

Steel IRON SHIP.

No. *5428* Survey held at *Dumbarton* Date, First Survey *14 May 1880* Last Survey *6 July 1881*
On the *S. S. Lydian Monarch* 4 masts. Master *Constable*

TONNAGE under Tonnage Deck *2855.10*
Ditto of Third, Spar, or Awning Deck *1020.20*
Ditto of Poop, or Raised Or. Dk. *38.40*
Ditto of Houses on Deck *3915.70*
Ditto of Forecastle *116.37*
Gross Tonnage *3799.33*
Less Crew Space *1253.02*
Less Engine Room *2546.31*
Register Tonnage as cut on Beam

ONE, OR TWO DECKED, THREE DECKED VESSEL.
WITH SHUTTER DECK.
HALF BREADTH (moulded) *21.25*
DEPTH from upper part of Keel to top of Upper Deck Beams *28.25*
GIRTH of Half Midship Frame (as per Rule) *45.12*
1st NUMBER *94.62*
1st NUMBER, if a 3-DECKED VESSEL, deduct 7 feet *7.00*
LENGTH *87.62*
2nd NUMBER *314.11*
PROPORTIONS—Breadths to Length *8.43*
Depths to Length—Upper Deck to Keel *12.69*
Main Deck ditto *17.70*

Built at *Dumbarton*
When built *1880/81* Launched *2 May 1881*
By whom built *A. McMillan & Sons*
Owners *Royal Exchange Ship Co. (Limited)*
Port belonging to *London*
Destined Voyage *uncertain*
If Surveyed while Building, Afloat, or in Dry Dock. *While Building, afloat & in Dry Dock.*

LENGTH on deck as per Rule	Feet. Inches.	BREADTH Moulded	Feet. Inches.	DEPTH top of Floors to Upper Deck Beams	Feet. Inches.	Do. do. Main Deck Beams	Feet. Inches.	Power of Engines	Horse.	No. of Decks with flat laid 4 including	No. of Tiers of Beams 4 including
<i>358</i>	<i>6</i>	<i>42</i>	<i>6</i>	<i>28</i>	<i>25</i>	<i>16</i>	<i>9</i>	<i>500</i>	<i>500</i>	<i>4</i>	<i>4</i>
Dimensions of Ship per Register, length, <i>360</i> breadth, <i>43.0</i> depth, <i>24.85</i>											
KEEL, depth and thickness	<i>12 x 1 1/2</i>	<i>12 x 1 1/2</i>									
STEM, moulding and thickness	<i>Iron</i>	<i>12 x 2 3/4</i>									
STERN-POST for Rudder do. do.	<i>Iron</i>	<i>12 x 5 1/2</i>									
" " for Propeller	<i>Iron</i>	<i>11 5/8 x 5 7/8</i>									
Distance of Frames from moulding edge to moulding edge, all fore and aft	<i>24 ins</i>	<i>24 ins</i>									
FRAMES, Angle <i>Iron</i> , for 1/2 length amidships	<i>5 1/2</i>	<i>3 1/2</i>	<i>13</i>								
Do. for 1/2 at each end	<i>5 1/2</i>	<i>3 1/2</i>	<i>11</i>								
REVERSED FRAMES, Angle <i>Iron</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<i>12 x 2 3/4</i>	<i>12 x 2 3/4</i>									
" thickness at the ends of vessel	<i>12 x 5 1/2</i>	<i>12 x 5 1/2</i>									
" depth at 1/2 the half-bdth. as per Rule	<i>12 x 5 1/2</i>	<i>12 x 5 1/2</i>									
" height extended at the Bilges	<i>24 ins</i>	<i>24 ins</i>									
BEAMS, Upper, Spar, or Awning Deck	<i>8</i>	<i>13</i>	<i>8</i>								
Single or double Angle <i>Iron</i> , Plate or Tee Bulb <i>Iron</i>	<i>3 1/2</i>	<i>3</i>	<i>12</i>								
Average space	<i>5</i>	<i>3</i>	<i>13</i>								
BEAMS, Main, or Middle Deck	<i>4 8 ins</i>	<i>15</i>	<i>4 8 ins</i>								
Single or double Angle <i>Iron</i> , Plate or Tee Bulb <i>Iron</i>	<i>9 5</i>	<i>3</i>	<i>14</i>								
Average space	<i>6</i>	<i>3</i>	<i>15</i>								
BEAMS, Lower Deck	<i>4 8 ins</i>	<i>18</i>	<i>4 8 ins</i>								
Single or double Angle <i>Iron</i> , Plate or Tee Bulb <i>Iron</i>	<i>4</i>	<i>3</i>	<i>14</i>								
Average space	<i>4 8 ins</i>	<i>4 8 ins</i>									
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	<i>51</i>	<i>18</i>	<i>51</i>								
" Rider Plate	<i>36</i>	<i>16</i>	<i>36</i>								
" Bulb Plate to Intercoastal Keelson	<i>4</i>	<i>4</i>	<i>16</i>								
" Angle <i>Iron</i> <i>Steel</i>	<i>4</i>	<i>4</i>	<i>16</i>								
" Double Angle <i>Iron</i> Side Keelson	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
" 3 Side Intercoastal Plate <i>Iron</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
" do. Angle <i>Iron</i> <i>Steel</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
" Attached to outside plating with angle <i>Iron</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
BILGE Angle <i>Iron</i> <i>Steel</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
" do. Bulb <i>Iron</i> <i>Steel</i>	<i>3 1/2</i>	<i>3 1/2</i>	<i>13</i>								
" do. Intercoastal plates riveted to plating for <i>do. bottom</i>	<i>12</i>	<i>12</i>									
BILGE STRINGER Angle <i>Iron</i>	<i>6</i>	<i>4</i>	<i>9</i>								
Intercoastal plates riveted to plating for <i>do. bottom</i>	<i>12</i>	<i>12</i>									
Bilge keel <i>do. Bulb</i> <i>1 1/2</i> , Angle <i>do. 4 1/2 x 1/2</i>	<i>12</i>	<i>12</i>									
SIDE STRINGER Angle <i>Iron</i>	<i>12</i>	<i>12</i>									
Transoms, material. Knight-heads. Hawse Timbers.	<i>Steel</i>										
Windlass <i>Patent</i> Pall Bitt											

The FRAMES extend in one length from *Bilge to Bilge and from Bilge to the other side* Riveted through plates with *7/8* in. Rivets, about *7* apart.
The REVERSED ANGLE IRONS on floors and frames extend *from middle line to wing plate & alter. between girders* and to *main & up. str.* 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 1/2* 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 *3* Strakes at Bilge for *2/3* 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 *1 1/8* in. diameter, averaging *4 1/2* ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *1 1/8* in. diameter, averaging *4 1/2* 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 *1/2* length amidships. Butts of Upper or Spar Sheerstrake, treble riveted *1/2* length amidships.
Butts of Main Stringer Plate, treble riveted for *1/2* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *1/2* length.
Breadth of laps of plating in double riveting *6" x 5 1/2* Breadth of laps of plating in single riveting *✓*

Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *Treble & Double*
Waterway, how secured to Beams *Riveted* (Explain by Sketch, if necessary.)
Beams of the various Decks, how secured to the sides? *Forged knee ends* No. of Breasthooks, *4* Crutches, *3*
What description of *Steel* is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *"Steel C^o of Scotland", Messrs J. & J. Beadmore, "Krupp"*
Manufacturer's name or trade mark, *"Kallide", "Parkhead", & "Krupp"*

The above is a correct description.
Builder's Signature, *A. McMillan & Sons* Surveyor's Signature, *J. A. Dodd*
Surveyor to Lloyd's Register of British and Foreign Shipping.

Workmanship. Are the butts of plating planed or otherwise fitted?

Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies?

Are the fillings between the ribs and plates solid single pieces?

Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other?

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

Do any rivets break into or through the seams or butts of the plating?

Masts, Bowsprit, Yards, &c., are of steel 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. The four masts are built in accordance with the approved sketch, see Secretary's letter of the 24 Sep. 1880. The steel for these masts were tested at Messrs Krupp's Works, Essen, in accordance with the requirements of the Rules.

NUMBER for EQUIPMENT 39298		Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Suprntd.	ANCHORS.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Machine where Tested & Suprntd.	
SAILES.		CABLES, &c.											
N ^o .	Chain	149 1/2	2 7/8	107.1	300 fms	Reherton	Bower Anchors	1	40-1-0	35-18-3-0	40 cwt	Reherton	
Fore Sails,	(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)	150 1/2	---	75.5	of 2 1/8 ins	signed by	(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)	1	8-2-0	---	total	Reherton	
Fore Top Sails,	Iron Str'm Chain	14 1/2	1 3/8	1881.	90 of 1 3/8	by	13 April 1881.	1	40-0-0	35-15-0-0	114 cwt	signed by	
	Ditto do.	90	1 3/8	38	90-12"	D. G.		1	35-0-11	32-9-1-14		by	
Fore Topmast Stay Sails,	Hmpn Strm Cbl	15 1/2	1 3/8	25.35	90-12"		Stream	1	11-2-16	13-10-0-0	12 cwt	D. G.	
	Hawser ...	120 fms	1 5/8	---	90-12"	Lewis.	13/4/81.	1	2-2-9	---			
Main Sails,	Towlines	2 of 100 fms	1 3/8	---	90-8"		Kedge	1	6-4-27	7-0-0-0	6- --	Lewis	
	Warp ...	90	12	---	---		Ditto	1	1-2-33	---			
Main Top Sails, and spare	quality	90 of 8" and 90 of 6"	---	---	---			1	13/4/81.	2-3-15	5-10-0-0	3- --	
		90	10	---	---				2-2-4	---			

Standing and Running Rigging sufficient in size and good in quality. She has 2 Long Boats and 4 others

The Windlass is Paul's Patent, good Capstan good and Rudder good Pumps

Engine Room Skylights.—How constructed? Deck on Iron Coaming How secured in ordinary weather? By bolts

What arrangements for deadlights in bad weather? Deadlights hinged to skylights

Coal Bunker Openings.—How constructed? Cast Iron How are lids secured? Bayonet fixing Height above deck? Flush

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? Open bulwarks above shelter deck.

Cargo Hatchways.—How formed? As usual 2 ash chotts. Also 8 scuppers above main deck with plugs fitted.

State size Main Hatches 19ft x 10ft Forehatch 11'9" x 8' x 6ft x 8ft. Quarterhatch 8ft x 8ft. State if of extraordinary size, state how framed and secured? Not of an extraordinary size. case of need.

What arrangement for shifting beams? One plate frame in main hatchways

Hatches, If strong and efficient? Yes

Order for Special Survey No. 147	DATE 26 Feb 1880	1st. On the several parts of the frame, when in place, and before the plating was wrought	Specially Surveyed:—1880:—May 14, 21, 24; June 7, 14, 17, 21, 24, 28, 30;
Order for Ordinary Survey No. 231	DATE 26 Feb 1880	2nd. On the plating during the process of riveting	July 1; Aug 6, 9, 12, 16, 19, 23, 25; Sep 2, 7, 8, 13, 15, 16, 20, 23, 27, 30; Oct 4, 8, 11, 13,
		3rd. When the beams were in and fastened, and before the decks were laid....	14, 19, 22, 25, 27, 28; Nov 1, 3, 4, 14, 16, 18, 22, 24, 29; Dec 2, 6, 9, 13, 16, 20, 27, 30; 1881:—
		4th. When the ship was complete, and before the plating was finally coated or cemented..	Jan. 10, 13, 17, 20, 24, 27, 31; Feb. 6, 10, 17, 14, 21, 23, 24; Mar 2, 7, 10, 14, 22,
		5th. After the ship was launched and equipped	28; April 4, 8, 11, 14, 18, 21, 28; May 3, 6, 9, 12, 17, 19, 23; June 1, 4, 8,

General Remarks (State quality of workmanship, &c.) The workmanship is good. She is built of steel and is a sister vessel to the Iron S. S. "Persian Monarch" and to the Iron S. S. "Egyptian Monarch". She has been built in accordance with approved tracings, and instructions contained in Secretary's letters of the 22nd Jan, 18th Mar, 23rd April, 18th May, 21st June, 6th July, 12th & 26th Aug, 24th Sep and 20th Dec. 1880.

The double bottom extends for the length of 292 ft, divided into three separate compartments with a space of frames for well to each compartment, the capacity of this double bottom (cellular) is 600 tons, and each compartment was tested with a head of water as required by the Rules. She has a shade deck constructed as approved on sketch attached herewith, and there are inside bulwarks enclosing the hatchways, these bulwarks enclose for a space of 98 ft x 20 ft and aft 94 x 20. Instead of pillars in hold there is a fore & aft bulkhead 4 1/2" steel stiffened with double T bars 5 x 3 x 8/16, 4 ft apart. The steel has been tested as required by the Rules and the whole of the requirements of Circulars 4th 392 & 414 have been complied with, and the sheerstakes, stringers and garboard plates, together with the whole of the butt straps exceeding 8/16" in thickness have been augmented or rimed after punching.

A part of the steel was tested at the Glasgow testing machine and the other part at the manufacturer's works.

House on shelter deck & casing 43 ft x 18 ft. Chart house 11 ft x 13 ft. 6 ins. with shelter deck all fore & aft. Draught of 23 ft. 6 ins. as in Egyptian Monarch. 292 ft.

State if one, two, or three decked vessel, or if open, or running decked, and the length of poop, forecabin, or raised quarter deck, and the length of double, or pure double bottom.

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

I am of opinion this Vessel should be Classed *100 A.1. "2 steel dks", "3 dks Rule" & "Shelter deck" "Load line 23' 6".

The amount of the Entry Fee ... £ 5 : : : is received by me, July 1880

Special ... £ 119 : 19 : : 7th July 1881

Certificate ... : : : : : J. J. Dodd

(Travelling Expenses, if any, £ 9.9/6.)

Committee's Minute Friday, July, 8th 1881.

Character assigned 100 A.1. Speed 3 Dps & Shelter deck

Lloyd's Register of British and Foreign Shipping.

This vessel appears to be eligible to be classed as recommended.

Lloyd's Register of British and Foreign Shipping.

Foundation