

REPORT ON MACHINERY.

NO. 32352

Port of Newcastle

Received at London Office

THUR. 30 OCT 1895

No. in Survey held at S Shields Date, first Survey 10th April Last Survey Sep 28th 1895
 Reg. Bk. 3 Sup on the Steel Screw Steamer Adra Tons { Gross 2796.34 Net 1803.86
 Master C. Cox Built at S Shields By whom built J. Beadhead & Sons When built 1895
 Engines made at S Shields By whom made J. Beadhead & Sons when made 1895
 Boilers made at S Shields By whom made J. Beadhead & Sons when made 1895
 Registered Horse Power 270 Owners English & American Shipping Co. (Ld) Port belonging to London
 (C. J. Bowring & Co.)
 Nom. Horse Power as per Section 28 247

ENGINES, &c.— Description of Engines Triple expansion on 3 cranks No. of Cylinders 3
 Diameter of Cylinders 23, 37 1/2, 61 1/2 Length of Stroke 42 Revolutions per minute 60 Diameter of Screw shaft 11
 Diameter of Tunnel shaft 12 5/8 Diameter of Crank shaft journals 12 5/8 Diameter of Crank pin 12 5/8 Size of Crank webs 8 x 17
 Diameter of screw 15-6 Pitch of screw 17-0 No. of blades 4 State whether moveable Solid Total surface 69 sq
 No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 20 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 3/4 Stroke 20 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps Ballast 13 1/2 x 9 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two Wing 3" dia One Centre 3 1/2" In Holds, &c. Fore hold Two 3" Main hold
Two 3" After hold Two 3" After Well one 3"
 No. of bilge injections one sizes 3 1/2 Connected to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 3 1/2
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line above
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes
 What pipes are carried through the bunkers none How are they protected ✓
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New Vessel Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.— (Letter for record N) Total Heating Surface of Boilers 3749.6 sq
 No. and Description of Boilers Two Cyl. Mult. Single ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
 Date of test 24-8-95 Can each boiler be worked separately Yes Area of fire grate in each boiler 55 sq No. and Description of safety valves to
 each boiler Two Spring Area of each valve 7.07 Pressure to which they are adjusted 165 lbs Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 14'-9"
 Length 9'-8" Material of shell plates Steel Thickness 1 3/16 Description of riveting: circum. seams Lap double long. seams DB treble
 Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8" Lap of plates or width of butt straps 20"
 Per centages of strength of longitudinal joint rivets 84.5 Working pressure of shell by rules 160 lbs Size of manhole in shell 16 x 12
 plate 83.5
 Size of compensating ring 6 x 1 3/16 No. and Description of Furnaces in each boiler 3 Furnaces Material Steel Outside diameter 41"
 Length of plain part top ✓ bottom ✓ Thickness of plates crown 1 1/2 bottom 1 1/2 Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 170 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 8 5/8" Back 8 9/16" Top 8 13/16" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 174 lbs
 Material of stays Iron Diameter at smallest part 1 9/16 Area supported by each stay 77.5 Working pressure by rules 192 lbs End plates in steam space:
 Material Steel Thickness 1" Pitch of stays 16 3/4" How are stays secured Draw Working pressure by rules 169 lbs Material of stays Steel
 Diameter at smallest part 2 1/2 Area supported by each stay 280 Working pressure by rules 162 lbs Material of Front plates at bottom Steel
 Thickness 3/4 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 11 1/4" Working pressure of plate by rules 143 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 248 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 x 1 1/2 Length as per rule 28 1/2 Distance apart 8 13/16 Number and pitch of Stays in each 2-8
 Working pressure by rules 184 lbs Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked
 separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet
 holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
 Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

Report handed in 1-10-95

DONKEY BOILER— Description *Vertical Cochran Patent*
 Made at *Greenhead* By whom made *Cochran & Co.* When made *5.7.95* Where fixed *Main deck*
 Working pressure *100 lb* tested by hydraulic pressure to *200 lb* No. of Certificate *1303* Fire grate area *20.5 sq ft* Description of safety valves *Spring*
 No. of safety valves *one* Area of each *12.56 sq ft* Pressure to which they are adjusted *100 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6'-6"* Length *14'-6"* Material of shell plates *Steel* Thickness *17/32"*
 Description of riveting long seams *Lap double* Diameter of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *3"*
 Lap of plating *4 1/2"* Per centage of strength of joint *73.6* Thickness of shell crown plates *15/32"* Radius of do. *3'-3"* No. of Stays to do *Hemisp.*
 Dia. of stays. Diameter of furnace Top *2'-8"* Bottom *5'-5"* Length of furnace *Hemisp.* Thickness of furnace plates *9/16"* Description of joint *Lap single* Thickness of furnace crown plates *9/16"* Stayed by *Hemispherical* Working pressure of shell by rules *109 lb*
 Working pressure of furnace by rules *102 lb* Diameter of uptake *14 x 15* Thickness of uptake plates *17/32"* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *2 Top end bolts & nuts, 2 Bottom end bolts & nuts, 2 Main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, assorted bolts & nuts various sizes of Iron, Propeller, Propeller shaft, 6 Condenser tubes, 6 boiler tubes*

The foregoing is a correct description,
John Readhead & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)
*The Machinery of this vessel has been built under special survey. The materials and workmanship are sound and good main steam pipes tested by hydraulic to twice the working pressure. Safety Valves adjusted & engines tried under steam, which renders the vessel in our opinion to have record **L.M.C. 9.95** in the Register Book*

[Large handwritten signature]
 L.M.C. 9.95
 Pms.
 3.10.95

Certificate (if required) to be sent to **NEWCASTLE-ON-TYNE**

The amount of Entry Fee..	£ 2 : 0	When applied for,
Special	£ 32 : 4	1.10.18.95
Donkey Boiler Fee	£ - : -	When received,
Travelling Expenses (if any) £	- : -	3.10.95

J. W. Pitt & Co.
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI, 4 OCT 1895**
 Assigned *L.M.C. 9.95*

Form No. 105
 Official
 No., Date, a
 Whether Br Foreign
 British
 Number of D
 Number of M
 Rigged ...
 Stern ...
 Build ...
 Galleries
 Head ...
 Framework a
 Number of B
 Number of their cap
 Total to quar side am
 No. of Engines
 Three
 Under To Closed-in Space of Peop. Forecas Deck Round Other c
 Deduction
 Names, F Number The
 Dated
 27,583 9 | 88
 11,598 2000

