IRON SHIP.

No. 12189 Survey held at Sunderland Date, First Survey June 3rd 1878 Last Survey 18th April 1879

On the Iron Screw Steamer "Ashburne" Yard No 92 Master William Hall

Tonnage under Tonnage Deck	2010·50
~~Third Spar, Awning Deck~~ Hatchways	7·70
Poop, ~~or Raised Qr. Dk.~~	403·80
Houses on Deck	4·19
Forecastle	42·56
Gross Tonnage	2468·75
Crew Space 65·44 / Engine Room 790·00	855·44
Register Tonnage as cut on Beam	1613·31

~~ONE, OR TWO DECKED,~~ THREE DECKED VESSEL. ~~SPAR, OR AWNING DECKED VESSEL.~~

	Feet.
HALF BREADTH (moulded)	18·875
DEPTH from upper part of Keel to top of Upper Deck Beams	27·000
GIRTH of Half Midship Frame (as per Rule)	40·660
1st NUMBER	86·535
1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet	79·535
LENGTH	282·33 ft
2nd NUMBER	22·455
PROPORTIONS—Breadths to Length Under	7½
Depths to Length—Upper Deck to Keel	11
Main Deck ditto	15

PLANS CASE

Built at Sunderland
When built 1879 Launched 8th March 1879
By whom built Short Brs.
Owners I. S. Barwick and ... High St Sunderland
Port belonging to Sunderland
Destined Voyage Bombay.
~~If~~ Surveyed while Building and Afloat, ~~or in Dry Dock.~~

LENGTH on deck as per Rule ... Feet 282 Inches 4 | BREADTH—Moulded ... Feet 37 Inches 9 | DEPTH top of Floors to Upper Deck Beams ... Feet 25 Inches 5; Do. do. Main Deck Beams ... Feet 17 Inches 6 | Registered Power of Engines ... Horse 300 | No. of Decks with flat laid Two Iron; No. of Tiers of Beams Three.

Dimensions of Ship per Register, length 297·5 ft breadth, 38 ft depth, 25 ft

	Inches in Ship.			Inches per Rule.		
KEEL, depth and thickness	10 × 2¾			10 × 2¾		
STEM, moulding and thickness	10 × 2¾			10 × 2¾		
STERN-POST for Rudder do. do. / for Propeller	10 × 5½			10 × 5½		
Distance of Frames from moulding edge to moulding edge, all fore and aft	24			24 (Class 100A)		
	Inches. In Ship.	Inches. In Ship.	16ths. In Ship.	Inches per Rule	Inches per Rule	16ths per Rule
FRAMES, Angle Iron, for ⅗ length amidships	5	3	8	5	3	8
Do. for ⅕ at each end	5	3	7	5	3	7
REVERSED FRAMES, Angle Iron	3½	3	8	3½	3	8
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	—	24	9.10	—	24	9.10
thickness at the ends of vessel			8			8
depth at ¾ the half-bdth. as per Rule	—	12		—	12	
height extended at the Bilges	Twice amidship depth.					
BEAMS, Upper, ~~Spar, or Awning~~ Deck	6	3	9/16	6	3	9/16
Single ~~or d'ble~~ Ang. Iron, ~~Plate or Tee~~ and Bulb Iron		8	8/16		8	8/16
~~Single or~~ double Angle Iron on Upper edge	3	3	6/16	3	3	6/16
Average space	24			24		
BEAMS, ~~Main, or~~ Middle Deck	6	3	9/16	6	3	9/16
Single ~~or d'ble~~ Ang. Iron, ~~Plate or Tee~~ and Bulb Iron	9	—	9/16	—	9	9/16
~~Single, or~~ double Angle Iron, on Upper Edge	3½	3	7/16	3½	3	7/16
Average space	24			24		
BEAMS, ~~Lower Deck, Hold, or Orlop~~	—	10	10/16	—	10	10/16
Single ~~or d'ble Ang. Iron, Plate or Tee~~ Bulb Iron rider plates	—	8¾	9/16	—	8¾	9/16
~~Single or~~ double Angle Iron on Upper Edge	4	4	9/16	4	4	9/16
Average space	12 to 20 feet			20 feet		—
KEELSONS Centre line, single ~~or double~~ plate, ~~box, or Intercostal,~~ Plates	—	19	9/16	as approved in consequence of there being a		
Rider Plate	Double bottom			fore and aft.		
Bulb Plate to Intercostal Keelson						
Angle Irons	6	4	9/16	6	4	9/16
Double Angle Iron Side Keelson	Fitted with a double bottom extending all fore and aft formed of five vertical girders each side of centre keelson 19 × 8/16 and angles top & bottom 3 × 3 × 6/16. See approved tracing Midship section annexed hereto					
Side Intercostal Plate						
do. Angle Irons						
attached to outside plating with angle iron						
Angle Irons						
do. Bulb Iron						
do. Intercostal plates riveted to plating for length						
STRINGER Angle Irons	6	4	9/16	6	4	9/16
Intercostal plates riveted to plating for half length.			9/16			9/16
~~STRINGER~~ Angle Irons to shell	3½	3	8/16	3½	3	8/16

material. Knight-heads. Hawse Timbers. Iron

Windlass Harfield's Baxter. Pall Bitt None required.

	Inches. In Ship.	16ths. In Ship.	Inches. per Rule	16ths per Rule
Flat Keel Plates, breadth and thickness				
PLATES in Garboard Strakes, breadth and thickness	36	12/16	36	12/16
ness from Garboard to upper part of Bilges	11/16, 10/16 and 9/16		11/16, 10/16 & 9/16	
of doubling at Bilge, or increased thickness, and length applied				
fm up.part of Bilge to lr.edge of Sh'rstrake.	11/16 to	9/16	11/16 to	9/16
Main Sheerstrake, breadth and thickness	40	13/16	40	13/16
of d'bling at Sh'rstrake, & length applied front of long poop 25 ft	—	11/16		11/16
from Mn. to Upr. or Spar Dk. Sh'rstrake. From front poop forward above stringer doubled with 17 × 8/16 plates in excess of rules				
Up. or Spar Dk Sh'rstrake, brdth & thickns				
Butt Straps to outside plating, breadth & thickness	38 to / 9/16 to	9¾ / 14/16	15¾ to / 9/16 to	9¾ / 14/16
Lengths of Plating	10 feet	—	10 feet	—
Shifts of Plating, and Stringers	4 feet			
Gunwale Plate on ends of ~~Awning, Spar, or~~ Upper Deck Beams, breadth and thickness	40	9/16	40	9/16
Angle Iron on ditto	4 × 4 × 9/16		4 × 4 × 9/16	
Tie Plates fore and aft, outside Hatchways				
Diagonal Tie Plates on Beams No. of Pairs,				
Planksheer material and scantling				
Waterways do. do.				
Flat of Upper Deck do. Iron do. 7/16 abreast of hatchways	—	6/16	—	6/16
How fastened to Beams	Riveted to Beams.			
Stringer Plate on ends of ~~Main or~~ Middle Deck Beams, breadth and thickness	40	10/16	40	10/16
Is the Stringer Plate attached to the outside plating?	Yes; and required to be.			
Angle Irons on ditto, No. Two	4 × 4 × 9/16		4 × 4 × 9/16	
Tie Plates, outside Hatchways				
Diagonal Tie Plates on Beams, No. of pairs				
Waterways materials and scantlings				
Flat of Middle Deck do. Iron do. being 7/16 thick in way of hatchways	6/16 to	5/16	6/16 to	5/16
How fastened to Beams	Riveted to the Beams.			
Stringer Plates on ends of ~~Lower Deck~~, Hold ~~or Orlop~~ Beams	38	9/16	38	9/16
Is the Stringer Plate attached to the outside plating?	Yes and required to be			
Angle Irons on ditto, No. ~~one~~ Two.	4 × 4 × 9/16 / 6 × 4 × 9/16		4 × 4 × 9/16 / 6 × 4 × 9/16	
Stringer or Tie Plates, outside Hatchways				
Flat of Lower Deck				
Ceiling betwixt Decks, thickness and material	6½ × 2½ Battens			
in hold do. Baltic pine do.	2½	—	2½	
Main piece of Rudder, diameter at head	7½	—	7½	
do. at heel	3¾	—	3¾	
Can the Rudder be unshipped afloat? Yes.				
Bulkheads No. Six Thickness of (one additional one in after hold 5/16 thick)	7/16 to	6/16	7/16 to	6/16

" Height up Three to middle and three to upper deck.
" How secured to sides of ship Between double frames.
" Size of Vertical Angle Irons 3½ × 3 × 8/16 and distance apart 30 ins.
" Are the outside Plates doubled two spaces of Frames in length? Yes.

FRAMES extend in one length from Keel to Gunwale Riveted through plates with 13/16 in. Rivets, about 6" apart.

REVERSED ANGLE IRONS on floors and frames extend from middle line to M. Dk. Str angle and to Gunwale alternately

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

Garboard, double riveted to Keel, with rivets 13/16 in. diameter, averaging 5½ ins. from centre to centre.

Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 15/16 & 13/16 in. diameter, averaging 4 & 3·4 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 15/16 and 13/16 in. diameter averaging 4 and 3·4 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 15/16 and 13/16 in. diameter, averaging 4 and 3·4 ins. from cr. to cr.

" Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 15/16 & 13/16 in. diameter, averaging 4 and 3·4 ins. from cr. to cr.

" Edges of Main Sheerstrake, double and ~~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 half length.

" Breadth of laps of plating in double riveting 5¼ Breadth of laps of plating in single riveting 2½ in poop side plating.

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double and treble as required by rules.

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

Beams of the various Decks, how secured to the sides? Welded knees to Bulb beams and bracket knees riveted to all angle iron Beams. No. of Breasthooks, Six Crutches, Six.

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Angles and Bulbs Stockton Malleable Iron Company Limd and S. Lyzack and Co.

Manufacturer's name or trade mark. Plates - Bowdon Vaughan and Co. Stockton Malleable Iron Co Limd, Consett Iron Company Limd

The above is a correct description.

Builder's Signature, Short Brothers

Surveyor's Signature, Joseph Keen

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 fay close together throughout their length without requiring any making good of deficiencies? *Yes.* 23371 [illegible]

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

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 the butts only.*

Masts, ~~Bowsprit~~, Yards, &c., are *Iron and wood* 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

See approved sketch of masts and tracing of sails shewing sufficient spread of canvas for auxiliary purposes only, both approved as per Secretary letter dated 30th Novr. 1878. Samples of the iron from which the masts have been made were selected and submitted the tests required by the Committee with satisfactory results.

NUMBER for EQUIPMENT *26.873*

Nº. / SAILS	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.
One Complete Suit — Fore Sails, Fore Top Sails, Fore Topmast Stay Sails, Main Sails, Main Top Sails, and *Good*	Chain *2826*	*270*	*1 13/16*	*59 1/8 Tons*	*270* / *1 13/16*	*59 1/8 Tons*
		Breaking	*strain*	*82 3/4 —*		*82 3/4 —*
	(State Machine where Tested, Date, & name of Suprintndt.) *Tested at the River Wear Machine and Lloyds proving house, Tipton. Certificates dated 31 March and 10 February 1879, 26 Sept 1878 and 21 March 1879. Signed Harkness and E. K. Leitt.*					
	Stud 2817	*45*	*1 1/8*	*22 3/4 Tons*	*75 of 1 1/8*	
	Close 2981.C	*15*		*34 1/2 —*		
	~~Hemp~~ Stream Chain *2830*	*15*		*15 8 —* / *30 1/4 —*		
	Hawsers *Steel*	*90* / *90*	*4* / *3 1/2*	*33* / *27*	*90–4* / *90–3 1/2* *Steel* and *90 of 7*	*36 Tons* ✗ / *26 —*
	Towlines	*180*	*7 1/2*			
	Warp	*90* / *90*	*6* / *5 1/2*			
	quality *Good*	*90* / *180*	*5* / *4 1/2*			

✗ *Secty's letters 2nd and 10th April 1879.*

ANCHORS.	Nº.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
Rodgers Bowers	*6253*	*32.3.0* / *3.3.14*	*30.18.3.0*	*32.0.0*	*30 8/20 Tons*
	6361	*31.3.0* / *7.0.14*	*29.18.3.0*	*29.2.14*	*28 7/20 —*
	6364	*27.0.14* / *16.2.14*	*26.9.1.14*	*29.2.14*	*28 7/20 —*
(State Machine where Tested, Date, & name of Suprintndt.)	*River Wear Commissioners' Machine. Certificates dated 8th January, 26th and 27th February, 25th, 28th and 31st March 1879 and signed Harkness Superintendents.*				
	6491	*11.0.0* / *2.2.21*	*12.17.2.0*	*10.2.0*	*12 8/20 Tons*
Stream	*6506*	*5.0.21* / *1.0.21*	*7.11.3.14*	*5.1.0*	*7 11/20 —*
	6514	*2.3.0* / *0.2.14*	*5.5.0.0*	*2.2.0*	*5 —*
Kedges					

Standing and Running Rigging *Wire and Hemp* sufficient in size and *Good* in quality. She has *one life* ~~Long~~ Boat and *two others.*

The Windlass is *Efficient. Four Steam winches* ~~Capstan~~ *Good* and Rudder *Efficient.* Pumps *4 no. = In addition to steam pumps*

Engine Room Skylights.—How constructed? *East India Teak.* How secured in ordinary weather? *Efficiently.*

What arrangements for deadlights in bad weather? *Solid Teak shutters with glass bulls eye lights.*

Coal Bunker Openings.—How constructed? *Wrought & cast iron* How are lids secured? *Efficiently being 2 1/2 ins thick and protected to batten down.* Height above *Bridge* deck? *9 and 30 ins.*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Open bulwarks around the long poop and three ports and three scuppers on each side bulwarks before full poop.*

Cargo Hatchways.—How formed? *Iron plates and angle irons in the usual manner.*

State size **Main Hatch** *20 feet by 12 feet.* Forehatch *16 ft x 12 ft and 20 ft x 12 ft* Quarterhatch *16 feet by 12 feet.*

If of extraordinary size, state how framed and secured? }
What arrangement for shifting beams? } *Rotable Beams as required by rules.*

Hatches, If strong and efficient? *Yes. being 2 1/2 inches thick with two fore and afters.*

Order for Special Survey No. *2494*
Date *24th June/78*
Order for Ordinary Survey No. —
Date —
No. *92* in builder's yard.

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 — *Built under S. S. and Surveyed 1878 June 3 4 6 7 12 13 14 17 19 20*
2nd. On the plating during the process of riveting — *24 28 July 1 3 8 9 11 13 17 22 25 27 August 6 8 12 13 14 19 20 22 27 28 Septr. 2 10 12*
3rd. When the beams were in and fastened, and before the decks were laid — *13 16 19 22 24 26 27 30 Octr. 1 8 11 16 22 24 26 Novr. 2 11 19 22 25 27 28 Decr. 2 5*
4th. When the ship was complete, and before the plating was finally coated or cemented — *9 11 16 20 23 30 /79 Jany. 3 9 10 11 13 15 16 20 27 30 Feby. 4 7 14 17 20 24 27 31*
5th. After the ship was launched and equipped — *Apl. 2 3 7 9 15 16 18.*

General Remarks (State quality of workmanship, &c.) *Very Good.*

She has been built under special survey in accordance with the scantlings and arrangements shewn upon the accompanying approved tracings of midship section, profile, sketch of masts and one of sails and with the requirements set forth in the Secretary letters dated the 20th May and 29th and 30th Novr. 1878.

She is schooner rigged, has two complete iron decks, middle and upper decks, has a long full poop 169 feet long, the beams of which are of angle irons 5 x 3 x 8/16 spaced 24 inches apart and a 5/16 iron poop deck, the poop at the front has been strengthened as per rules. Section 44. Topgallant Forecastle 36 feet long with a 5/16 iron deck. She has a double bottom all fore and aft, excepting for a length of 3 frame spaces in Engine-room to form a well for water. This double bottom has been divided into five compartments each of which with the fore and after peaks have been tested by a head of water equal to the height of the deep load line and made watertight.

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, forecastle, or raised quarter deck, and the length of double, or part double bottom.

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

I am of opinion this Vessel should be Classed ✠ *100 A 1. (2 Dks 3 Iro Bms.) (A & C P.)*

The amount of the Entry Fee … …£ *5 : 0 : 0* is received by me, *HW*
Special … …£ *85 : 1 : 6* *1st May.* 1879.
Certificate … *Gratis.*
(Travelling Expenses, if any, £0.10.6.) *For completing survey on Tyne* *[illegible]*

May 1879

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

N.B. This report has been delayed in consequence of there having been some difficulty in obtaining the tests for the steel hawsers.

Committee's Minute *9th May,* 1879

Character assigned *100 A 1 / A & C P / 2 Iron Decks*

2 Dks 3 Iro Bms

This vessel appears eligible to be classed as recommended viz. 100 A 1. "2 Dks 3 Iro B" "Double bottom 2 3 2 ft"

[illegible] double [illegible] £131 [illegible]