

# IRON SHIP.

No. 13333 Survey held at Newcastle  
On the "J. L. L. Thornburgh"

Date, First Survey 21<sup>st</sup> March Last Survey 21<sup>st</sup> August 1876

Master C. Smith

TONNAGE under Tonnage Deck 628.06

ONE, OR TWO DECKED, THREE DECKED VESSEL.

Built at Newcastle

Ditto of Third Spar, or Awning Deck.

SPAR, OR AWNING-DECKED VESSEL.

When built 1876 Launched 5<sup>th</sup> August

Ditto of Keel, or Raised Or. Dh.

HALF BREADTH (moulded) 14.00

By whom built Palmer & Co.

Ditto of House

DEPTH from upper part of Keel to top of Upper Deck Beams 15.15

Owners J. Fawcett & Son

Ditto of Mast, or Deck

GIRTH of Half Midship Frame (as per Rule) 26.50

Port belonging to London

Ditto of Forecastle

1st NUMBER 55.74

Destined Voyage

Gross Tonnage 739.00

1st NUMBER, THREE DECKED VESSEL [deduct 7 feet]

Surveyed while Building, Afloat, or in Dry Dock.

Less Crew Space 39.21

LENGTH 199

Less Engine Room 236.48

2nd NUMBER 11092

Register Tonnage as cut on Beam 463.31

PROPORTIONS—Breadths to Length under 1/2

Depths to Length—Upper Deck to Keel do 14

Main Deck ditto do

LENGTH on deck as per Rule 199.0 BREADTH—Moulded 28.0 DEPTH top of Floors to Upper Deck Beams 13 10 1/2 Power of Engines 80 Horse. 80 N<sup>o</sup>. of Decks with flat laid one N<sup>o</sup>. of Tiers of Beams one

Dimensions of Ship per Register, length, 200.5 breadth, 28.0 depth, 12.65

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	6 x 2 1/2	7 1/2 x 2 1/4	STEM, moulding and thickness	6 x 2 1/2	7 x 2 1/4	STERN-POST for Rudder do. do.	7 1/2 x 3 3/4	7 x 4 1/2	Distance of Frames from moulding edge to moulding edge, all fore and aft	22	22
FRAMES, Angle Iron, for 1/2 length amidships	3 1/2 x 3	3 1/2 x 3	Do. for 1/2 at each end	3 1/2 x 3	3 1/2 x 3	REVERSED FRAMES, Angle Iron	3 x 2 1/2	3 x 2 1/2	FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	15 1/2 x 7	15 1/2 x 7
thickness at the ends of vessel	5	6	depth at 1/2 the half-bath, as per Rule	as per section	as per section	BEAMS, Upper, Spar, or Awning Deck	5 x 3	5 x 3	Single or double Angle Iron, Plate or Tee Bulb Iron	5 x 3	5 x 3
Single or double Angle Iron on Upper edge	5 x 3	5 x 3	Average space	on every frame	on every frame	BEAMS, Main, or Middle Deck	5 x 3	5 x 3	Single or double Angle Iron, Plate or Tee Bulb Iron	5 x 3	5 x 3
Single or double Angle Iron on Upper Edge	5 x 3	5 x 3	Average space	on every frame	on every frame	BEAMS, Lower Deck, Hold, or Orlop	5 x 3	5 x 3	Single or double Angle Iron, Plate or Tee Bulb Iron	5 x 3	5 x 3
Single or double Angle Iron on Upper Edge	5 x 3	5 x 3	Average space	on every frame	on every frame	KEELSONS Centre line, single or double plate, and	33 1/2 x 7	33 1/2 x 7	Intercoastal, Plates	6 1/2 x 6	6 1/2 x 6
KEELSONS Centre line, single or double plate, and	33 1/2 x 7	33 1/2 x 7	Intercoastal, Plates	6 1/2 x 6	6 1/2 x 6	" Bulb Plate to Intercoastal Keelson	4 1/2 x 3	4 1/2 x 3	" Angle Irons	4 1/2 x 3	4 1/2 x 3
" Bulb Plate to Intercoastal Keelson	4 1/2 x 3	4 1/2 x 3	" Angle Irons	4 1/2 x 3	4 1/2 x 3	" Double Angle Iron Side Keelson	4 1/2 x 3	4 1/2 x 3	" Side Intercoastal Plate	4 1/2 x 3	4 1/2 x 3
" Double Angle Iron Side Keelson	4 1/2 x 3	4 1/2 x 3	" Side Intercoastal Plate	4 1/2 x 3	4 1/2 x 3	" do. Angle Irons	4 1/2 x 3	4 1/2 x 3	" Attached to outside plating with angle iron	4 1/2 x 3	4 1/2 x 3
" Side Intercoastal Plate	4 1/2 x 3	4 1/2 x 3	" do. Angle Irons	4 1/2 x 3	4 1/2 x 3	" Attached to outside plating with angle iron	4 1/2 x 3	4 1/2 x 3	BILGE Angle Irons	4 1/2 x 3	4 1/2 x 3
" Attached to outside plating with angle iron	4 1/2 x 3	4 1/2 x 3	BILGE Angle Irons	4 1/2 x 3	4 1/2 x 3	" do. Bulb Iron	4 1/2 x 3	4 1/2 x 3	" do. Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3
BILGE Angle Irons	4 1/2 x 3	4 1/2 x 3	" do. Bulb Iron	4 1/2 x 3	4 1/2 x 3	" do. Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	BILGE STRINGER Angle Irons	4 1/2 x 3	4 1/2 x 3
" do. Bulb Iron	4 1/2 x 3	4 1/2 x 3	" do. Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	BILGE STRINGER Angle Irons	4 1/2 x 3	4 1/2 x 3	Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3
" do. Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	BILGE STRINGER Angle Irons	4 1/2 x 3	4 1/2 x 3	Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	SIDE STRINGER Angle Irons	12 x 7	12 x 7
BILGE STRINGER Angle Irons	4 1/2 x 3	4 1/2 x 3	Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	SIDE STRINGER Angle Irons	12 x 7	12 x 7	Transoms, material. Knight-heads. Hawse Timbers.	Iron	Iron
Intercoastal plates riveted to plating for length	4 1/2 x 3	4 1/2 x 3	SIDE STRINGER Angle Irons	12 x 7	12 x 7	Transoms, material. Knight-heads. Hawse Timbers.	Iron	Iron	Windlass <u>Iron Patent</u>	Pall Bitt <u>Iron</u>	Pall Bitt <u>Iron</u>
SIDE STRINGER Angle Irons	12 x 7	12 x 7	Transoms, material. Knight-heads. Hawse Timbers.	Iron	Iron	Windlass <u>Iron Patent</u>	Pall Bitt <u>Iron</u>	Pall Bitt <u>Iron</u>	The FRAMES extend in one length from <u>Keel</u> to <u>gunwale</u>	to <u>gunwale</u>	to <u>gunwale</u>
Transoms, material. Knight-heads. Hawse Timbers.	Iron	Iron	The FRAMES extend in one length from <u>Keel</u> to <u>gunwale</u>	to <u>gunwale</u>	to <u>gunwale</u>	The REVERSED ANGLE IRONS on floors and frames extend <u>to struts</u>	to <u>struts</u>	to <u>struts</u>	KEELSONS. Are the various lengths of Plates and Angle Irons properly connected?	yes	And butts properly shifted?
Windlass <u>Iron Patent</u>	Pall Bitt <u>Iron</u>	Pall Bitt <u>Iron</u>	KEELSONS. Are the various lengths of Plates and Angle Irons properly connected?	yes	And butts properly shifted?	yes	And butts properly shifted?	yes	PLATING. Garboard, double riveted to Keel, with rivets <u>1"</u> in diameter, averaging <u>5</u> ins. from centre to centre.	5	ins. from centre to centre.
The FRAMES extend in one length from <u>Keel</u> to <u>gunwale</u>	to <u>gunwale</u>	to <u>gunwale</u>	PLATING. Garboard, double riveted to Keel, with rivets <u>1"</u> in diameter, averaging <u>5</u> ins. from centre to centre.	5	ins. from centre to centre.	Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in diameter averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.
The REVERSED ANGLE IRONS on floors and frames extend <u>to struts</u>	to <u>struts</u>	to <u>struts</u>	Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in diameter averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Butts of <u>2</u> Strakes at Bilge for <u>1/2</u> length, treble riveted with Butt Straps <u>1/16</u> thicker than the plates they connect.	1/16	thicker than the plates they connect.
KEELSONS. Are the various lengths of Plates and Angle Irons properly connected?	yes	And butts properly shifted?	Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in diameter averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Butts of <u>2</u> Strakes at Bilge for <u>1/2</u> length, treble riveted with Butt Straps <u>1/16</u> thicker than the plates they connect.	1/16	thicker than the plates they connect.	Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.
PLATING. Garboard, double riveted to Keel, with rivets <u>1"</u> in diameter, averaging <u>5</u> ins. from centre to centre.	5	ins. from centre to centre.	Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in diameter averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.	Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.	Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.	Edges of Main Sheerstrake, double or single riveted.	Upper Sheerstrake, double or single riveted.	Butts of Upper or Spar Sheerstrake, treble riveted <u>1/2</u> length amidships.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in diameter averaging <u>3 1/4</u> ins. from centre to centre.	3 1/4	ins. from centre to centre.	Edges of Main Sheerstrake, double or single riveted.	Upper Sheerstrake, double or single riveted.	Butts of Upper or Spar Sheerstrake, treble riveted <u>1/2</u> length amidships.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Butts of Upper or Spar Stringer Plate, treble riveted for <u>1/2</u> length.	Butts of Upper or Spar Stringer Plate, treble riveted for <u>1/2</u> length.	Breadth of laps of plating in double riveting <u>4 1/2</u> Breadth of laps of plating in single riveting <u>2 5/8</u>
Butts of <u>2</u> Strakes at Bilge for <u>1/2</u> length, treble riveted with Butt Straps <u>1/16</u> thicker than the plates they connect.	1/16	thicker than the plates they connect.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships.	Breadth of laps of plating in double riveting <u>4 1/2</u> Breadth of laps of plating in single riveting <u>2 5/8</u>	Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?	double and treble riveted	Waterway, how secured to Beams <u>Riveted</u>	(Explain by Sketch, if necessary.)	No. of Breasthooks, <u>4</u> Crutches, <u>3</u>
Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.	Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?	double and treble riveted	Waterway, how secured to Beams <u>Riveted</u>	(Explain by Sketch, if necessary.)	No. of Breasthooks, <u>4</u> Crutches, <u>3</u>	Beams of the various Decks, how secured to the sides? <u>Welded keels riveted</u>	What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>Palmer &amp; Co's, Jarrow</u>	Manufacturer's name or trade mark,	
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets <u>3/4</u> in diameter, averaging <u>3 1/4</u> ins. from cr. to cr.	3 1/4	ins. from cr. to cr.	Beams of the various Decks, how secured to the sides? <u>Welded keels riveted</u>	What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>Palmer &amp; Co's, Jarrow</u>	Manufacturer's name or trade mark,		The above is a correct description.	Builder's Signature, <u>Palmer's Shipbuilding Iron Co. Ltd.</u>	Surveyor's Signature, <u>R. Reed</u>	Surveyor to Lloyd's Register of British and Foreign Shipping.	

The FRAMES extend in one length from Keel to gunwale

The REVERSED ANGLE IRONS on floors and frames extend to struts

KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? yes And butts properly shifted? yes

PLATING. Garboard, double riveted to Keel, with rivets 1" in diameter, averaging 5 ins. from centre to centre.

Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 3/4 in diameter, averaging 3 1/4 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in diameter averaging 3 1/4 ins. from centre to centre.

Butts of 2 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 1/16 thicker than the plates they connect.

Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 3/4 in diameter, averaging 3 1/4 ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in diameter, averaging 3 1/4 ins. from cr. to cr.

Edges of Main Sheerstrake, double or single riveted.

Butts of Main Sheerstrake, treble riveted for 1/2 length amidships.

Butts of Main Sheerstrake, treble riveted for 1/2 length amidships.

Butts of Main Stringer Plate, treble riveted for 1/2 length amidships.

Breadth of laps of plating in double riveting 4 1/2 Breadth of laps of plating in single riveting 2 5/8

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? double and treble riveted

Waterway, how secured to Beams Riveted

Beams of the various Decks, how secured to the sides? Welded keels riveted

No. of Breasthooks, 4 Crutches, 3

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Palmer & Co's, Jarrow

Manufacturer's name or trade mark,

The above is a correct description.

Builder's Signature, Palmer's Shipbuilding Iron Co. Ltd.

Surveyor's Signature, R. Reed

Surveyor to Lloyd's Register of British and Foreign Shipping.



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*  
Are the fillings between the ribs and plates solid single pieces? *yes*  
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *fairly so*  
Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *yes*  
Do any rivets break into or through the seams or butts of the plating? *a few* 17057 Lm

Masts, Bowsprit, Yards, &c., are *iron* in *good* condition, and sufficient in size and length. If of Iron or Steel give 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 *Foremast 62 feet long, diam 20". Mainmast 58 feet, diam 20". These are two-plate masts 9/16 and 7/16 thick, with double riveted bands and double and treble riveted butts, and the plating in each case is doubled in way of the partners. The iron from Messrs. Palmer & Co.*

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	W't req'd per Rule.	Test req'd per Rule.
SAILS.							Bowers	3	15.2.16	17.3.0.14	15.1.0	16.14.0.0
CABLES, &c.		210	15/16	31 tons	210-15/16	31 tons			15.2.14	17.0.3.21	15.1.0	16.14.0.0
Chain				B.S. 46 1/2					13.1.0	14.19.1.14	12.3.24	14.13.0.0
Fore Sails,												
Fore Top Sails,												
Fore Topmast Stay Sails												
Main Sails,		90	14/16		90-14/16							
Main Top Sails,		90	10		90-10							
Hawser ...		90	7		90-7							
Towlines ...		150	5 1/2									
Warp ...		120	4 1/2									
quality		90	5 1/2									

Standing and Running Rigging *leap* sufficient in size and *good* in quality. She has *1 Eye Long Boat* and *3 others*  
The Windlass is *good* *Capstan* *good* and Rudder *good* Pumps *good* and sufficient

Engine Room Skylights.—How constructed? *solid shutters & bulwarks* How secured in ordinary weather? *bolted down*  
What arrangements for deadlights in bad weather? *none required*

Coal Bunker Openings.—How constructed? *brought in beams* How are lids secured? *by iron bars* Height above deck? *26"*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *fix ports and moving pipes on each side.*

Cargo Hatchways.—How formed? *iron coverings riveted together as per plans.*  
State size Main Hatch *33'3" x 17'0"* Forehatch *14'6" x 15'0"* Quarterhatch *36'0" x 17'0"*

If of extraordinary size, state how framed and secured? *see tracings specially prepared for this.*  
What arrangement for shifting beams? *see tracings.*

Hatches, If strong and efficient? *solid hatches.*

Order for Special Survey No. <i>111</i>	DAYS of Surveys held while building as per Section 18.	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>Built under Special Survey.</i>
Date <i>14 July 1876</i>		2nd. On the plating during the process of riveting	<i>18.7.6 March 21. 22. 27. 29. April 2. 4. 7. 11. 13. 20.</i>
Order for Ordinary Survey No. <i>—</i>		3rd. When the beams were in and fastened, and before the decks were laid...	<i>24. 25. May 1. 3. 9. 10. 17. 23. 29. 30. June 2. 7. 12. 17.</i>
Date <i>—</i>		4th. When the ship was complete, and before the plating was finally coated or cemented...	<i>19. 21. 23. July 2. 5. 10. 14. 17. 19. 20. 24. 26. 27.</i>
No. <i>301</i> in builder's yard.		5th. After the ship was launched and equipped	<i>Aug 14. 17. 24. 25. 31.</i>

General Remarks (State quality of workmanship, &c.) *This is a me ~~de~~ decked vessel built in accordance with the plans attached, and in other respects in accordance with the Rules. She has a top gallant forecabin 26'6" long, and a short raised quarter deck 21 feet long, she has a water ballast tank extending over a length of 148'6" divided into five compartments, the top and side plates being 9/16 and 7/16 respectively, and all have been tested as per Rule and found tight and satisfactory. The tracing on paper shows the positions of the fixed beams and deep web-plate as recently submitted and approved, and the vessel is securely fitted with proper wing-boards, as in the case of the ~~one~~ of the "Stelling" recently classed. The engine room skylights are situated in iron coverings eleven feet high, and all openings are well protected. The workmanship throughout is sound and good.*

State if one, two, or three, decked vessel, or if spar, or awning decked; and the lengths of poop, forecabin, or raised quarter deck, and the length of double, or part double bottom.  
How are the surfaces preserved from oxidation? Inside *by cement and paint* Outside *by paint & composition*

I am of opinion this Vessel should be Classed *90A.I.*

The amount of the Entry Fee ... £ *5* : : is received by me, *By Young & N. Reed.*  
Special ... £ *30* : : *20 Sep 1876*  
Certificate ... : : :  
(Travelling Expenses, if any, £ *—*).

Committee's Minute *22 September 1876*

Character assigned *90A.I.*  
*Lloyd's Register*  
*double bottomed 48 ft*