

IRON SHIP.

No. 13323 Survey held at Newcastle Date, First Survey 21st March Last Survey 21st August 1876

On the S.S. "Thornburgh" Master C. Booth

TONNAGE under Tonnage Deck } 628.06
 Ditto of Third Spar, or Awning Deck }
 Ditto of Keel, or Raised Or. Dh. } 23.51
 Ditto of House } 57.96
 Ditto of Forecastle } 28.97
 Gross Tonnage } 739.00
 Less Crew Space } 39.21
 Less Engine Room } 236.48
 Register Tonnage as cut on Beam } 463.21

ONE, OR TWO DECKED, THREE DECKED VESSEL.
 SPAR, OR AWNING-DECKED VESSEL.
 HALF BREADTH (moulded) 14.00 Feet.
 DEPTH from upper part of Keel to top of Upper Deck Beams 15.15
 GIRTH of Half Midship Frame (as per Rule) 26.50
 1st NUMBER 5574
 1st NUMBER, THREE DECKED VESSEL
 LENGTH 199
 2nd NUMBER 11092
 PROPORTIONS—Breadths to Length under 1/2
 Depths to Length—Upper Deck to Keel 14
 Main Deck ditto

Built at Newcastle
 When built 1876 Launched 5th August
 By whom built Palmer & Co.
 Owners J. Fawcett & Son
 Port belonging to London
 Destined Voyage
 Surveyed while Building, Afloat, or in Dry Dock.

Official Number 73,708

LENGTH on deck as per Rule ... 199 Feet. 0 Inches. BREADTH—Moulded... 28 Feet. 0 Inches. DEPTH top of Floors to Upper Deck Beams ... 13 Feet. 10 1/2 Inches. Do. do. Main Deck Beams... Power of Engines ... 80 Horse. N^o. of Decks with flat laid one N^o. 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.
KEEL, depth and thickness	<u>6 x 2 1/2</u>	<u>7 1/2 x 2 1/4</u>
STEM, moulding and thickness	<u>6 x 2 1/2</u>	<u>7 x 2 1/4</u>
STERN-POST for Rudder do. do.	<u>7 1/2 x 3 3/4</u>	<u>7 x 4 1/2</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>22</u>	<u>22</u>
FRAMES, Angle Iron, for 2/3 length amidships	<u>3 1/2 x 3</u>	<u>3 1/2 x 3</u>
Do. for 1/2 at each end	<u>3 1/2 x 3</u>	<u>3 1/2 x 3</u>
REVERSED FRAMES, Angle Iron	<u>3 x 2 1/2</u>	<u>3 x 2 1/2</u>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<u>1 1/2 x 7</u>	<u>1 1/2 x 7</u>
thickness at the ends of vessel	<u>5</u>	<u>6</u>
depth at 1/2 the half bth. as per Rule	<u>as per section</u>	
height extended at the Bilges		
BEAMS, Upper, Spar, or Awning Deck	<u>5 x 3</u>	<u>5 x 3</u>
Single or double Ang. Iron, Plate or Tee Bulb Iron		
Single or double Angle Iron on Upper edge		
Average space	<u>on every panel</u>	
BEAMS, Main, or Middle Deck		
Single or double Ang. Iron, Plate or Tee Bulb Iron		
Single, or double Angle Iron, on Upper Edge		
Average space		
BEAMS, Lower Deck, Hold, or Orlop		
Single or double Ang. Iron, Plate or Tee Bulb Iron		
Single or double Angle Iron on Upper Edge		
Average space		
KEELSONS Centre line, single or double plate, and box, or Intercostal, Plates	<u>3 3/4 x 7</u>	<u>3 3/4 x 7</u>
" Rider Plate	<u>6 1/2 x 6</u>	<u>6 1/2 x 6</u>
" Bulb Plate to Intercostal Keelson	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>
" Angle Irons	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>
" Double Angle Iron Side Keelson		
" Side Intercostal Plate		
" do. Angle Irons		
" Attached to outside plating with angle iron		
BILGE Angle Irons		
" do. Bulb Iron		
" do. Intercostal plates riveted to plating for length		
BILGE STRINGER Angle Irons	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>
Intercostal plates riveted to plating for length	<u>8/plate</u>	<u>4 1/2 x 3</u>
SIDE STRINGER Angle Irons	<u>12 x 7</u>	<u>12 x 7</u>
Transoms, material. Knight-heads. Hawse Timbers.	<u>Iron</u>	
Windlass <u>Iron Patent</u> Pall Bitt <u>Iron</u>		

	Inches. In Ship.	16ths. In Ship.	Inches. per Rule.	16ths. per Rule.
Flat Keel Plates, breadth and thickness	<u>32</u>	<u>8</u>	<u>32</u>	<u>8</u>
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	<u>one</u>	<u>39</u>	<u>one</u>	<u>39</u>
fm up. part of Bilge to lr. edge of Sh'rstrake	<u>33</u>	<u>10</u>	<u>33</u>	<u>10</u>
Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Spa. or Spar Dh. Sh'rstrake.				
Up. or Spar Dh. Sh'rstrake, breadth & thickness	<u>16 3/4</u>	<u>6 1/11</u>	<u>16 3/4</u>	<u>6 1/11</u>
Butt Straps to outside plating, breadth & thickness	<u>size</u>	<u>space</u>		
Lengths of Plating	<u>two</u>	<u>do</u>		
Shifts of Plating, and Stringers				
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<u>2 1/2 x 9</u>	<u>2 1/2 x 9</u>		
Angle Iron on ditto	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>		
Tie Plates fore and aft, outside Hatchways				
Diagonal Tie Plates on Beams No. of Pairs				
Planksheer material and scantling				
Waterways do. do.	<u>Iron</u>			
Flat of Upper Deck do. do.	<u>Iron</u>			
How fastened to Beams	<u>riveted</u>			
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness				
Is the Stringer Plate attached to the outside plating?				
Angle Irons on ditto, No.				
Tie Plates, outside Hatchways				
Diagonal Tie Plates on Beams, No. of pairs				
Waterways materials and scantlings				
Flat of Middle Deck do. do.				
How fastened to Beams				
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams				
Is the Stringer Plate attached to the outside plating?				
Angle Irons on ditto, No.				
Stringer or Tie Plates, outside Hatchways				
Flat of Lower Deck				
Ceiling between Decks, thickness and material	<u>2 1/2</u>	<u>fir</u>	<u>2 1/2</u>	<u>fir</u>
in hold do. do.				
Main piece of Rudder, diameter at head	<u>4 3/4</u>		<u>4 3/4</u>	
do. at heel	<u>2 3/4</u>		<u>2 3/4</u>	
Can the Rudder be unshipped afloat?	<u>Yes</u>			
Bulkheads No. <u>4</u> Thickness of <u>5/16</u>				
Height up <u>upper deck</u>				
How secured to sides of ship	<u>by double frames</u>			
Size of Vertical Angle Irons <u>3 x 2 1/2 x 5/16</u> and distance apart <u>30</u> ins.				
Are the outside Plates doubled two spaces of Frames in length?	<u>Yes</u>			

The FRAMES extend one length from Keel to gunwale Riveted through plates with 3/4 in. Rivets, about 6 apart.
 The REVERSED ANGLE IRONS on floors and frames extend to the middle line to and to gunwale alternately
 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 and single riveted. Upper Sheerstrake, double or single riveted.
 Butts of Main Sheerstrake, treble riveted for 1/2 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted length amidships.
 Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for length.
 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 (Explain by Sketch, if necessary.)
 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 Iron
 Manufacturer's name or trade mark, Palmer & Co's Iron

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.

2000 (9.5.76).

IRON 48-0243

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* 14057 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	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.					
								N ^o .	Weight. Ex. Stock.	Test per Certificate.	Weight req'd per Rule.	Test req'd per Rule.	
	Fore Sails,	Chain	210	15/16	31 tons	210-15/16	31 tons	Bowers	3	15.2.16	17.3.0.14	15.1.0	16.14.0.0
	Fore Top Sails,	Wear P.H.		B.S.	46 1/2					15.2.14	17.0.3.21	15.1.0	16.14.0.0
	Fore Topmast Stay Sails,	J. Hartness Sept		21.6.76						13.1.0	14.19.1.14	12.3.24	14.13.0.0
	Main Sails,	Stream Sails	90	14/16		90-14/16							
	Main Top Sails,	Hmpn Strm Cbl	90	10		90-10							
	Towlines	Hawser ...	90	7		90-7							
	Warp	Towlines ...	150	5 1/2		150-5 1/2							
	quality	Warp	90	4 1/2		90-4 1/2							
		quality	90	5 1/2		90-5 1/2							

Standing and Running Rigging *heap* 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 iron 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? *12 ports and mousing-pipes on each side.*

Cargo Hatchways.—How formed? *iron comings riveted together as per plans.*

State size Main Hatch *33'3" x 17'0"* Forehatch *14'6" x 9'5"* 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.	Date	1st.	2nd.	3rd.	4th.	5th.
1117	14 July 1876	On the several parts of the frame, when in place, and before the plating was wrought	On the plating during the process of riveting	When the beams were in and fastened, and before the decks were laid...	When the ship was complete, and before the plating was finally coated or cemented...	After the ship was launched and equipped
		Built under Special Survey				
		1876 March 21. 22. 27. 29. April 2. 4. 7. 11. 13. 20.				
		24. 25. May 1. 3. 9. 10. 17. 23. 29. 30. June 2. 7. 12. 14.				
		19. 21. 23. July 2. 5. 10. 14. 17. 19. 20. 24. 26. 27.				
		Aug 14. 17. 24. 25. 31.				

General Remarks (State quality of workmanship, &c.) *This is a new ~~old~~ 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~~ "Stelling" recently classed. The engine room skylights are situated in iron comings 6 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, *P. Young*
 Special Certificate ... £ 20 : : 20 Sep 1876
 Certificate ...

(Travelling Expenses, if any, £ ...)

Committee's Minute *22 September 1876*

Character assigned *90A.I.*

Lloyd's Register

4. Hours allowed for alterations, repairs, &c., on the vessel, & how much on the ...

