

IRON SHIPS.

1st No about 628
2^d No 13100
11 to 12 depths

3654

Survey held at Sunderland Date 27 June Recd 30/6/62
Ship Screw Steamer "Biddick" Master Marren 1864

Tonnage Gross 1440 Engine 135 hp Register 54,05 Built at Sunderland
When Built 1864 Launched 20 May By whom built Mr J. L. Lacey
Owners H. J. Morris Port belonging to Sunderland Destined Voyage London
Surveyed Afloat or in Dry Dock and in Building

Length aloft	105 $\frac{7}{10}$	Extreme Breadth	20 $\frac{9}{10}$	Depth from top of Upper Deck Beam to top of Floor	16 $\frac{6}{10}$	Power of Engines	100
Distance of Frames or Ribs from moulding edge to moulding edge, all fore and aft	Inches in Ship. 21	Inches required per Rule. 21 $\frac{7}{10}$					
Floors, Size of Angle Iron, and No. at bottom of Floor Plate	Inches in Ship. 4 3	Inches required per Rule. 4 3	16ths required per Rule. 7 4				
depth and thickness of Floor Plate at mid line	10 $\frac{1}{2}$	7	19				
depth and thickness of Floor Plate at Bilge Keelson	10 $\frac{1}{2}$	7					
Size of Reversed Angle Iron, and No. at top of Floor Plate	3 3	6 3	2 $\frac{3}{4}$ 6				
Frames, Size of Angle Iron, single or double if few lengths added at intervals of 2 ft. length of beam in midships	4 3	7 4	3 7				
Reversed Iron, if to every frame	3 3	6 3	2 $\frac{3}{4}$ 6				
Beams, Deck (No. in the Deck Room Strainer on every alternate frame)	4 7	7 7	7 $\frac{1}{2}$ 7				
double or single Angle Iron, on upper edge	2 $\frac{3}{4}$ 2 $\frac{1}{2}$	5 2 $\frac{1}{4}$	2 $\frac{1}{2}$ 5				
average space between	3 feet 6 in.	3 feet 6 in.					
if wood (No. sided & moulded)							
Hold, or Lower Deck (No. on every frame and bulkhead)	7 7	7 7	7 $\frac{1}{2}$ 7				
double Angle Iron, Plate or Bulb Iron							
double or single Angle Iron on upper edge	3 2 $\frac{1}{2}$	5 2 $\frac{1}{4}$	2 $\frac{1}{2}$ 5				
average space between	3/6 4 7 feet	3/6 4 7 feet					
if wood (No. sided & moulded)							
Paddle, wood, sided and moulded, or if Iron, size of Plate							
Engine							
Keelson, single plate, or intercostal	13 7						
Size of Plates	7						
Size of Angle Irons	4 $\frac{1}{2}$ 3 $\frac{1}{2}$	7					
Ditto Bilge (No.)	See sketch sent herewith						

Stem, if bar iron, moulding and thickness	Inches in Ship. 7	16ths required per Rule. 2 $\frac{3}{4}$	Inches required per Rule. 7	16ths required per Rule. 2 $\frac{1}{2}$
if plate iron, breadth and thickness				
Stern-post, if bar iron, moulding and thickness	9	4 $\frac{1}{2}$		
if plate iron, breadth and thickness				
Keel, if bar iron, depth and thickness	7	2 $\frac{3}{4}$	7	2 $\frac{1}{2}$
if plate iron, breadth and thickness				
Garboard Plates, Breadth and thickness	33	9	130	10
From Garboard to upper part of Bilge		0	x	9
From upper part of Bilge to Sheerstrakes		7	x	8
Sheerstrakes, Breadth and thickness				
Butt Straps to outside plating, Breadth and thickness	33	9	80	9
Plank sheers	0 $\frac{1}{2}$	4	0	10 $\frac{1}{2}$
Gunwale Plate or Stringer on ends of Up. Dk Beams	26 $\frac{1}{2}$	7	26 $\frac{1}{2}$	0
Angle Iron on ditto	4 $\frac{1}{2}$	3 $\frac{1}{2}$	7	4 $\frac{1}{2}$
Diagonal Tie Plates on Beams	10 $\frac{1}{2}$	7	10 $\frac{1}{2}$	0
Waterway				
Deck	Yellow Pine	3 $\frac{1}{2}$		3 $\frac{1}{2}$
Ceiling in Hold	Red Oak	2 $\frac{1}{2}$		
Ceiling betwixt Decks	Plank			
Beam Clamps or Spirketting				
Shelf				
Stringer Plates on ends of Hold or Lower Dk Beams	26 $\frac{1}{2}$	7	20	0
Ceiling between Decks				
Stringer or Tie Plates out- side Hatchways	10 $\frac{1}{2}$	7	10 $\frac{1}{2}$	0
Deck Beam Clamps or Spirketting				
Shelf				
Stringers in Hold	4 $\frac{1}{2}$	3 $\frac{1}{2}$	7	4 $\frac{1}{2}$
Deck, Lower				
Deck, Upper, how fastened to Beams	With nuts and washers			
Bulkheads, No. Four				
Thickness of	6/16			
how secured to the sides of the ship	Between frames & Rivetted through			
size of vertical angle iron and their distance apart	3 x 3 x 6/16 30 apart			
rivetted through plates with ($\frac{3}{4}$ in.) rivets, about (5 in.) apart.				
to the upper part of Bilge on every frame				
to the Deck beam strainer on alternate frames				

Transoms, material or, if none, in what manner compensated for.
Stern frame, and connection across the middle with struts & floor plates.
Knight-heads, and Hawse Timbers none
The Frames or Ribs extend in one length from Keel to Gunwale
The reverse angle irons on the floors extend in one length across the middle line from Keel to Gunwale
Keelson, how are the various lengths of plates or angle irons connected? With angle irons at top and bottom, and their butts properly shifted
Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets ($\frac{1}{4}$ in.) diameter averaging (4 x 3 in.) from centre to centre of rivet.
Edges from Garboards to upper part of bilge, worked carvel with a lining piece (in) thick, or clencher, double or single rivetted; rivets ($\frac{3}{4}$ in.) diameter, averaging (3 ins.) from centre to centre of rivets.
Butts from Keel to turn of bilge, worked carvel with a lining piece ($\frac{1}{8}$) thick, double or single rivetted; rivets ($\frac{3}{4}$ in.) diameter, averaging (3 ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? No
Edges from bilge to sheerstrake, worked carvel with a lining piece () thick, or clencher, double or single rivetted; rivets ($\frac{3}{4}$ in.) diameter, averaging (3 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? No
Edge of Sheerstrake, double or single rivetted? Double rivetted
Butts from bilge to plank sheers, worked carvel with a lining piece ($\frac{1}{16}$) thick, double or single rivetted; rivets ($\frac{3}{16}$ in.) diameter averaging (3 ins.) from centre to centre of rivets. Breadth of laps in double rivetting (4) Breadth of laps in single rivetting (2 $\frac{1}{2}$)
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? Double rivetted
Plank sheer, how secured to the plating of the sides { Explain by sketch } See sketch sent
Waterway " " plank sheer and to the Beams { if necessary. }
Deck Beams, how secured to the side? With knee plates, as per Table G,
Hold or Lower Deck " The same as above
Upper Deck " The same as above
Breasthooks Five crutches how are pointers compensated? See Transoms
Description of iron is used for the angle iron and plate iron in the vessel? Same as above
made by Robt Wilson & Bell
at Shelley Bridge & Buttery, London

Builder's Signature J. L. Lacey

IRON 437A-0083

3654 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 rivet 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? 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 with single
 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 heads 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? Very few

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

N^o.
Has one full
Set of Sails -
 Fore Sails,
 Fore Top Sails,
 Fore Topmast Stay Sails,
 Main Sails,
 Main Top Sails,
 and

CABLES, &c.
Certificates seen.
Refer to 31 Jan
 Chain 340 1 5/16
 Hempen Stream Cable 70 0
 Hawser Chain 70 1 3/16
 Towlines 90 6
 Warp 90 5
 All of good quality. 90 4

ANCHORS, and their weights.
Localities produced
 Bowers, Ropes Patent 3 100 2-0
17-10 16-0-0
17-10 18-0-0
 Stream, 1 6-0-0
 Kedge, 2 3-2-16
 1-3-5

Her Standing and Running Rigging is of Pine & Hemlock sufficient in size and good in quality.
 She has Three ~~Long~~ Boat and one of them is a Life Boat
 The present state of the Windlass is new Capstan 2 Winches and Rudder new and Pumps new and 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 1st March 1864
 2nd. On the plating during the progress of rivetting 31 " " "
 3rd. When the beams were in and fastened, and before the decks were laid 3rd May " "
 4th. When the ship was complete, and before the plating was finally coated 26 " " "
 5th. After the ship was launched 27 June " "

*This vessel has water Ballast Tanks fitted as shown in the sketch sent herewith -
 She has not been Built in accordance with the New Rules, and having been commenced only in February last. I do not consider that she is entitled to be classed 6 A. although the Builder is desirous of her being so classed -*

*The Anchors put on board this vessel are somewhat lighter than set forth in Table 22 -
 to this circumstance I called the attention of Mr. Lacey, whose reply I beg to append to the Report, leaving it to the Committee whether they deem the explanation satisfactory -*

In what manner are the surfaces preserved from oxidation? By Red Lead and Iron Paint - and Portland Cement inside from the keel to the bilges -

I am of opinion this Vessel should be classed A

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

Special £ " : : : "

Certificate (if required) £ " : 5 : "

Committee's Minute 3rd July 1864

Character assigned A 1

Thomas Lawrence

I am of opinion that the Class A-1 will fairly meet the requirements of this Vessel

3rd July 1864
 Lloyd's Register Foundation