

# IRON SHIP. 174/73

No. 4360 Survey held at Glasgow Date, First Survey 28<sup>th</sup> April Last Survey 18<sup>th</sup> Dec<sup>r</sup> 1876  
 On the S. S. "Radnorshire" Master Not appointed

<b>TONNAGE</b> under Tonnage Deck } <u>1810.29</u>	<b>ONE, OR TWO DECKED, THREE DECKED VESSEL.</b>	Built at <u>Glasgow</u>
<b>Ditto of Third, Spar, or Awning Deck.</b>	<b>SPAR, OR AWNING DECKED VESSEL.</b>	When built <u>1876</u> Launched <u>17<sup>th</sup> Nov<sup>r</sup> 1876</u>
<b>Ditto of Poop, or Raised Or Deck.</b>	<b>HALF BREADTH</b> (moulded) <u>17.0</u>	By whom built <u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co</u>
<b>Ditto of Houses on Deck</b> } <u>27.49</u>	<b>DEPTH</b> from upper part of Keel to top of Upper Deck Beams <u>25.9</u>	Owners <u>D. S. Jenkins &amp; Co</u>
<b>Ditto of Forecastle</b>	<b>GIRTH</b> of Half Midship Frame (as per Rule) <u>37.7</u>	17 Lime Street
<b>Gross Tonnage</b> <u>1838.08</u>	<b>1st NUMBER</b> <u>80.6</u>	Port belonging to <u>London</u>
<b>Less Crew Space</b> <u>49.58</u>	<b>1st NUMBER, if a THREE-DECKED VESSEL</b> [deduct 7 feet] <u>73.6</u>	Destined Voyage <u>Singapore</u>
<b>Sur fees</b> <u>1810.29</u>	<b>LENGTH</b> <u>298.5</u>	<u>Surveyed while Building, Afloat, and in Dry Dock.</u>
<b>Less Engine Room</b> <u>588.19</u>	<b>2nd NUMBER</b> <u>21969</u>	
<b>Register Tonnage as cut on Beam</b> } <u>1201.31</u>	<b>PROPORTIONS</b> —Breadths to Length <u>8.8</u>	
	Depths to Length—Upper Deck to Keel <u>11.5</u>	
	Main Deck ditto <u>15.7</u>	

PLANS

LENGTH on deck as per Rule	Feet. Inches.		BREADTH—Moulded	Feet. Inches.		DEPTH top of Floors to Upper Deck Beams	Feet. Inches.		Power of Engines	Horse.	N <sup>o</sup> . of Decks with flat laid	N <sup>o</sup> . of Tiers of Beams
	Feet.	Inches.		Feet.	Inches.		Feet.	Inches.				
<u>298</u>	<u>6</u>		<u>34</u>	<u>0</u>	<u>24</u>	<u>0</u>	<u>17</u>		<u>250</u>		<u>Two</u>	<u>Three</u>
Dimensions of Ship per Register, length, <u>301.0</u> breadth, <u>34.2</u> depth, <u>24.0</u>												
<b>KEEL</b> , depth and thickness	Inches in Ship		Per Sections		Inches in Ship		Per Sections		Flat Keel Plates, breadth and thickness			
<u>10 x 2 3/4</u>	<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		Inches. 16ths. Per Rule per Rule			
<b>STEM</b> , moulding and thickness	<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		<u>10 x 2 3/4</u>		<u>36 12 36 12</u>			
<b>STERN-POST</b> for Rudder do. do.	<u>10 x 5 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>11 11 11 11</u>			
for Propeller	<u>10 x 5 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>11 11 11 11</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>40 14 40 14</u>			
<b>FRAMES</b> , Angle Iron, for 1/2 length amidships	<u>5 3 8</u>		<u>5 3 8</u>		<u>5 3 8</u>		<u>5 3 8</u>		<u>19 16 14 15 11 14 15 11 14 15 11</u>			
Do. for 1/2 at each end	<u>5 3 7</u>		<u>5 3 7</u>		<u>5 3 7</u>		<u>5 3 7</u>		<u>10 10 10 10</u>			
<b>REVERSED FRAMES</b> , Angle Iron	<u>3 3 7</u>		<u>3 3 7</u>		<u>3 3 7</u>		<u>3 3 7</u>		<u>Two Spaces Two Spaces</u>			
<b>FLOORS</b> , depth and thickness of Floor Plate at mid line for half length amidships	<u>23 x 9</u>		<u>23 x 9</u>		<u>23 x 9</u>		<u>23 x 9</u>		<u>43 9 43 9</u>			
thickness at the ends of vessel	<u>11 1/2</u>		<u>11 1/2</u>		<u>11 1/2</u>		<u>11 1/2</u>		<u>4 x 4 x 9 4 x 4 x 9</u>			
depth at 1/2 the half-bdth. as per Rule	<u>11 1/2</u>		<u>11 1/2</u>		<u>11 1/2</u>		<u>11 1/2</u>		<u>Iron duct for Iron duct</u>			
height extended at the Bilges	<u>Twice</u>		<u>Twice</u>		<u>Twice</u>		<u>Twice</u>		<u>Diagonal Tie Plates on Beams No. of Pairs</u>			
<b>BEAMS</b> , Upper, Spar, or Awning Deck	<u>7 x 7</u>		<u>7 x 7</u>		<u>7 x 7</u>		<u>7 x 7</u>		<u>14 x 8 1/6 14 x 8 1/6</u>			
Single or double Angle Iron on Upper edge	<u>3 3 6</u>		<u>3 3 6</u>		<u>3 3 6</u>		<u>3 3 6</u>		<u>Waterways do. do.</u>			
Average space	<u>48</u>		<u>48</u>		<u>48</u>		<u>48</u>		<u>Flat of Upper Deck do. Yellow Pine</u>			
<b>BEAMS</b> , Main, or Middle Deck	<u>8 x 8</u>		<u>8 x 8</u>		<u>8 x 8</u>		<u>8 x 8</u>		<u>How fastened to Beams</u>			
Single or double Angle Iron, on Upper Edge	<u>3 3 6</u>		<u>3 3 6</u>		<u>3 3 6</u>		<u>3 3 6</u>		<u>Stringer Plate on ends of Main or Middle Deck</u>			
Average space	<u>48</u>		<u>48</u>		<u>48</u>		<u>48</u>		<u>Beams, breadth and thickness</u>			
<b>BEAMS</b> , Lower Deck, Hold, or Orlop	<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>Is the Stringer Plate attached to the outside plating?</u>			
Single or double Angle Iron on Upper Edge	<u>3 3 7</u>		<u>3 3 7</u>		<u>3 3 7</u>		<u>3 3 7</u>		<u>Yes Yes</u>			
Average space	<u>24</u>		<u>24</u>		<u>24</u>		<u>24</u>		<u>Angle Irons on ditto, No. 2</u>			
<b>KEELSONS</b> Centre line, single or double plate, box, or Intercoastal, Plates	<u>23 3/4 x 13</u>		<u>23 3/4 x 13</u>		<u>23 3/4 x 13</u>		<u>23 3/4 x 13</u>		<u>4 x 4 x 9 4 x 4 x 9</u>			
" Rider Plate	<u>13 x 13</u>		<u>13 x 13</u>		<u>13 x 13</u>		<u>13 x 13</u>		<u>Tie Plates, outside Hatchways</u>			
" Bulb Plate to Intercoastal Keelson	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>Diagonal Tie Plates on Beams, No. of pairs</u>			
" Angle Irons	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>Waterways materials and scantlings</u>			
" Double Angle Iron Side Keelson	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>Flat of Middle Deck do. do.</u>			
" Side Intercoastal Plate with Bulb 8 1/2 x 8 1/2 half length	<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>How fastened to Beams</u>			
" do. Angle Irons	<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>Riveted Riveted</u>			
" Attached to outside plating with angle iron	<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>Stringer Plates on ends of Lower Deck, Hold or Orlop Beams</u>			
<b>BILGE</b> Angle Irons	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>Is the Stringer Plate attached to the outside plating?</u>			
" do. Bulb Iron 3/5 length	<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>Yes Yes</u>			
" do. Intercoastal plates riveted to plating for 1/2 length	<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>8 1/2 x 8</u>		<u>Angle Irons on ditto, No. 2</u>			
<b>BILGE STRINGER</b> Angle Irons	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>4 x 4 x 9 4 x 4 x 9</u>			
Intercoastal plates riveted to plating for 3/5 length	<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>3 1/2 3 1/2 8</u>		<u>Stringer or Tie Plates, outside Hatchways</u>			
<b>SIDE STRINGER</b> Angle Irons	<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>6 4 9</u>		<u>Flat of Lower Deck</u>			
Transoms, material. Knight-heads. Hawse Timbers.	<u>Iron</u>		<u>Iron</u>		<u>Iron</u>		<u>Iron</u>		<u>Ceiling betwixt Decks, thickness and material</u>			
Windlass <u>Napier's Patent</u> Pall Bitt	<u>Iron</u>		<u>Iron</u>		<u>Iron</u>		<u>Iron</u>		<u>in hold</u>			
The <b>FRAMES</b> extend in one length from <u>Keel</u> to <u>Gunwale</u>	<u>Keel</u>		<u>Keel</u>		<u>Keel</u>		<u>Keel</u>		<u>Main piece of Rudder, diameter at head</u>			
The <b>REVERSED ANGLE IRONS</b> on floors and frames extend <u>front</u> middle line to <u>above main deck</u> and to <u>upper deck</u> alternately	<u>front</u>		<u>front</u>		<u>front</u>		<u>front</u>		<u>do. at heel</u>			
<b>KEELSONS</b> . Are the various lengths of Plates and Angle Irons properly connected? <u>Yes</u> And butts properly shifted? <u>Yes</u>	<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>Yes</u>		<u>Can the Rudder be unshipped afloat?</u>			
<b>PLATING</b> . Garboard, double riveted to Keel, with rivets <u>1/8</u> in. diameter, averaging <u>5 1/2</u> ins. from centre to centre.	<u>1/8</u>		<u>1/8</u>		<u>1/8</u>		<u>1/8</u>		<u>Yes</u>			
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets <u>7/8</u> in. diameter, averaging <u>3 3/4</u> ins. from centre to centre.	<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>Bulkheads No. 6</u>			
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>7/8</u> in. diameter averaging <u>3 3/4</u> ins. from centre to centre.	<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>Thickness of</u>			
Butts of <u>3</u> Strakes at Bilge for <u>1/2</u> length, treble riveted with Butt Straps <u>7/16</u> thicker than the plates they connect.	<u>7/16</u>		<u>7/16</u>		<u>7/16</u>		<u>7/16</u>		<u>Height up</u>			
Edges from bilge to Main Sheerstrake, worked clencher, double <u>4</u> riveted; with rivets <u>7/8</u> in. diameter, averaging <u>3 3/4</u> ins. from cr. to cr.	<u>4</u>		<u>4</u>		<u>4</u>		<u>4</u>		<u>Forward one to upper part to Main Deck</u>			
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets <u>7/8</u> in. diameter, averaging <u>3 3/4</u> ins. from cr. to cr.	<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>7/8</u>		<u>How secured to sides of ship</u>			
Edges of Main Sheerstrake, double <u>4</u> riveted. <u>Upper Sheerstrake</u> , double or single riveted.	<u>4</u>		<u>4</u>		<u>4</u>		<u>4</u>		<u>By double Framed</u>			
Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships. Butts of Upper or Spar Sheerstrake, treble riveted <u>1/2</u> length amidships.	<u>1/2</u>		<u>1/2</u>		<u>1/2</u>		<u>1/2</u>		<u>Size of Vertical Angle Irons</u>			
Butts of Main Stringer Plate, treble riveted for <u>1/2</u> length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for <u>1/2</u> length.	<u>1/2</u>		<u>1/2</u>		<u>1/2</u>		<u>1/2</u>		<u>3 1/2 x 7/16 and distance apart</u>			
Breadth of laps of plating in double riveting <u>6 1/2</u> in. Breadth of laps of plating in single riveting <u>6 1/2</u> in.	<u>6 1/2</u>		<u>6 1/2</u>		<u>6 1/2</u>		<u>6 1/2</u>		<u>Are the outside Plates doubled two spaces of Frames in length?</u>			
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or <u>4</u> Riveted?	<u>4</u>		<u>4</u>		<u>4</u>		<u>4</u>		<u>Yes</u>			
Waterway, how secured to Beams <u>Gutter</u> (Explain by Sketch, if necessary.)	<u>Gutter</u>		<u>Gutter</u>		<u>Gutter</u>		<u>Gutter</u>		<u>No. of Breasthooks</u>			
Beams of the various Decks, how secured to the sides? <u>By knees turned down</u>	<u>By knees turned down</u>		<u>By knees turned down</u>		<u>By knees turned down</u>		<u>By knees turned down</u>		<u>Seven Crutches</u>			
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>Best</u>	<u>Best</u>		<u>Best</u>		<u>Best</u>		<u>Best</u>		<u>Manufacturer's name or trade mark</u>			
Manufacturer's name or trade mark, <u>Frames, Decks, Keelsons, Reverse Frames, Coats, Beams &amp; Mountings, D. I. &amp; Phoenix</u>	<u>Frames, Decks, Keelsons, Reverse Frames, Coats, Beams &amp; Mountings, D. I. &amp; Phoenix</u>		<u>Frames, Decks, Keelsons, Reverse Frames, Coats, Beams &amp; Mountings, D. I. &amp; Phoenix</u>		<u>Frames, Decks, Keelsons, Reverse Frames, Coats, Beams &amp; Mountings, D. I. &amp; Phoenix</u>		<u>Frames, Decks, Keelsons, Reverse Frames, Coats, Beams &amp; Mountings, D. I. &amp; Phoenix</u>		<u>The above is a correct description.</u>			
Builder's Signature, <u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co Ltd</u>	<u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co Ltd</u>		<u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co Ltd</u>		<u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co Ltd</u>		<u>The London &amp; Glasgow Engineering &amp; Shipbuilding Co Ltd</u>		<u>Surveyor's Signature, <u>Saml Laphorn</u></u>			
Surveyor to Lloyd's Register of British and Foreign Shipping.	<u>Saml Laphorn</u>		<u>Saml Laphorn</u>		<u>Saml Laphorn</u>		<u>Saml Laphorn</u>		<u>2000 (9.5.76).</u>			

IRON 469 - 0319

**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? *A few* 17475 Jan.

Masts, ~~Bowsprit~~, Yards, &c., are *all* 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 *Two masts Riggered as a Brig*

Mast Plate *Fore Mast 78" 3' - 25' - 20' - 18'* } *Three plates in circle 6x5 double riveted edges*  
*quality. hot and cold tested* } *main Mast 69" 4' - 25' - 23' - 18'* } *treble riveted butts, doubled for 5th at partners.*

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
N <sup>o</sup> .	SAILS.	CABLES, &c.		271	1 3/4	55, 2, 2, 1, 0	Bowers	1	31. 1. 3	29. 12. 0. 0	30	28 12/20
		Fore Sails,	chain	34	1 1/2	55, 2, 2, 1, 0		Stock	7. 1. 23			
Two	Fore Top Sails,	Hmpn Strm Cbl		90	1 1/2	90-1 1/2 Iron or 11mm Hemp	Stream	1	30. 2. 26	29. 3. 3. 0	3.0	28 12/20
		Fore Topmast Stay Sails	Warp	90	7	90-7		Stock	7. 1. 0			
Sails	Main Sails,	Hawser ...		90	"	90-11	Kedges	1	12. 1. 22		12	25 2/20
		Towlines ...	Warp	90	7	90-7		1	6. 0. 4		6	25 2/20
and	Main Top Sails,	Warp		90	7	90-7	Kedges	1	3. 0. 17		3	
		quality	Warp	90	7	90-7		1	3. 0. 17		3	

Standing and Running Rigging *Wire & Hemp*, sufficient in size and *good* in quality. She has *Six* Long Boats and *two* with buoyancy  
 The Windlass is *Good* Capstan *1 Good* and Rudder *Good* Pumps *Good and efficient*  
**Engine Room Skylights.**—How constructed? *Plate & angle iron* How secured in ordinary weather? *Balbed*  
 What arrangements for deadlights in bad weather? *Seal framing with Bull's Eyes*  
**Coal Bunker Openings.**—How constructed? *Circular iron casting* How are lids secured? *Screwed* Height above deck? *6ins*  
**Scuppers, &c.**—What arrangements for clearing upper deck of water, in case of shipping a sea? *7 Scuppers each side*  
**Cargo Hatchways.**—How formed? *Plate and angle iron*  
 State size **Main Hatch** *20' x 10'* Forehatch *12' x 10' & 6' x 4'* Quarterhatch *12' x 10' & 6' x 10'*  
 If of extraordinary size, state how framed and secured? } *Two portable beams at main hatch*  
 What arrangement for shifting beams? }  
**Hatches,** If strong and efficient? *Yes.*

Order for Special Survey No.	Date	Order for Ordinary Survey No.	Date	No.	in builder's yard.
116	17th Dec 1876			194	

**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	1876 - April 28, May 1, 4, 9, 10, 15, 16, 23, 26
2nd.	On the plating during the process of riveting	May 31, June 1, 5, 6, 9, 12, 15, 21, 26, 29
3rd.	When the beams were in and fastened, and before the decks were laid...	July 6, 10, 13, 24, 29, Aug 1, 7, 11, 15
4th.	When the ship was complete, and before the plating was finally coated or cemented..	Aug 18, 26, 28, Sept 1, 4, 8, 14, 18, 22
5th.	After the ship was launched and equipped	Sept 23, 26, Oct 3, 10, 14, 18, 20, 25, 27, Oct 31, Nov 2, 7, 10, 13, 16, 17, 29, Dec 8, 12, 13, 18

**General Remarks** (State quality of workmanship, &c.)  
*The workmanship is of good quality - Built in accordance with the sketches of midship and longitudinal sections herewith approved per Secretary's Letter of 27th March, having reference also to Letters of 7th June and 1st July 1876 and in general conformity with the Rules with a view to the grade contemplated*

**Erections on Deck.**—Midship Casings over Boilers, Iron; 28' x 11'. Cabin accommodation 25' x 15' midships, Captain's Room & Companion aft 22' x 8' 9" Anchor Forecastle 24 ft long by 4' 6" above deck

State if one, two, or three, decked vessels, or if spar, or awning decked; and the lengths of poop, forecabin, or raised quarter deck, and the length 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 **100A1** "Three-Decked Rule"

The amount of the Entry Fee ... £ 5: 0: 0 is received by me, *Dec 16th 1876* *Saml. Latham*  
 Special ... £ 40: 5: 0 *Dec 1876*  
 Certificate ... *limited*  
 (Travelling Expenses, if any, £ ... )  
 Committee's Minute *19th December 1876*  
 Character assigned *100A1*  
*Lloyds Me*  
*2 Dhs*  
*3 Dhs*  
*19/12/76*