# IRON SHIPS.

No. 112353 Survey held at Newcastle Date, first Survey 27th January Last Survey 28th September 1870. 46 visits

S.S. "Knapton Hall" Master H. Scoones

| | | ONE, OR TWO DECKED VESSELS. | | THREE DECKED VESSELS. | |
|---|---|---|---|---|---|
| | 804.45 | | ft. in. | | |
| Deck, Deck. | | Half moulded breadth | 14.6 | Half Moulded Breadth | |
| Upper Deck. | 49.83 | Depth from upper part of Keel to top of Upper Deck Beams | 19.0 | Total Depth if three or more Decks | |
| Deck | 15.08 | Girth of Half Midship Frame | 30.0 | Total Girth of Half Midship Frame | |
| of Forecastle | 33.81 | | | 3rd Number | |
| Tonnage | 903.17 | 1st Number 63.5 | | Length | |
| Space, Rule | 52.61 | Length 220 | 12700 | | |
| Tonnage, Beam | ~~561.55~~ 510.56 | | 1270 | | |
| Tom | 289.01 | 2nd Number 13.9700 | | 4th Number | |
| Total Tonnage, as a Steamer, cut on the Beam | 561.55 | Depths to Length 12 4/7 | | Breadths to Length | |

Built at Newcastle

When built 1870 Launched 11th August

By whom built C. M. Palmer & Co.

Owners Messrs Dixon & Harris

Port belonging to London

Destined Voyage Odessa.

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

| Length on deck as per Rule, | Feet. 220 | Inches. 0 | Moulded Breadth, | Feet. 29 | Inches. 0 | Depth from top of Keel to Deck Beam, as per Rule | Feet. 19 | Inches. 0 | Power of Engines, | Horse. 99 | N°. of Decks, one; N°. of Tiers of Beams two |
|---|---|---|---|---|---|---|---|---|---|---|---|

Dimensions of Ship per Register, length, 222.0 breadth, 29.2 depth, 17.5

| | Inches in Ship. | Inches required per Rule. |
|---|---|---|
| Keel bar iron, depth and thickness | 9 × 2½ | 8 × 2 3/8 |
| ~~Keel centre through plate, depth and thickness~~ | | |
| Keel bar iron, moulding and thickness | 7½ × 3 | 7¼ × 2 3/8 |
| Keelson do. do. do. | 8½ × 5½ | 7¼ × 4¾ |
| Distance of Frames from moulding edge to building edge, all fore and aft | 21 | 23 |

| | Inches. In Ship. | Inches. In Ship | 16ths. In Ship. | Inches. required per Rule. | Inches. required per Rule. | 16ths required per Rule. |
|---|---|---|---|---|---|---|
| Angles, size of Angle Iron, for ⅗ length amidships | 4 | 3 | 7 | 4 | 3 | 7 |
| Do. for ⅕ at each end | 4 | 3 | 7 | 4 | 3 | 6 |
| Bossed Frames, size of Angle Iron | 3 | 3 | 6 | 3 | 3 | 7 |
| Floors, depth and thickness of Floor Plate at Keel line for half the length amidships | 18½ | × | 7 | 19 | × | 8 |
| Do. at the ends | | | | | | |
| Do. do. do. at Bilge Keelson | | | | | | |
| ~~Do. height extended at the Bilges~~ | | | | | | |
| ~~Beams, Three Decked, Spar, or Awning Decked (No. ) single or double Angle Iron, Plate or Tee Bulb Iron~~ | | | | | | |
| ~~Single or double Angle Iron on Upper edge~~ | | | | | | |
| ~~Average space~~ | | | | | | |
| Beams, Upper ~~or Middle~~ Deck (No. 62) ~~single, or double Angle Iron, Plate or~~ Tee Bulb Iron | 7 | × | 7 | 7 | × | 7 |
| ~~Single, or~~ double Angle Iron, on Upper Edge | 2¾ | 2¾ | 5 | 2¾ | 2¾ | 5 |
| Average space | on alternate frames | | | | | |
| Beams, Lower Deck ~~or Orlop~~ (No. 32) ~~single, or double Angle Iron, Plate or Tee~~ Bulb Iron | 7 | × | 7 | 7 | × | 7 |
| ~~Single or~~ double Angle Iron on Upper Edge | 2¾ | 2¾ | 5 | 2¾ | 2¾ | 5 |
| Average space | 2 and 4 | | | 4 frames | | |
| Keelson Centre line, single ~~or double~~ plate, ~~box, or~~ Intercostal, size of Plates | 26/8 | × | 8 | 13½ | | 11 |
| Do. Bulb Plate to Intercostal Keelson | 7 | × | 7 | | | |
| Do. Size of Angle Irons | 5 | 3 | 8 | 5 | 3½ | 7 |
| ~~Do. Side Intercostal Keelson, size of Plates~~ | | | | | | |
| ~~Do. Angle Irons on tops of Floors~~ | | | | | | |
| Do. Bilge Keelson, ~~Bulb Iron~~ | Tank × bracket plates | | | | | |
| Do. do. Angle Irons | | | | | | |
| Do. Side Stringers (No. two) size of Angle Irons | 5 | 3 | 8 | 5 | 3½ | 7 |

| | Inches. In Ship. | 16ths. In Ship. | Inches. required per Rule. | 16ths required per Rule. |
|---|---|---|---|---|
| ~~Flat Keel Plates, breadth and thickness~~ | | | | |
| Plates in Garboard Strakes, breadth and thickness | 34 | 10 | 30 | 10 |
| Do. from Garboard to upper part of Bilges | | 9 | | 9 |
| ~~Do. of doubling at Bilge, or increased thickness, and length applied~~ | | | | |
| Do. from upper part of Bilge to lower edge of Sheerstrake | | 8×7 | | 8 |
| Do. Sheerstrake, breadth and thickness | 37 | 11 | 30 | 12 |
| Do. of doubling at Sheerstrake, and length applied | | | | |
| Butt Straps to outside plating, breadth and thickness | 8¼ | 7 to 11 | 9¾ | 16 to 13 |
| Lengths of Plating | 5 spaces frames | | | |
| Shifts of Plating, and Stringers | as per Rule | | | |
| ~~Gunwale Plate on ends of Awning, or Spar Deck Beams, breadth and thickness~~ | | | | |
| ~~Angle Iron on ditto~~ | | | | |
| ~~Tie Plates (fore and aft), outside Hatchways~~ | | | | |
| ~~Diagonal Tie Plates on Beams (No. of Pairs, )~~ | | | | |
| ~~Planksheer material and scantling~~ | | | | |
| ~~Waterways~~ do. do. | | | | |
| ~~Flat of Deck do.~~ do. | | | | |
| ~~How fastened to Beams~~ | | | | |
| Stringer Plate on ends of Upper ~~or Middle~~ Deck Beams, breadth and thickness Rider plate | 32 / 15 | 8 | 31 | 10 |
| Angle Irons on ditto (No. one) | 5 × 3 × 8 | | 5 × 3½ × 7 | |
| Tie Plates, outside Hatchways | 10½ | 8 | 10½ | 9 |
| Diagonal Tie Plates on Beams (No. of pairs, 7) | 10½ | 8 | 10½ | 9 |
| Waterways materials and scantlings | 9 gutter | | | |
| Flat of Deck do. do. | 3½ 7. pine | | 3¾ | |
| How fastened to Beams | Nut × screw bolts | | | |
| Stringer Plates on ends of Lower Deck ~~or Orlop~~ Beams | 24 | 8 | 23 | 8 |
| Angle Irons on ditto (No. one) | 5 × 3 × 8 | | 3½ × 3½ × 8 | |
| Stringer or Tie Plates, outside Hatchways | 5 × 3 × 8 | | 3½ × 3½ × 8 | |
| ~~Flat of Deck~~ | | | | |
| Ceiling betwixt Decks, thickness and material | 2½ | | per battens | |
| Do. in hold do. do. | 2½ | | Redpine × doubled with hard wood in way of hatchways | |
| Clamps or Spirketting | | | | |
| Main piece of Rudder, diameter at head | 5½ | | 5¼ | |
| Do. do. at heel | 3½ | | 3 | |

(Can the Rudder be unshipped afloat? yes)

Bulkheads No. 4 Thickness of 6/16

Do. Height up upper deck

Do. How secured to the sides of the ship by double frames

Do. Size of Vertical Angle Irons, 3 × 3 × 6/16 and their distance apart, 30 in.

Do. Are the outside Plates doubled two spaces of Frames in length? yes

Transoms, material Iron or, if none, in what manner compensated for.

Knight-heads Iron Hawse Timbers Iron

~~Windlass~~ Iron Patent Pall Bitt not required

The Frames extend in one length from Keel to gunwale Riveted through plates with (¾ in.) Rivets, about 6 apart.

The Reverse Angle Irons on the floors extend across the middle line from hold beam stringer to hold beam stringer

On all the Frames and to the gunwale on alternate frames

Keelsons. Are the various lengths of Plates and Angle Irons properly connected? yes And are their butts properly shifted? yes

Plates, Garboard, double ~~or~~ Riveted to Keel, double ~~or~~ at upper edge, with Rivets (1¼ × 7/2 in.) diameter, averaging (5 × 3½ ins.) from centre to centre.

Edges from Garboards to upper part of Bilge, worked Clencher, double ~~or single~~ Riveted; with Rivets (¾ in.) diameter, averaging (3¼ ins.) from centre to centre.

Butts from Keel to turn of Bilge, worked carvel with butt straps (9 × 10/16) thick, ~~treble~~, double ~~or single~~ Riveted; with Rivets (¾ in.) diameter averaging (3¼ ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? no

Edges of Sheerstrake, double or single Riveted. At upper edge single At lower edge double

Butts from Bilge to Planksheers, worked Carvel with Butt Straps (7 × 11/16) thick, double ~~or single~~ Riveted; with Rivets (¾ in.) diameter, averaging (3¼ ins.) from centre to centre. Breadth of laps in double Riveting (4¼) Breadth of laps in single Riveting (2¾)

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? double riveted

Planksheer, how secured to the plating of the sides, Waterway " " planksheer and to the Beams, { Explain by Sketch, if necessary. } Gutter

Beams of the various Decks, how secured to the sides? Welded knees riveted No. of Breasthooks, 4 Crutches, 4

What description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Palmer & Co. Janow

Manufacturer's name or trade mark, Palmer & Co. Janow

We certify that the above is a correct description of the vessel and particulars therein given.

Builder's Signature, Chas. M. Palmer Surveyor's Signature, [illegible]

PROPELLER & IRON COMPANY LIMITED

IRON/HT3 - 0152

© 2019 Lloyd's Register Foundation

83489 Iron

**Workmanship.** Are the butts of plating planed or otherwise fitted? Some are planed and some filed

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

Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? solid single pie

Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? fairly so 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? a few

---

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~~ wood

Number for equipment 153.67

| SAILS. | No. | CABLES, &c. | Fathoms. | Inches. | Test as per Certificate. | In. req'd per Rule. | Test req'd per Rule. |
|---|---|---|---|---|---|---|---|
| Fore Sails, | 1 | Chain ..... | 270 | 17/16 | 37.4.0.0 | 1 7/16 | 37 2/10 |
| Fore Top Sails, | | (State Machine where Tested, and name of Superintendent). | 90 | 7/8 | Iron | 7/8 | |
| Fore Topmast Stay Sails | | Hempen Stream Cable | 90 | 9½ | Lloyds Tyne P.H. R. Burnell supt | 8 | |
| Main Sails, | | Hawser ..... | 90 | 6 | | 5 | |
| Main Top Sails, | | Towlines ... | 90 | 5 | | | |
| and | one | Warp ..... | 140 | 4 | | | |
| | | All of good quality. | | | | | |

| ANCHORS, &c. | No. | Weight. Ex. Stock. | Test as per Certificate. | W'ght req'd per Rule. | Test req'd per Rule. |
|---|---|---|---|---|---|
| Bowers .... | 3 | 18.1.0 | 19.4.1.14 | 18.0.0 | 19.0.0 |
| | | 18.0.24 | 19.4.1.14 | 18.0.0 | 19.0.0 |
| | | 15.1.14 | 16.16.2.7 | 15.1.6 | 16.14 |
| (State Machine where Tested, and name of Superintendent). | | Lloyds Tyne P.H. R. Burnell Sup | | | |
| with Stk Stream ... | 1 | 8.1.21 | | 8.0.0 | |
| with Stk Kedges ... | 2 | 4.1.0 | | 4.0.0 | |
| | | 2.1.7 | | 2.0.0 | |

Her Standing and Running Rigging hemp sufficient in size and good in quality. She has one life ~~Long~~ Boat and two others

The present state of the ~~Windlass is~~ Non patent Capstan Good and Rudder good Pumps good & sufficient

**Engine Room Skylights.**—How constructed? Iron How secured in ordinary weather? by nut & screw bolts and brass fittings

What arrangements are there for deadlights in such for bad weather? Tarpaulins &c

**Coal Bunker Openings.**—How constructed Cast iron coamings How are lids secured? by studs & bolts How high above deck? 3½

**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? six ports and three mooring pipes on each side.

**Cargo Hatchways.**—How formed? iron coamings riveted to beams State size 17 feet by 9 feet

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

What arrangement for shifting beams? strong bulb beam with double angle iron on top

**Hatches,** themselves, whether strong and efficient? yes **Main Hatchways.**—State size 11.6 × 9 feet

---

Order for Special Survey No. 745 Date 29 Jany 1878 Order for Ordinary Survey No. — Date — No. 258 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
2nd. On the plating during the progress 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

built under special survey.

**General Remarks,** This vessel is fitted with a water-ballast-tank (top plating 5/16) for a length of 132 feet amidships; and the butts of the main strakes are treble riveted for two-thirds her length amidships. She is the sister vessel to the "Mid-Surrey", Report No. 11184, and is like her in all respects.

In what manner are the surfaces preserved from oxidation? Inside Cement & paint Outside Paint & Composition

I am of opinion this Vessel should be Classed 90 A 1.

The amount of the Entry Fee .....£ 5 : " : " is received by me, R. J. Reed.

Travelling Expenses (if any).....£ " : " : "

Special .....£42 : 11 : "

Certificate .... " : " : "

Oct 1878

**Committee's Minute** 14th October 1878

**Character assigned** 90 A 1 A+CP

Committee

This Vessel appears eligible to be classed as recommended at 90 A 1 but as the plating of double bottom is 7/16 to 8/16 see Rules Section 17 should not be marked Double bottom

Received Aug 1, 1878

© 2019 Lloyd's Register Foundation