

IRON SHIP.

No. 4200 Survey held at Hartlepool Date, First Survey 29th April Last Survey 3rd October 1879
On the Scrubber "Gracie" Master John Brown
TONNAGE under 1166.61 ONE, OR TWO DECKED, THREE DECKED VESSEL.
Tonnage Deck 10.01 SPAR, OR AWNING-DECKED VESSEL.
Deck of Upper Spar, or Awning Deck. 159.93 HALF BREADTH (moulded)... 15-11 Feet.
Ditto of Lower Spar, or Awning Deck. 3.46 DEPTH from upper part of Keel to top of Upper Deck Beams 10-7
Ditto of Houses on Deck 31.30 GIRTH of Half Midship Frame (as per Rule) 30-1
Ditto of Forecastle 134.30 1st NUMBER 64.7
Gross Tonnage 1340.55 1st NUMBER, if a 3-DECKED VESSEL, deduct 7 feet.
Less Crew Space 446.20 LENGTH 259.6
Less Engine Room 094.35 2nd NUMBER 16750
Register Tonnage (as cut on Beam) 1340.55 PROPORTIONS—Breadths to Length 0.614
Depths to Length—Upper Deck to Keel 0.3514
Main Deck ditto 0.3514

When built 1879 Launched 1 Sept
By whom built E. & W. Wither
Owners S. Clarke & Co.
Port belonging to London
Destined Voyage London
If Surveyed while Building, Afloat, or in Dry Dock.

| LENGTH | Feet. | Inches. | BREADTH | Feet. | Inches. | DEPTH | Feet. | Inches. | Power of | Horse. | No. of Decks with flat laid | No. of Tiers of Beams |
|----------------------------------------------------------------------------------------|----------------------------------|---------|---------|-------|---------|-----------------------------------|--------|---------|----------|--------|-----------------------------|-----------------------|
| on deck as per Rule | 259 | 6 | Moulded | 31 | 10 | top of Floors to Upper Deck Beams | 17 | 1 | Engines | 100 | One | Two |
| Dimensions of Ship per Register, length, 261 breadth, 32-1 depth, 17-1 | | | | | | | | | | | | |
| Inches in Ship. Inches per Rule. | | | | | | | | | | | | |
| KEEL, depth and thickness | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | | | | |
| STEM, moulding and thickness | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | | | | |
| STERN-POST for Rudder do. do. | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | | | | |
| " " for Propeller | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | 9 | 2 1/2 | | | | |
| Distance of Frames from moulding edge to moulding edge, all fore and aft | 24 | | 24 | | 24 | | 24 | | | | | |
| (Class 100 A1) | | | | | | | | | | | | |
| FRAMES, Angle Iron, for 1/2 length amidships | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | | | | |
| Do. for 1/2 at each end | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | | | | |
| REVERSED FRAMES, Angle Iron | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |
| FLOORS, depth and thickness of Floor Plate at mid line for half length amidships | 19 | 8 1/2 | 19 | 8 1/2 | 19 | 8 1/2 | 19 | 8 1/2 | | | | |
| " thickness at the ends of vessel | 13 1/2 | | 13 1/2 | | 13 1/2 | | 13 1/2 | | | | | |
| " depth at 1/2 the half-bdth. as per Rule | 30 | | 30 | | 30 | | 30 | | | | | |
| " height extended at the Bilges | 7 1/2 | | 7 1/2 | | 7 1/2 | | 7 1/2 | | | | | |
| BEAMS, Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |
| Single or double Angle Iron on Upper edge | 40 | | 40 | | 40 | | 40 | | | | | |
| Average space | | | | | | | | | | | | |
| BEAMS, Main, or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | | | | |
| Single or double Angle Iron on Upper Edge | 10 | | 10 | | 10 | | 10 | | | | | |
| Average space | | | | | | | | | | | | |
| BEAMS, Lower Deck, Hold, or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | | | | |
| Single or double Angle Iron on Upper Edge | 10 | | 10 | | 10 | | 10 | | | | | |
| Average space | | | | | | | | | | | | |
| KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates | 17 | 12 | 17 | 12 | 17 | 12 | 17 | 12 | | | | |
| " Rider Plate | 11 | 12 | 11 | 12 | 11 | 12 | 11 | 12 | | | | |
| " Bulb Plate to Intercoastal Keelson | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | | | | |
| " Angle Irons | 20 | | 20 | | 20 | | 20 | | | | | |
| " Double Angle Iron Side Keelson | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | | | | |
| " Side Intercoastal Plate | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |
| " do. Angle Irons | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | | | | |
| " Attached to outside plating with angle iron | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | | | | |
| BILGE Angle Irons | 16 | | 16 | | 16 | | 16 | | | | | |
| " do. Bulb Iron | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | | | | |
| " do. Intercoastal plates riveted to plating for whole length | 9 | | 9 | | 9 | | 9 | | | | | |
| BILGE STRINGER Angle Irons | 9 | | 9 | | 9 | | 9 | | | | | |
| Intercoastal plates riveted to plating for half length | | | | | | | | | | | | |
| SIDE STRINGER Angle Irons | | | | | | | | | | | | |
| Transoms, material. Knight-heads. Hawse Timbers. | Plaster | | | | | | | | | | | |
| Windlass | Hartfield No. 1 Patent Fall Bitt | | | | | | | | | | | |

The FRAMES extend in one length from Keel to gunwale Riveted through plates with 7/8 in. Rivets, about 7 in. apart.

The REVERSED ANGLE IRONS on floors and frames extend across middle line to above hold beam 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 1/2 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 7/8 ins. from centre to centre.

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

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

" Breadth of laps of plating in double riveting 3 1/4 Breadth of laps of plating in single riveting Double & Treble

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double & Treble

Waterway, how secured to Beams (Explain by Sketch, if necessary.)

Beams of the various Decks, how secured to the sides? End turned & piece riveted No. of Breasthooks, Seven Crutches, Three

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Good

Manufacturer's name or trade mark, Sheffield & Co. Lof Head No.

The above is a correct description.

Builder's Signature, E. Wither & Co. Surveyor's Signature, S. P. Wither Surveyor to Lloyd's Register of British and Foreign Shipping.

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 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? *A few in butts*

Masts, Bowsprit, Yards, &c., are *R. 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, and if stamped with Maker's name.
State also Length and Diameter of Lower Masts and Bowsprit *Main Mast 65 ft Diameter 19 inches, Fore Mast 70 ft Diameter 19*

| NUMBER for EQUIPMENT | | 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. |
|--------------------------|------------------|----------|---------|-----------------------|------------------|---------------------------------|--------------------------------------------------------------------------------------|------------------|--------------------|-----------------------|-----------------------|---------------------------------|
| SAILS. | | | | | | | | | | | | |
| CABLES, &c. | | | | | | | | | | | | |
| Chain | | 270 | 1 5/8 | 47 5/8 | 270 of 1 5/8 | 47 5/8 | Bower Anchors | 3 | 25-2-5 | 25-5-5-21 | 25-2-0 | 25-3-0-0 |
| Fore Sails, | Iron Str'm Chain | | | | | | (State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.) | | 24-2-22 | 24-10-2-14 | 25-2-0 | 25-3-0-0 |
| Fore Top Sails, | Ditto do. | | | | | | | | 22-2-9 | 23-0-2-14 | 21-2-20 | 22-2-0-0 |
| Fore Topmast Stay Sails, | Hmpn Strm Cbl | 75 | 1 | 10 1/2 | 75 of 1 | 10 1/2 | Stream | 1 | 0-2-11 | 10-15-0-0 | 0-2-0 | 10-12-0-0 |
| Main Sails, | Hawser | 00 | 10 | | 90 of 10 | | Kedge | 1 | 4-0-25 | 6-12-2-0 | 4-1-0 | 6-12-0-0 |
| Main Top Sails, and | Towlines | 00 | 11 | | 90 of 11 | | Ditto | 1 | 2-2-5 | 5-2-2-0 | 2-1-0 | 4-15-0-0 |
| | Warp | 00 | 6 | | 90 of 6 | | | | | | | |
| | quality | 120 | 5 | | | | | | | | | |

Standing and Running Rigging *Wire & Hemp* sufficient in size and *Good* quality. She has *Four* Long Boats and *Good*
The Windlass is *Good* Capstan *Good* and Rudder *Good* Pumps *Four of 6 inch Metal*
Engine Room Skylights. How constructed? *3 in Pine 1 1/4 casing & 3/16 casing* How secured in ordinary weather? *Bullheads*
What arrangements for deadlights in bad weather? *Bullheads*
Coal Bunker Openings. How constructed? *Iron casing* How are lids secured? *Nails* Height above deck? *15 inches*
Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *Scuppers & Scuppers*

Cargo Hatchways. How formed? *6/16 Plate*
State size Main Hatch *20 x 12 ft* Fore Hatch *16 ft x 12 ft* Quarter Hatch *16 ft x 12 ft*
If of extraordinary size, state how framed and secured?
What arrangement for shifting beams? *One shifting beam in main & one beam in each of the other hatchways*
Hatches, If strong and efficient? *2 1/2 in Good*

| | | | |
|------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Order for Special Survey No. <i>748</i> | 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 | Special Survey Date of Surveys 1879. April 29. May 1-7-9-13-20-27 June 6-11-18-26. July 4-10-11-14-18-24-28 Aug 5-8-12-15-19-29. Sept 5-22-25-29. Oct 3. |
| Date <i>2 May 1879</i> | | 2nd. On the plating during the process of riveting | |
| Order for Ordinary Survey No. <i>749</i> | | 3rd. When the beams were in and fastened, and before the decks were laid.... | |
| Date <i>2 May 1879</i> | | 4th. When the ship was complete, and before the plating was finally coated or cemented.. | |
| No. <i>D3</i> in builder's yard. | | 5th. After the ship was launched and equipped | |

General Remarks (State quality of workmanship, &c.) *Workmanship & material good*
Is fitted with long Raised Quarter Deck frames all to the top height. Beams of R^d Deck 7 1/2 x 7 1/2 bulb. Double angles top edges 3 x 3 x 6/16. Stringer plates on ends 37 x 10 1/16 Angles on Dr. 5 x 4 x 9 1/16. The plates 12 x 8 1/16. Plating outside 10 1/16 - 9 1/16 - 8 1/16 x 7 1/16. Beams plated over for 100 ft with 3 1/2 in R. Pine & 1/2 in Forecastle beams 6 1/2 x 6 1/16. Double angles top edges 2 3/4 x 2 3/4 x 5 1/16 Stringer plates 21 x 6 1/16. Angles on Dr. 3 x 3. The plates 8 1/2 x 6 1/16. Plating outside 6 1/16. Deck 3 in R. Pine.
Water ballast tanks fitted in fore & after hold. Frames cut connection made with three plates side plates 7 1/16 Angles on Dr. 4 x 3 x 7 1/16. Mid plates 6 1/16 Angles on Dr. 3 x 2 1/2 x 5 1/16. Top plating 6 1/16. Tested by 4 head of water to the height of load line. Additional strengthening at break of Raised Deck.
Main Deck beam stringer plates extend 12 frame spaces abaft break. Raised Dr. 4 spaces before Hold beam stringers overlap 16 ft. Plating at side increased in thickness.
Sheerstrakes increased in thickness 2 1/16 and strake below Dr. 1/16 for half length in head of Doubling Sheerstrake

State if one, two, or three decked vessel, or if spar, or awning decked, and the lengths of *poop*, fore-castle, or raised quarter deck, and the length of double, or part double bottom. *31 ft 14 ft 14 ft*
How are the surfaces preserved from oxidation? Inside *Flat cemented with Portland cement* Outside *After parts with paint*
I am of opinion this Vessel should be Classed *100 A1*
The amount of the Entry Fee ... £ *5 : 0 : 0* is received by me, *W. W. W. W.*
Special ... £ *50 : 10 : 0* - *17 Oct 1879*
Certificate ...
(Travelling Expenses, if any, £ *5*.)
Committee's Minute *21st October, 1879.*
Character assigned *100 A1*
Lloyd's M.C.P. 79 double bottom 170 ft
Surveyor to Lloyd's Register of British and Foreign Shipping
this vessel appears eligible to be classed
as recommended by: - 100 A.1.
"One Sh. & 2 Str. Bms"
"Double bottom 170 ft"
Lloyd's Register
Foundation
20/10/79