 in Diameter 19 in

Number for equipment	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight. Ex. Stock.	Test as per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
SAILS.											
Fore Sails,						Bowers	3	16-3-7	10-1-3-16	15-1-0	16-14-0-0
Fore Top Sails,						(State Machine where Tested, and name of Superintendent.)		16-3-10	10-0-2-14	15-1-0	16-14-0-0
Fore Topmast Stay Sails						Stream		14-1-14	15-17-2-0	13-0-0	14-15-0-0
Main Sails,						With Hook		7-0-7	3-0-0	6-2-0	
Main Top Sails,						Kedges	2	3-2-0	3-1-0	1-3-0	
and											

Her Standing and Running Rigging *Wire & Hemp* sufficient in size and *Good* in quality. She has *Four* Long Boats and

The present state of the Windlass is *Good* Patent Capstan *Good* and Rudder *Good* Pumps *Two of Iron 6 inch.*

Engine Room Skylights.—How constructed? *4 in Pine & Plating for essin.* How secured in ordinary weather? *Bulls Eyes*

What arrangements are there for deadlights in such for bad weather? *Bulls Eyes*

Coal Bunker Openings.—How constructed? *Iron Pipes* How are lids secured? *bars* How high above deck? *14 inches*

Scuppers, &c.—What arrangements are there beyond the scuppers on deck, for clearing upper deck of water, in case of a sea coming on board? *Scupper ports & ports in bulwark*

Cargo Hatchways.—How formed? *7/16 Plate light above deck 3 1/2 inches* State size *22 ft. x 11 ft. x 10 ft. 10 ft.*

If of extraordinary size, state how framed and secured?

What arrangement for shifting beams? *7/16 Plate in the centre, the whole depth of beams, with double angles on top*

Hatches, themselves, whether strong and efficient? *Good* Main Hatchways.—State size *22 ft. x 11 ft.*

Order for Special Survey No.	DATES of	1st.	On the several parts of the frame, when in place, and before the plating was wrought
Date <i>10th Dec 1870</i>	Surveys held	2nd.	On the plating during the progress of riveting
Order for Ordinary Survey No.	while building	3rd.	When the beams were in and fastened, and before the decks were laid
Date	as per	4th.	When the ship was complete, and before the plating was finally coated or cemented
No. <i>112</i>	in builder's yard.	5th.	After the ship was launched and equipped

General Remarks, *Is fitted with Raised Quarter Deck frames all to the top height.*

Beams built 6 1/2 x 7/8. Double angles on top edges 2 1/2 x 2 1/2 x 7/8. Stringer plates on ends 3 1/2 x 7/8 angles on do. 4 1/2 x 3 1/2 x 7/8. Tie plates 12 1/2 x 7/8. Deck 3 1/4 in Pine. Shell plating outside 7/8.

Forecastle frames all to the top height, beams single angles 4 1/2 x 3 1/2 x 7/8 three of them built 6 1/2 x 7/8 with angles on top edges 4 1/2 x 3 1/2 x 7/8. Stringers on ends of beams 10 x 7/8 angles on do. 3 x 3 x 7/8 tie plates 8 x 7/8 Plating outside 7/8 Waterways 10 x 7/8 Pine. Deck 3 in 7/8 Pine.

Water ballast tanks fitted in fore & after hold, frames cut off connection made with knee plates. top & bottom of side plates. Side plates 7/8 angle frame 3 1/2 x 3 1/2 x 7/8. Web plates 6/8 angles on do. 3 x 3 x 7/8, top plating 3/8.

Iron main deck fitted over Engine & boiler space 7/8 plate riveted to beams, length 46 ft.

Charles Gray & Co

State if one, two or three decked vessel, or if spar or awning decked, and lengths of poop, forecabin, or raised quarter deck, or of double or part double bottom.

In what manner are the surfaces preserved from oxidation? Inside *Flat cemented with Portland Cement* Outside *with Paint & black bars*

I am of opinion this Vessel should be Classed *90 A1*

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

Special£ 40 : 10 : 0

Certificate : : :

(Travelling Expenses)
(if any) £

Committee's Minute *16th May 1871*

Character assigned *90 A1*
See Secretaries letter 20th Jan. 1870

I concur in the opinion that this vessel should be classed *90 A1.*

Part double bottom 15/5/71

Lloyd's Register Foundation