

# IRON SHIP.

No. 11652 Survey held at Sunderland Date, First Survey December 22<sup>nd</sup> 1876 Last Survey 7<sup>th</sup> May 1877  
On the Iron Screw Schooner "Elsie" Yard Number 132 Master Christ. Needham.

**TONNAGE** under Tonnage, Deck 936.17 **ONE, OR TWO DECKED, THREE DECKED VESSEL.**  
Ditto of Hold, &c. 78.94 **SPAR, OR AWNING DECKED VESSEL.**  
Ditto of Poop, or Raised Orlop 107.70 **HALF BREADTH** (moulded) 15.67  
Ditto of Houses on Deck 3.10 **DEPTH** from upper part of Keel to top of Upper Deck Beams 18.67  
Ditto of Forecastle 30.21 **GIRTH** of Half Midship Frame (as per Rule) 31.00  
Gross Tonnage 1182.90 **1st NUMBER** 65.34  
Less Crew Space 44.77 **1st NUMBER, if a THREE-DECKED VESSEL**  
Less Engine Room 378.53 423.80 deduct 7 feet 223.67  
Register Tonnage 759.60 **LENGTH** 223.67  
as cut on Beam 759.60 **2nd NUMBER** 14.610  
**PROPORTIONS**—Breadths to Length Under 7 1/2  
Depths to Length—Upper Deck to Keel 12  
Main Deck ditto —

Built at Sunderland.  
When built 1877 Launched 9<sup>th</sup> April 1877  
By whom built L. L. Thompson and Sons.  
Owners F. G. Dow and Stamp.  
Port belonging to Sunderland.  
Destined Voyage Hamburg.  
Surveyed while Building, Afloat, or in Dry Dock.

**LENGTH** on deck as per Rule 223 7/8 **BREADTH** Moulded 31 1/4 **DEPTH** top of Floors to Upper Deck Beams 17 0 1/2 **Registered Power of Engines** 120 **Horse** 120 **N<sup>o</sup>. of Decks with flat laid** One **N<sup>o</sup>. of Tiers of Beams** Two.  
Dimensions of Ship per Register, length, 225 1/2 breadth, 31.6 depth, 16.9 ft.

|  | Inches in Ship. | Inches per Rule. |
|--|-----------------|------------------|
| <b>KEEL</b> , depth and thickness  | 8 x 2 3/8       | 8 x 2 3/8        |
| <b>STEM</b> , moulding and thickness   | 7 1/2 x 2 3/8   | 7 1/2 x 2 3/8    |
| <b>STERN-POST</b> for Rudder do. do.   | 8 x 4 1/2       | 8 x 4 1/2        |
| Distance of Frames from moulding edge to moulding edge, all fore and aft                 | 23              | 23               |
| <b>FRAMES</b> , Angle Iron, for 2/3 length amidships                                     | 4 x 3 1/8       | 4 x 3 1/8        |
| Do. for 1/3 at each end  | 4 x 3 1/8       | 4 x 3 1/8        |
| <b>REVERSED FRAMES</b> , Angle Iron  | 3 x 3 1/8       | 3 x 3 1/8        |
| <b>FLOORS</b> , depth and thickness of Floor Plate at mid line for half length amidships | 19 1/2 x 5/16   | 19 1/2 x 5/16    |
| thickness at the ends of vessel  | 7/16            | 7/16             |
| depth at 3/4 the half-bdth. as per Rule  | 9 3/4           | 9 3/4            |
| height extended at the Bilges  | 39              | 39               |
| <b>BEAMS</b> , Upper, Spar, or Awning Deck   | 8 1/2 x 5/16    | 8 1/2 x 5/16     |
| Single or double Angle Iron, Plate or Tee Bulb Iron                                      | 7 1/2 x 7/16    | 7 1/2 x 7/16     |
| Single or double Angle Iron on Upper edge  | 4 x 3 1/8       | 4 x 3 1/8        |
| Average space  | 45              | 45               |
| <b>BEAMS</b> , Main or Middle Deck   | 8 1/2 x 5/16    | 8 1/2 x 5/16     |
| Single or double Angle Iron, Plate or Tee Bulb Iron                                      | 7 1/2 x 7/16    | 7 1/2 x 7/16     |
| Single or double Angle Iron on Upper Edge  | 4 x 3 1/8       | 4 x 3 1/8        |
| Average space  | 45              | 45               |
| <b>BEAMS</b> , Lower Deck, Hold or Orlop   | 8 1/2 x 5/16    | 8 1/2 x 5/16     |
| Single or double Angle Iron, Plate or Tee Bulb Iron                                      | 7 1/2 x 7/16    | 7 1/2 x 7/16     |
| Single or double Angle Iron on Upper Edge  | 4 x 3 1/8       | 4 x 3 1/8        |
| Average space  | 45              | 45               |
| <b>KEELSONS</b> Centre line, single or double plate, box, or intercostal plates          | 15 x 1 1/8      | 15 x 1 1/8       |
| Rider Plate  | 10 1/2 x 1/16   | 10 1/2 x 1/16    |
| Bulb Plate to Intercostal Keelson  | 5 x 3 1/2       | 5 x 3 1/2        |
| Angle Irons  | 5 x 3 1/2       | 5 x 3 1/2        |
| Double Angle Iron Side Keelson   | 5 x 3 1/2       | 5 x 3 1/2        |
| Side Intercostal Plate   | 5 x 3 1/2       | 5 x 3 1/2        |
| do. Angle Irons  | 5 x 3 1/2       | 5 x 3 1/2        |
| Attached to outside plating with angle iron  | 5 x 3 1/2       | 5 x 3 1/2        |
| <b>BILGE</b> Angle Irons   | 5 x 3 1/2       | 5 x 3 1/2        |
| do. Bulb Iron  | 7 1/2 x 7/16    | 7 1/2 x 7/16     |
| do. Intercostal plates riveted to plating for length                                     | 5 x 3 1/2       | 5 x 3 1/2        |
| <b>BILGE STRINGER</b> Angle Irons  | 5 x 3 1/2       | 5 x 3 1/2        |
| Intercostal plates riveted to plating for length   | 5 x 3 1/2       | 5 x 3 1/2        |
| <b>SIDE STRINGER</b> Angle Irons   | 5 x 3 1/2       | 5 x 3 1/2        |

**Flat Keel Plates**, breadth and thickness 3 1/4 x 7/16  
**PLATES** in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness (and length applied 1/2 length) fm up. part of Bilge to Ir. edge of Sh'rstrake  
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  
Butt Straps to outside plating, breadth & thickness 4 1/2 x 5/16  
Lengths of Plating Two and three spaces alternately  
Shifts of Plating, and Stringers Two and three spaces alternately  
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness 4 1/2 x 5/16  
Angle Iron on ditto 5 x 3 1/2 x 5/16  
Tie Plates fore and aft, outside Hatchways 4 1/2 x 5/16  
Diagonal Tie Plates on Beams No. of Pairs, Complete iron deck  
Planksheer material and scantling do. do.  
Waterways do. do. do. do.  
Flat of Upper Deck do. do. do.  
How fastened to Beams Riveted  
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness 4 1/2 x 5/16  
Is the Stringer Plate attached to the outside plating? Yes. 5 x 3 1/2 x 5/16 per rule.  
Angle Irons on ditto, No. One  
Tie Plates, outside Hatchways Complete iron deck  
Diagonal Tie Plates on Beams, No. of pairs Complete iron deck  
Waterways materials and scantlings do. do.  
Flat of Middle Deck do. do. do.  
How fastened to Beams Riveted  
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams do. do.  
Is the Stringer Plate attached to the outside plating? Yes, and required to be.  
Angle Irons on ditto, No. 3  
Stringer or Tie Plates, outside Hatchways do. do.  
Flat of Lower Deck do. do.  
Ceiling between Decks, thickness and material in hold do. do.  
Main piece of Rudder, diameter at head 5 1/2  
do. at heel 3  
Can the Rudder be unshipped afloat? Yes.  
Bulkheads No. 4 Thickness of 5/16 to 5/8  
Height up 3 to upper deck, one to Cabin sole  
How secured to sides of ship Between double frames.  
Size of Vertical Angle Irons 3 x 3 x 5/16 and distance apart 30 ins.  
Are the outside Plates doubled two spaces of Frames in length? Yes.

Transoms, material. Knight-heads. Hawse Timbers. Iron  
Windlass Harfield's patent Pall Bitt None required  
The **FRAMES** extend in one length from Keel to Gunwale Riveted through plates with 3/4 in. Rivets, about 6 apart.  
The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to Lower Deck Stringer angle iron 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 1/8 in. diameter, averaging 5 1/4 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 3 1/2 ins. from centre to centre.  
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 1/2 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 3/4 in. diameter, averaging 3 1/4 ins. from cr. to cr.  
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 1/4 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 — length.  
Breadth of laps of plating in double riveting 5 1/4 Breadth of laps of plating in single riveting 3 1/2  
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double and treble per rule.  
Waterway, how secured to Beams (Explain by Sketch, if necessary.) Has an entire iron deck.  
Beams of the various Decks, how secured to the sides Keels turned down and riveted. No. of Breasthooks, Four Crutches, Four.  
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Connell's Iron (S. R. R.) and  
Manufacturer's name or trade mark, S. R. R. and S. R. R. Sunderland.

The above is a correct description.  
Builder's Signature, Joseph L. Thompson & Sons Surveyor's Signature, William R. R. R.



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? No.

Masts, Bowsprit, Yards, &c., are Ritch and 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

18369 Iron

*anchors and Chain Cables passed by Mr. Besant during my absence on duty at Greenock 28/5/77.*

| NUMBER for EQUIPMENT    | 16.071  | Fathoms. | Inches. | Test per Certificate. | Lngh. & Size req'd per Rule | Test req'd per Rule. | ANCHORS, N <sup>o</sup> . | Weight.   | Test per Certificate. | Wght req'd per Rule. | Test req'd per Rule. |
|-------------------------|---|----------|---------|-----------------------|-----------------------------|----------------------|---------------------------|-----------|-----------------------|----------------------|----------------------|
| N <sup>o</sup> .        | 1938.   | 240      | 1 1/2   | 40 5/10 tons.         | 240                         | 40 5/10 tons.        | 3774                      | 21. 1. 14 | 21. 1. 14             | 21. 0. 0             | 21 5/10 tons.        |
| SAILS.                  | Chain   | 18 1/2   | 5 1/2   | 58 7/10               | 18 1/2                      | 58 7/10              | Bowers                    | 3841      | 21. 1. 14             | 21. 1. 14            | 21. 0. 0             |
| Fore Sails,             | (State Machine where Tested, Date, & name of Superintendent.) | 18 1/2   | 5 1/2   | 58 7/10               | 18 1/2                      | 58 7/10              | 3675                      | 17. 3. 0  | 18. 1. 14             | 18. 0. 0             | 19                   |
| Fore Top Sails,         | Superintendent.   | 18 1/2   | 5 1/2   | 58 7/10               | 18 1/2                      | 58 7/10              | 3846                      | 7. 2. 14  | 9. 1. 14              | 9. 0. 0              | 9 5/10 tons          |
| Fore Topmast Stay Sails | Hamper Strm Cbl   | 60       | 1       | —                     | 70-15/16                    | —                    | Stream                    | 3848      | 3. 2. 14              | 6. 0. 14             | 6 1/2                |
| Main Sails,             | Hawser  | 90       | 1       | —                     | 90-10                       | —                    | Kedges                    | 3850      | 1. 3. 4               | 4. 7. 0              | 4 1/2                |
| Main Top Sails,         | Towlines  | 180      | 1       | —                     | 90-9                        | —                    |                           |           |                       |                      |                      |
| and                     | Warp  | 180      | 5 1/2   | —                     | 90-5 1/2                    | —                    |                           |           |                       |                      |                      |
| and                     | quality   | 180      | 5 1/2   | —                     | 90-5 1/2                    | —                    |                           |           |                       |                      |                      |

Standing and Running Rigging Wire and Hemp sufficient in size and Good in quality. She has two life Long Boats and two others.

The Windlass is Harfield's Good and Rudder Efficient Pumps two in fore hold, one in after hold, one in addition to the Steam pump. Good.

Engine Room Skylights. How constructed? Iron and Lead How secured in ordinary weather? Efficiently.

What arrangements for deadlights in bad weather? Solid lead shutters with Bull's-eye lights.

Coal Bunker Openings. How constructed? Iron plates and angles How are lids secured? 2 1/2 inch battens Height above deck? 10 ins.

Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? Three good sized ports in each side of bulwarks in addition to the mooring pipes and scuppers. Open bulwarks on Quarter Deck.

Cargo Hatchways. How formed? Strong and substantially as per approved tracings of section and profile.

State size Main Hatches forward 32.2 x 13.0 Forehatches 42 ft 3 in x 13 ft. Quarterhatch

If of extraordinary size, state how framed and secured? Framed and secured in a thoroughly efficient manner, as shown on annexed approved tracings of midship section & profile.

What arrangement for shifting beams?

Hatches, If strong and efficient? Yes. being 3 in thick.

|  |   |   |
|--|---|---|
| Order for Special Survey No. <u>2644</u> | 1st. On the several parts of the frame, when in place, and before the plating was wrought | 1876 Dec 22/29/77 Jan 4/9 11/22/20/21/22/23/24                  |
| Date <u>15 Dec 1876</u>                  | 2nd. On the plating during the process of riveting  | 5/21/22/23/24 March 4/9 11/22/23/24 April 9/11/22/23/24 May 4/9 |
| Order for Ordinary Survey No. <u>132</u> | 3rd. When the beams were in and fastened, and before the decks were laid....              |   |
| Date <u>132</u>                          | 4th. When the ship was complete, and before the plating was finally coated or cemented..  |   |
| No. <u>132</u> in builder's yard.        | 5th. After the ship was launched and equipped   |   |

General Remarks, (State quality of workmanship &c.) Workmanship very good.

She is Schooner rigged, has a raised quarter deck 80 ft 6 ins long, a bridge house enclosure 42 feet long, and a topgallant forecabin 29 feet long; also a double bottom extending the whole length of the fore hold 84 ft 4 ins long and one in the after hold 54 ft 6 ins long. Both of these double bottoms have been tested by a head of water equal to the height of the load line and made watertight.

She has long hatchways and is intended to be employed as a self-trimming Collier. Long boards have been fitted the whole length of the fore and after holds under the upper deck and also under the hold-beam stringer plate, as shown on tracings of midship section. She is further fitted with centre boards 4 ft 6 ins down from upper-deck to prevent shifting of cargo.

She has been built under special survey, in accordance with the scantlings and arrangements shown on the annexed approved tracings of midship section and profile, also with the requirements set forth in the Secretary's letters marked III, dated 12th Dec 1876, and 13th Feb 1877, and otherwise with the rules including section 45 referring to the additional strengthenings at the breast of raised quarter deck.

State if one, two or three decked vessel, or if spar or awning decked, and lengths of poop, forecabin or raised quarter deck, or of double or part double bottom.

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

I am of opinion this Vessel should be Classed 90 A. I. 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd 23rd 24th 25th 26th 27th 28th 29th 30th 31st 32nd 33rd 34th 35th 36th 37th 38th 39th 40th 41st 42nd 43rd 44th 45th 46th 47th 48th 49th 50th 51st 52nd 53rd 54th 55th 56th 57th 58th 59th 60th 61st 62nd 63rd 64th 65th 66th 67th 68th 69th 70th 71st 72nd 73rd 74th 75th 76th 77th 78th 79th 80th 81st 82nd 83rd 84th 85th 86th 87th 88th 89th 90th 91st 92nd 93rd 94th 95th 96th 97th 98th 99th 100th

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

Special ... £ 53 : 9 : 0 4th May 1877 SW.

Certificate ... Swates.

(Travelling Expenses) (if any) £ None.

Committee's Minute 11th May 1877

Character assigned 90 A. I.

Lloyd's Register