

IRON SHIP.

No. 2546 Survey held at Belfast Date, First Survey 17 July 1877 Last Survey 23 August 1878
 On the H. Magity's S.S. "Hecla" Yard Number 114 Master not yet appointed

TONNAGE under 2148.13
 Tonnage Deck }
 Ditto of Third, Spar, or Awning Deck }
 Ditto of Poop, or Raised Qr. Dk. }
 Ditto of Houses on Deck }
 Ditto of Forecastle }
 Gross Tonnage 3348.60
 Less Crew Space 401.30
 Less Engine Room 1071.55
 Register Tonnage as cut on Beam 1878.75

ONE, OR TWO DECKED, THREE DECKED VESSEL.
SPAR, OR AWNING DECKED VESSEL.
HALF BREADTH (moulded)... .. 19.25 Feet.
DEPTH from upper part of Keel to top of Upper Deck Beams 30.83
GIRTH of Half Midship Frame (as per Rule) 45.75
1st NUMBER 95.83
1st NUMBER, if a THREE-DECKED VESSEL 4.00
 deduct 7 feet 88.83
LENGTH 388.50
2nd NUMBER 34.510
PROPORTIONS—Breadths to Length 10
 Depths to Length—Upper Deck to Keel 12.6
 Main Deck ditto 16.6

Built at Belfast
 When built 1878 Launched 7 March
 By whom built Messrs Harland & Wolff
 Owners H. Magity's Government
 Port belonging to —
 Destined Voyage Cruiser
 Surveyed while Building, Afloat, or in Dry Dock. *

LENGTH on deck as 388 Feet. 6 Inches. **BREADTH**—Moulded... .. 38 Feet. 6 Inches. **DEPTH** top of Ceiling Floors to Upper Deck Beams 28 Feet. 5 1/2 Inches. Do. do. Main Deck Beams 21 Feet. 2 1/2 Inches. Power of Engines 300 Horse. N^o. of Decks with flat laid three N^o. of Tiers of Beams three

Dimensions of Ship per Register, length, 392.8 breadth, 39 depth, 21.2 & 28.7

	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	16ths required	16ths required
KEEL , depth and thickness	<u>9 1/2 x 5 5/8</u>	<u>Section</u>	<u>9 1/2 x 3 1/2</u>	<u>9 1/2 x 3 1/2</u>	<u>8</u>	<u>8</u>
STEM , moulding and thickness	<u>9 1/2 x 3 1/2</u>	<u>9 1/2 x 3 1/2</u>	<u>9 1/2 x 3 1/2</u>	<u>9 1/2 x 3 1/2</u>	<u>8</u>	<u>8</u>
STERN-POST for Rudder do. do.	<u>11 x 6 1/2</u>	<u>9 1/2 x 7</u>	<u>9 1/2 x 7</u>	<u>9 1/2 x 7</u>	<u>8</u>	<u>8</u>
for Propeller	<u>9 1/2 x 8</u>	<u>9 1/2 x 8</u>	<u>9 1/2 x 8</u>	<u>9 1/2 x 8</u>	<u>8</u>	<u>8</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>8</u>	<u>8</u>
FRAMES , Angle Iron, for <u>3/4</u> length amidships	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>8</u>	<u>8</u>
Do. for <u>1/2</u> at each end	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>8</u>	<u>8</u>
REVERSED FRAMES , Angle Iron	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>5 1/2 x 3 1/2</u>	<u>8</u>	<u>8</u>
FLOORS , depth and thickness of Floor Plate at mid line for half length amidships	<u>2 5/2 x 10</u>	<u>2 5/2 x 10</u>	<u>2 5/2 x 10</u>	<u>2 5/2 x 10</u>	<u>8</u>	<u>8</u>
thickness at the ends of vessel	<u>13</u>	<u>12 3/4</u>	<u>13</u>	<u>12 3/4</u>	<u>8</u>	<u>8</u>
depth at <u>3/4</u> the half-bath. as per Rule	<u>5-1</u>	<u>5-1</u>	<u>5-1</u>	<u>5-1</u>	<u>8</u>	<u>8</u>
height extended at the Bilges	<u>5-1</u>	<u>5-1</u>	<u>5-1</u>	<u>5-1</u>	<u>8</u>	<u>8</u>
BEAMS , Upper, Spar, or Awning Deck } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron }	<u>8 1/4 x 5 1/2</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8</u>	<u>8</u>
Single or double Angle Iron on Upper edge	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
Average space	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
BEAMS , Main or Middle Deck } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron }	<u>10 x 5 3/4</u>	<u>9 x 9 1/2</u>	<u>9 x 9 1/2</u>	<u>9 x 9 1/2</u>	<u>8</u>	<u>8</u>
Single, or double Angle Iron, on Upper Edge	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
Average space	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
BEAMS , Lower Deck, Hold or Orlop } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron }	<u>10 x 5 3/4</u>	<u>9 x 9 1/2</u>	<u>9 x 9 1/2</u>	<u>9 x 9 1/2</u>	<u>8</u>	<u>8</u>
Single or double Angle Iron on Upper Edge	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
Average space	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>8</u>	<u>8</u>
KEELSONS Centre line, single or double plate, } box, or intercostal, Plates	<u>30 x 14</u>	<u>29 x 14</u>	<u>29 x 14</u>	<u>29 x 14</u>	<u>14</u>	<u>14</u>
" Rider Plate	<u>14 x 14</u>	<u>14 x 14</u>	<u>14 x 14</u>	<u>14 x 14</u>	<u>14</u>	<u>14</u>
" Bulb Plate to Intercostal Keelson	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
" Angle Irons	<u>5 1/2 x 4 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10</u>	<u>10</u>
" Double Angle Iron Side Keelson	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12</u>	<u>12</u>
" Side Intercostal Plate	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12</u>	<u>12</u>
" do. Angle Irons	<u>5 1/2 x 4 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10</u>	<u>10</u>
" Attached to outside plating with angle iron	<u>5 1/2 x 4 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10</u>	<u>10</u>
BILGE Angle Irons	<u>5 1/2 x 4 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10</u>	<u>10</u>
" do. Bulb Iron, plate	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12</u>	<u>12</u>
" do. Intercostal plates riveted to plating for <u>1/2</u> length	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12 x 12</u>	<u>12</u>	<u>12</u>
BILGE STRINGER Angle Irons	<u>5 1/2 x 4 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10 x 5 1/2</u>	<u>10</u>	<u>10</u>
Intercostal plates riveted to plating for length	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8</u>	<u>8</u>
SIDE STRINGER Angle Irons	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8</u>	<u>8</u>

	Inches in Ship.	16ths in Ship.	Inches required	16ths required
Flat Keel Plates, breadth and thickness	<u>—</u>	<u>—</u>	<u>Section</u>	<u>Section</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>36</u>	<u>13</u>	<u>36</u>	<u>13</u>
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	<u>—</u>	<u>12 x 13</u>	<u>—</u>	<u>12 x 13</u>
Butt Straps to outside plating, breadth & thickness	<u>20 1/4 x 1 1/2</u>	<u>3 1/4 x 1 1/2</u>	<u>11 1/4 x 1 1/2</u>	<u>19</u>
Lengths of Plating	<u>12 1/2</u>	<u>12 1/2</u>	<u>12 1/2</u>	<u>12 1/2</u>
Shifts of Plating, and Stringers	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<u>30</u>	<u>10</u>	<u>30</u>	<u>10</u>
Angle Iron on ditto	<u>5 1/2 x 4 1/2 x 10</u>	<u>5 1/2 x 4 1/2 x 10</u>	<u>5 1/2 x 4 1/2 x 10</u>	<u>5 1/2 x 4 1/2 x 10</u>
Tie Plates fore and aft, outside Hatchways	<u>Double 2 1/2</u>	<u>Double 2 1/2</u>	<u>Double 2 1/2</u>	<u>Double 2 1/2</u>
Diagonal Tie Plates on Beams No. of Pairs,	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planksheer material and scantling	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Waterways do. do.	<u>Gutter</u>	<u>Gutter</u>	<u>Gutter</u>	<u>Gutter</u>
Flat of Upper Deck do. do.	<u>3" teak</u>	<u>3" teak</u>	<u>3" teak</u>	<u>3" teak</u>
How fastened to Beams	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness	<u>30</u>	<u>10</u>	<u>30</u>	<u>10</u>
Is the Stringer Plate attached to the outside plating?	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
Angle Irons on ditto, No. <u>2</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>
Tie Plates, outside Hatchways	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>
Diagonal Tie Plates on Beams, No. of pairs	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Waterways materials and scantlings	<u>Gutter</u>	<u>Gutter</u>	<u>Gutter</u>	<u>Gutter</u>
Flat of Middle Deck do. do.	<u>3" teak</u>	<u>3" teak</u>	<u>3" teak</u>	<u>3" teak</u>
How fastened to Beams	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>	<u>Gal. riv. & screw bolts</u>
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<u>40</u>	<u>11</u>	<u>40</u>	<u>10</u>
Is the Stringer Plate attached to the outside plating?	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
Angle Irons on ditto, No. <u>2</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>
Stringer or Tie Plates, outside Hatchways	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Flat of Lower Deck	<u>partial</u>	<u>partial</u>	<u>partial</u>	<u>partial</u>
Ceiling betwixt Decks, thickness and material	<u>Battens & space</u>	<u>Battens & space</u>	<u>Battens & space</u>	<u>Battens & space</u>
in hold do. do.	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
Main piece of Rudder, diameter at head	<u>8 3/4</u>	<u>8 1/2</u>	<u>8 3/4</u>	<u>8 1/2</u>
do. at heel	<u>4 3/4</u>	<u>4 1/2</u>	<u>4 3/4</u>	<u>4 1/2</u>
Can the Rudder be unshipped afloat?	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
Bulkheads No. <u>7</u> Thickness of	<u>4 x 6</u>	<u>4 x 6</u>	<u>4 x 6</u>	<u>4 x 6</u>
Height up <u>5</u> upper & main decks	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</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>5 1/2 x 3 1/2 x 9/16</u> and distance apart <u>30</u> ins.	<u>5 1/2 x 3 1/2 x 9/16</u>	<u>5 1/2 x 3 1/2 x 9/16</u>	<u>5 1/2 x 3 1/2 x 9/16</u>	<u>5 1/2 x 3 1/2 x 9/16</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 Iron Galant Pall Bitt Iron

The **FRAMES** extend in one length from keel to gunwale & to rail alternately Riveted through plates with 16/16 in. Rivets, about 7 apart.
 The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to upper deck and to main d'r 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 19/16 in. diameter, averaging 5 ins. from centre to centre.
 Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 16/16 in. diameter, averaging 3 1/2 ins. from centre to centre.
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 16/16 in. diameter averaging 3 1/2 ins. from centre to centre.
 Butts of all Strakes at Bilge for over 1/2 length, treble riveted with Butt Straps 1/6 x 2 1/6 thicker than the plates they connect.
 Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 16/16 in. diameter, averaging 3 1/2 ins. from cr. to cr.
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 16/16 in. diameter, averaging 3 1/2 ins. from cr. to cr.
 Edges of Main Sheerstrake, double or single riveted. **Upper Sheerstrake**, double or single riveted. on lower edge
 Butts of Main Sheerstrake, treble riveted for 3/5 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted 2/3 length amidships.
 Butts of Main Stringer Plate, treble riveted for 2/3 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for 2/3 length.
 Breadth of laps of plating in double riveting 6 1/2 Breadth of laps of plating in single riveting 3 1/2

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Quadruple, treble and double
 Waterway, how secured to Beams Gutter (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? knees turned and riveted No. of Breasthooks, 4 Crutches, 4
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Good
 Manufacturer's name or trade mark, Beams Butterley, frames Mossend, plates Forth & Co. & Co.

The above is a correct description.
 Builder's Signature, Harland & Wolff Surveyor's Signature, W. McCullough

Workmanship. Are the butts of plating planed or otherwise fitted? hammered 21643 In
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 iron in 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 Same as sister ship British Empire Report No 2544 except jiggermast which has been removed and replaced by one larger and stronger as the masts are fitted with derricks for lifting in & outboard torpedo boats of about 8 tons in weight.

(Query 39600 with J.G. Froude)

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Lngh. & Size req'd pr Rule	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.	
SAILS.		15-1	2 1/16	46 1/20	300-278	46 5/10	Bowers 3...	1	41.0-26	36.13.0.0	40 cut	35 15/20	
CABLES, &c.		15-1	2 1/16	46 1/20	300-278	46 5/10	(State Machine where Tested, Date, and name of Superintendent.)	1	40.2-13	36.4.1.0	40 - - -	35 15/20	
Chain ...		Lloyds proving house		Chester		supd 17/11/78		Lloyds proving house		Chester		supd 17/11/78	
Fore Sails,		A. S. JACK		supd 17/11/78		16 18/20		A. S. JACK		supd 17/11/78		16 18/20	
Fore Top Sails,		90		13 1/16		90-12		Stream ...		14.3-14		14.11.3.0	
Fore Topmast Stay Sails		100		9 1/16		90-12		Kedges ...		7.2-20		7.12.0.0	
Main Sails,		100		9 1/16		90-12							
Main Top Sails,		100		9 1/16		90-12							
Warp ...		100		9 1/16		90-12							
quality		good		good		good							

Standing and Running Rigging wire & hemp sufficient in size and good in quality. She has slip Long Boat and good
The Windlass is good and Rudder good Pumps good

Engine Room Skylights. How constructed? Lath strongly glazed & secured How secured in ordinary weather? ✓

What arrangements for deadlights in bad weather? ✓

Coal Bunker Openings. How constructed? Planks fitted inside of casing around top of hatch How are lids secured? Flap to shut Height above deck? 1" 4"

Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? freeing ports on each side in addition to 8 scuppers.

Cargo Hatchways. How formed? Iron plates and angles

State size Main Hatch 19' 10" x 12' 0" Forehatch 15' 6" x 12' 0" Quarterhatch 11' 6" x 9' 10"; 11' 6" x 9' 10"

If of extraordinary size, state how framed and secured? ✓

What arrangement for shifting beams? Strong oak shifting beams and oak fore and afters.

Hatches, If strong and efficient? yes

Order for Special Survey No. 74 Date 28th May 1877

Order for Ordinary Survey No. 117 in builder's yard.

General Remarks, (State quality of workmanship &c.) This three decked ship has been the same as the sister ship British Empire see report No 2544 and secretary's letter of the 29th October 1877. She has a fore castle 46 feet in length partially plated and partially covered with teak deck. Lengths of houses on deck 130.0; 22.0; 27.6. Length of house on hurricane deck 39.6. The fore castle has been strengthened by fore & aft carlings and extra pillars to allow of a gun being fought on deck. The hurricane deck has been strengthened for the purpose of carrying 6 torpedo boats; and extra pillars fitted under upper deck in wake of guns. about 600 tons of cast iron ballast placed in fore and after holds and cemented down on ceiling, leaving the bunkers clear.

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

How are the surfaces preserved from oxidation? Inside Cement under close ceiling Outside Paint

I am of opinion this Vessel should be Classed + 100 A.1.

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

Special ... £ 108 : 14 : 0 23 August 1878

Certificate ... Gratis

(Travelling Expenses) (if any) £ none

Committee's Minute 27th August, 1878.

Character assigned 100 A.1

J.M. Scullard
2019
This vessel appears to be classed 100 A.1
Lloyds Register
Foundation