

REPORT ON MACHINERY.

Port of **NEWCASTLE-ON-TYNE**

Received at London Office

MON 18 SEP 1893

No. in Survey held at South Shields Date, first Survey Mar 1st Last Survey Sept 16 1893
 Reg. Book. Suppl. (Number of Visits 3)
 8 on the Screw Steamer "Cayo Romano" Tons { Gross 2689.52
 Net 1734.86
 Master J. H. Wiggery Built at S. Shields By whom built J. Readhead & Sons When built 1893
 Engines made at S. Shields By whom made J. Readhead & Sons when made 1893
 Boilers made at S. Shields By whom made J. Readhead & Sons when made 1893
 Registered Horse Power 300 Owners E. Bigland & Co. Port belonging to London
 Nom. Horse Power as per Section 28 282

ENGINES, &c.— Description of Engines Triple expansion No. of Cylinders 3
 Diameter of Cylinders 24" 40" 65" Length of Stroke 42" Revolutions per minute 60 Diameter of Screw shaft as per rule 11.37"
 Diameter of Tunnel shaft as per rule 10.8" Diameter of Crank shaft journals 12" Diameter of Crank pin 12" Size of Crank webs Fraser & Paton
 Diameter of screw 16' 3" Pitch of screw 19' No. of blades 4 State whether moveable No Total surface 63 f
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps (6" x 4" x 6") (13 1/2" x 13" x 9") No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Thru. On port 3" On Stk 3" On Centre 3 1/2" In Holds, &c. Fore hold, two 3" Main, two 3" After two 3"
After well, one 2 1/2" Tanks, fore, one 3" Main, thru 2 1/2" x 3" E.T.P. thru 3 1/2" After, main, one 3 1/2" After, one 2 1/2"
 No. of bilge injections 1 sizes 5 1/2" Connected to condenser, Yes 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 Yes
 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 Yes Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from Deck

BOILERS, &c.— (Letter for record Y) Total Heating Surface of Boilers 4367 sq. ft.
 No. and Description of Boilers Two Cylindrical Single ended Working Pressure 160 lb Tested by hydraulic pressure to 320 lb
 Date of test 19.7.93 Can each boiler be worked separately Yes Area of fire grate in each boiler 57.75 sq. ft. No. and Description of safety valves to
 each boiler Two Spring Area of each valve 7.07 Pressure to which they are adjusted 165 lb Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 15' 3"
 Length 16' 4" Material of shell plates stul Thickness 1 1/2" Description of riveting: circum. seams Lap and butt long. seams D.B. table
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8.5 Lap of plates or width of butt straps 2 1/4"
 Per centages of strength of longitudinal joint 85.2 Working pressure of shell by rules 160.3 lb Size of manhole in shell 16" x 12"
 Size of compensating ring 6" x 1 1/2" No. and Description of Furnaces in each boiler Three Ribbed Material stul Outside diameter 43 1/2"
 Length of plain part top 1 1/2" Thickness of plates crown 1 1/2" Description of longitudinal joint welded No. of strengthening rings 1
 Working pressure of furnace by the rules 160.9 Combustion chamber plates: Material stul Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 9" x 8 1/2" Top 8" x 8 1/2" If stays are fitted with nuts or riveted heads No Working pressure by rules 166.6 lb
 Material of stays iron Diameter at smallest part 1 1/2" Area supported by each stay 77.625 Working pressure by rules 140 lb End plates in steam space:
 Material stul Thickness 1 1/2" Pitch of stays 17 1/2" x 17" How are stays secured D.N. Working pressure by rules 162 lb Material of stays stul
 Diameter at smallest part 2 7/8" Area supported by each stay 299.6 Working pressure by rules 178 lb Material of Front plates at bottom stul
 Thickness 3/4" Material of Lower back plate stul Thickness 3/8" Greatest pitch of stays 11 1/4" Working pressure of plate by rules 180 lb
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates stul Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10 5/8"
 Pitch across wide water spaces 14" Working pressures by rules 182 lb Girders to Chamber tops: Material stul Depth and
 thickness of girder at centre 8" x 1 1/2" Length as per rule 28" Distance apart 8 5/8" Number and pitch of Stays in each 2 - 8"
 Working pressure by rules 190 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

DONKEY BOILER—

Description

Cylindrical multitubular single ended

Made at

S. Shields

By whom made

J. Readhead & Sons

When made

8.5.93

Where fixed

Stoke Newington

Working pressure

80 lb tested by hydraulic pressure to 160 lb

No. of Certificate

4196

Fire grate area

20 sq ft

Description of safety valves

Spring

No. of safety valves

1

Area of each

2.5

Pressure to which they are adjusted

80 lb

If fitted with easing gear

yes

If steam from main boilers can enter the donkey boiler

no

Diameter of donkey boiler

9'0"

Length

9'0"

Material of shell plates

steel

Thickness

9/16"

Description of riveting long seams

L. D. Riv

Diameter of rivet holes

5/16"

Whether punched or drilled

drilled

Pitch of rivets

3"

Lap of plating

4 1/2"

Per centage of strength of joint

69.5

Plates

18.75

Thickness of shell plates

3/4"

Radius of do.

✓

No. of Stays to do

6-18x

Dia. of stays

1 1/4"

Diameter of furnace

34"

Bottom

✓

Length of furnace

5'9"

Thickness of furnace plates

7/16"

Description of joint

Lap

Thickness of furnace plates

1/2"

Stayed by

18" stays

9 x 9 1/2"

pitch

Working pressure of shell by rules

83 lb

Working pressure of furnace by rules

129 lb

Diameter of uptake

✓

Thickness of uptake plates

1/4" x 3/4"

Thickness of water tubes

10 B.H.G.

SPARE GEAR. State the articles supplied:—

Two top end bolts & nuts, Two bottom end bolts & nuts, Two main bearing bolts & nuts, One set of shaft coupling bolts & nuts, propeller shaft & propeller, One set of feed & bilge pump valves, One boiler check-valve & seat, one safety-valve spring bolts nut & iron

The foregoing is a correct description, — assorted—

Manufacturer.

General Remarks

(State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been specially surveyed during construction the materials and workmanship, good, and renders the vessel eligible in our opinion to have the record + L. M. C. 9.93 in the Register Book of the Society.

It is submitted that this vessel is eligible for THE RECORD + L. M. C. 9.93 —

18/9/93 —

MACHINERY CERTIFICATE

Certificate (if required) to be sent to

WRITTEN.

Newcastle Office

The amount of Entry Fee..

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When applied for,

Special

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Committee's Minute

TUES. 19 SEP 1893

Assigned

+ L. M. C. 9.93



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