

IRON SHIP.

No. *3926* Survey held at *West Hartlepool* Date, First Survey *1st August* Last Survey *14th Dec* 18*77*
On the *Sea Steamer "Calhalla"* Master *Petersen* No. *241277*

TONNAGE under 1102.72
Tonnage Deck 136.03
Ditto of Third, Spar, or Awning Deck.
Ditto of Poop, or Raised Or. Dk. 90.37
Ditto of Houses on Deck 36.34
Ditto of Forecastle 37.83
Gross Tonnage 1420.35
Less Crew Space 46.45
1373.90
Less Engine Room 454.51
Register Tonnage as cut on Beam 919.39

ONE, OR TWO DECKED, THREE DECKED VESSEL.
SPAR, OR AWNING DECKED VESSEL.
HALF BREADTH (moulded) 16.5
DEPTH from upper part of Keel to top of Upper Deck Beams 20.0
GIRTH of Half Midship Frame (as per Rule) 32.0
1st NUMBER 69.1
1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet]
LENGTH 239.10
2nd NUMBER 16572
PROPORTIONS—Breadths to Length within 7 1/2
Depth to Length—Upper Deck to Keel within 12
Main Deck ditto

Built at *West Hartlepool*
When built *1877* Launched *25 October*
By whom built *W Gray & Co*
Owners *J. A. Hind*
Port belonging to *West Hartlepool*
Destined Voyage *Mediterranean*
If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 239 10 Feet. Inches. BREADTH—Moulded 32 10 Feet. Inches. DEPTH top of Floors to Upper Deck Beams 20 0 Feet. Inches. Do. do. Main Deck Beams 18 0
Power of Engines 120 Horse. No. of Decks with flat laid One No. of Tiers of Beams Two

Dimensions of Ship per Register, length, 244-6 breadth, 33-2 depth, 10-1

	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2
STEM, moulding and thickness	8 x 2 1/2	8 x 2 1/2
STERN-POST for Rudder do. do.	8 x 5	8 x 5
for Propeller	8 x 5	8 x 5
Distance of Frames from moulding edge to moulding edge, all fore and aft	23	23
FRAMES, Angle Iron, for 3/4 length amidships	4 1/2 x 3	4 1/2 x 3
Do. for 1/4 at each end	4 1/2 x 3	4 1/2 x 3
REVERSED FRAMES, Angle Iron	3 x 3	3 x 3
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	2 1/2 x 7 1/6	2 1/2 x 7 1/6
thickness at the ends of vessel	7 1/6	7 1/6
depth at 3/4 the half-bdth. as per Rule	15	11
height extended at the Bilges	4 1/2	4 1/2
BEAMS, Upper, Spar, or Awning Deck Single or double Ang. Iron, Plate or Tee Bulb Iron	5 1/2 x 3	5 1/2 x 3
Single or double Angle Iron on Upper edge	2 3	2 3
Average space	2 3	2 3
BEAMS, Main, or Middle Deck Single or double Ang. Iron, Plate or Tee Bulb Iron	9 x 9 1/6	9 x 9 1/6
Single or double Angle Iron on Upper Edge	4 x 3 1/2	4 x 3 1/2
Average space	8 x 12 frames	8 x 12 frames
BEAMS, Lower Deck, Hold, or Orlop Single or double Ang. Iron, Plate or Tee Bulb Iron	9 x 9 1/6	9 x 9 1/6
Single or double Angle Iron on Upper Edge	4 x 3 1/2	4 x 3 1/2
Average space	8 x 12 frames	8 x 12 frames
KEELSONS Centre line, single or double plate, box, or intercostal, Plates	16 x 12 1/6	16 x 12 1/6
Rider Plate	11 x 12 1/6	10 3/4 x 12 1/6
Bulb Plate to Intercostal Keelson	5 x 3 1/2	5 x 3 1/2
Angle Irons	5 x 3 1/2	5 x 3 1/2
Double Angle Iron Side Keelson	5 x 3 1/2	5 x 3 1/2
Side Intercostal Plate	5 x 3 1/2	5 x 3 1/2
do. Angle Irons	5 x 3 1/2	5 x 3 1/2
Attached to outside plating with angle iron	3 1/2 x 3 1/2	3 x 3
Large Angle Irons	5 x 3 1/2	5 x 3 1/2
do. Bulb Iron	0 x 0	0 x 0
do. Intercostal plates riveted to plating for length	5 x 3 1/2	5 x 3 1/2
Large STRINGER Angle Irons	5 x 3 1/2	5 x 3 1/2
Intercostal plates riveted to plating for length	5 x 3 1/2	5 x 3 1/2
Small STRINGER Angle Irons	5 x 3 1/2	5 x 3 1/2

Booms, material. Knight-heads. Hawse Timbers. *Plates*
Class *Emerson & Walker* Pall Bitt

FRAMES extend in one length from *Keel* to *gunwale* Riveted through plates with *7/8* in. Rivets, about *6 1/2* apart.
REVERSED ANGLE IRONS on floors and frames extend *across* middle line to *above head beam string* and to *gunwale* alternately

JOINTS. Are the various lengths of Plates and Angle Irons properly connected? *Yes* And butts properly shifted? *Yes*

EG. 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 *3/4* in. diameter, averaging *3 3/4* ins. from centre to centre.

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

Butts of *three* Strakes at Bilge for *half* length, treble riveted with Butt Straps *7/16* thicker than the plates they connect.

Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets *3/4* in. diameter, averaging *3 1/4* ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *3/4* in. diameter, averaging *3 1/4* 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*.

Breadth of laps of plating in double riveting *5 1/4* x *4 1/4* Breadth of laps of plating in single riveting

Laps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *Double & treble*

How secured to Beams (Explain by Sketch, if necessary.) *Plates & angle iron*

the various Decks, how secured to the sides? *Ends turned & pieces welded & braced* No. of Breasthooks, *Six* Crutches, *Two*

Description of Iron used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c. *Good*

Maker's name or trade mark, *Scott's Iron Works, Hopton & Co, Mansfield Iron Works*

above is a correct description. Signature, *William Gray* Surveyor's Signature, *J. A. Hind*

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

IRON 575-0168

Workman ship. 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 single pieces*

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.*

19817 *Lin.*

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, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit *Main Mast 67 ft Dia 20 inches Mast 69 ft Dia 20 inches*

NUMBER for EQUIPMENT *10129*

SAILS.

Fore Sails,
Fore Top Sails,
Fore Topmast
Stay Sails
Main Sails,
Main Top Sails,
and

CABLES, &c.

Chain
At Sunderland 30 November 1877
J. Hartnack
Hampn Strm Cbl
Hawser ...
Towlines ...
Warp ...
quality *Good*

Fathoms.

Inches.

Test per Certificate.

Length & Size req'd pr Rule.

Test req'd per Rule.

ANCHORS.

N^o.

Weight. Ex. Stock.

Test per Certificate.

W'ght req'd per Rule.

Test req'd per Rule.

Bowers

3

At Sunderland 4 October 1877
J. Hartnack

Stream

1

10-0-0

10-0-0

Kedges

2

5-0-20
3-0-0

5-0-0
2-2-0

Standing and Running Rigging *Wire & Hemp* sufficient in size and *Good* in quality. She has *Four* Long Boats and *Good*

The Windlass is *Good* Capstan *Good* and Rudder *Good* Pumps *Four* of *Cinch Metal*

Engine Room Skylights.—How constructed? *3 in lead, 4 in canvas & 1/2 of lead* How secured in ordinary weather? *By lugs*

What arrangements for deadlights in bad weather? *By lugs*

Coal Bunker Openings.—How constructed? *Iron* How are lids secured? *Bars* Height above deck? *12 inches*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports & Scuppers*

Cargo Hatchways.—How formed? *7/16 plate*

State size Main Hatch *19 ft 4 in x 12 ft 6 in* Fore hatch *11 ft 7 in x 10 ft 6 in* Quarter hatch *23 ft 3 in x 12 ft 2 in* leaving *24 in*

If of extraordinary size, state how framed and secured?

What arrangement for shifting beams? *Two shifting web beams in after hatch, one in main do.*

Hatches, If strong and efficient? *Strong & Good*

Order for Special Survey No. *643*

Date *24 July 1877*

Order for Ordinary Survey No.

Date

No. *176* in builder's yard.

DATE 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
- 2nd. On the plating during the process of riveting
- 3rd. When the beams were in and fastened, and before the decks were laid...
- 4th. When the ship was complete, and before the plating was finally coated or cemented..
- 5th. After the ship was launched and equipped

Special Survey Date & Survey *1877*
Aug 1. 3-6-10-23-24-20-30 Sept 7-14-17-20-2
26-27 Oct 1-4-12-15-16-17-22-25 Nov 2-6-3
Dec 3-10-13-14-

General Remarks (State quality of workmanship, &c.) *Workmanship & material good*

Is fitted with long Raised Quarter Deck frames all to the 1/2 height, beams of angle 5 1/2 x 3 + 7/16 Stringers on ends of do. 3 1/2 x 10 1/16 Angles on do. 5 + 3 1/2 x 7/16 Deck 6/16 Plank over at after end for 53 ft with 3 in Pine Plating outside 9/16-8/16-7/16.

Forecastle frames to the 1/2 height beams of bulb 6 + 6/16 Double Angles on 1/2 edges 2 1/2 x 2 1/2 Stringers on end 2 1/2 + 6/16 Angles on do. 3 + 3 + 6/16 Tie plates 4 + 6/16 Plating outside 6/16 Water 11 + 1/4 Greenheart Deck 3 in 4 Pine.

Water ballast tanks fitted in fore & after hold, frames cut connection made with Piece plates, side plates 7/16 Angles on do. 3 1/2 + 3 1/2 + 7/16 web plates 6/16 Angles on do. 3 1/2 + 6/16 Plating 6/16 Tested by 4 head of water to the height of load line.

Additional strengthening at break of Raised Deck. The strakes doubled for 100 feet, Main Deck beam stringer plates extend 4 frame spaces abaft break, Ra Deck do. 5 frame spaces before. Holdbeam stringers overlap 16 ft. Butts of Plating double riveted in neighbourhood of break.

At 35 ft-2" 11 ft-6 in 11 ft-6 in 11 ft-6 in

State if one, two, or three, decked vessel, or if spar, or ironing decked, and the lengths of poop, fore-castle, or raised quarter deck, and the length of double, or part double

How are the surfaces preserved from oxidation? Inside *Hot painted with Portland cement* Outside *Hot painted with Portland cement*

I am of opinion this Vessel should be Classed *100 A1*

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

Special ... £ 59 : 6 : 6. 21 Dec 1877

Certificate ...

(Travelling Expenses, if any, £)

Committee's Minute *24 Dec 1877*

Character assigned *100 A1*

Double Bottom 29 ft 18 in 29 ft 18 in

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft

Double Bottom 129 ft