

# IRON SHIP.

No. 3915 Survey held at Stockton Date, First Survey 27 April Last Survey 30 November 1877  
On the Screw Steamer "Dalton" Master

TONNAGE under 1062.52 ONE, OR TWO DECKED, THREE DECKED VESSEL.  
Tonnage Deck 6.76 SPAR, OR AWNING DECKED VESSEL.  
1/2 of Third Spar 91.11 HALF BREADTH (moulded) 16-2  
1/2 of Poop, or Raised Qr. Dk. 120.65 DEPTH from upper part of Keel to top of Upper Deck Beams 19-7 1/2  
Ditto of Houses on Deck 43.57 GIRTH of Half Midship Frame (as per Rule) 32-2  
Ditto of Forecastle 43.57 1st NUMBER 67-11 1/2  
Gross Tonnage 1324.61 1st NUMBER, if a THREE DECKED VESSEL  
Less Crew Space 60.85 LENGTH 133-9  
Less Engine Room 1263.76 2nd NUMBER 1586  
Register Tonnage 423.88 PROPORTIONS—Breadths to Length 7.2  
as out on Beam 839.88 Depths to Length—Upper Deck to Keel 11.9  
Main Deck ditto

Built at Stockton  
When built 1877 Launched 23<sup>rd</sup> Oct 1877  
By whom built M. Pearce & Co  
Owners Pyman, Bell & Co  
Port belonging to Newcastle-on-Tyne  
Destined Voyage  
If Surveyed while Building, Afloat, or in Dry Dock while building—also afloat.

LENGTH on deck as 233 9 BREADTH—Moulded 32 4 DEPTH top of Floors to Upper Deck Beams 17 11 Power of Engines 120 No. of Decks with flat laid one No. of Tiers of Beams two

Dimensions of Ship per Register, length, 235.0 breadth, 32.5 depth, 17.9

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2	FLAT KEEL PLATES, breadth and thickness	41 1/2	1 1/6
STEM, moulding and thickness	8 x 2 1/2	8 x 2 1/2	PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges	9 1/6	1 1/6
STERN-POST for Rudder do. do.	8 x 5	8 x 5	of doubling at Bilge, or increased thickness, and length applied 1/2 length	one strake 4	one strake 4
for Propeller	8 x 5	8 x 5	fm up. part of Bilge to l. edge of Sh'rstrake	9 1/6	1 1/6
Distance of Frames from moulding edge to moulding edge, all fore and aft	23	23	Main Sheerstrake, breadth and thickness	37	13/16
			of doubling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake.		
FRAMES, Angle Iron, for 2/3 length amidships	4 3	7/16	Up. or Spar Dk Sh'rstrake, brdth & thickness	16 3/4 x 1 1/2	16 3/4 x 1 1/2
Do. for 1/3 at each end	4 3	6/16	Butt Straps to outside plating, breadth & thickness	14 3/4 x 1 1/2	14 3/4 x 1 1/2
REVERSED FRAMES, Angle Iron	3 3	6/16	Lengths of Plating	115	115
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	20 1/2	8/16	Shifts of Plating, and Stringers	46	46
thickness at the ends of vessel		7/16	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	33	9/16
depth at 3/4 the half-bdth. as per Rule	10 1/4	10 1/4	Angle Iron on ditto	5 x 3 1/2 x 9/16	5 x 3 1/2 x 9/16
height extended at the Bilges	41	41	Tie Plates fore and aft, outside Hatchways		
BEAMS, Upper, Spar, or Awning Deck Single or double Ang. Iron, Plate or Tee Bulb Iron	5 1/2 3	8/16	Diagonal Tie Plates on Beams No. of Pairs		
Single or double Angle Iron on Upper edge			Planksheer material and scantling		
Average space	23	23	Waterways do. do.		
BEAMS, Main, or Middle Deck Single or double Ang. Iron, Plate or Tee Bulb Iron			Flat of Upper Deck do. do.	iron 6/16	iron 6/16
Single or double Angle Iron on Upper Edge			How fastened to Beams	riveted	riveted
Average space			Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness		
BEAMS, Lower Deck, Hold, or Orlop Single or double Ang. Iron, Plate or Tee Bulb Iron	9	9/16	Is the Stringer Plate attached to the outside plating?		
Single or double Angle Iron on Upper Edge	4 3 1/2	8/16	Angle Irons on ditto, No.		
Average space	16	12/16	Tie Plates, outside Hatchways		
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	11	12/16	Diagonal Tie Plates on Beams, No. of pairs		
" Rider Plate	5 3 1/2	9/16	Waterways materials and scantlings		
" Bulb Plate to Intercoastal Keelson	5 3 1/2	9/16	Flat of Middle Deck do. do.		
" Angle Irons	5 3 1/2	9/16	How fastened to Beams		
" Double Angle Iron Side Keelson	5 3 1/2	9/16	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	30 8/16	30 8/16
" Side Intercoastal Plate	5 3 1/2	9/16	Is the Stringer Plate attached to the outside plating?	yes	yes
" do. Angle Irons	5 3 1/2	9/16	Angle Irons on ditto, No. 2	4 x 4 x 8/16	4 x 4 x 8/16
" Attached to outside plating with angle iron	3 3	6/16	Stringer or Tie Plates, outside Hatchways		
BILGE Angle Irons	5 3 1/2	9/16	Flat of Lower Deck		
" do. Bulb Iron	5 3 1/2	9/16	Ceiling betwixt Decks, thickness and material in hold do. do.	2 1/2 pine	2 1/2
" do. Intercoastal plates riveted to plating for length	5 3 1/2	9/16	Main piece of Rudder, diameter at head do. at heel	5 3/4 3	5 3/4 3
BILGE STRINGER Angle Irons	5 3 1/2	9/16	Can the Rudder be unshipped afloat?	yes	
Intercoastal plates riveted to plating for length			Bulkheads No. 4 Thickness of 6/16		
SIDE STRINGER Angle Irons			Height up Upper Deck; after bulkhead to Lower Deck watertight flat		
			How secured to sides of ship	between double frames	
			Size of Vertical Angle Irons	3 x 3 x 6/16 and distance apart 30 ins.	
			Are the outside Plates doubled two spaces of Frames in length?	yes	

Isosoms, material. Knight-heads. Hawse Timbers. iron  
Windlass iron (Barnes & Walker's patent) Pall Bitt iron

The FRAMES extend in one length from tank side to tank side hence to gunwale Riveted through plates with 3/4 x 7/8 in. Rivets, about 6 1/2 apart.  
The REVERSED ANGLE IRONS on floors and frames extend across middle line to tank sides hence to Lower Deck and to Upper Deck 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 1/8 in. diameter, averaging 5 1/2 ins. from centre to centre.  
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 3/4 x 7/8 in. diameter, averaging 3 1/2 ins. from centre to centre.  
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 x 7/8 in. diameter averaging 3 to 3 1/2 ins. from centre to centre.  
Butts of 3 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 x 7/8 in. diameter, averaging 3 1/2 to 3 3/4 ins. from cr. to cr.  
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 x 7/8 in. diameter, averaging 3 3/4 to 3 3/4 ins. from cr. to cr.  
Edges of Main Sheerstrake, double or 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 5 1/4 to 4 1/2 Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Treble and double  
Waterway, how secured to Beams iron gutter - riveted (Explain by Sketch, if necessary.)  
Beams of the various Decks, how secured to the sides? Ends turned & knees welded No. of Breasthooks, 6 Crutches, 4  
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? good  
Manufacturer's name or trade mark, Wrought Iron Malleable; Hopkins. Bonefield.

The above is a correct description.

Signature,

Signature,

Surveyor 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 defects? 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? yes  
 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

Masts, Bowsprit, Yards, &c., are Douglas pine; pitch pine in good condition, and sufficient in size and length. If of Iron or Steel give  
Seantlings 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 Length fore mast 71'-9" diameter 21"  
do main mast 68'-6" diameter 20"

NUMBER for EQUIPMENT	17474	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
N <sup>o</sup> .	SAILS.	CABLES, &c.	270	1 7/8	43 7/8	270 faths.	Bowers	3	23-3-0	23-13-3-0	3 1/2	3 1/2
	Fore Sails,	Chain			61 7/8	1 7/8			23-2-14	23-11-3-14	23	23 1/2
	Fore Top Sails,	<u>John Hartness Sunderland</u>				43 7/8			20-0-0	20-15-0-0	20	20 1/2
	Fore Topmast Stay Sails	<u>17 August 1877</u>				61 7/8						
	Main Sails,	<u>Hamp Strm Cbl 75-1' iron</u>				90-1' iron						
	Main Top Sails,	<u>Hawser ... 80-10</u>				90-7 1/2						
	and	<u>Towlines ... 80-7 1/2</u>				90-6"						
		<u>Warp ... 80-7</u>										
		<u>quality good</u>										

Standing and Running Rigging wire hemp sufficient in size and good in quality. She has 2 Long Boats and 2 others.  
 The Windlass is good Capstank good and Rudder good Pumps 4 of 6" metal chambers.  
 Engine Room Skylights. How constructed? 5/16" iron to 17" above bridge How secured in ordinary weather? bull's eyes.  
 What arrangements for deadlights in bad weather? bull's eyes.  
 Coal Bunker Openings.—How constructed? 7/16" plates How are lids secured? by bars Height above deck? 12"  
 Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? Side ports & scuppers.

Cargo Hatchways.—How formed? 7/16" plates  
 State size Main Hatch 23'x11'x3ft. above deck Forehatch 7-8'x6'x3ft. above deck Quarterhatch 23'x10'x2ft. above deck.  
 Extraordinary size, state how framed and secured?  
 Arrangement for shifting beams? 2 deep shifting web plates Main Hatch — do after hatch.  
 If strong and efficient? strong and efficient.

for Special Survey No. 635	DATES of Surveys held while building was per Section 18.	1st. On the several parts of the frame, when in place, and before the plating was wrought	April 27, 30; May 3, 17, 23, 25, 31; June 5, 7, 11, 14, 18,
20 April 1877		2nd. On the plating during the process of riveting	22, 26, 29; July 10, 12, 17, 26, 31; August 4, 22, 28, 29,
inary Survey No.		3rd. When the beams were in and fastened, and before the decks were laid....	31; September 1, 11, 12, 18, 19, 24, 27; October 1, 3, 8, 10,
in builder's yard.		4th. When the ship was complete, and before the plating was finally coated or cemented..	11, 15, 18, 22, 30; Nov <sup>r</sup> 1, 7, 12, 14, 19, 22, 26, 30; Dec <sup>r</sup>
		5th. After the ship was launched and equipped	

General Remarks (State quality of workmanship, &c.) General quality of workmanship &c. — good.  
Raised Quarter Deck — Frames extend to top height — beams of hull 7 1/2'x7/16" — angles on d<sup>o</sup> 3"x3"x6/16" — beams spaced at alternate frames — stringer plates on ends of beams 50'x9/16" — angles on d<sup>o</sup> 5"x3 1/2'x7/16" — tie plates on beams 12'x8/16" — plating outside 9/16" — boundary plank teak — deck 4" y.p.  
Forecastle — Frames extend to top height — beams hull 6 1/2'x6/16" — angles on d<sup>o</sup> 2 3/4'x2 3/4'x7/16" — beams spaced at alternate frames — stringer plates on ends of beams 28'x8/16" — angle on d<sup>o</sup> 3 1/2'x3'x6/16" — tie plates on beams 10'x7/16" — plating outside 6/16" — waterways teak — deck 3" y.p.  
Ballast Tanks. — Frames cut — connection formed by knee plates — side plates 7/16" — angles on d<sup>o</sup> 3 1/2'x3 1/2'x7/16" — web plates 6/16" — angles on d<sup>o</sup> 2 1/2'x2 1/2'x6/16" — top plating 9/16" — tanks tested by head of water to height of load.  
Additional strengthening at break of Raised Quarter Deck — The Raised Quarter Deck stringer plate and the Lower Deck stringer plate in way of Raised Quarter Deck extend 4 frame spaces fore side of break — the Main Deck stringer plate and the Lower Deck stringer plate in way of Main Deck extend 7 and 4 frame spaces respectively abaft the break — the shake above sheersake is 9/16" and butts triple riveted — the sheersake 4/16" and its butts together with the butts of shake below sheersake triple riveted in way of bulk.

State if one, two, or three, decked vessel, or if spar, or carring decked; and the lengths of 34 feet poop, 80'-4" forecabin, or raised quarter deck, and the length of double, or part double bottom.  
 How are the surfaces preserved from oxidation? Inside Portland cement & paint Outside paint  
 I am of opinion this Vessel should be Classed 100 A. 1.

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me, J. H. T.  
 Special ... £ 56 : 11 : 6 8<sup>th</sup> Dec<sup>r</sup> 1877  
 Certificate ...  
 (Travelling Expenses, if any, £ )

Committee's Minute 11th December, 1877.  
 Character assigned 100 A. 1.  
Logan M. 12-7-1877  
J. H. Travcott.  
 This report, after being read and approved by the Committee, is hereby certified to be correct.