

# Ship-Steel; Beams of Iron

## IRON SHIP.

THURS NOV 11

(Received at London Office,

No. 14105 Survey held at *Sunderland* Date, First Survey *May 24 1886* Last Survey *November 9 1886*  
On the *Steel S.S. "Federation"* *Jan 22 1886*

TONNAGE under Tonnage Deck } *590.28*

*11.35*

Ditto of Poop, or Raised Or. Dk. } *66.52*

Ditto of Houses on Deck } *24.00*

Ditto of Forecastle } *32.31*

Gross Tonnage } *724.46*

Less Crew Space } *56.43*

Less Engine Room } *668.03*

Less Engine Room } *231.83*

Register Tonnage as out on Beam } *436.20*

ONE, OR TWO DECKED, THREE DECKED VESSEL,

SPAR, OR AWNING DECKED VESSEL.

Half Breadth (moulded) . . . . . *15.29*

Depth from upper part of Keel to top of Upper Deck Beams *15.08*

Girth of Half Midship Frame (as per Rule) . . . . . *27.33*

1st Number . . . . . *57.70*

1st Number, if a 3-Decked Vessel . . deduct 7 feet

Length . . . . . *218.25*

2nd Number . . . . . *12,593*

Proportions— Breadths to Length . . . . . *7.1*

Depths to Length— Upper Deck to Keel . . . . . *14.47*

Main Deck ditto . . . . .

Master *C. Sheerwood*

Built at *Sunderland*

When built *1886* Launched *Oct 12 1886*

By whom built *S.P. Austin & Son*

Owners *Co-operative Wholesale Society*

Residence *Manchester*

Port belonging to *Goole*

Destined Voyage *Coasting*

Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule *218 3* BREADTH— Moulded *30 7* DEPTH top of Floors to Upper Deck Beams *12 6* Power of Engines *130* Horse. *130* N° of Decks with flat laid *one* N° of Tiers of Beams *one*

Dimensions of Ship per Register, length, *220.0* breadth *30.75* depth *12.5*

Centre through plate *Keel* *Keelson*

KEEL, depth and thickness *7 x 2 3/8* *7 x 2 3/8*

STEM, moulding and thickness *7 x 2 3/8* *7 x 2 3/8*

STERN-POST for Rudder do. do. *7 x 4 3/4* *7 x 4 3/4*

" " for Propeller *7 x 4 3/4* *7 x 4 3/4*

Distance of Frames from moulding edge to moulding edge, all fore and aft *22* *22*

FRAMES, Angle Iron, for 1/2 length amidships *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2*

Do. for 1/4 at each end *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2*

REVERSED FRAMES, Angle Iron *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2* *3 1/2*

FLOORS, depth and thickness of Floor Plate at mid line for half length amidships *Longitudinal*

thickness at the ends of vessel *and Transverse*

depth at 1/4 the half-bdth. as per Rule *as per*

height extended at the Bilges *Midship Section*

BEAMS, Upper, Spar, or Awning Deck *5 1/2* *3* *8 1/6* *5 1/2* *3* *8*

Single or d'ble Ang. Iron, Plate or Tee Bulb Iron

Single or double Angle Iron on Upper edge

Average space *22* *22*

BEAMS, Main, or Middle Deck

Single or d'ble Ang. Iron, Plate or Tee Bulb Iron

Single or double Angle Iron, on Upper Edge

Average space

BEAMS, Hold, or Orlop

Single or d'ble Ang. Iron, Plate or Tee Bulb Iron

Single or double Angle Iron on Upper Edge

Average space

KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates

" Rider Plate

" Bulb Plate to Intercoastal Keelson

" Angle Irons

" Double Angle Iron Side Keelson

" Side Intercoastal Plate

" 2" do. Angle Irons

Attached to outside plating with angle iron *3 2 1/2 6 3 2 1/2 6*

BILGE Angle Irons

" do. Bulb Iron

" do. Intercoastal plates riveted to plating for length

BILGE STRINGER Angle Irons *5 3 1/2 7 4 1/2 3 1/2 7 4 1/2 3 1/2 7*

Intercoastal plates riveted to plating for 1/2 length

SIDE STRINGER Angle Irons *5 3 1/2 7 4 1/2 3 1/2 7 4 1/2 3 1/2 7*

Bulb & Intercoastal each 3 1/2 length

The FRAMES extend in one length from *Bilge to Bilge and thence to Gun*

The REVERSED ANGLE IRONS on floors and frames extend *from middle line to Bridge, up to 1st St*

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. *all Rivets of Iron*

" Edges of Garboards and to upper part of Bilge, worked clench, double riveted; with rivets *3/4* in. diameter, averaging *3 1/8* ins. from centre to centre.

" Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets *3/4* in. diameter averaging *2 7/8* ins. from centre to centre.

" Butts of one Strakes at Bilge for *1/2* length, treble riveted with Butt Straps *3/20* thicker than the plates they connect. *See side of hull*

" Edges from Bilge to Main Sheerstrake, worked clench, double or single riveted; with rivets *3/4* in. diameter, averaging *3 1/8* ins. from cr. to cr. *See side of hull*

" Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *3/4* in. diameter, averaging *2 7/8* 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 *length amidships*

" Butts of Main Stringer Plate, treble riveted for *1/2* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *length*

" Breadth of laps of plating in double riveting *4 1/2* Breadth of laps of plating in single riveting *Nil*

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *double & treble* No. of Breasthooks, *6 3/4* Crutches, *3 3/4*

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *Bulbs (Iron) Palmer & Co*

Manufacturer's name or trade mark, *Palmer & Co and pt Consort 185 Co*

The above is a correct description.

Builder's Signature, *J. P. Hudson* Surveyor's Signature, *J. Keen*

Surveyor to Lloyd's Register of British and Foreign Shipping.

State clearly where plating is of alternate thickness—as distinguished from plain plating thickness at ends of vessel.

\* If Iron Deck, state if whole or part, and if wood deck is laid thereon.



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? *Solid*  
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? *at the butts in a few cases only*  
Masts, Bowsprit, Yards, &c., are *Pine* 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, State also Length and Diameter of Lower Masts and Bowsprit

| NUMBER for EQUIPMENT                                    |                   | Fathoms.  | Inches. | Test per Certificate. | Inches per Rule. | Machine where Tested & Suprntd. | ANCHORS.      | N <sup>o</sup> .                         | Weight. Ex. Stock. | Test per Certificate. | W'ght req'd per Rule. | Machine where Tested & Suprntd. |
|---|-------------------|---|---------|-----------------------|------------------|---------------------------------|---------------|--|--------------------|-----------------------|-----------------------|---------------------------------|
| SAILS.  |                   |   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| CABLES, &c.   |                   |   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| N.  | Chain             | 240   | 1 7/16  | 55.37 1/2             | 1 7/16           | 6375                            | Bower Anchors | 15478                                    | 18.2.7             | 19.10.3.21            | 18.0.0                | 30 July 1886                    |
| Fore Sails,   | Iron Stream Chain | 60  | 1 5/16  | 23 1/2                | 1 5/16           | 7921                            |               | 15479                                    | 18.2.7             | 19.10.3.21            | 18.0.0                | D <sup>o</sup>                  |
| Fore Top Sails,   | or Steel Wire     | 90  | 3/4     | 22                    | 90.9 1/2         |                                 |               | 15477                                    | 15.2.14            | 17.0.3.21             | 15.1.0                | D <sup>o</sup>                  |
| Fore Topmast Stay Sails,                                | Cable             | -60   | 2 1/2   | 12 1/4                | 90.7 1/2         |                                 |               | R.H.C.P.T. J. Hattings Sup <sup>ts</sup> |                    |                       |                       |                                 |
| Main Sails,   | Towline, Hemp     | 90  | 8       |                       | 90.5 1/2         |                                 | Stream Anchor | 15481                                    | 6.1.14             | 8.12.20               | 6.2.0                 | 30 July 1886                    |
| Main Top Sails, and                                     | Hawser            | 180   | 6       |                       |                  |                                 | Kedge         | 15480                                    | 3.3.0              | 6.3.0.14              | 3.1.0                 | D <sup>o</sup>                  |
|   | Warp              | 90  | 5       |                       |                  |                                 | 2nd Kedge     |  | 1.1.27             |                       | 1.2.0                 |                                 |
| Standing and Running Rigging                            |                   | G.I. Knot Rope sufficient in size and good in quality. She has 2 life Long Boats and 2 others     |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| The Windlass is   |                   | Iron patent good Capstan 3 kinds and Rudder good Pumps three hand good                            |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| Engine Room Skylights.                                  |                   | How constructed? on Casings; Seal How secured in ordinary weather? hand screws                    |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| What arrangements for deadlights in bad weather?        |                   | Solid Shutters fitted with Bulls eyes   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| Coal Bunker Openings.                                   |                   | How constructed? Steel Coamings How are lids secured? bars Height above deck? 16 ins.             |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| Scuppers, &c.   |                   | What arrangements for clearing upper deck of water, in case of shipping a sea? Scuppers and Ports |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| Cargo Hatchways.  |                   | How formed? Steel plates fitted in the usual manner   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| State size Main Hatch                                   |                   | 23 3/4 x 11 feet Forehatch 14 3/4 x 11 feet Quarterhatch 20 ft x 12 feet                          |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| If of extraordinary size, state how framed and secured? |                   | Fitted with Web plate and Shifting Beams  |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| What arrangement for shifting beams?                    |                   | also fore and aft Casings   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |
| Hatches, If strong and efficient?                       |                   | Solid and efficient   |         |                       |                  |                                 |               |  |                    |                       |                       |                                 |

Order for Special Survey No. 156 Date 28 June 86  
Order for Ordinary Survey No. 156 Date 28 June 86  
No. 156 in builder's yard.  
State dates of letters respecting this case. 20<sup>th</sup> May and 7. Sept 1886.  
General Remarks (State quality of workmanship, &c.) Good.

This Vessel was built under Special Survey in accordance with the Rules and accompanying Drawings 4. 8<sup>th</sup>.  
The latter She has a full poop 35 1/4 ft. Space between it and Bridge of 17 feet covered with shifting D<sup>o</sup> & D<sup>o</sup> sides. Enclosed Bridge 65 1/2 feet and Forecastle 30 ft. respectively in length.  
Cellular Double Bottom 36 3/4 ft = 24, + 44 ft = 67 tons, + 42 1/4 ft = 73 tons + 53 1/4 ft = 58 tons. Total 176 1/4 feet containing 222 tons.  
The Committees Circular on Steel has now been conformed to.  
The Centre through keelson and two side girders in Tanks are increased 1/2" in thickness, Tanks being 3" less than Rule depth.  
A Freeboard of 14 10/16 in and 2 ft has now been marked on the Ships side, but the temporary platform from bridge to Forecastle is not yet fitted. See Owners letter hereon attached.

State if one, two, or three decked vessel, and the lengths of poop, bridge, forecastle, or raised quarter deck. (If double bottom, state particulars on separate form.)  
How are the surfaces preserved from oxidation? Inside Cement and Paint Outside Paint  
I am of opinion this Vessel should be Classed 100A.1 Steel. Beams Iron  
The amount of the Entry Fee £ 3 : 0 : 0 is received by me, J. Keen  
Special £ 33 : 8 : 0 5<sup>th</sup> Nov 1886  
(to be sent as per margin). Certificate ...  
(Travelling Expenses, if any, & ...)  
Committee's Minute FRIDAY NOV 12 1886  
Character, assigned 100 A 1 Steel Beams Iron  
Surveyor to Lloyd's Register of British and Foreign Shipping.  
It is submitted that this vessel appears worthy to be classed 100A.1 Steel "Beams Iron" as recommended.  
15K (Steel)  
Cellular Double Bottom  
The Freeboard assigned by the Committee to this vessel and as per ship attached has now been marked on the vessels side.

No. 1  
No. 2  
Reg. B  
Master  
Engine  
Boiler  
Regist  
ENGL  
Descrip  
Diamet  
Diamet  
Diamet  
No. of  
No. of  
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