

# IRON SHIPS.

No. 5087 Survey held at Port Glasgow Date 30<sup>th</sup> Nov<sup>r</sup> 1869  
 on the Iron Screw Steamer "Isabel." Master John Duncan  
 Tonnage under tonnage deck 273.04  
 Ditto of quarter deck 26.78 Built at Port Glasgow When built 1869 Launched 5<sup>th</sup> Nov<sup>r</sup> 1869  
 Ditto of poop, forecastle, or other erections on upper deck 14.85  
 Ditto of ~~upper deck~~ lower on deck 3.43 **PLANS CASE** When built McCulloch, Patterson & Co Owners George McCulloch & James Patterson  
 Ditto of engine room 10.79  
 Gross tonnage, less 318.10  
 crew space 19.15 298.95 Port belonging to Glasgow Destined Voyage Not fixed  
 net Register tonnage, 288.95  
 as put on beam 101.79 197.16 If Surveyed while Building, Afloat, or in Dry Dock While Building and afloat

Length aloft	156 3/4	Feet.	Inches.	Extreme Breadth	22 6/10	Feet.	Inches.	Depth from top of Upper Deck Beam to top of Floor	12 3/4	Feet.	Inches.	Power of Engines	55	Horse.	Nº. of Decks	5	
Dimensions of Ship per Register, length 157.5 ft breadth 22.6 ft depth 12 ft																	
Plates in Garboard Strakes, breadth and thickness	26 1/2	Inches in Ship.	8 1/8	Inches required per Rule.	24	Inches in Ship.	9 1/8	Inches required per Rule.	24	Inches in Ship.	8 1/8	Inches required per Rule.	24	Inches in Ship.	9 1/8	Inches required per Rule.	24
Ditto from Garboard to upper part of Bilges	—	6 1/6	—	6 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—
„ from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—
„ from 3/4ths depth of Hold to lower edge of Sheerstrake	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—	5 1/6	—
„ Sheerstrake, breadth and thickness	26 1/2	9 1/6	24	9 1/6	26 1/2	9 1/6	24	9 1/6	26 1/2	9 1/6	24	9 1/6	26 1/2	9 1/6	24	9 1/6	26 1/2
Butt Straps to outside plating, breadth and thickness	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2	5 1/6	8 1/2
Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2	6 1/6	22 1/2
Angle Iron on ditto	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3
Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2
Diagonal Tie Plates on ditto	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2	6 1/6	8 1/2
Planksheer, materials and scantlings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waterway ditto	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flat of Upper Deck, thickness and material	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2
„ „ how fastened to Beams	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ceiling betwixt Decks and in Hold, thickness and material	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2	—	2 1/2
Clamps or Spirketting ditto	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stringers in Hold	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3	3 x 6 1/6	3 x 3
Flat of Lower Deck, thickness and material	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Main piece of Rudder, diameter at head	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4	—	3 3/4
„ „ „ at heel	2 1/2	—	2	—	2 1/2	—	2	—	2 1/2	—	2	—	2 1/2	—	2	—	2 1/2
(Can the Rudder be unshipped afloat)	Yes	—	—	—	Yes	—	—	—	Yes	—	—	—	Yes	—	—	—	Yes
Bulkheads, Nº Four Thickness of	—	4 1/6	—	4 1/6	—	4 1/6	—	4 1/6	—	4 1/6	—	4 1/6	—	4 1/6	—	4 1/6	—
„ Height up	all below deck	—	—	—	all below deck	—	—	—	all below deck	—	—	—	all below deck	—	—	—	all below deck
„ how secured to the sides of the ship	Between double frames	—	—	—	Between double frames	—	—	—	Between double frames	—	—	—	Between double frames	—	—	—	Between double frames
„ size of vertical angle irons	4 x 2 1/2	—	—	—	4 x 2 1/2	—	—	—	4 x 2 1/2	—	—	—	4 x 2 1/2	—	—	—	4 x 2 1/2
„ and their distance apart	about 30 in.	—	—	—	about 30 in.	—	—	—	about 30 in.	—	—	—	about 30 in.	—	—	—	about 30 in.
Frames extend in one length from	Keel	—	—	—	Keel	—	—	—	Keel	—	—	—	Keel	—	—	—	Keel
„ „ „ on the floors	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ on the frames	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ from	Upper turn of Bilge	—	—	—	Upper turn of Bilge	—	—	—	Upper turn of Bilge	—	—	—	Upper turn of Bilge	—	—	—	Upper turn of Bilge
„ „ „ to	Hold Stringer on alternate frames	—	—	—	Hold Stringer on alternate frames	—	—	—	Hold Stringer on alternate frames	—	—	—	Hold Stringer on alternate frames	—	—	—	Hold Stringer on alternate frames
„ „ „ how are the various lengths of plates or angle irons connected?	By plate and angle iron butt straps	—	—	—	By plate and angle iron butt straps	—	—	—	By plate and angle iron butt straps	—	—	—	By plate and angle iron butt straps	—	—	—	By plate and angle iron butt straps
Plates, Garboard, double or	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ rivetted to keel, double or	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ at upper edge, with rivets	3/4 in.	—	—	—	3/4 in.	—	—	—	3/4 in.	—	—	—	3/4 in.	—	—	—	3/4 in.
„ „ „ diameter, averaging	3 in.	—	—	—	3 in.	—	—	—	3 in.	—	—	—	3 in.	—	—	—	3 in.
„ „ „ apart.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ Edges from Garboards to upper part of bilge, worked clench, double or single rivetted; with rivets	7/8 in.	—	—	—	7/8 in.	—	—	—	7/8 in.	—	—	—	7/8 in.	—	—	—	7/8 in.
„ „ „ diameter, averaging	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.
„ „ „ apart.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ Butts from Keel to turn of bilge, worked carvel with butt straps	3/1	—	—	—	3/1	—	—	—	3/1	—	—	—	3/1	—	—	—	3/1
„ „ „ thickness, double or single rivetted; with rivets	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16
„ „ „ diameter, averaging	3 1/2 in.	—	—	—	3 1/2 in.	—	—	—	3 1/2 in.	—	—	—	3 1/2 in.	—	—	—	3 1/2 in.
„ „ „ apart.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ Edges from bilge to sheerstrake, worked carvel with a lining piece ( — ) thick, or clench, double or single rivetted; with rivets	5/8 in.	—	—	—	5/8 in.	—	—	—	5/8 in.	—	—	—	5/8 in.	—	—	—	5/8 in.
„ „ „ diameter, averaging	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.
„ „ „ apart.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ Edges of Sheerstrake, double or single rivetted? At upper edge	Single through angle iron	—	—	—	Single through angle iron	—	—	—	Single through angle iron	—	—	—	Single through angle iron	—	—	—	Single through angle iron
„ „ „ At lower edge	Double	—	—	—	Double	—	—	—	Double	—	—	—	Double	—	—	—	Double
„ „ „ Butts from bilge to planksheers, worked carvel with butt straps	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16
„ „ „ thickness, double or single rivetted; with rivets	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16	—	—	—	5/16 and 9/16
„ „ „ diameter, averaging	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.
„ „ „ apart.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ „ „ Breadth of laps in double rivetting	4 in.	—	—	—	4 in.	—	—	—	4 in.	—	—	—	4 in.	—	—	—	4 in.
„ „ „ Breadth of laps in single rivetting	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.	—	—	—	2 1/2 in.
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?	all double	—	—	—	all double	—	—	—	all double	—	—	—	all double	—	—	—	all double
Planksheer, how secured to the plating of the sides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waterway „ „ planksheer and to the Beams	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Deck Beams, how secured to the side?	By properly turned knees twice and a half depth of beam in length	—	—	—	By properly turned knees twice and a half depth of beam in length	—	—	—	By properly turned knees twice and a half depth of beam in length	—	—	—	By properly turned knees twice and a half depth of beam in length	—	—	—	By properly turned knees twice and a half depth of beam in length
Hold or Lower Deck ditto	compensated for	—	—	—	compensated for	—	—	—	compensated for	—	—	—	compensated for	—	—	—	compensated for
Paddle „ „	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No. of breasthooks	four	—	—	—	four	—	—	—	four	—	—	—	four	—	—	—	four
crutches	three	—	—	—	three	—	—	—	three	—	—	—	three	—	—	—	three
What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.?	Blockchain Iron	—	—	—	Blockchain Iron	—	—	—	Blockchain Iron	—	—	—	Blockchain Iron	—	—	—	Blockchain Iron
Manufacturer's name or trade mark	Williamson	—	—	—	Williamson	—	—	—	Williamson	—	—	—	Williamson	—	—	—	Williamson
We certify that the above is a correct description of the several particulars therein given.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Builder's Signature	McCallum & Patterson	—	—	—	McCallum & Patterson	—	—	—	McCallum & Patterson	—	—	—	McCallum & Patterson	—	—	—	McCallum & Patterson
Surveyor's Signature	Williamson	—	—	—	Williamson	—	—	—	Williamson	—	—	—	Williamson	—	—	—	Williamson



4590 Lrn

**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? In solid pieces.  
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? a few in Butts only.

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.

Wood Pole masts.

Chain. Poles and anchors tested at the Staffordshire Machine and Certificate signed by M. H. Read Esq. 8th.

N <sup>o</sup> .	She has SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c N <sup>o</sup> .	Weight. Ex. Stock.	Test as per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
1	Fore Sails,	Chain ..... 6072. N.	90	1	18	1	18	Bowers ..... 43223	7.1.7	9.10.2.7	7.1.0	9.9.0
	Fore Top Sails,	6073. C	90	1	18	1	18	Look. 1.3.0	7.1.0	9.10.2.7	7.1.0	9.9.0
Complete	Fore Topmast Stay Sails	Hempen Stream Cable	—	—	—	10/6	—	43224	7.1.0	9.9.1.14	7.1.0	9.9.0
Suit	Main Sails,	Hawser .....	90	7	—	7	—	do. 1.2.20	—	—	—	—
	Main Top Sails,	Towlines .....	90	5	—	5	—	Stream ..... 610	3.0.11	—	2.3.0	—
and good	Warp .....	Warp .....	—	—	—	—	—	Kedges ..... do.	1.1.0	—	1.1.0	—
		All of <u>Good</u> quality.										

Her Standing and Running Rigging as steel and Hempen sufficient in size and good in quality.

She has one Long Boat and one other.

The present state of the Windlass is Efficient Capstan and steering gear Efficient Pumps Efficient

Order for Special Survey No. 519 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 During the  
2nd. On the plating during the progress of rivetting Various Stages  
3rd. When the beams were in and fastened, and before the decks were laid after construction  
4th. When the ship was complete, and before the plating was finally coated in all 17 visits  
5th. After the ship was launched  
Order for Ordinary Survey No. — Date —  
State if she has a Spar Deck No Poop No or Forecastle Yes

**General Remarks,**  
She has been built under Special Survey, as per request No. 519, dated 5th June 1889. Has a raised quarter deck, a full fore-castle, and a house on deck amidships, for the accommodation of part of her crew.  
Has also been built in accordance with the approved Midship Section herewith attached. The suggestions named in the Secretary's letter dated 28th June 1889 having been carried out; viz; the main Sheerstrake is 9/16 inch thick for three-fourths the vessel's length. the Butts of the said strake being triple rivetted, and the Butt straps extend to its upper edge.

In what manner are the surfaces preserved from oxidation? Inside By three coats of zinc-paint and cemented in Bilges.  
Ditto ditto Outside By four coats of zinc-paint.

I am of opinion this Vessel should be Classed A. 1. +

The amount of the Fee ..... £ 3 : " : " is received by me,

Dec<sup>r</sup> 11 Special ..... £ 14 : 19 : "

X Certificate (if required) ..... £ " : " : "

Committee's Minute 28th December 1889

Character assigned A. 1.

Williamson.  
This Iron Steamer built of Iron appears eligible for Classification as recommended above.  
Dec 27/89