

IRON SHIPS.

No. 5008 Survey held at Middlesboro Date, First Survey 1st May Last Survey 20th November 1871
On the Steamer "Richmond" Master John Gilbert Edwards

Tonnage under Tonnage Deck 1048.40
 Ditto of Third Spar, or Awning Deck. }
 Ditto of Poop, or Raised Or. Dk. }
 Ditto of Houses on Deck. } 1.05
 Ditto of Forecastle }
 Gross Tonnage 1049.81
 Crew Space, as per Rule } 58.13
 Register Tonnage, as a }
 Register Tonnage, as a } 345.54
 Register Tonnage, as a } 646.14
 Register Tonnage, as a }
 Register Tonnage, as a }

ONE, OR TWO DECKED, SPAR, OR AWNING-DECKED VESSELS.
 Half moulded breadth... 5.00
 Depth from upper part of Keel to top of Upper Deck Beams... 10.04
 Girth of Half Midship Frame (as per Rule)... 28.45
 1st Number... 60.40
 Length... 220
 2nd Number... 13.307
 Depths to Length. Over 12 to upper Deck, 14 to lower Deck.

THREE DECKED VESSELS.
 Half Moulded Breadth... 15.00
 Total Depth if three or more Decks... 23.49
 Total Girth of Half Midship Frame... 35.14
 3rd Number... 43.90
 Length... 220
 4th Number... 16.241
 Depths to Length. Over 12 to upper Deck, 14 to lower Deck.

Built at Middlesboro
 When built 1871 Launched 11th Oct^r 1871
 By whom built Blackhouse & Duffon
 Owners J. Duffon jun^r
 Port belonging to London
 Destined Voyage Venice
 If Surveyed while Building, Afloat, or in Dry Dock.

Length on deck as per Rule, 220 Feet. 0 Inches. Moulded Breadth, 30 Feet. 0 Inches. Depths from top of Floors to Upper and Main Deck Beams, as per Rule... 220 Feet. 0 Inches. Power of Engines, 150 Horse. N^o. of Decks with flat laid two N^o. of Tiers of Beams two

Dimensions of Ship per Register, length, 220.5 breadth, 30.4 depth, 21.4

| | Inches in Ship. | Inches required per Rule. | | Inches in Ship. | Inches required per Rule. |
|--|----------------------|---------------------------|---|-----------------|---------------------------|
| Keel, if bar iron, depth and thickness | 8 x 2 3/8 | 8 x 2 3/8 | Flat Keel Plates, breadth and thickness | 4 1/2 | 10/16 |
| Do. if centre through plate, depth and thickness | 4 1/4 x 2 3/8 | 4 1/4 x 2 3/8 | Plates in Garboard Strakes, breadth and thickness | 4 1/2 | 10/16 |
| Stem, if bar iron, moulding and thickness | 10 1/4 x 4 | 8 x 4 3/4 | Do. from Garboard to upper part of Bilges | 10 1/2 | 9/16 |
| Stern-post for Rudder do. | 10 1/4 x 4 | 8 x 4 3/4 | Do. of doubling at Bilge, or increased thickness, and length applied | 8/16 | 8/16 |
| Stern-post for Propeller | 10 1/4 x 4 | 8 x 4 3/4 | Do. fm up. part of Bilge to lr. edge of Sh'rstrake | 8/16 | 8/16 |
| Distance of Frames from moulding edge to moulding edge, all fore and aft | 28 | (Class 90A) | Do. Main Sheerstrake, breadth and thickness | 3 1/2 | 11/16 |
| Frames, size of Angle Iron, for 1/2 length amidships | 4 x 3 | 4 x 3 | Do. of d'bling at Sh'rstrake, & length applied | 11/16 | 11/16 |
| Do. for 1/4 at each end | 4 x 3 | 4 x 3 | Do. from Mn. to Upr. or Spar Dk. Sh'rstrake | 4 1/2 | 4 1/2 |
| Reversed Frames, size of Angle Iron | 3 x 3 | 3 x 3 | Do. Up. or Spar Dk Sh'rstrake, brdth & thickns | 4 1/2 | 4 1/2 |
| Floors, depth and thickness of Floor Plate at mid line for half the length amidships | 2 1/2 | 10/16 | Butt Straps to outside plating, breadth & thickness | 10 1/2 | 10 1/2 |
| Do. at the ends | 2 1/2 | 10/16 | Lengths of Plating | 11 1/2 | 11 1/2 |
| Do. do. do. at Bilge Keelson | 11 | 11 | Shifts of Plating, and Stringers | 4 1/2 | 4 1/2 |
| Do. height extended at the Bilges | 4 3/4 | 4 3/4 | Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness | 3 1/2 | 3 1/2 |
| Beams, Upper, Spar, or Awning Deck (No. 59) single or double Angle Iron, Plate or Tee Bulb Iron | 6 1/2 | 6 1/2 | Angle Iron on ditto | 3 1/2 x 3 1/2 | 3 1/2 x 3 1/2 |
| Single or double Angle Iron on Upper edge | 2 1/2 | 2 1/2 | Tie Plates (fore and aft), outside Hatchways | 1 3/4 | 1 3/4 |
| Average space | 4 1/2 | 4 1/2 | Diagonal Tie Plates on Beams (No. of Pairs,) | 13 1/2 | 13 1/2 |
| Beams, Main or Middle Deck (No. 50) single or double Angle Iron, Plate or Tee Bulb Iron | 4 1/2 | 4 1/2 | Planksheer material and scantling | Gutter | Gutter |
| Single or double Angle Iron, on Upper Edge | 3 | 3 | Waterways do. do. | 3 1/2 | 3 1/2 |
| Average space | 4 1/2 | 4 1/2 | Flat of Upper Deck do. do. | 3 1/2 | 3 1/2 |
| Beams, Lower Deck, Hold or Orlop (No.) single or d'ble Ang. Iron, Plate or Tee Bulb Iron | See Windship Section | See Windship Section | How fastened to Beams | 3 1/2 | 3 1/2 |
| Single or double Angle Iron on Upper Edge | See Windship Section | See Windship Section | Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness | 4 1/2 | 4 1/2 |
| Average space | See Windship Section | See Windship Section | (Is the Stringer Plate attached to the outside plating?) | Yes | Yes |
| Keelson Centre line, single or double plate, box, or Intercostal, size of Plates | 2 1/2 | 3/16 | Angle Irons on ditto (No. two) | 3 1/2 x 3 1/2 | 3 1/2 x 3 1/2 |
| Do. Bulb Plate to Intercostal Keelson | 5 | 5 | Tie Plates, outside Hatchways | 1 1/2 | 1 1/2 |
| Do. Size of Angle Irons | 5 | 5 | Diagonal Tie Plates on Beams (No. of pairs,) | 14 1/2 | 14 1/2 |
| Do. Side Intercostal Keelson, size of Plates | 5 | 5 | Waterways materials and scantlings | 3 1/2 | 3 1/2 |
| Do. Angle Irons on tops of Floors | 5 | 5 | Flat of Middle Deck do. do. | 3 1/4 | 3 1/4 |
| Do. Bilge Keelson, Bulb Iron | 4 1/2 | 4 1/2 | How fastened to Beams | 6 1/2 | 6 1/2 |
| Do. do. Intercostal plates riveted to plating for length | 5 | 5 | Stringer Plates on ends of Lower Deck, Hold or Orlop Beams | 2 1/2 | 2 1/2 |
| Do. do. Angle Irons | 5 | 5 | (Is the Stringer Plate attached to the outside plating?) | Yes | Yes |
| Side Stringers (No. one) size of Angle Irons | 5 3/8 | 5 3/8 | Angle Irons on ditto (No. 3) | 3 1/2 x 3 1/2 | 3 1/2 x 3 1/2 |
| Do. Intercostal plates riveted to plating for length | See Keelson Section | See Keelson Section | Stringer or Tie Plates, outside Hatchways | 5 x 3 1/2 | 5 x 3 1/2 |
| Transoms, material <u>Plating</u> or, if none, in what manner compensated for. | See Keelson Section | See Keelson Section | Flat of Lower Deck | 2 1/2 | 2 1/2 |
| Knight-heads <u>and</u> Hawse Timbers <u>Angles & plating</u> | See Keelson Section | See Keelson Section | Ceiling betwixt Decks, thickness and material | 2 1/2 | 2 1/2 |
| Windlass <u>Hampden's Patent</u> Pull Bitt | See Keelson Section | See Keelson Section | Do. in hold do. do. | 2 1/2 | 2 1/2 |
| The Frames extend in one length from <u>Keel</u> to <u>Gunwale</u> | See Keelson Section | See Keelson Section | Main piece of Rudder, diameter at head | 3 | 3 |
| The Reverse Angle Irons on the floors and frames extend <u>across</u> the middle line to <u>Main Deck</u> and to <u>Upper Deck</u> alternately | See Keelson Section | See Keelson Section | Do. do. at heel | 3 | 3 |
| Keelsons. Are the various lengths of Plates and Angle Irons properly connected? <u>Yes</u> And are their butts properly shifted? <u>Yes</u> | See Keelson Section | See Keelson Section | (Can the Rudder be unshipped afloat?) | Yes | Yes |
| Plates, Garboard, double or Riveted to Keel, double or at upper edge, with Rivets (1/8 in.) diameter, averaging (5/8 ins.) from centre to centre. | See Keelson Section | See Keelson Section | Bulkheads No. <u>4</u> Thickness of <u>5/16</u> | | |
| Do. Edges from Garboards to upper part of Bilge, worked Clencher, double or single Riveted; with Rivets (3/4 in.) diameter, averaging (3 3/8 ins.) from centre to centre. | See Keelson Section | See Keelson Section | Do. Height up <u>Main & Upper Deck</u> | | |
| Do. Butts from Keel to turn of Bilge, worked carvel with butt straps to strakes (1/16) thick, double or single Riveted; with Rivets (3/4 in.) diameter averaging (3 1/2 ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? <u>No</u> | See Keelson Section | See Keelson Section | Do. How secured to the sides of the ship <u>By double frames</u> | | |
| Do. of <u>three</u> Strakes at Bilge for <u>one half</u> length, treble riveted with Butt Straps <u>1/16</u> thicker than their plates. | See Keelson Section | See Keelson Section | Do. Size of Vertical Angle Irons <u>3 x 3 1/2</u> and their distance apart, <u>2 feet</u> | | |
| Do. Edges from bilge to Main Sheerstrake, worked <u>carvel</u> with a lining piece () thick, or clencher, double or single riveted; with rivets (3/4 in.) diameter, averaging (3 3/8 ins.) from centre to centre. | See Keelson Section | See Keelson Section | Do. Are the outside Plates doubled two spaces of Frames in length? <u>Yes</u> | | |
| Do. Edges of Sheerstrake, Main, double or single Riveted. Upper, double or single Riveted. At upper edge <u>Single</u> At lower edge <u>Double</u> | See Keelson Section | See Keelson Section | | | |
| Do. Butts from Bilge to Main Sheerstrake, worked Carvel with Butt Straps (8/16) thick, double or single Riveted; with Rivets (3/4 in.) diameter, averaging (3 1/2 ins.) from centre to centre. | See Keelson Section | See Keelson Section | | | |
| Do. Butts of Main Sheerstrake, double or treble Riveted. Butts of Upper or Spar Sheerstrake, and Upper Deck Stringer Plate, double or treble Riveted for <u>one half</u> length amidships. Breadth of laps of plating in double Riveting (1 1/4) Breadth of laps of plating in single Riveting (2 3/4) | See Keelson Section | See Keelson Section | | | |
| Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? <u>treble & double</u> | See Keelson Section | See Keelson Section | | | |
| Planksheer, how secured to the plating of the sides. Waterway, how secured to the planksheer and to the Beams. (Explain by Sketch, if necessary.) <u>Gutter</u> | See Keelson Section | See Keelson Section | | | |
| Beams of the various Decks, how secured to the sides? <u>Beam ends linned & welded</u> No. of Breasthooks, <u>four</u> Crutches, <u>three</u> | See Keelson Section | See Keelson Section | | | |
| What description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>good</u> | See Keelson Section | See Keelson Section | | | |
| Manufacturer's name or trade mark, <u>Richardson & Co. of Leeds & Whitnam & Co.</u> | See Keelson Section | See Keelson Section | | | |

We certify that the above is a correct description of the several particulars therein given.
 Builder's Signature, Richardson & Co. Surveyor's Signature, J. G. Rommell

IRON 449 - 0449

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
 Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? Solid pieces
 Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes and are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? Yes
 Are there any rivets which either break into or have been put through the seams or butts of the plating? Some in Butts

Her Masts, Bowsprit, Yards, &c., are in good condition, and sufficient in size and length. If they are of Iron or Steel give the 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 69' x 20 1/2" Fore Mast 43' x 20 1/2" P. Mast & Bowsprit P.

9535 Ln

| No. | SAILS. | CABLES, &c. | Fathoms. | Inches. | Test as per Certificate. | In. req'd per Rule. | Test req'd per Rule. | ANCHORS, &c. | No. | Weight. Ex. Stock. | Test as per Certificate. | Wght req'd per Rule. | Test req'd per Rule. |
|-----|-------------------------|---|---------------|---------|--------------------------|---------------------|----------------------|---|-----|--------------------|--------------------------|----------------------|----------------------|
| | Fore Sails, | Chain | 240 | 1 1/10 | 34.14 | 1 1/10 | 34.30 | Bowers | 3 | 18.2.11 | 19.15.1.11 | 18 | 19 |
| | Fore Top Sails, | (State Machine where Tested, and name of Superintendent). | Staffordshire | | Public Chain | | Besting 10" | (State Machine where Tested, and name of Superintendent). | | 18.2.11 | 19.10.2.21 | 18 | 19 |
| | Fore Topmast Stay Sails | Hempen Stream Cable | 90 | 3/4 | Samuel Sengema | | August 1841 | Stream | 1 | 8.0.0 | Some as chain | 15.4 | 16.4.0 |
| | Main Sails, | Hawser | 90 | 6 | 15/16 | | August 1841 | Kedges | 2 | 1.0.12 | | 4 | |
| | Main Top Sails, | Towlines | 90 | 8 | 10.12 | | | | | | | | |
| | | Warp | 90 | 4 | 9 5/8 | | | | | | | | |
| | | All of good quality. | 605 | 3 1/2 | | | | | | | | | |

Her Standing and Running Rigging Wm. Adams sufficient in size and good in quality. She has two Life Boats and two others

The present state of the Windlass is good Capstan Winches and Rudder and Pumps (3 of Metal) good

Engine Room Skylights.—How constructed? Iron casing 5/16 x feet above deck How secured in ordinary weather? Dead lights

What arrangements are there for deadlights in such for bad weather? Dead lights

Coal Bunker Openings.—How constructed? Wood casing fastened How are lids secured? By Bars How high above deck? 8 1/2 inches

Scuppers, &c.—What arrangements are there beyond the scuppers on deck, for clearing upper deck of water, in case of a sea coming on board? Scuppers and Sea scupper ports

Cargo Hatchways.—How formed? Iron casing 1/16" 22" above deck State size 22' x 10' and 12' x 8' - 6"

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

What arrangement for shifting beams? Center plates 18" x 1/16" and two angle irons on upper edges 2 1/2" x 2 1/2" x 5/16"

Hatches, themselves, whether strong and efficient? Yes Main Hatchways.—State size 23' x 12' - 6"

| Order for Special Survey No. <u>349</u> | DATES of | 1st. | On the several parts of the frame, when in place, and before the plating was wrought |
|---|----------------|------|--|
| Date <u>1st May 1841</u> | Surveys held | 2nd. | On the plating during the progress of riveting <u>Steel bars</u> |
| Order for Ordinary Survey No. _____ | while building | 3rd. | When the beams were in and fastened, and before the decks were laid <u>each week</u> |
| Date _____ | as per | 4th. | When the ship was complete, and before the plating was finally coated or cemented <u>during building</u> |
| No. <u>11</u> in builder's yard. | Section 18. | 5th. | After the ship was launched and equipped |

General Remarks,

The Butt straps of the upper deck beam stringer plate, sheers, and three strakes of plating round the bilges for one half the vessels length amidships are one-seventeenth of an inch thicker than the plates they connect and make riveted.

Iron Deck 1/10 between bulkheads in Engine Spaces

Blanchard Dixon

State if one, two or three decked vessel, or if open or awning decked, and lengths of poop, fore-castle or raised quarter deck, or of double or part double bottom.

In what manner are the surfaces preserved from oxidation? Inside By loam and Paint Outside Paint

I am of opinion this Vessel should be Classed 90A1

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

Special£ 50 : 10 : 6
 Certificate " : " : "

(Travelling Expenses)
 (if any) £ _____

Committee's Minute 21st Nov 1841

Character assigned 90A1

M. J. Somerville

I concur in the opinion that this vessel should be classed as recommended 90A-1.

