

IRON SHIP.

No. 3926 Survey held at West Hartlepool Date, First Survey 1st August Last Survey 14th Dec 1877

On the *S.S. "Cathalla"* Master *Petersen* Rec 24/12/77

TONNAGE under Tonnage Deck	1102.72
Ditto of Third, Spar, or Awning Deck.	136.03
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 Gross Space	46.45
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 Feet.
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 7/12	7.3
Depth to Length—Upper Deck to Keel within 12	11.99
Main Deck ditto	

Built at *West Hartlepool*

When built *1877* Launched *25 October*

By whom built *W Gray*

Owners *J. A. H. Smith*

Port belonging to *West Hartlepool*

Destined Voyage *Mediterranean*

If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule	239	Feet. Inches. 10	BREADTH—Moulded	32	Feet. Inches. 10	DEPTH top of Floors to Upper Deck Beams	10	Feet. Inches. 3	Power of Engines	120	Horse.	No. of Decks with flat laid	One	No. of Tiers of Beams	Two
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Dimensions of Ship per Register, length, 244-6 breadth, 33-2 depth, 10-1

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

	Inches. In Ship.	16ths. In Ship.	Inches. per Rule.	16ths. per Rule.
Flat Keel Plates, breadth and thickness	34	11/16	34	11/16
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	9 1/16	10 1/16	9 1/16	10 1/16
fm up. part of Bilge to lr. edge of Sh'rstrake	9 1/16	10 1/16	9 1/16	10 1/16
Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake. Upr. or Spar Dk. Sh'rstrake, brdth & thickness	36 1/2	13/16	36	13/16
Butt Straps to outside plating, breadth & thickness	9 3/4	11 1/4	9 10/16	11 1/4
Lengths of Plating	9 1/2	7 1/2	9 1/2	7 1/2
Shifts of Plating, and Stringers	4 1/2		4 1/2	
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	3 1/2	10/16	3 1/2	10/16
Angle Iron on ditto	5	3 1/2	5	3 1/2
Tie Plates fore and aft, outside Hatchways	2	8 1/2		
Diagonal Tie Plates on Beams No. of Pairs				
Planksheer material and scantling				
Waterways do. do.				
Flat of Upper Deck do. do.		6/16		6/16
How fastened to Beams	5/8	3/4	5/8	3/4
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness				
Is the Stringer Plate attached to the outside plating?				
Angle Irons on ditto, No.				
Tie Plates, outside Hatchways				
Diagonal Tie Plates on Beams, No. of pairs				
Waterways materials and scantlings				
Flat of Middle Deck do. do.				
How fastened to Beams				
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	31	9/16	31	9/16
Is the Stringer Plate attached to the outside plating?				
Angle Irons on ditto, No.	4	4	4	4
Stringer or Tie Plates, outside Hatchways				
Flat of Lower Deck				
Ceiling betwixt Decks, thickness and material in hold	2 1/2	Pin	2 1/2	
do. do. do.	2 1/2		2 1/2	
Main piece of Rudder, diameter at head do. at heel	5 3/4		5 3/4	
Can the Rudder be unshipped afloat?				
Bulkheads No. 4 Thickness of Height up main deck		6 1/2	6 1/2	5 1/2
How secured to sides of ship				
Size of Vertical Angle Irons	3	3	3	3
and distance apart				
Are the outside Plates doubled two spaces of Frames in length?				

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 hold beam string* and to *gunwale* alternately

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

EDGE 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 1/2* ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets *3/4* in. diameter averaging *3 1/4* 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 *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 *half* length amidships.

Butts of Main Stringer Plate, treble riveted for *half* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *half* length.

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

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

How secured to Beams (Explain by Sketch, if necessary) *as per sketch*

How the various Decks, how secured to the sides? *and turned & pins welded to plates* No. of Breasthooks, *Five* Crutches, *Two*

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

Maker's name or trade mark, *Scott's Patent Iron Works, Glasgow & Co., Glasgow*

Is the above a correct description? *Yes*

Signature, *William Gray* Surveyor's Signature, *J. F. J. J. J.*

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

IRON 575-0168

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 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 *Pen.*

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	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per 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.
	270	1 7/8	43 7/10	270 fathoms	43 7/10	Bowers	3	23-3-0	23-13-0	23-2-0	23-18-0-0
Fore Sails,								23-2-0	23-10-0	23-2-0	23-18-0-0
Fore Top Sails,								20-0-0	20-14-0	19-3-25	20-14-0-0
Fore Topmast Stay Sails											
Main Sails,						Stream	1	10-0-0		10-0-0	
Main Top Sails,						Kedges	2	5-0-20		5-0-0	
and								3-0-0		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 6 inch Metal*
 Engine Room Skylights.—How constructed? *3 in beam, 6 in height & 6 in depth* How secured in ordinary weather? *Ball & key*
 What arrangements for deadlights in bad weather? *Ball & key*
 Coal Bunker Openings.—How constructed? *Iron beam* 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 beam 36 in* Fore hatch *11 ft 7 in x 10 ft beam 36 in* Quarter hatch *23 ft 3 in x 12 ft 2 in beam 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.	Date	Order for Ordinary Survey No.	Date	No.	in builder's yard.	1st.	2nd.	3rd.	4th.	5th.
642	24 July 1877			176		On the several parts of the frame, when in place, and before the plating was wrought	On the plating during the process of riveting	When the beams were in and fastened, and before the decks were laid...	When the ship was complete, and before the plating was finally coated or cemented..	After the ship was launched and equipped
						Special Survey Date of Survey 1877	Aug 1. 3-6-10-23-24-27-30	Sept 7-14-17-20-2	Oct 1-4-12-16-17-23-25	Nov 26-30

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 angle 5 1/2 x 3 + 4/16 stringers on ends of do. 3 1/2 x 10/16. Angles on do. 5 + 3 1/2 x 9/16 Deck 6/16 Plank over at after end for 53 ft with 3/16 Pine Plating outside 9/16-8/16-7/16.
 Forecastle frames to the top height beams of bulb 6 + 6/16. Double angles on top edges 2 1/2 x 2 1/2 stringers on end 2 1/2 + 6/16. Angles on do. 3 + 3 + 6/16. Plating outside 6/16. Water 11 + 1/4 Greenheart Deck 3 in 4/16 Pine.
 Water ballast tanks fitted in fore & after hold, framed with connection made with angle plates, side plates 7/16. Angles on do. 3 1/2 + 3 1/2 + 4/16. Web plates 6/16. Angles on do. 3 top plating 6/16. Tested by a 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 added in same spaces about break, on Deck do. 5 same spaces before. Holdbeam stringers overlap 16 ft. Butts of plating well riveted in neighbourhood of break. *Water 35 ft-2. 9 ft-6 in. 3 feet after tank*

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 *Washed with Portland cement* Outside *100 parts with Zinc*

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 AEP*
Double Bottom 29 ft 18 in 2 1/2 ft 18 in Double Bottom 129 ft

See Secretariat letter 11 May 1877