

IRON SHIP.

No. 3366 Survey held at Whitby Date, First Survey 30th March Last Survey 24th Sept 1874
On the S.S. "Unity" Yard Number 38 Master Brockett 17th/10/74

TONNAGE under } 810.68
Tonnage Deck }
Ditto of Third, Spar, }
or Awning Deck. }
Ditto of Poop, or } 02.79
Raised Or. Dk. }
Ditto of Houses } 205.88
on Deck ... }
Ditto of Forecastle } 20.45
Gross Tonnage } 1010.26
Less Crew Space } 49.93
Less Engine Room } 323.28
Register Tonnage } 637.05
as cut on Beam }

ONE, OR TWO DECKED, THREE DECKED VESSEL.
SPAR, OR AWNING-DECKED VESSEL.
HALF BREADTH (moulded) ... 14-11 1/2 Feet.
DEPTH from upper part of Keel to top of Upper Deck Beams 10-8
GIRTH of Half Midship Frame (as per Rule) ... 30-1
1st NUMBER ... 63-8
1st NUMBER, if a THREE-DECKED VESSEL
deduct 7 feet ...
LENGTH ... 223-1
2nd NUMBER ... 14201
PROPORTIONS—Breadths to Length ... 1/2
Depths to Length—Upper Deck to Keel ... 1/2
Main Deck ditto ...

Built at Whitby
When built 1874 Launched 29th Aug.
By whom built Turnbull & Son
Owners R. Harrowing & Co.
Port belonging to Whitby
Destined Voyage Mediterranean
If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule ... 223 Feet. 1 Inches. BREADTH—Moulded ... 29 Feet. 11 Inches. DEPTH top of Floors to Upper Deck Beams ... 17 Feet. 1 1/2 Inches. Power of Engines ... 99 Horse. No. of Decks with flat laid One No. of Tiers of Beams Two

Dimensions of Ship per Register, length, breadth, depth, ...	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness ...	8 x 2 3/8	7 1/4 x 2 3/8	8 x 2 3/8	7 1/4 x 2 3/8	8 x 2 3/8	7 1/4 x 2 3/8	8 x 2 3/8	7 1/4 x 2 3/8	8 x 2 3/8	7 1/4 x 2 3/8
KEEL, moulding and thickness ...	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2
KEEL-POST for Rudder do. do. ...	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2
for Propeller ...	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2	8 x 4 1/2	7 1/4 x 4 1/2
Distance of Frames from moulding edge to moulding edge, all fore and aft ...	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8
FRAMES, Angle Iron, for 1/2 length amidships ...	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3
Do. for 1/3 at each end ...	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3	4 x 3
REVERSED FRAMES, Angle Iron ...	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships ...	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16
thickness at the ends of vessel ...	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16	10 1/2 x 7/16
depth at 3/4 the half-bdth. as per Rule ...	1 1/4	9/14	1 1/4	9/14	1 1/4	9/14	1 1/4	9/14	1 1/4	9/14
height extended at the Bilges ...	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
BEAMS, Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron ...	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16
Single or double Angle Iron on Upper edge ...	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16
Average space ...	46	46	46	46	46	46	46	46	46	46
BEAMS, Main or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron ...	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16
Single or double Angle Iron on Upper Edge ...	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16
Average space ...	46	46	46	46	46	46	46	46	46	46
BEAMS, Lower Deck, Hold or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron ...	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16
Single or double Angle Iron on Upper Edge ...	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16	2 1/2 x 5/16
Average space ...	46	46	46	46	46	46	46	46	46	46
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates ...	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16	14 x 11/16
" Rider Plate ...	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16	8 x 9/16
" Bulb Plate to Intercoastal Keelson ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" Angle Irons ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" Double Angle Iron Side Keelson ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" Side Intercoastal Plate ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" do. Angle Irons ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" Attached to outside plating with angle iron ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
BILGE Angle Irons ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
" do. Bulb Iron ...	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16
" do. Intercoastal plates riveted to plating for length ...	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16	7 x 7/16
BILGE STRINGER Angle Irons ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
Intercoastal plates riveted to plating for length ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
SIDE STRINGER Angle Irons ...	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2	5 x 3/2
Transoms, material. Knight-heads. Hawse Timbers. Windlass. Pall Bitt.	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates

Flat Keel Plates, breadth and thickness ...	Inches in Ship.	16ths in Ship.	Inches required.	16ths required.
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied ...	30	9/16	30	9/16
fin up part of Bilge to l. edge of Sh'rstrake	36	12/16	36	12/16
Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	36	12/16	36	12/16
Upper or Spar Dk. Sh'rstrake, breadth & thickness	30 3/4	9 1/16	30 3/4	9 1/16
Butt Straps to outside plating, breadth & thickness	9 1/16	7 1/16	9 1/16	7 1/16
Lengths of Plating ...	1 1/2	1 1/2	1 1/2	1 1/2
Shifts of Plating, and Stringers ...	46	46	46	46
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness ...	3 1/2	9/16	3 1/2	9/16
Angle Iron on ditto ...	4 x 4 x 9/16	5 x 3/2 x 7/16	4 x 4 x 9/16	5 x 3/2 x 7/16
Tie Plates fore and aft, outside Hatchways	See Iron 8 1/2	-	See Iron 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 1/16	6 1/16	6 1/16	6 1/16
How fastened to Beams ...	1 1/2	1 1/2	1 1/2	1 1/2
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness ...	27	8/16	27	8/16
Is the Stringer Plate attached to the outside plating?	Yes	Yes	Yes	Yes
Angle Irons on ditto, No. ...	2	2	2	2
Tie Plates, outside Hatchways ...	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16
Diagonal Tie Plates on Beams, No. of pairs	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16
Waterways materials and scantlings ...	2 1/2	2 1/2	2 1/2	2 1/2
Flat of Middle Deck do. do. ...	2 1/2	2 1/2	2 1/2	2 1/2
How fastened to Beams ...	2 1/2	2 1/2	2 1/2	2 1/2
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams ...	2 1/2	2 1/2	2 1/2	2 1/2
Is the Stringer Plate attached to the outside plating?	Yes	Yes	Yes	Yes
Angle Irons on ditto, No. ...	2	2	2	2
Stringer or Tie Plates, outside Hatchways	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16	3 1/2 x 9/16
Flat of Lower Deck ...	2 1/2	2 1/2	2 1/2	2 1/2
Ceiling between Decks, thickness and material in hold do. do. ...	2 1/2	2 1/2	2 1/2	2 1/2
Main piece of Rudder, diameter at head do. at heel ...	3 1/4	3 1/4	3 1/4	3 1/4
Can the Rudder be unshipped afloat? Yes	Yes	Yes	Yes	Yes
Bulkheads No. 4 Thickness of ...	6/16	6/16	6/16	6/16
Height up Main Deck, after one to Cabin Deck ...	5	5	5	5
How secured to sides of ship ...	to double frames	to double frames	to double frames	to double frames
Size of Vertical Angle Irons 3 x 3 x 6/16 and distance apart 30 ins.	3 x 3 x 6/16	30	3 x 3 x 6/16	30
Are the outside Plates doubled two spaces of Frames in length? Yes	Yes	Yes	Yes	Yes

FRAMES extend in one length from Keel to gunwale Riveted through plates with 3/4 in. Rivets, about 16 apart.
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 in. diameter, averaging 5 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 3/8 ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 3/8 ins. from centre to centre.
Butts of Two 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 3/8 ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 3/8 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 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 4 3/4 Breadth of laps of plating in single riveting 2 3/4
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? Ends turned & pieces welded No. of Breasthooks, Five Crutches, Two
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Good
Manufacturer's name or trade mark, Hopkins & Co. Stockton N. Co.

The above is a correct description.
Builder's Signature, Thomas Turnbull & Son Surveyor's Signature, J. P. Gledhill

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
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? They do
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. 13376 En

Masts, Bowsprit, Yards, &c., are W 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 66 ft. Dia 17 1/2 Fore Mast 78 ft. 6 Dia 14 1/2

NUMBER for EQUIPMENT <u>15621</u>		Fathoms.	Inches.	Test per Certificate.	Lngh. & Size req'd per Rule	Test req'd per Rule.	ANCHORS, &c.	No.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
SAILS.	CABLES, &c.	240	1 1/2	40-10-00	240 ft. 1 1/2	40-10-00	Bowers ...	3	21-8-26	22-7-05	21-00	21-12-00
	Chain ...	At Sunderland	25 June 1874				(State Machine where Tested, Date, and name of Superintendent.)		20-2-24	21-3-21	21-00	21-12-00
	Fore Sails,	Fore Topmast Stay Sails	14 1/2				At Sunderland		18-0-14	19-2-0-21	17-3-11	10-18-00
	Fore Topmast Stay Sails	Hmpt Strm Cbl	80	7 1/2			July 21st 1874					
	Main Sails,	Hawser ...	80	7 1/2								
Main Top Sails,	Towlines ...	Warp	80	6 1/2			Stream ...	1	9-0-27		9-0-0	
	Warp	quality <u>Good</u>	160	5			Kedges ...	2	4-1-17		4-2-0	

Standing and Running Rigging W Pine & Hemp sufficient in size and Good in quality. She has Three Long Boats Good

The Windlass is Good Capstan Good and Rudder Good Pumps 2 Good

Engine Room Skylights. How constructed? Pine 14 basins, 10 ft. by 6 ft. How secured in ordinary weather? Walls eyes

What arrangements for deadlights in bad weather? Bullseyes

Coal Bunker Openings. How constructed? Iron casings How are lids secured? Bars Height above deck? 10 in.

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

Cargo Hatchways. How formed? 7/16 Plate

State size Main Hatch 23 ft. x 9 ft. 11 in. casings 36 Fore hatch 11 ft. 6 in. x 9 ft. casings 36 Quarter hatch 19 ft. 2 in. x 9 ft. 10 in. casings 20 in.

If of extraordinary size, state how framed and secured? ---

What arrangement for shifting beams? 7/16 Plate in centre the whole depth of casings, Double Angles on top edges.

Hatches, If strong and efficient? Strong & efficient

Order for Special Survey No. <u>476</u>	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 Survey, <u>1874.</u>
Date <u>24 June 1874</u>		2nd. On the plating during the process of riveting	<u>March 30. April 8-23. May 15-14-29. June 16.</u>
Order for Ordinary Survey No. <u>---</u>		3rd. When the beams were in and fastened, and before the decks were laid, ...	<u>July 3-8-14-22. Aug 4-13-27. Sept 16-24.</u>
Date <u>---</u>		4th. When the ship was complete, and before the plating was finally coated or cemented...	
No. <u>38</u> 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 Raised Quarter Deck frames all to the top height beams of 6 1/2 x 6 1/6 built. Double angles top edges 2 1/2 x 2 1/2 x 5/16. Stringer plates on ends 4 5 x 8 1/6. Angles on St. 4 x 3 1/2 x 7/16. Tie plates on beams 10 x 8 1/6. Plating outside 8 1/6. 7/16 x 6 1/6. Deck 3 Pine.
Forecastle frames all to the top height, beams single angles 5 x 3 1/2 x 7/16. Three of 7 in built, Double angle iron on top edges 2 1/2 x 2 1/2 x 5/16. Stringer plates 16 x 5/16. Angle irons 3 x 3 x 6 1/6. Tie plates 7 x 5/16. Plating 5/16. Waterway 4 x 10 W Pine. Deck 3 in 4 x R Pine.
Ballast tanks fitted in fore & after hold, frames ash, connection made with knee plates side plates 7/16. Angles on St. 3 1/2 x 3 1/2 x 7/16. web plates 6 1/6. Angle on St. 2 1/2 x 2 1/2 x 5/16. top plating 6 1/6. Additional strengthening at break of Raised deck Cheerstrakes doubled with 8 1/6 plate for 20 ft. in length. Main deck Stringer plates extend 7 frame spaces abaft break & raised deck St. 4 frame spaces before St. Butts of shell plating in neighbourhood of break Table riveted. Hold beam Stringers overlap 16 ft. Thomas Humberstone

State if one, two or three decked vessel, or if spar or arcing decked, and lengths of poop, forecabin or raised quarter deck, or of double or part double bottom.

How are the surfaces preserved from oxidation? Inside Plat cemented with oil sand Outside other parts with paint

I am of opinion this Vessel should be Classed 90 A1

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

Special ... £ 40 : 0 : 0 8/10/74 187 4/10/74

Certificate ... : : :

(Travelling Expenses) (if any) £ 5-0-0 8/10/74

Committee's Minute 13th October 1874

Character assigned 90 A1

part double bottom

part double bottom

part double bottom

part double bottom

part double bottom

part double bottom