

IRON SHIP

No. 11989 Survey held at Sunderland Date, First Survey 23rd October 1877 Last Survey 20th July 1878
 On the Iron S.S. "Elsie-Ter." Master Eldon Stuart Perry.

TONNAGE under } 1301.90 ONE, OR TWO DECKED, THREE DECKED VESSEL.
 Tonnage Deck }
 Ditto of Third Spar, or } 81.01 SPAR, OR AWNING DECKED VESSEL.
 or Awning Deck }
 Ditto of Boop } 3.92 **HALF BREADTH** (moulded)... .. 15.91 Feet
 Raised Up }
 Ditto of Houses } 2.15 **DEPTH** from upper part of Keel to top of Upper Deck Beams 23.62
 on Deck }
 Ditto of Forecastle } 1388.98 **GIRTH** of Half Midship Frame (as per Rule) 35.46
 Gross Tonnage }
 Less Crew Space 34.51 **1st NUMBER**
 Less Engine Room 478.98 **1st NUMBER, if a THREE DECKED VESSEL** } 67.99 [deduct 7 feet]
 Register Tonnage } 910.0 **LENGTH** 238.5
 as cut on Beam } **2nd NUMBER** 16.215
PROPORTIONS—Breadths to Length 7.49
 Depths to Length—Upper Deck to Keel Under 11
 Main Deck ditto 14.06

Built at Sunderland
 When built 1878. Launched 4 June 1878
 By whom built James Laing
 Owners J. M. Anderson
 Port belonging to London
 Destined Voyage
 # Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule ... 238 **BREADTH** Moulded... .. 31 **DEPTH** top of Floors to Upper Deck Beams ... 21 **Power of Engines** ... 150 **No. of Decks with flat laid** Two
 per Rule ... 6 **Inches** ... 10 **Do. do. Main Deck Beams** ... 15 **No. of Tiers of Beams** Three

Dimensions of Ship per Register, length, 242 ft breadth, 32 ft depth, 21 ft

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL , depth and thickness	<u>8 1/2 x 2 1/2</u>	<u>8 1/2 x 2 1/2</u>	STEM , moulding and thickness... ..	<u>8 x 2 1/2</u>	<u>8 x 2 1/2</u>
STERN-POST for Rudder do. do.	<u>8 x 5</u>	<u>8 x 5</u>	for Propeller	<u>8 x 5</u>	<u>8 x 5</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>23</u>	<u>23</u>			
FRAMES , Angle Iron, for 3/4 length amidships	<u>4 3 7/16</u>	<u>4 3 7/16</u>	Do. for 1/2 at each end	<u>4 3 7/16</u>	<u>4 3 7/16</u>
REVERSED FRAMES , Angle Iron	<u>3 3 7/16</u>	<u>3 3 7/16</u>			
FLOORS , depth and thickness of Floor Plate } at mid line for half length amidships	<u>20 1/2 7/16</u>	<u>20 1/2 7/16</u>	thickness at the ends of vessel	<u>10 1/2 7/16</u>	<u>10 1/2 7/16</u>
depth at 3/4 the half-bdth. as per Rule	<u>10 1/2 7/16</u>	<u>10 1/2 7/16</u>	height extended at the Bilges...	<u>4 1</u>	<u>4 1</u>
BEAMS, Upper, Spar, or Awning Deck } Single or double Angle Iron, Plate or Tee Bulb Iron }	<u>7 7/16</u>	<u>7 7/16</u>	Single or double Angle Iron on Upper edge	<u>2 1/2 2 1/2 7/16</u>	<u>2 1/2 2 1/2 7/16</u>
Average space...	<u>4 6</u>	<u>4 6</u>	BEAMS, Main, or Middle Deck	<u>5 1/2 3 7/16</u>	<u>5 1/2 3 7/16</u>
BEAMS, Main, or Middle Deck } Single or double Angle Iron, Plate or Tee Bulb Iron }	<u>8 7/16</u>	<u>8 7/16</u>	Single or double Angle Iron, on Upper edge	<u>3 3 7/16</u>	<u>3 3 7/16</u>
Average space...	<u>23</u>	<u>23</u>	BEAMS, Lower Deck, Hold, or Orlop } Single or double Angle Iron, Plate or Tee Bulb Iron }	<u>7 7/16</u>	<u>7 7/16</u>
BEAMS, Lower Deck, Hold, or Orlop } Single or double Angle Iron, Plate or Tee Bulb Iron }	<u>8 1/2 3 7/16</u>	<u>8 1/2 3 7/16</u>	Single or double Angle Iron on Upper edge	<u>4 1 12 spaces</u>	<u>4 1 12 spaces</u>
Average space...	<u>4 6 12 spaces</u>	<u>4 6 12 spaces</u>	KEELSONS Centre line, single or double plate, } box, or intercostal, Plates	<u>16 12/16</u>	<u>16 12/16</u>
KEELSONS Centre line, single or double plate, } box, or intercostal, Plates	<u>16 12/16</u>	<u>16 12/16</u>	" Rider Plate	<u>10 3/4 3/4</u>	<u>10 3/4 3/4</u>
" Bulb Plate to intercostal Keelson	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	" Angle Irons	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>
" Double Angle Iron Side Keelson	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	" Side intercostal Plate	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>
" do. Angle Irons	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	" Attached to outside plating with angle iron	<u>3 3 7/16</u>	<u>3 3 7/16</u>
BILGE Angle Irons	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	" do. Bulb Iron	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>
" do. Intercostal plates riveted to plating for length	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	BILGE STRINGER Angle Irons	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>
BILGE STRINGER Angle Irons	<u>5 3 1/2 7/16</u>	<u>5 3 1/2 7/16</u>	Intercoastal plates riveted to plating for length	<u>3 3 7/16</u>	<u>3 3 7/16</u>
SIDE STRINGER Angle Irons	<u>3 3 7/16</u>	<u>3 3 7/16</u>			

	Inches in Ship.	16ths in Ship.	Inches per Rule.	16ths per Rule.
Flat Keel Plates , breadth and thickness	<u>36</u>	<u>1 1/16</u>	<u>34</u>	<u>1 1/16</u>
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>
fm up. part of Bilge to l. edge of Sh'rstrake	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>	<u>9 1/16 and 5 1/16</u>
Main Sheerstrake , breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake. Up. or Spar Dk Sh'rstrake, brdth & thickness	<u>36</u>	<u>3 1/4</u>	<u>36</u>	<u>3 1/4</u>
Butt Straps to outside plating, breadth & thickness	<u>9 3/4</u>	<u>1 1/16</u>	<u>9 3/4</u>	<u>1 1/16</u>
Lengths of Plating	<u>5 1/16</u>	<u>5 1/16</u>	<u>5 1/16</u>	<u>5 1/16</u>
Shifts of Plating, and Stringers	<u>5 1/16</u>	<u>5 1/16</u>	<u>5 1/16</u>	<u>5 1/16</u>
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness... ..	<u>46</u>	<u>9 1/16</u>	<u>46</u>	<u>9 1/16</u>
Angle Iron on ditto	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>
Tie Plates fore and aft, outside Hatchways	<u>12</u>	<u>9 1/16</u>	<u>12</u>	<u>9 1/16</u>
Diagonal Tie Plates on Beams No. of Pairs, Planksheer material and scantling	<u>12</u>	<u>9 1/16</u>	<u>12</u>	<u>9 1/16</u>
Waterways do. do.	<u>4</u>	<u>9 1/16</u>	<u>4</u>	<u>9 1/16</u>
Flat of Upper Deck do. do.	<u>4</u>	<u>9 1/16</u>	<u>4</u>	<u>9 1/16</u>
How fastened to Beams	<u>36 1/2</u>	<u>10 1/16</u>	<u>34</u>	<u>10 1/16</u>
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness	<u>36 1/2</u>	<u>10 1/16</u>	<u>34</u>	<u>10 1/16</u>
Is the Stringer Plate attached to the outside plating?	<u>Yes and required to be</u>	<u>Yes and required to be</u>	<u>Yes and required to be</u>	<u>Yes and required to be</u>
Angle Irons on ditto, No.	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>
Tie Plates , outside Hatchways	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>
Diagonal Tie Plates on Beams, No. of pairs	<u>31</u>	<u>9 1/16</u>	<u>31</u>	<u>9 1/16</u>
Waterways materials and scantlings	<u>31</u>	<u>9 1/16</u>	<u>31</u>	<u>9 1/16</u>
Flat of Middle Deck do. do.	<u>31</u>	<u>9 1/16</u>	<u>31</u>	<u>9 1/16</u>
How fastened to Beams	<u>31</u>	<u>9 1/16</u>	<u>31</u>	<u>9 1/16</u>
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<u>31</u>	<u>9 1/16</u>	<u>31</u>	<u>9 1/16</u>
Is the Stringer Plate attached to the outside plating?	<u>Yes and required to be</u>	<u>Yes and required to be</u>	<u>Yes and required to be</u>	<u>Yes and required to be</u>
Angle Irons on ditto, No.	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>	<u>4 x 4 x 8 1/16</u>
Stringer or Tie Plates , outside Hatchways	<u>5 x 3 1/2 x 7 1/16</u>	<u>5 x 3 1/2 x 7 1/16</u>	<u>5 x 3 1/2 x 7 1/16</u>	<u>5 x 3 1/2 x 7 1/16</u>
Flat of Lower Deck	<u>5 3/4 x 2</u>	<u>5 3/4 x 2</u>	<u>5 3/4 x 2</u>	<u>5 3/4 x 2</u>
Ceiling betwixt Decks, thickness and material	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
in hold	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
Main piece of Rudder , diameter at head	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
do. at heel	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
Can the Rudder be unshipped afloat?	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
Bulkheads No. <u>4</u> Thickness of	<u>6 1/16</u>	<u>6 1/16</u>	<u>6 1/16</u>	<u>6 1/16</u>
Height up to upper deck	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>
How secured to sides of ship	<u>Between double frames</u>	<u>Between double frames</u>	<u>Between double frames</u>	<u>Between double frames</u>
Size of Vertical Angle Irons <u>3 x 3 x 7 1/16</u> and distance apart <u>30</u> ins.	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>
Are the outside Plates doubled two spaces of Frames in length?	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>

Transoms, material. Knight-heads. Hawse Timbers. Iron
 Windlass Harfield and Co's Pall Bitt None required.

The **FRAMES** extend in one length from Keel to gunwale Riveted through plates with 7/8 in. Rivets, about 7 apart.
 The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to hull 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 3/16 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 5/16 in. diameter, averaging 3 3/4 ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 5/16 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 1/16 thicker than the plates they connect.
Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 5/16 in. diameter, averaging 3 3/4 ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 5/16 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 half length amidships. **Butts of Upper or Spar Sheerstrake**, treble riveted 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 1/4 ins. Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double and Treble riveted.
 Waterway, how secured to Beams (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? Beam knees turned down & riveted No. of Breasthooks, Six Crutches, Two
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Angles, S. S. Plates, &c.
 Manufacturer's name or trade mark, Worman Long and Co. Plate - Mansfield Iron Co and Forgings by the
Worman Long and Co. Iron Company

The above is a correct description.
 Builder's Signature, James Laing Surveyor's Signature, William Sch
 Surveyor to 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 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 - very well*

Are the rivet holes well and sufficiently countersunk in the plate and punched from the facing surfaces? *Yes*

Do any rivets break into or through the seams or butts of the plating? *A few in the butts only.*

Masts, Bowsprit, Yards, &c., are *of Rich & White's* *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

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	N ^o .	Weight.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
N ^o .	SAILS.	CABLES.										
One	Fore Sails,	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270
Complete	Fore Top Sails,	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270
Complete	Fore Topmast Stay Sails,	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270
Suit	Main Sails,	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270
and	Main Top Sails,	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270
	Good.	240 Chain	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270	19 1/2	43 9/16	270

Standing and Running Rigging *of Rich & White's* sufficient in size and *Good* in quality. She has *two* Life Long Boats and *two* others.

The Windlass is *Harfield's* - Efficient Capstan and *Good* and Rudder *Good* Pumps *Three* in addition to *Steam* pumps.

Engine Room Skylights. - How constructed? *Three Glass Chapman & Furness Steam Engines.* How secured in ordinary weather? *Efficiently.*

What arrangements for deadlights in bad weather? *Solid Lead shutters with glass bullseye lights.*

Coal Bunker Openings. - How constructed? *Drought Iron* How are lids secured? *2 1/2 inch bolts* Height above deck? *10 and 18 in.*

Scuppers, &c. - What arrangements for clearing upper deck of water, in case of shipping a sea? *Six ports in addition to flooring pipes and scuppers.*

Cargo Hatchways. - How formed? *Iron plates and angle iron in the usual manner.*

State size Main Hatch *19 feet by 11 feet* Fore hatch *11 feet 6 ins by 8 feet* Quarter hatch *19 feet by 11 feet*

If of extraordinary size, state how framed and secured? *Each long hatchway has a deep web plate beam.*

What arrangement for shifting beams? *Yes - 2 1/2 inch thick.*

Hatches, If strong and efficient? *Yes - 2 1/2 inch thick.*

Order for Special Survey No. *278A*

Date *18th October 1877*

Order for Ordinary Survey No. *278B*

Date *18th October 1877*

No. *278* in *Builder's* yard.

General Remarks (State quality of workmanship, &c.) *Very Good.*

Built under Special Survey and Surveyed - 1877.

October 23 December 24 1878 Feb. 4 8 12 19 26 28 March 25 4 8 11

14 16 19 21 22 24 April 13 6 9 10 13 17 24 26 30 May 13 4 8 11 15 16 21 23

24 27 30 June 3 4 6 7 15 17 20 24 27 July 13 21 13 16 17

She has been built under special survey in accordance with the scantlings and arrangements shown on the accompanying tracing of midship section and profile and also with the requirements set forth in the Secretary's letter dated the 22nd of October 1877.

She is Schooner rigged, has a monkey fore-castle 22 feet long, a bridge-house enclosure 48 feet long, a double bottom in the after-hold 59 feet long and one in the fore hold 33 feet long, both of which have been tested by a head of water equal to the height of the deep load line and made watertight.

A letter dated 15th February 1878 accompanied by a profile tracing received from Mr. Spring about the equipment and the Surveyors' reply are hereto annexed for the Committee's information.

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. 92 ft.

How are the surfaces preserved from oxidation? Inside *Paint and Cement* Outside *Paint.*

I am of opinion this Vessel should be Classed *100 A. I. Two decks 3 Lines Beam. (A.C.P.)*

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me, *W.H.*

Special ... £ 58 : 17 : 0 *18th July 1878*

Certificate ... *Grants*

(Travelling Expenses, if any, £ *No charge made.*)

Committee's Minute 23rd July 1878.

Character assigned *100 A. I.*

Loys Mc

2 Dks

3 Lines Beam

Double Bottom 92 feet

23/7/78