

IRON SHIP.

No. 14519 Survey held at Newcastle Date, First Survey 4th March Last Survey 25th August 1879

On the Iron Screw Steamer "Mangerton" Master J. Hogg

TONNAGE under Tonnage Deck <u>1902.90</u>	ONE, OR TWO DECKED, THREE DECKED VESSEL.	Built at <u>Newcastle</u>
Ditto of Third, Spar, or Lower Deck <u>74.18</u>	SPAR, OR AWNING DECKED VESSEL.	When built <u>1879</u> Launched <u>22nd July/79.</u>
Ditto of Boop, or Raised Qr. Dk. <u>24.52</u>	HALF BREADTH (moulded) <u>17.5</u>	By whom built <u>A. Leslie & Co.</u>
Ditto of Houses on Deck <u>24.52</u>	DEPTH from upper part of Keel to top of Upper Deck Beams <u>26.46</u>	Owners <u>J. D. Milburn</u>
Ditto of Forecastle <u>3.61</u>	GIRTH of Half Midship Frame (as per Rule) <u>39.0</u>	Port belonging to <u>London</u>
Gross Tonnage <u>2005.21</u>	1st NUMBER <u>82.96</u>	Destined Voyage <u>Baltimore.</u>
Less Crew Space <u>46.38</u>	1st NUMBER, if a 3-DECKED VESSEL, deduct 7 feet <u>75.96</u>	If Surveyed while Building, Afloat, or in Dry Dock. <u>While building</u>
Less Engine Room <u>1958.83</u>	LENGTH <u>284</u>	
Register Tonnage as cut by Beam <u>1317.16</u>	2nd NUMBER <u>215.72</u>	
	PROPORTIONS—Breadths to Length <u>8.1</u>	
	Depths to Length—Upper Deck to Keel <u>10.7</u>	
	Main Deck ditto <u>15.2</u>	

Official Number 21577

LENGTH on deck as per Rule <u>284 0</u>	BREADTH— Moulded <u>35 0</u>	DEPTH top of Floors to Upper Deck Beams <u>26 6</u> Do. do. Main Deck Beams <u>16 7 1/2</u>	Power of Engines <u>200</u>	Horse. <u>200</u>	N^o. of Decks with flat laid <u>Two</u>	N^o. of Tiers of Beams <u>Three</u>
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Dimensions of Ship per Register, length, 285 breadth, 35.3 depth, 24.5

	Inches in Ship.	Inches per Rule.							
KEEL , depth and thickness	9 1/2 x 2 1/2	Flat Keel Plates, breadth and thickness							
STEM , moulding and thickness	9 x 2 1/2	PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied							
STERN-POST for Rudder do. do.	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	" of doubling at Bilge, or increased thickness, and length applied
" " for Propeller	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	9 x 5	" fm up. part of Bilge to Ir. edge of Sh'rstrake.
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24	24	24	24	24	24	24	" Main Sheerstrake , breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake.
FRAMES , Angle Iron, for 3/4 length amidships	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8	" Up. or Spar Dk Sh'rstrake , brdth & thickness
Do. for 1/2 at each end	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7	Butt Straps to outside plating, breadth & thickness
REVERSED FRAMES , Angle Iron	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	Lengths of Plating
FLOORS , depth and thickness of Floor Plate at mid line for half length amidships	23 1/2 x 9	Shifts of Plating, and Stringers							
" thickness at the ends of vessel	10	10	10	10	10	10	10	10	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness
" depth at 3/4 the half-bdth. as per Rule	7	7	7	7	7	7	7	7	Angle Iron on ditto
" height extended at the Bilges	7	7	7	7	7	7	7	7	Tie Plates fore and aft, outside Hatchways
BEAMS , Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	7 x 7	7 x 7	7 x 7	7 x 7	7 x 7	7 x 7	7 x 7	7 x 7	Diagonal Tie Plates on Beams No. of Pairs
Single or double Angle Iron on Upper edge	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	Plank-sheer material and scantling
Average space	48	48	48	48	48	48	48	48	Waterways do. do.
BEAMS , Main, or Middle Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	6 3 8	6 3 8	6 3 8	6 3 8	6 3 8	6 3 8	6 3 8	6 3 8	Flat of Upper Deck do. do.
Single, or double Angle Iron, on Upper Edge	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	How fastened to Beams
Average space	24	24	24	24	24	24	24	24	Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness
BEAMS , Lower Deck, Hold, or Orlop Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	8 1/2 x 8	Is the Stringer Plate attached to the outside plating?							
Single or double Angle Iron on Upper Edge	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	Angle Irons on ditto, No. <u>Two</u>
Average space	36 1/2 frame spaces as per plan	Tie Plates, outside Hatchways							
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates <u>H. B. Smith</u>	18 1/2 x 10	Diagonal Tie Plates on Beams, No. of pairs							
" Rider Plate <u>Rose & Co. San M.</u>	11 3/4 x 11	Waterways materials and scantlings							
" Bulb Plate to Intercoastal Keelson	5 1/2 x 9	Flat of Middle Deck do. do.							
" Angle Irons	5 1/2 x 9	How fastened to Beams							
" Double Angle Iron Side Keelson	2 1/2 x 8	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams							
" Side Intercoastal Plate <u>Rose & Co. San M.</u>	5 1/2 x 9	Is the Stringer Plate attached to the outside plating?							
" do. Angle Irons	5 1/2 x 9	Angle Irons on ditto, No. <u>Two</u>							
" Attached to outside plating with angle iron	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	Stringer or Tie Plates, outside Hatchways
BILGE Angle Irons	5 1/2 x 9	Flat of Lower Deck							
" do. Bulb Iron <u>Rose & Co. San M.</u>	8 1/2 x 8	Ceiling betwixt Decks, thickness and material							
" do. Intercoastal plates riveted to plating for length	10 1/2 x 8	" in hold <u>Baltic Pine</u> do.							
BILGE STRINGER Angle Irons	5 1/2 x 9	Main piece of Rudder, diameter at head							
Intercoastal plates riveted to plating for 1/2 length	10 1/2 x 8	do. at heel							
SIDE STRINGER Angle Irons <u>attached to plating</u>	4 3 7	4 3 7	4 3 7	4 3 7	4 3 7	4 3 7	4 3 7	4 3 7	Can the Rudder be unshipped afloat?
Transoms, material. Knight-heads. Hawse Timbers.	<u>Iron</u>								Yes
Windlass <u>Harfield's Patent</u>									

The **FRAMES** extend in one length from Keel to Gunwale Riveted through plates with 7/8 in. Rivets, about 6 1/2 apart.

The **REVERSED ANGLE IRONS** on floors and frames extend from across middle line to M. D. P. S. A. I. 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 1/2 in. diameter, averaging 6 ins. from centre to centre.

" **Edges of Garboards** and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 4 ins. from centre to centre.

" **Butts from Keel to turn of Bilge**, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 3/4 ins. from centre to centre.

" **Butts of Three Strakes at Bilge** for half length, treble riveted with Butt Straps 7/8 thicker than the plates they connect.

" **Edges from bilge to Main Sheerstrake**, worked clencher, double or single riveted; with rivets 7/8 in. diameter, averaging 4 ins. from cr. to cr.

" **Butts from Bilge to Main Sheerstrake**, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 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 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted half length amidships.

" **Butts of Main Stringer Plate**, treble riveted for half length amidships. **Butts of Upper or Spar Stringer Plate**, treble riveted for half length.

" Breadth of laps of plating in double riveting 5 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 riveted.

Waterway, how secured to Beams (Explain by Sketch, if necessary)

Beams of the various Decks, how secured to the sides? Welded knees, and knee plates No. of Breasthooks, 6 Crutches, 4

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Angles and bulbs from

Manufacturer's name or trade mark, Thoson & Co. Plates Fox Head & Co.

The above is a correct description.

Builder's Signature, Andrew Leslie & Co. Surveyor's Signature, J. H. Cooke.

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

2850-18790382

3000 (1/16/78)

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? *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.* 24523. Iron

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 *Fore mast length extreme 80 feet. Main mast length extreme 76 feet. Diameter of masts at the partners 24". Two plates in the round 7/16 to 6/16 in thickness. Edges joggled jointed with 7/16" edge straps single riveted, and the butts treble riveted. Two longitudinal angle irons 3" x 3/4" 6/16 fitted. Makers of Iron Fore Head &c.*

No.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Supratd.	ANCHORS.		No.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Machine where Tested & Supratd.
								No.	Weight.					
	Fore Sails,	Chain	270	1 1/2	59 1/2	270-1 1/2	59 1/2	Bower Anchors	1	32.3.0	30 1/2	32.0.0	30 1/2	
	Fore Top Sails,	Iron Str'm Chain	75	1 1/2	22 3/4	75-1 1/2	22 3/4	(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)	1	28.0.7	27.3.1.21	27.1.0	26 1/2	
	Fore Topmast Stay Sails,	Ditto do.	120	3 1/2	Makers	Warrington Wire Co.	Stream	...	1	10.2.12	12.10.3.21	10.2.0	12 1/2	
	Main Sails,	Hawser ...	90	9	Manilla	90-12	Kedge	...	1	5.1.0	7.11.3.14	5.1.0	7 1/2	
	Main Top Sails, and Rigging wire	Warp ...	180	6	do	90-7	Ditto	...	1	2.2.0	5.0.0.0	2.2.0	5	
	Standing and Running Rigging	Manilla												

The Windlass is *Good* Capstan *Good* and Rudder *Good* Pumps *Good*. She has 2 Life Long Boats and 2 others.

Engine Room Skylights.—How constructed? *Iron trunk 7ft high Wood top* How secured in ordinary weather? *Bolled to angles*
 What arrangements for deadlights in bad weather? *Solid shutters and bulls eyes*

Coal Bunker Openings.—How constructed? *Cast Iron Comings* How are lids secured? *By Iron Straps* Height above deck? *13"*
 Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Eight ports each side besides mooring pipes*

Cargo Hatchways.—How formed? *Iron comings and headledges riveted together*
 State size Main Hatch *24ft. x 12ft.* Forehatch *8ft. x 10ft.* Quarterhatch *16ft. x 12ft. & 8ft. x 10ft.*

If of extraordinary size, state how framed and secured? *Ordinary size*
 What arrangement for shifting beams? *Two deep web plates in main hatch, one web plate in large after hatch, and wood fore ledgers in each hatchway*

Hatches, If strong and efficient? *Yes. Solid hatches*

Order for Special Survey No.	Date	Order for Ordinary Survey No.	Date	No. in builder's yard.	DATES of Surveys held while building as per Section 18.	1st.	2nd.	3rd.	4th.	5th.
1216	5-22-79			203		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
						1879 March 4. 6. 10. 17. 20. 26. 31. April 2. 10. 21.	23. 28. May 2. 6. 13. 20. 23. 29. June 2. 6. 9. 13. 17.	21. July 2. 4. 11. 16. 18. 21. 23. Aug 1. 4. 9. 13.	15. 20. 22.	

General Remarks (State quality of workmanship, &c.) *This is a three decked vessel built in accordance with the plans hereto attached, and otherwise in accordance with the Rules.*

The upper deck beams are plated over between the stringer plates and the fore and aft tie plates with 6/16 plates, the plating extends from the second beam before the main hatchway to the second beam abaft the large after hatchway, and the plating extends from side to side where practicable in the way of the engine & boiler space. She has a Foregallant fore-castle 37 feet long, and open bridge amidships 12 feet long. Water ballast tanks are fitted in the main hold, in the engine & boiler space and in the after hold of the united lengths of 180 feet. Tanks tested with a head of water to the height of the load line & found satisfactory. The general quality of the workmanship is good throughout.

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, fore-castle, or raised quarter deck, and the length of double, or part double bottom.
 How are the surfaces preserved from oxidation? Inside *Cement & Paint* Outside *Paint.*

I am of opinion this Vessel should be Classed *100 A1. Two decks, and three tiers of beams.*

The amount of the Entry Fee ... £ 5 : : : is received by me, *F. Young*
 Special Certificate ... £ 73 : 19 : 6 10th Sep 1879

Committee's Minute *12th September, 1879*

Character assigned *100 A1*

Surveyor to Lloyd's Register of British and Foreign Shipping. This vessel appears eligible to be classed as recommended by 100 A1. "Iron Sk" "28k 123 tons of Bms" "Double bottom 180ft"

The Surveyors are requested not to write on or below the space for Committee's Minute.

