

IRON SHIPS.

No. 5154 Survey held at Port Glasgow Date 23rd Nov 1866
 on the ship "Helen Denny" Master Polson
 Tonnage under tonnage deck 690.00 Built at Port Glasgow When built 1866 Launched 7th Nov 1866
 Ditto of poop or spar deck 37.96 By whom built Robert Duncan & Co Owners Patrick Henderson & Co
 Ditto of engine room
 Total Register tonnage
 Gross Tonnage 727.96 Port belonging to Glasgow Destined Voyage Glyde to
 If Surveyed while Building, Afloat, or in Dry Dock While building

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
182			31 $\frac{3}{4}$			19 $\frac{3}{4}$					One
(Dimensions of Ship per Register, length <u>187$\frac{5}{8}$</u> breadth <u>31$\frac{3}{4}$</u> depth <u>19$\frac{3}{4}$</u>)											
Keel, if bar iron, depth and thickness	Inches in Ship.			Inches required per Rule.			Plates in Garboard Strakes, breadth and thickness				
" if plate iron, breadth and thickness	7 x 2 $\frac{3}{4}$			7 x 2 $\frac{3}{4}$			Ditto from Garboard to upper part of Bilges..				
Stem, if bar iron, moulding and thickness	7 x 2 $\frac{3}{4}$			7 x 2 $\frac{3}{4}$			" from upper part of Bilge to a perpendicular height from upper side of Keel of $\frac{3}{4}$ ths the entire depth of Hold				
" if plate iron, breadth and thickness	7 x 2 $\frac{3}{4}$			7 x 2 $\frac{3}{4}$			" from $\frac{3}{4}$ ths depth of Hold to lower edge of Sheerstrake				
Stern-post, if bar iron, moulding and thickness	7 x 2 $\frac{3}{4}$			7 x 2 $\frac{3}{4}$			Sheerstrake, breadth and thickness				
" " if plate iron, breadth and thickness	23			23			Butt Straps to outside plating, breadth and thickness				
Distance of Frames from moulding edge to moulding edge, all fore and aft	23			23			Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness				
for $\frac{1}{2}$ the length amidships to upper part of bilge	Inches in Ship.			Inches required per Rule.			Angle Iron on ditto				
Frames, Size of Angle Iron, single, or double	4 3 76			4 3 76			Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways				
" Reversed Iron, $\frac{1}{2}$ to every frame	3 3 76			3 2 $\frac{3}{4}$ 76			Diagonal Tie Plates on ditto				
and on every alternate frame to gunwale	3 3 76			3 2 $\frac{3}{4}$ 76			Planksheer, materials and scantlings				
Floors, depth and thickness of Floor Plate at mid line	21 76 2070			76 76 76			Waterway ditto ditto from bilge				
" Ditto ditto at Bilge Keelson	12 76 76			76 76 76			Flat of Upper Deck, thickness and material				
" Size of Reversed Angle Iron, and No. single at top of Floor Plate	3 3 76			3 2 $\frac{3}{4}$ 76			" " how fastened to Beams				
Beams, Deck (Nº.) double Angle Iron, Plate, Tee, or Bulb Iron	7 $\frac{1}{2}$ 76 76			7 $\frac{1}{2}$ 76 76			Ceiling betwixt Decks and in Hold, thickness and material				
" " double or single Angle Iron, on upper edge	3 2 $\frac{1}{2}$ 76			2 $\frac{3}{4}$ 2 $\frac{1}{2}$ 76			Clamps or Spirketting ditto				
" " average space between	3 feet 10 inches			3 feet 10 inches			Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness				
" Hold, or Lower Deck (Nº.) double Angle, Tee, Plate, or Bulb Iron	7 $\frac{1}{2}$ 76 76			7 $\frac{1}{2}$ 76 76			Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams				
" " double or single Angle Iron, on upper edge	3 2 $\frac{1}{2}$ 76			2 $\frac{3}{4}$ 2 $\frac{1}{2}$ 76			Stringers in Hold				
" " average space between	3 feet 10 inches			3 feet 10 inches			Flat of Lower Deck, thickness and material				
" Paddle, sided and moulded, thickness of Plate size of Angle Iron	3 feet 10 inches			3 feet 10 inches			Main piece of Rudder, diameter at head				
" Engine " " " " "	3 feet 10 inches			3 feet 10 inches			" " " " at heel				
Keelson, single or double plate, box, or intercostal	2 $\frac{1}{2}$ 76 76			2 $\frac{1}{2}$ 76 76			(Can the Rudder be unshipped afloat Yes)				
" Size of Plates	2 $\frac{1}{2}$ 76 76			2 $\frac{1}{2}$ 76 76			Bulkheads, Nº. 2, Thickness of				
" Size of Angle Irons	9 3 $\frac{1}{2}$ 76			4 $\frac{1}{2}$ 3 $\frac{1}{2}$ 76			" Height up				
" Side, single or double, plate, box, or intercostal	5 3 $\frac{1}{2}$ 76			4 $\frac{1}{2}$ 3 $\frac{1}{2}$ 76			" how secured to the sides of the ship				
" Bilge (Nº. 2) on at each Bilge, single, or double, plate, or box angle	5 3 $\frac{1}{2}$ 76			4 $\frac{1}{2}$ 3 $\frac{1}{2}$ 76			" size of vertical angle irons 3 x 3 x 76 and their distance apart				

Transoms, material Iron or, if none, in what manner compensated for.

Knight-heads, and Hawse Timbers Iron

The Frames extend in one length from Keel to Gunwale

The reverse angle irons on the floors extend in one length across the middle line from lower deck to Gunwale alternately

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

Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets ($\frac{1}{8}$ in.) diameter, averaging ($\frac{1}{2}$ in.) apart.

" Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets ($\frac{7}{8}$ in.) diameter, averaging ($\frac{3}{2}$ ins.) apart.

" Butts from Keel to turn of bilge, worked carvel with butt straps ($\frac{1}{4}$ in.) thick, double or single rivetted; with rivets ($\frac{7}{8}$ in.) diameter, averaging ($\frac{3}{2}$ ins.) apart.

Do the butt straps lap over and rivet through the lands of the strake below? No. Garboards only

" Edges from bilge to sheerstrake, worked carvel with a lining piece () thick, or clencher, double or single rivetted; with rivets ($\frac{7}{8}$ in.) diameter, averaging ($\frac{3}{2}$ 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 Double rivetted At lower edge Double rivetted

" Butts from bilge to planksheers, worked carvel with butt straps ($\frac{1}{4}$ in.) thick, double or single rivetted; with rivets ($\frac{7}{8}$ in.) diameter, averaging ($\frac{3}{2}$ ins.) apart. Breadth of laps in double rivetting ($\frac{5}{4}$ in.) Breadth of laps in single rivetting ()

Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?

Planksheer, how secured to the plating of the sides

Waterway " " planksheer and to the Beams

Deck Beams, how secured to the side?

Hold or Lower Deck ditto

Paddle " " "

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

Manufacturer's name or trade mark Mossend Iron Co. & Blackhairn Iron Co.

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

Builder's Signature

Surveyor's Signature

No. of breasthooks Four crutches Four

5170 Iron

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? A few

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. Mosend & Blochman Iron)

Masts &c.	Thickness of plating	Rivetting of butts	Rivetting of edges	Size of Angle Irons	Diameters
Fore mast	5/8	Double	Double	"	27 inches
Main mast	5/8	"	"	"	27 "
Mizen mast	5/8	"	"	"	22 "
Bowsprit	5/8	"	"	5 x 3 1/2 x 7/8	27 "



She has SAILS.		CABLES, &c., tested at <u>Lloyd's Northton Proving House, M.K. Road</u>			
No.		No. on Chain seen by me.	No. and date on Certificate	Fathoms.	Tested to. Tons.
Fore Sails,	Chain	237	21/9/1866	150	1 3/4 44.0.0.0
Fore Top Sails,	Hempen	238	21/9/1866	150	1 3/4 44.0.0.0
Fore Topmast Stay Sails,	Stream Cable	239	21/9/1866	90	10 13.15.0.0
Main Sails,	Hawser	240	21/9/1866	90	8
Main Top Sails,	Towlines	241	21/9/1866	90	5
	Warp	242	21/9/1866	90	4
	All of <u>Good</u> quality.				

ANCHORS, tested at <u>Lloyd's Northton Proving House, M.K. Road</u>				
No.	No. on Anchor seen by me.	No. and date on Certificate	Weight. Ex. Stock.	Tested to. Tons.
Bowers	1	1898	23.3.26	23.17.0.0
	1	1899	23.3.14	23.15.2.14
	1	1900	20.0.18	20.18.0.0
Stream <u>Golden Bells</u>	1	1891	10.1.0	10.7.2.0
Kedges	1	21582	5.1.22	6.15.0.0
	1	21585	2.0.20	4.4.2.0

Her Standing and Running Rigging Rigging sufficient in size and Good in quality.

She has One Long Boat and Pinnace, Cutter, and Sloop
 The present state of the Windlass is Good Three Capstans Good and Rudder Good with patent Pumps Two from Wilson's patent. Good

Order for Special Survey	DATES of	1st.	2nd.	3rd.	4th.	5th.
No. <u>378</u>	Surveys held	On the several parts of the frame, when in place, and before the plating was wrought	On the plating during the progress of rivetting	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	After the ship was launched
Date <u>2nd Dec 1865</u>	while building					
Order for Ordinary Survey	as per					
No. _____	Section 18.					
Date _____						

State if she has a Spar Deck _____ Poop Yes or Forecastle Yes

General Remarks, This vessel has been built under Special Survey as per Order No. 378. Is fitted with a full poop and fore-castle, with a house on deck for part of the crew. Is also fitted with bow ports, one on each bow, one leading into the tween decks, and the other into the lower hold, the same being substantially built of East India Teak, and efficiently iron framed and secured with iron post bars &c. with screw bucklers, hooks, and flies, as also iron doors fitted abreast of ditto cut in the bulkhead, the same having a large overlap and framed and made watertight by being hooped up with a great number of nut and screw bolts upon a packing made of canvass and Red lead, the outside part of bow ports are sheathed over with zinc. Butt straps to Gar-board strakes 4 1/2" doubled and lapped over the lands of the strake of plating next above it as pointed out and remarked by Mr. Martin on his last visit here as compensation for the shifting of gar-board butts.

In what manner are the surfaces preserved from oxidation? Inside Portland Cement to upper part of bilges, & three coats of oxide of iron & red lead paint.
 Ditto ditto Outside Three coats of oxide of iron & red lead paint, and one coat of Hall's patent on bottom.

I am of opinion this Vessel should be Classed A 1
 The amount of the Fee£ 5 : " : " is received by me,
 Special£ 36 : 8 : "
 X Certificate (if required)£ " : " : "

Committee's Minute 27th November 1866

Character assigned A 1

This appears to be NO 2019 in Lloyd's Register
 Report to Committee of Ships seen in
 in Guernsey district, which is referred
 to above. Same opinion she is not
 eligible for Classification as recommended
 27 Nov 1866