

IRON SHIPS.

Recd 27/12/86

Survey held at Glasgow Date 24th December 1886
 on the Law "Cumberland" Master J. White
 Tonnage under tonnage deck 148.12 Built at Glasgow When built 1880 Launched 2nd Nov^r/80
 Ditto of poop or spar deck 42.09 By whom Barclay Curle & Co Owners Liverpool & Hamburg &c
 Ditto of engine room 3.90 **PLANS CASE**
 Total Register tonnage 192.24 Port belonging to Liverpool Destined Voyage Hamburg
 Gross tonnage 194.17
 Surveyed while Building, Afloat, or in Dry Dock whilst building and afloat

Length aloft 220 Feet. Inches. Extreme Breadth 28 Feet. Inches. Depth from top of Upper Deck Beam to top of Floor 15 9 1/2 Feet. Inches. Power of Engines 117 Horse. No. of Decks Two

Dimensions of Ship per Register, length 227.4 breadth 28 depth 15.45

	Inches in Ship.	Inches required per Rule.		Inches in Ship.	Inches required per Rule.		Inches in Ship.	Inches required per Rule.		Inches in Ship.	Inches required per Rule.
Keel, if bar iron, depth and thickness	<u>8 x 2 1/2</u>	<u>1 1/2</u>	Plates in Garboard Strakes, breadth and thickness	<u>33</u>	<u>1/8</u>						
„ if plate iron, breadth and thickness	<u>8 x 2 1/2</u>	<u>1 1/2</u>	Ditto from Garboard to upper part of Bilges ..	<u>10</u>	<u>1/8</u>						
Stem, if bar iron, moulding and thickness	<u>8 x 2 1/2</u>	<u>1 1/2</u>	„ from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold	<u>9</u>	<u>1/8</u>						
„ if plate iron, breadth and thickness	<u>8 x 2 1/2</u>	<u>1 1/2</u>	„ from 3/4ths depth of Hold to lower edge of Sheerstrake	<u>9</u>	<u>1/8</u>						
Stern-post, if bar iron, moulding and thickness	<u>7 x 5 1/2</u>	<u>1 1/2</u>	„ Sheerstrake, breadth and thickness	<u>31</u>	<u>1/8</u>						
„ if plate iron, breadth and thickness	<u>7 x 5 1/2</u>	<u>1 1/2</u>	Butt Straps to outside plating, breadth and thickness	<u>9 1/2</u>	<u>1/8</u>						
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>21</u>	<u>21</u>	Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness	<u>34</u>	<u>1/8</u>						
Frames, Size of Angle Iron, single or double ..	<u>4 x 3</u>	<u>3</u>	Angle Iron on ditto	<u>4 x 4</u>	<u>3/8</u>						
„ Reversed Iron to every frame ..	<u>4 x 3</u>	<u>3</u>	Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways ..	<u>12</u>	<u>1/8</u>						
„ and or every other frame	<u>4 x 3</u>	<u>3</u>	Diagonal Tie Plates on ditto	<u>12</u>	<u>1/8</u>						
Floors, depth and thickness of Floor Plate at mid line	<u>18 1/2</u>	<u>18</u>	Planksheer, materials and scantlings	<u>how</u>							
„ Ditto ditto at Bilge Keelson ..	<u>10</u>	<u>10</u>	Waterway ditto ditto	<u>5</u>							
„ Size of Reversed Angle Iron, and No. 1 & 2 at top of Floor Plate	<u>3</u>	<u>3</u>	Flat of Upper Deck, thickness and material ..	<u>3 1/2</u>	<u>1/8</u>						
Beams, Deck (No. 1) double Angle Iron, Plate, Tee, or Bulb Iron	<u>7</u>	<u>7</u>	„ how fastened to Beams ..	<u>butts and screws</u>							
„ „ double single Angle Iron, on upper edge	<u>3 1/2</u>	<u>3 1/2</u>	Ceiling betwixt Decks and in Hold, thickness and material	<u>butts or 2</u>							
„ „ average space between	<u>3 feet 6 ins</u>	<u>3 feet 6 ins</u>	Clamps or Spirketting ditto	<u>24</u>	<u>1/8</u>						
„ Hold, or Lower Deck (No. 1) double Angle, Tee, Plate, or Bulb Iron	<u>7</u>	<u>7</u>	Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness	<u>12</u>	<u>1/8</u>						
„ „ double single Angle Iron, on upper edge	<u>3 1/2</u>	<u>3 1/2</u>	Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams	<u>12</u>	<u>1/8</u>						
„ „ average space between	<u>3 feet 6 ins</u>	<u>3 feet 6 ins</u>	Stringers in Hold	<u>4 1/2</u>	<u>1/8</u>						
„ Paddle, sided and moulded, thickness of Plate size of Angle Iron	<u>7</u>	<u>7</u>	Flat of Lower Deck, thickness and material ..	<u>3</u>							
„ Engine „ „ „ „ ..	<u>7</u>	<u>7</u>	Main piece of Rudder, diameter at head	<u>5</u>							
Keelson, single or double plate, box, or intercostal	<u>intercostal</u>	<u>intercostal</u>	„ „ „ „ at heel	<u>3 1/2</u>							
„ Size of Plates	<u>22 1/2</u>	<u>22 1/2</u>	(Can the Rudder be unshipped afloat <u>Yes</u>)								
„ Size of Angle Irons	<u>4 1/2</u>	<u>4 1/2</u>	Bulkheads, No. five Thickness of <u>10</u>								
„ Side, single or double, plate, box, or intercostal	<u>4 1/2</u>	<u>4 1/2</u>	„ Height up upper deck ..								
„ Bilge (No. 1) at each Bilge, single, or double, plate, or box ..	<u>4 1/2</u>	<u>4 1/2</u>	„ how secured to the sides of the ship <u>rivetted</u>								

Transoms, material iron (Plate), if none, in what manner compensated for.
 Knight-heads, and Hawse Timbers iron frames

The Frames extend in one length from middle line to Gunwale rivetted through plates with 3/4 in. rivets, about (5 ins) apart.
 The reverse angle irons on the floors extend in one length across the middle line from upper part of Hold Beams to D.

„ „ „ on the frames „ „ „ from middle line to Gunwale

Keelson, how are the various lengths of plates or angle irons connected? by joining pieces

Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets (1 1/2 ins.) diameter, averaging (3 1/2 ins.) apart.

„ Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 ins.) apart.

„ Butts from Keel to turn of bilge, worked carvel with butt straps (10 x 10) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 1/2 ins.) apart. Do the butt straps 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; with rivets (3/4 in.) diameter, averaging (3 1/2 ins.) apart. Do the butt straps lap over and rivet through the lands of the strake below? No

„ Edges of Sheerstrake, double or single rivetted? At upper edge Single At lower edge Double

„ Butts from bilge to planksheers, worked carvel with butt straps (9 x 10) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 ins.) apart. Breadth of laps in double rivetting (5 1/2 ins.) Breadth of laps in single rivetting (5 ins.)

Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? Double

Planksheer, how secured to the plating of the sides Explain by sketch from Bulwarks

Waterway „ „ planksheer and to the Beams if necessary. Gutter Waterway

Deck Beams, how secured to the side? Welded knees rivetted to frames

Hold or Lower Deck ditto 8

Paddle „ „ No. of breasthooks Four crutches Four

What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Best iron

Manufacturer's name or trade mark

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

Builder's Signature Barclay, Curle & Co Surveyor's Signature J. D. Barclay

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Workmanship. Are the lands or laps of the clenchwork in all cases in breadth at least five and a half times the diameter of the rivets rivetted edges and butts, and at least three and a quarter 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, butt straps, 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 corners of Bottom*

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 rivetting, quality of Materials, and if stamped with Maker's name.)

She has SAILS.

Fore Sails,
 Fore Top Sails,
 Fore Topmast Stay Sails,
 Main Sails,
 Main Top Sails,

Chain
 Hempen Stream Cable
 Hawser
 Towlines
 Warp
 All of *Good* quality,

Fathoms. Inches. Tested to Tons.
 270 1 7/8 3 1/4
 90 9
 30 1 3/8
 90 1
 90 4

ANCHORS, and their weights.

June 14th 1866
 Bowers,
 Stream,
 Kedges,
 N^o. Weight. Ex. Stock. Tested to Tons.
 3 18.0.9 19.2.0 21
 3 18.5.5 19.2.0 21
 3 18.3.7 17.5.1 7
 1 7.3.10 8.13.3
 2 4.0.26
 1.3.13

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

She has *two 24 ft life* Long Boat and *One 24 ft Quarter Boat* and *One 20 ft Dingy*
 The present state of the Windlass is *new* Capstan and Rudder *new* Pumps *new and efficient*

Order for Special Survey DATES of 1st. On the several parts of the frame, when in place, and before the plating was wrought
 No. *431* Surveys held 2nd. On the plating during the progress of rivetting *Built under Special Sur*
 Date *Sept 23/65* while building 3rd. When the beams were in and fastened, and before the decks were laid *from the 24th Feb*
 Order for Ordinary Survey as per 4th. When the ship was complete, and before the plating was finally coated *to the 24th Dec 1865*
 No. Section 18. 5th. After the ship was launched

State if she has a Spar Deck *No* Poop *Yes* or Forecastle *Yes*

General Remarks,

As compensation for excess of length the sheerstrake is doubled whole depth with an $\frac{1}{8}$ plate for sheer for the length of the hull. Gunwall Plate increased to 34 lbs in width and $\frac{1}{8}$ thickness for half the length. Bilge and Middle line keelsons fitted with a Built Bar of $\frac{1}{8}$ thick. An extra stringer fitted in between decks rivetted to double reverse Frames formed of two Angle Bars back to back 5 x 3 x $\frac{1}{8}$ and extended between fore and aftermost Bulkheads. Fitted with four Steam Winches on deck for taking in and discharging cargo. Fore and Main masts are of iron formed of 70 plates $\frac{1}{8}$ thick, lands single clenched and butts double carvel rivetted.

In what manner are the surfaces preserved from oxidation? Inside *Plat of Bottom with Portland Cement*

Ditto

ditto

Outside *with Red Lead and Oil Paints*

I am of opinion this Vessel should be Classed *A 1*

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

Dec 1865 Special £ 34/14/3
 Certificate (if required) £ 1/1/1

Committee's Minute 28th December 1866

Character assigned *A 1*

D. Darling

This Iron Steamer appears eligible for Classification as recommended above

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