

# IRON SHIPS.

No. 19565 Survey held at Sunderland Date October 21<sup>st</sup> 1865  
Ten Steamer "Leopatra" Master P. Gilpin  
 Tonnage under tonnage deck 616-81 Built at Sunderland When built 1864-5 Launched July 1865  
 Ditto of poop or spar deck 255-37 By whom built Messrs W. & A. Gilpin Owners W. & A. Gilpin  
 Ditto of engine room 200-48 Port belonging to Sunderland Destined Voyage Norre  
 Total Register tonnage 811-70  
 Surveyed while Building, Afloat, or in Dry Dock Whilst building

Length aloft 228 Feet. 0 Inches. Extreme Breadth 30 Feet. 0 Inches. Depth from top of Upper Deck Beam to top of Floor 22 Feet. 7 Inches. Power of Engines 130 Horse. N<sup>o</sup>. of Decks Two

		Inches in Ship.		Inches required per Rule.				Inches in Ship.		Inches required per Rule.				Inches in Ship.		Inches required per Rule.	
Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.
Keel, if bar iron, depth and thickness .....		8 x 2 3/8		7 x 2 3/4				Plates in Garboard Strakes, breadth and thickness .....		30 10 30 10							
,, if plate iron, breadth and thickness ....		8 x 2 3/8		7 x 2 3/4				Ditto from Garboard to upper part of Bilges..		- 9 - 9							
Stem, if bar iron, moulding and thickness ....		8 x 2 3/8		7 x 2 3/4				,, from upper part of Bilge to a perpendicular height from upper side of Keel of 2/3 the entire depth of Hold .....		- 8 - 8							
,, if plate iron, breadth and thickness ....		8 x 4 3/4		8 x 4 3/4				,, from 2/3 the depth of Hold to lower edge of Sheerstrake .....		- 7 - 7							
Stern-post, if bar iron, moulding and thickness .....		8 x 4 3/4		8 x 4 3/4				Main Sheerstrake, breadth and thickness .....		35 1/2 11 30 11							
,, if plate iron, breadth and thickness .....		8 x 4 3/4		8 x 4 3/4				Butt Straps to outside plating, breadth and thickness .....		9 1/2 7 1/2 9 1/2 7 1/2							
Distance of Frames from moulding edge to moulding edge, all fore and aft .....		23		23				Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness .....		34 11 33 10							
Frames, Size of Angle Iron, single or double ..		4 3 7 4 3 7		3 2 3/4 6 3 2 3/4 6				Angle Iron on ditto .....		5 x 3 1/2 x 8 4 1/2 x 3 1/2 x 7							
Reversed Iron, if to every frame .....		3 2 3/4 6 3 2 3/4 6		3 2 3/4 6 3 2 3/4 6				Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways ..		10 10 10 9							
Reversed Iron, if to every other frame .....		3 2 3/4 6 3 2 3/4 6		3 2 3/4 6 3 2 3/4 6				Diagonal Tie Plates on ditto .....		10 10 10 9							
Floors, depth and thickness of Floor Plate at mid line .....		- 20 9 - 21 1/2 8		- 8 9 - 4 8				Planksheer, materials and scantlings .....		8 x 11 Red pine							
,, Ditto ditto at Bilge Keelson .....		- 8 9 - 4 8		- 8 9 - 4 8				Waterway ditto .....		4 Pine 3 1/2							
,, Size of Reversed Angle Iron, and No. of Angle Iron at top of Floor Plate ..		3 2 3/4 6 3 2 3/4 6		3 2 3/4 6 3 2 3/4 6				Flat of Upper Deck, thickness and material ..		With screw bolts & nuts							
Beams, Deck (N <sup>o</sup> . 52) double Angle Iron, Plate, Tee, or Bulb Iron .....		- 7 8 - 7 1/2 7		- 7 8 - 7 1/2 7				Ceiling betwixt Decks and in Hold, thickness and material .....		2 1/2 Red pine buffer							
,, double or single Angle Iron, on upper edge .....		2 3/4 2 3/4 6 2 3/4 2 3/4 6		2 3/4 2 3/4 6 2 3/4 2 3/4 6				Clamps or Spirketting ditto .....		25 8 25 8							
,, average space between .....		3-10 3-10 3-10 3-10 3-10		3-10 3-10 3-10 3-10 3-10				Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness ..		5 x 3 1/2 8 4 1/2 x 3 1/2 x 7							
,, Hold, or Lower Deck (N <sup>o</sup> . 35) double Angle, Tee, Plate, or Bulb Iron ..		- 7 8 - 7 1/2 7		- 7 8 - 7 1/2 7				Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams .....		3 x 3 x 6							
,, double or single Angle Iron, on upper edge .....		2 3/4 2 3/4 6 2 3/4 2 3/4 6		2 3/4 2 3/4 6 2 3/4 2 3/4 6				Stringers in Hold .....		5 x 4 8 4 1/2 x 8 1/2 x 7							
,, average space between .....		3-10 3-10 3-10 3-10 3-10		3-10 3-10 3-10 3-10 3-10				Flat of Lower Deck, thickness and material ..		None							
,, Paddle, sided and moulded, thickness of Plate size of Angle Iron ..		- 7 8 - 7 1/2 7		- 7 8 - 7 1/2 7				Main piece of Rudder, diameter at head ....		5 3/4 - 5 3/4							
,, Engine		- 7 8 - 7 1/2 7		- 7 8 - 7 1/2 7				,, " at heel ....		3 - 13							
Keelson, single or double plate, box, or intercostal ..		- 10 10 1/2 - 5 10 1/2		- 10 10 1/2 - 5 10 1/2				(Can the Rudder be unshipped afloat No)		✓							
,, Size of Plates .....		- 10 10 1/2 - 5 10 1/2		- 10 10 1/2 - 5 10 1/2				Bulkheads, N <sup>o</sup> . 4 Thickness of		6 1/2							
,, Size of Angle Irons .....		5 4 9 5 4 9		5 4 9 5 4 9				,, Height up		Four 4 ft. 6 in. to main deck, 2 ft. 6 in. to spar deck							
,, Side, single or double, plate, box, or intercostal ..		5 4 9 5 4 9		5 4 9 5 4 9				,, how secured to the sides of the ship		Between double frames							
,, Bilge (No. one) at each Bilge, single or double, plate, box, or intercostal ..		5 4 9 5 4 9		5 4 9 5 4 9				,, size of vertical angle irons and their distance apart		3 x 3 x 5 1/2 30							
,, Bull plate between .....		- 7 8 - 7 1/2 7		- 7 8 - 7 1/2 7													
Transoms, material		Iron		or, if none, in what manner compensated for.													
Knight-heads, and Hawse Timbers		Iron															

Transoms, material Iron or, if none, in what manner compensated for.  
 Knight-heads, and Hawse Timbers Iron  
 The Frames extend in one length from Keel to gunwale rivetted through plates with (3/4 in.) rivets, about (6 in.) apart.  
 The reverse angle irons on the floors extend in one length across the middle line from Keel to Main 8<sup>th</sup> Stringer angle iron  
 " " " on the frames and " " from Keel to gunwale on alternate frames  
 Keelson, how are the various lengths of plates or angle irons connected? With butt straps  
 Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets (1 1/8 in.) diameter, averaging (4 1/4 in.) apart.  
 " Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (7/8 in.) diameter, averaging (2 3/4 in.) apart.  
 " Butts from Keel to turn of bilge, worked carvel with butt straps (9 1/2 in.) thick, double or single rivetted; with rivets (7/8 in.) diameter, averaging (2 3/4 in.) 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 (2 1/2 in.) 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 Double rivetted At lower edge Double rivetted  
 " Butts from bilge to planksheers, worked carvel with butt straps (7 1/2 in.) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 1/2 in.) apart. Breadth of laps in double rivetting (4 1/2 in.) Breadth of laps in single rivetting (None)  
 Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? Double rivetted  
 Planksheer, how secured to the plating of the sides { Explain by sketch }  
 Waterway " " planksheer and to the Beams { if necessary. }  
 Deck Beams, how secured to the side? Turned down and rivetted to frames  
 Hold or Lower Deck ditto Pl 6 6 6  
 Paddle " " 6 6 6 6  
 No. of breasthooks Four crutches Four  
 What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Angle iron by Messrs. W. & A. Gilpin  
 Manufacturer's name or trade mark Plating by Messrs. W. & A. Gilpin  
 We certify that the above is a correct description of the several particulars therein given.  
 Builder's Signature W. & A. Gilpin Surveyor's Signature W. & A. Gilpin



4382 Lrn

**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 in 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? Solid with single pieces

Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes and are the rivets 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, 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.)

*The testing certificates of Anchors and chain Cables, have been procured from the Sunderland public testing machine, and signed by Mr. J. W. Thompson*

*James Sibson*

She has SAILS.		CABLES, &c.		ANCHORS, and their weights.				
No.		Fathoms.	Inches.	Tested to Tons.	No.	Weight.	Tested to Tons.	
Double End and	Fore Sails,	Chain .....	270	1 1/2	40 tons	Bowers,	3	22.0.14 = 22.9
	Fore Top Sails,	Hempen Stream Cable .....	75	7 1/2				21.3.26 = 22.7
	Fore Topmast Stay Sails,	Hawser <u>Chain</u> .....	60	7 1/8				21.3.26 = 22.7
	Main Sails,	Towlines .....	90	9 1/2		Stream,	1	8.3.21
	Main Top Sails,	Warp .....	80	5		Kedges,	2	4.1.13
		All of <u>good</u> quality.					2.1.2	

Her Standing and Running Rigging Wire & Hemp sufficient in size and good in quality.

She has Two Long Boat and 2 others

The present state of the Windlass is good Capstan Wood and Rudder Good Pumps G. W. Metal

Order for Special Survey	DATES of	1st.	On the several parts of the frame, when in place, and before the plating was wrought	Fault under special survey from Aug 2/64 to the present date
No. _____	Surveys held	2nd.	On the plating during the progress of rivetting	
Date _____	while building	3rd.	When the beams were in and fastened, and before the decks were laid	
Order for Ordinary Survey	as per	4th.	When the ship was complete, and before the plating was finally coated	
No. _____	Section 18.	5th.	After the ship was launched	
Date _____				

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

**General Remarks,**

Scantlings of Spar deck.

Beams - double angle batten edge of Bulk plate  $2\frac{1}{4} \times 2\frac{1}{4} \times \frac{5}{16}$

Bulk plate  $6\frac{1}{2} \times \frac{7}{16}$

Average space between  $3.10$

Stinger on beam ends  $58$   $25 \times \frac{5}{16}$

Angle iron  $5 \times 3\frac{1}{2} \times \frac{5}{16}$

Six plates on each side of Hatchways fore aft  $9 \times \frac{5}{16}$

Diagonal tie plates  $9 \times \frac{5}{16}$

Sheer plate  $42 \times \frac{5}{16}$

Plating of deck - Yellow pine 3" thick

Fastened with screw bolts and nuts

There are two erections on the Spar deck of the following dimensions:-

amidships	Length 23.6	Breadth 9.10	Height 8.5	Area of Spar Deck 42.50
aft	12.0	8.2	6.6	82 of Erections 3.50

Since launching the vessel, a double bottom has been fitted in the fore hold 38 feet long, and in the after hold 57 feet in length. The plating in after hold is  $\frac{5}{16}$  thick and flange  $\frac{1}{2}$  thick: in the fore hold it is  $\frac{3}{16}$  thick, & flange plates  $\frac{7}{16}$ . The various angle irons in way of same are separated as usual, and compensated for by bracket knees, and angle iron collars fitted round the frames.

(See Secretary's letters of the 19<sup>th</sup> & 26<sup>th</sup> December 1864.)

In what manner are the surfaces preserved from oxidation? Inside Portland Cement & Rubber paint Outside Three coats of paint

I am of opinion this Vessel should be Classed A (Spar decked)

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

Special .....£ 50 : 12 : "

Certificate (if required) .....£ " : " : "

Committee's Minute 24<sup>th</sup> November 65

Character assigned A (Spar deck)

Spar deck