

# IRON SHIPS.

6333

No. 5449 Survey held at Greenock Date 10<sup>th</sup> Sept 1868  
 on the Screw Steamer "Duro" Master Antonio de Manchaca  
 Tonnage under tonnage deck 285.49 Built at Greenock When built 1868 Launched 17<sup>th</sup> August 1868  
 Ditto of poop or spar deck 28.28  
 Ditto of engine room 74.84 Crew space 72.51  
 Total Register tonnage 330.68 By whom built Macrae & Co. Owners Don Oscar de Charvatin  
 Gross Tonnage marked on beam 233.17 Port belonging to Gijon Destined Voyage by de la Liverpool & Spain  
 If Surveyed while Building, Afloat, or in Dry Dock While Building

PLANS CASE

Rec 14/9/68  
1868

Length aloft	Feet. Inches.	Extreme Breadth	Feet. Inches.	Depth from top of Upper Deck Beam to top of Floor	Feet. Inches.	Power of Engines	Horse.	No. of Decks
158	7/8	22		12	7/8	55		One
<i>(Dimensions of Ship per Register, length 160 breadth 22 depth 12 5/8)</i>								
Keel, if bar iron, depth and thickness		Inches in Ship.		Inches required per Rule.		Plates in Garboard Strakes, breadth and thickness		Inches. In Ship. 16ths. In Ship. Inches required per Rule. 16ths. required per Rule.
„ if plate iron, breadth and thickness		6 1/2 x 1 3/8		6 1/2 x 2		Ditto from Garboard to upper part of Bilges..		32 10/16 24 9/16
Stem, if bar iron, moulding and thickness		6 1/2 x 1 3/8		6 1/2 x 2		„ from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold		8/16 8/16 7/16 7/16
„ if plate iron, breadth and thickness		6 1/2 x 1 3/8		6 1/2 x 2		„ from 3/4ths depth of Hold to lower edge of Sheerstrake		6/16 6/16
Stern-post, if bar iron, moulding and thickness		6 1/2 x 3 3/4 outer		6 1/2 x 4		„ Sheerstrake, breadth and thickness		47 8/16 24 10/16
„ if plate iron, breadth and thickness		6 1/2 x 4 inner		6 1/2 x 4		Butt Straps to outside plating, breadth and thickness		9 14/16 7/16 5/16
Distance of Frames from moulding edge to moulding edge, all fore and aft		21		21		Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness		48 6/16 22 3/8 8/16
Frames, Size of Angle Iron, single or double		3 2 1/2		3 2 1/2		Angle Iron on ditto		3 1/2 x 3 x 5/16 3 x 3 x 5/16
„ Reversed Iron, to every frame		2 1/2		2 1/2		Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways		10 1/2 7/16 9 6/16
„ and on every alternate frame to sunward		2 1/2		2 1/2		Diagonal Tie Plates on ditto		9 8/16
Floors, depth and thickness of Floor Plate at mid line		15 6/16		14 2/8 6/16		Planksheer, materials and scantlings		See remarks
„ Ditto ditto at Bilge Keelson		9 6/16		9 6/16		Waterway ditto ditto		See remarks
„ Size of Reversed Angle Iron, and No. Single at top of Floor Plate		2 1/2 2		2 1/2 2 1/2		Flat of Upper Deck, thickness and material		3 Yellow Pine
Beams, Deck (No. double Angle Iron, Plate, Tee, or Bulb Iron)		6 5 4		5 1/2 5/8		„ how fastened to Beams		3 by screws bolts & nuts from above
„ double or single Angle Iron, on upper edge		2 1/2 2		2 1/2 2 1/2		Ceiling betwixt Decks and in Hold, thickness and material		6 x 2 1/2 Red Pine battens
„ average space between		3 feet 6 inches		3 feet 6 inches		Clamps or Spirketting		2 1/2 American Keel Gun
Hold, or Lower Deck (No. double Angle, Tee, Plate, or Bulb Iron)		3 1/2 3		3 1/2 3 6/16		Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness		
„ double or single Angle Iron on edge						Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams		
„ average space between						Stringers in Hold		Double Angle Iron 3 1/2 x 3 x 5/16
„ Paddle, sided and moulded, thickness of Plate size of Angle Iron						Flat of Lower Deck, thickness and material		5 1/2 5/8
„ Engine						Main piece of Rudder, diameter at head		3 3/4 3 3/4
Keelson, single or double plate, box, or intercostal						„ at heel		2 1/4 2 1/4
„ Size of Plates		12 9/16		3 1/2 3 6/16		(Can the Rudder be unshipped afloat)		No
„ Size of Angle Irons		3 1/2 3 1/2		3 1/2 3 6/16		Bulkheads, No. Five Thickness of		46 46
„ Side, single or double, plate, box, or intercostal						„ Height up		To upper Deck
„ Bilge (No. Tee and at each Bilge, single or double, plate or box angle, Iron)		3 1/2 3 6/16		3 1/2 3 6/16		„ how secured to the sides of the ship		Between double frames
Transoms, material of, if none, in what manner compensated for.		Iron				„ size of vertical angle irons		2 1/2 x 2 x 7/8 and their distance apart about 30 inches
Knight-heads, and Hawse Timbers		Iron						rivetted through plates with (3/4 in.) rivets, about (6 inches) apart.
The Frames extend in one length from		Keel		to	Sunward			
The reverse angle irons on the floors extend in one length across the middle line		from		upper part of bilge	and to	Sunward		alternately
„ „ and on the frames		„		„	„	from		to

Keelson, how are the various lengths of plates or angle irons connected? By plates and Angle Iron butt straps

Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets (1 1/4 ins.) diameter, averaging (4 1/2 in.) apart.

„ Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 ins.) apart.

„ Butts from Keel to turn of bilge, worked carvel with butt straps (3/8 x 3/8) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 ins.) 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 x 5/8 in.) diameter, averaging (2 1/2 x 3 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 single or double At lower edge double

„ Butts from bilge to planksheers, worked carvel with butt straps (7/8 x 3/8) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 ins.) apart. Breadth of laps in double rivetting (4 1/2 inches) Breadth of laps in single rivetting (2 1/2 inches)

Butt Straps of Keelsons, Stringer and Tie Plates, double or single 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? Beam ends turned down

Hold or Lower Deck ditto

Paddle „ „ No. of breasthooks Three crutches Three

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

Manufacturer's name or trade mark Messard Iron Co. Blochairn Iron Co.

We certify that the above is a correct description of the several particulars therein given.

Builder's Signature Macrae & Co. Surveyor's Signature H. J. S. Collier

IRON 443-0003



6533. Irons

**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 double 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 lengths  
 Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes and are the rivet holes well and sufficiently countersunk in the outer plate? Yes  
 Are there any rivets which either break into or have been put through the seams or butts of the plating? As fast

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.)

No.	She has SAILS.	CABLES, &c.				ANCHORS, &c.							
		Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	No.	Weight. Ex. Stock.	Test as per Certificate.	Weight req'd per Rule.	Test req'd per Rule.		
	Fore Sails,	J.P.S.B. N. 4896 N. 1/9/1868	90 Stud	1 7/8	20.6.0.0	1 7/8	20.6.0.0	J.P.S.B. N. 3450 14 N. 1/9/1868	1	8.1.4	10.8.2.0	8.1.0	10.8.0.0
	Fore Top Sails,	J.P.S.B. N. 4896 O. 31/8/1868	90 "	1 7/8	20.6.0.0	1 7/8	20.6.0.0	J.P.S.B. N. 3450 14 O. 31/8/1868	1	8.1.10	10.9.1.0	8.1.0	10.8.0.0
	Fore Topmast Stay Sails	Netherton Chain & Anchor Testing Machines near Dudley. 1845 4. 20/8/1868 1845 5. 22/8/1868	45 close 45 "	7/8 7/8	5.12.2.0 5.12.2.0			J.P.S.B. N. 3450 14 O. 31/8/1868	1	7.2.2	9.14.0.0	7.0.2	9.5.0.0
	Main Sails,	Hempen Stream Cable						Stream .....		8.0.0		3.0.0	
	Main Top Sails,	Hawser .....	90	6 1/2				Kedges .....	24 7/11. 20/8/1868	1.2.8	3.13.1.0	1.2.0	
	and spary sails.	Towlines .....	90	4									
		Warp .....											
		All of <u>Good</u> quality.											

Her Standing and Running Rigging Hemp sufficient in size and Good in quality.  
 She has One Life Boat Long Boat and Jolly Boat  
 The present state of the Windlass with patent purchase good Capstan Good and Rudder Good with patent steering gear Pumps Four lead good

Order for Special Survey No. 423 DATES 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  
 2nd. On the plating during the progress of rivetting  
 3rd. When the beams were in and fastened, and before the decks were laid  
 4th. When the ship was complete, and before the plating was finally coated  
 5th. After the ship was launched  
 Order for Ordinary Survey No. \_\_\_\_\_ Date \_\_\_\_\_

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

**General Remarks,** This vessel has been built under special survey as per Order No. 423; Is Schooner rigged, has a full poop, and fore-castle with a house on deck for part crew.  
 Diagonal plates on deck beams have been dispensed with as per Committee's letter dated 20th June 1867, as shown on sketch of midship section and deck plan submitted and herewith attached.

In what manner are the surfaces preserved from oxidation? Inside Portland Cement between floors to upper part of bilges, & has coats Red lead above  
 Ditto ditto Outside Three coats of Red lead, and black paint on topsides.

I am of opinion this Vessel should be Classed A1  
 The amount of the Fee £ 4 : : : is received by me,  
 Special £ 15 : 9 : :  
 X Certificate (if required) £ : : : :

Committee's Minute 15th September 1868

Character assigned A1  
(A & R)  
M.C.

*Handwritten notes and signatures:*  
 Joseph Tucker  
 This is on what I saw at the time of my recent Report to Committee of the ship building at Newcastle. She appears to have been built in accordance with the Plans submitted to me on June 1867, and I am of opinion she is slightly over-estimated as recommended above. 14 Sept 1868