

1 or 2 Decks

STEEL STEAMER.

Received at London Office

8970

State of Report is also sent on the Machinery of the Vessel

No. 8970 Date of completion of Report 22nd Dec 1892 Port of West Hartlepool
Survey held at West Hartlepool Date, First Survey 20 June Last Survey 20 Dec 1892

On the

Steamer "CARDINAL"

Rig Schooner

ONE OR TWO DECKED VESSEL.

CLASS 100 A.1.

Master C. Kemp

Year of appointment (1) As master in service of owner of present vessel 1885
(2) As master of this vessel 1892

Built at West Hartlepool

When built 1892 Launched 24 Oct 1892

By whom built Furness, Withy & Co. Ltd

Owners Chadwick Steamship Co. Ltd

Managers R. B. Avery

(Where necessary to be entered in Reg. Book).

Residence Bank Chambers Sandhill

Port belonging to Newcastle upon Tyne

Port of Registry Newcastle upon Tyne

No. of Decks with Flat laid One

No. of Tiers of Beams One

TONNAGE under Tonnage Deck	1760.27
Do. of Raised Or Dk. or Break	6.00
Do. of Bridge House	134.72
Do. of Houses on Deck	228.37
Do. of excess of Hatchways	53.52
Do. of Forecastle	22.48
Do. above Crown of Engine Room	41.92
Gross Tonnage	2302.92
Less Crew Space	62.71
Less above Crown of Engine Room	5.67
TONNAGE FOR FEES	2234.54
Less Engine Room	736.93
Less Navigation Spaces	29.83
Register Tonnage as cut on Beam	1474.25

Half Breadth (moulded)	19.56
Depth from upper part of Keel to top of Main Deck Bms.	22.08
Girth of Half Midship Frame (as per Rule)	38.16
1st Number	79.91
Length	286.33
2nd Number	22884
Proportions—Breadths to Length	7.28
Depths to Length—Main Deck to top of Keel	12.97
Destined Voyage	June to load. 4

LENGTH on Deck as per Rule	286	Feet	4	BREADTH—Moulded	39	Feet	4	DEPTH—Top of Floors to Main Deck Beams	18	Feet	11	Power of Engines	200	Horse	No. of Decks with Flat laid	One	No. of Tiers of Beams	One
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Dimensions of Ship per Register, Length, 288.0 breadth, 39.5 depth, 18.85.

FORGINGS AND CASTINGS.

IRON, Bar or Side Plates depth and thickness	10 x 2 1/2	Inches in Ship	10 x 2 1/2	Inches per Rule Or as Approved.
IRON, moulding and thickness	10 x 5 1/2	Inches in Ship	10 x 5 1/2	Inches per Rule Or as Approved.
IRON, POST for Rudder do. do.	10 x 5 1/2	Inches in Ship	10 x 5 1/2	Inches per Rule Or as Approved.
IRON, for Propeller	7 3/4	Inches in Ship	7 3/4	Inches per Rule Or as Approved.
IRON, MAIN PIECE of Rudder, diameter at head	33 1/4	Inches in Ship	33 1/4	Inches per Rule Or as Approved.
IRON, do. at heel	33 1/4	Inches in Ship	33 1/4	Inches per Rule Or as Approved.
IRON, Rudder, how constructed	Forged iron frame, plated			
IRON, in the Rudder be unshipped afloat?	Yes			

FRAMING.

IRON, Angles, 7 Bars, for 1/2 length amidships	6	3	11	6	3	11
IRON, in way of Double Bottoms	10	10	10	10	10	10
IRON, in way of Engines and Boilers	24	24	24	24	24	24
IRON, thickness at the ends of vessel	38	9	38	9	38	9
IRON, depth at 1/2 the half breadth, as per Rule	Floors on wing frame under Engines, 1/2 inch on alternate frames.					
IRON, height extended at the Bilges	8	8	8	8	8	8
IRON, BRACKETS, in Cell Dble Bottoms	8	8	8	8	8	8
IRON, Distance apart	38	18	38	10	38	10
IRON, TREE GIRDER, in Double Bottom, depth and thickness	6	4	9	6	4	9
IRON, Angles, Top 4 x 4 x 9 Bottom	One	9	One	9	One	9
IRON, GIRDERS, number and thickness	Flanged top and bottom					
IRON, REGIN PLATE, depth (exclusive of flange) and thickness	28	8	28	8	28	8
IRON, Angles	4	3	8	3 1/2	3 1/2	8
IRON, ER BOTTOM PLATING, breadth and thickness of Middle Line Strake	50	9	36	9	50	9
IRON, thickness in Engine and Boiler space	From 8 1/2 to 8				From 8 1/2 to 8	
IRON, Remainder in Holds	8	8	8	8	8	8
IRON, MS, Main and Raised Quarter Deck, Single Angle, Bulb Angle, Plate or Tee Bulb	10" tee bulbs	10" tee bulbs	10" tee bulbs	10" tee bulbs	10" tee bulbs	10" tee bulbs
IRON, Angles on Upper Edge	48	48	48	48	48	48
IRON, MS, Lower Deck, Single Angle, Bulb Angle, Plate or Tee Bulb	9" tee bulbs	9" tee bulbs	9" tee bulbs	9" tee bulbs	9" tee bulbs	9" tee bulbs
IRON, Angles on Upper Edge	48	48	48	48	48	48
IRON, MS, Hold, Plate or Tee Bulb (See also 10 1/2)	10 1/2	10	10 1/2	10	10 1/2	10
IRON, Angles on Upper Edge	4 1/2	4	9	4 1/2	4	9
IRON, MS, Hold, Plate or Tee Bulb (See also 10 1/2)	As approved					
IRON, Angles on Upper Edge	48	48	48	48	48	48
IRON, MS, Bridge Deck, Angle, Bulb Angle, Plate or Tee Bulb	5 1/2	3	7	5 1/2	3	7
IRON, Angles on Upper Edge	24	24	24	24	24	24
IRON, MS, Forecastle Deck, Angle, Bulb Angle, Plate or Tee Bulb	5 1/2	3	7	5 1/2	3	7
IRON, Angles on Upper Edge	24	24	24	24	24	24
IRON, MS, In 'tween Decks, Size and Spacing	From main division					
IRON, Hold	13-35.6 spaces apart					
IRON, RAMES, In Fore Body, No. and Spacing	15	8	15	8	15	8
IRON, No. of Side Stringers	Three	Three	Three	Three	Three	Three
IRON, RAMES, In After Body, No. and Spacing	8-5 spaces apart					
IRON, No. of Side Stringers	Three	Three	Three	Three	Three	Three
IRON, Size of Angles on Tee Bars to Web Frames	3 1/2	3	8	3 1/2	3	8
IRON, PLATES to Stringers between Frames, Depth and Thickness	3 1/2	3	8	3 1/2	3	8

Moulded Depth, ft. 21 ins. 4

Round of Beam 9 inches.

KEELSONS AND STRINGERS.

CENTRE LINE KEELSON, Vertical Plate above keel, Through Plate, or Intercoastal Plate						
" Bulb Plate						
" Bulb Plate to Intercoastal Keelson						
" Horizontal Plates on Floor						
" Angles						
SIDE KEELSON, Angles						
" Bulb or Plate above floor for length						
" Intercoastal Plate for length						
" Attached to outside plating with Angle						
SIDE KEELSON, Angles						
" Bulb or Plate above floor for length						
" Intercoastal Plate for length						
" Attached to outside plating with Angle						
SIDE STRINGER, Angles						
" Bulb Plate for length						
" Intercoastal Plate for length						
" Attached to outside plating with Angle						
SIDE STRINGER, Angles						
" Bulb or Intercoastal Plate for length						
Main and Raised Quarter Deck Stringer Plate, on ends of Beams, breadth & thickness	7 1/4	9	7 1/4	9	7 1/4	9
" Angle on ditto	4 x 4	9	4 x 4	9	4 x 4	9
" Tie Plates fore & aft outside Hatchways	4 1/2 x 4 1/2	10	4 1/2 x 4 1/2	10	4 1/2 x 4 1/2	10
" Diagonal Tie Plates on Bms. No. of Pairs	769		769		769	
" Flat of Dk. Iron or Steel for whole lng.						
" " Wood Material & thickness						
" How fastened to Beams	Riveted					
Lower Deck Stringer Plate, on ends of Beams, breadth and thickness						
" Angles on ditto, No.						
" Tie Plates outside Hatchways						
" Flat of Deck Material and thickness						
" How fastened to Beams						
Hold Stringer Plate, on ends of Beams						
" Angles on ditto, No.						
Roop Deck Stringer Plate, breadth & thickness						
" Angle on ditto						
" Tie Plates						
" Flat of Deck Material and thickness						
Bridge Deck Stringer Plate, breadth & thickness	70	9	70	9	70	9
" Angle on ditto	4 x 4	9	4 x 4	9	4 x 4	9
" Tie Plates						
" Flat of Deck Material and thickness	From 5 1/2 to 5 1/2		From 5 1/2 to 5 1/2		From 5 1/2 to 5 1/2	
Forecastle Deck Stringer Plate, breadth & thickness	From 5 1/2 to 5 1/2		From 5 1/2 to 5 1/2		From 5 1/2 to 5 1/2	
" Angle on ditto	3 1/2 x 3 1/2	8	3 1/2 x 3 1/2	8	3 1/2 x 3 1/2	8
" Tie Plates						
" Flat of Deck Material and thickness						

PLATING.

FLAT PLATE KEEL, breadth and thickness	36	16	36	16
" Plating or ironed thickness, & length applied				
PLATES in Garboard Strakes, breadth & thickness	40	12	40	12
" From Garboard to lower part of Bilges				
" State Thickness of Plating in way of Double Bottom	11		11	
" Bilges, number of Strakes and thickness	11		11	
" Of doubling at Bilge, or increased thickness, and length applied				
" from up. part of Bilge to l.r. edge of Sh'rstrake	11		11	
" Strake below Sheerstrake	13		13	
" Sheerstrake, breadth and thickness	42	15	42	15
" Of d'bling at Sh'stk. & lng. applied	Counted at break			
" Roop Sides				
" Raised Quarter Deck Sides	10 1/2		10 1/2	
" Bridge Sides	8 1/2		8 1/2	
" Forecastle Sides	7		7	
Lengths of Plating	16 ft. 6	32 ft.		

BULKHEADS. No. in Vessel 14. No. Reqd. by Rule 14. Ceiling betwixt Decks, thickness and material 2 1/2" x 1/2". in hold do. do. 2 1/2" x 1/2". Number of Breasthooks 5 deep floors. Crutches 1 4 deep floors. The FRAMES extend in one length from Gun side to Quarter. The REVERSED ANGLE on floors and frames extend from Gun side to Quarter.

RIVETING OF EDGES AND BUTTS OF SHELL PLATING AND BUTTS OF STRINGER PLATES, TIE PLATES, KEELSONS, &c. Carboard, double riveted to the keel or flat plate keel, with rivets 1/2" in diameter, averaging 4" ins. from centre to centre. Edges of Carboards and to upper part of Bilge, worked clench, double riveted; with rivets 7/8" in diameter, averaging 3 1/2" ins. from centre to centre. Butts from keel to turn of Bilge, worked clench, double riveted; treble for 1/2 length, with rivets 7/8" in dia., averaging 3 1/2" ins. from cr. to cr. Butts of all Strakes at Bilge for half length, treble riveted with Butt Straps 3/4" thicker than the plates they connect. Edges from Bilge to Sheerstrake, worked clench, double riveted; with rivets 7/8" in diameter, averaging 3 1/2" ins. from centre to centre. Butts from Bilge to Sheerstrake, worked clench, double riveted; treble for 1/2 length, with rivets 7/8" in dia., averaging 3 1/2" ins. from cr. to cr. Edges of Sheerstrake, double riveted. Butts of Sheerstrake, treble riveted for half length amidships. Butts of Main Stringer Plate, treble riveted for half length amidships. Butts of Inner Bottom Plating double riveted for half length. Butts of Centre Girder Treble riveted. Breadth of edge laps of Shell Plating in double riveting 5 1/2" 4 6". Breadth of edge laps of Shell Plating in single riveting 9". Butt Straps of Shell Plating breadth and thickness 1 1/2" x 1/4". Butts, if lapped, breadth of laps 9". Butt Straps of Keelsons, Stringer and Tie Plates, treble or double riveted? Double & Treble. Manufacturer's name or trade mark of the Iron or Steel (state process of manufacture of Steel) used for Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Best Iron - Whitwell & Co. Stockton Malleable.

Workmanship. Are the butts of plating planed or otherwise fitted? Planed. Is the riveted work properly closed? Yes. Are the liners between the frames 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 facing surfaces? Yes. Do any rivets break into or through the seams or butts of the plating? A few. Are the butts of Plating, Stringers, &c., properly shifted and strapped? Yes.

MASTS, SPARS, &c. LOWER MASTS. Fore Mast. Main Mast. Mizzen Mast. Material. Total Length. Diameter and Thickness. No. of Plates in round. ANCHORS. Riveting. Butts. Fore Mast. 53.9. 22 x 9/16. 19 x 9/16. 17 x 9/16. 15 x 9/16. 14 x 9/16. 12 x 9/16. 10 x 9/16. 8 x 9/16. 6 x 9/16. 4 x 9/16. 2 x 9/16. Main Mast. 60.10. 21 x 9/16. 18 x 9/16. 17 x 9/16. 15 x 9/16. 14 x 9/16. 12 x 9/16. 10 x 9/16. 8 x 9/16. 6 x 9/16. 4 x 9/16. 2 x 9/16. Mizzen Mast. 45.0. 18 x 9/16. 15 x 9/16. 14 x 9/16. 12 x 9/16. 10 x 9/16. 8 x 9/16. 6 x 9/16. 4 x 9/16. 2 x 9/16. RIGGING, Material and Size, Shrouds. Sails. One. Suit of. Sails, and the following spars and rigging.

EQUIPMENT No. 25524 LETTER S. ANCHORS. Number of Certificate. 1st Bower. 2nd. 3rd. Collective weight. Stream. Kedg. 2nd Kedg. Weight of Stock. Test per Certificate. Weight Req. by Rule. Description of Anchor. Makers. Where and when tested and Superintendent. 23942. 1st Bower. 40.0. 3. 35. 16. 3. 14. 40. 0. 0. Wadsworths. J. Spencer. 18/1/92. 23945. 2nd. 40.0. 0. 35. 16. 0. 0. 40. 0. 0. 23944. 3rd. 40.0. 23. 31. 16. 1. 0. 34. 0. 0. 24067. Stream. 10. 2. 0. 2. 2. 14. 12. 8. 3. 0. 10. 2. 0. Common. 24106. Kedg. 5. 1. 0. 1. 1. 7. 7. 11. 3. 14. 5. 1. 0. 24107. 2nd Kedg. 2. 2. 0. 2. 21. 5. 0. 0. 0. 2. 2. 0. 0.

CHAIN CABLES. HAWSERS AND WARPS. Number of Certificate. Fathoms. Size. Test per Certificate. Weight of Chain Cable. Fathoms & Size. Description. Makers of Cables. Where and when tested, and Superintendent. Material. Fathoms. Size. Fathoms & Size. Per Rule. 9912. 136. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9923. 134. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9975. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9976. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9977. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9978. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9979. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9980. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9981. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9982. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9983. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9984. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9985. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9986. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9987. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9988. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9989. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9990. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9991. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9992. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9993. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9994. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9995. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9996. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9997. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9998. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 9999. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92. 10000. 118. 1 1/2. 82 1/2. 59 1/2. 226. 1. 6. 270. 1. 1 1/2. 100 A1 Steel. J. Hartshorn & Co. 3/18/92.

The above is a correct description. Builder's Signature, (here only) Leonard Mills. Surveyor's Signature, R. F. Whiting. Surveyor to Lloyd's Register of British and Foreign Shipping.

Order for Special Survey No. 1536. Date 15 July 1892. 1st. On the several parts of the frame, when in place, and before the plating was wrought. 2nd. On the plating during the process 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. Total No. of Visits 59. State dates and initials of letters respecting this case 1891 - Dec. 31. 1892 - Feb. 29. Aug. 9. 29. Dec. 9. General Remarks (State quality of workmanship, &c.)

The workmanship is good & the vessel has been constructed in accordance with the approved plans (6 in No.) which together with our Dredging Report are attached hereto.

Drawings. Midship Section - 20' 22 1/2' 1892. Profile. Main & Quarter decks. Bridge deck. Pumping plan. Iron masts.

PARTICULARS FOR RECORD in the REGISTER BOOK. Length of Poop 115 ft. R.Q.D. or Break 118 ft. Bridge Dk. 118 ft. F'castle 31 ft. (in feet and tenths) where the Poop is on top of the R.Q.D., or when the Poop or R.Q.D. is joined to the B.D., this should be distinctly stated.

No. and Material of Decks (if Iron or Steel) and whether wholly or partially covered with wood, and No. of tiers of Beams (this information is to be given as it should appear in the Register Book) One Deck (Steel) and 4th Frames. Official No. ; Signal Letters.

PARTICULARS OF WATER BALLAST. Double bottom, aft, length and water capacity in tons. Double bottom, forward, length and water capacity in tons. Double bottom, under engines and boilers, length and water capacity in tons. Double bottom, constructed on the cellular system, length and water capacity in tons. Fore peak tank, water capacity in tons. After peak tank, water capacity in tons. Midship deep tank, length and water capacity in tons. Other tanks, if fitted, length and water capacity in tons. The above have all been tested as required by the Rules. (If necessary, furnish further information by sketch.) How are the surfaces preserved from oxidation? Inside Danby's Cement & Paint. Outside Paint.

FREEBOARD assigned by the Committee, as per Secretary's Letter, dated 28 Dec 1892. In Summer 2 ft. 0 in. In Winter 2 ft. 3 1/2 in. For Winter in North Atlantic 2 ft. 7 1/2 in. Fresh Water above the centre of disc 4 1/2 in.

The amount of Entry Fee £ 5. is received by me, 23 Dec 1892. Special £ 80. 17. 6. Certificate £ 7. Travelling Expenses, if any £. I am of opinion this Vessel should be Classed 100 A.1. Certificate to be sent to.

Committee's Minute. Character assigned 100 A.1 Steel. This Vessel appears to have been built in accordance with the Rules and the approved plans, and it is submitted that she is eligible to be classed 100 A.1 (Steel) as recommended. 100 A.1 (Steel) well built. 1 Stk (Stk) & web frames. V.B. = Cell DB 80 (particulars above). F.K. Lloyd's Register Foundation.