

REPORT ON MACHINERY.

WED. 23 AUG 1893

Port of NEWCASTLE-ON-TYNE.

Received at London Office

18

No. in Survey held at Newcastle Date, first Survey 11 March Last Survey Nov 24 July 1893
 Reg. Book. 75 on the S.S. "Warrigal" 14 August 1893
 Master J. C. Ilbery Built at Sunderland By whom built Wigham Richardson & Co when made 1893
 Engines made at Newcastle By whom made Wigham Richardson & Co when made 1893
 Boilers made at Newcastle By whom made do when made 1893
 Registered Horse Power 650 Owners H. Lund Port belonging to London
 Nom. Horse Power as per Section 28 513

Gross 4384.29
 Tons } Net 2448.49
 When built 1893

ENGINES, &c.— Description of Engines Quadruple Expansion, four cranks No. of Cylinders Four
 Diameter of Cylinders 25½-36½-52-78 Length of Stroke 54" Revolutions per minute 65 Diameter of Screw shaft as per rule 13¾
 Diameter of Tunnel shaft as fitted 13¾ Diameter of Crank shaft journals 14½" Diameter of Crank pin 14½" Size of Crank webs 21½" x 9½"
 Diameter of screw 18' 6" Pitch of screw 21' 0" No. of blades 4 State whether moveable yes Total surface 92 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 10" x 8" Stroke 21" Can one be overhauled while the other is at work yes, (Weir's pumps)
 No. of Bilge pumps 2 Diameter of ditto 4½" Stroke 28" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 4½" x 10" x 10" & 10" x 10" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Four, 3½" diameter In Holds, &c. Seven, 3½" diameter
 No. of bilge injections 1 sizes 6" Connected to condensers, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 3½" dia.
 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 Valves & cocks
 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 main Steam pipe How are they protected by trunk plating
 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 S) Total Heating Surface of Boilers 9012 sq
 No. and Description of Boilers Three, cylindrical double ended Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs
 Date of test 11, 7, 93 Can each boiler be worked separately yes Area of fire grate in each boiler 90 sq ft No. and Description of safety valves to
 each boiler Two, spring loaded Area of each valve 9.62 sq Pressure to which they are adjusted Are they fitted
 with easing gear Smallest distance between boilers or uptakes and bunkers or woodwork 3 ft Mean diameter of boilers 13' 6"
 Length 16' 0" Material of shell plates Steel Thickness 1½" Description of riveting: circum. seams d, & t, lap long. seams d, b, t, & t
 Diameter of rivet holes in long. seams 1½" Pitch of rivets 9" Lap of plates or width of butt straps 21"
 Per centages of strength of longitudinal joint ribs 96.9 Working pressure of shell by rules 226 lbs Size of manhole in shell 16" x 12"
 plate 83.3
 Size of compensating ring 7½" x 1½" No. and Description of Furnaces in each boiler 6 Morrison's Material Steel Outside diameter 40"
 Length of plain part top 17" Thickness of plates bottom 17" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 204 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back ✓ Top 5/8" Bottom 3/2"
 Pitch of stays to ditto: Sides 8" Back ✓ Top 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 211 lbs
 Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 64 sq Working pressure by rules 200 lbs End plates in steam space:
 Material Steel Thickness 1 3/32" Pitch of stays 15 1/4" x 14 3/4" How are stays secured d, n & w Working pressure by rules 243 lbs Material of stays Steel
 Diameter at smallest part 2½" Area supported by each stay 225 sq Working pressure by rules 200 lbs Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 Diameter of tubes 3½" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates Steel Thickness: Front 7/8" Back 25/32" Mean pitch of stays as plan
 Pitch across wide water spaces 14½" Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 11½" x 7" (double) Length as per rule 39" Distance apart 8 1/8" Number and pitch of Stays in each 3-8"
 Working pressure by rules 230 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 ✓

SHO 987-0142

DONKEY BOILER—

Description

Cylindrical Multitubular

Made at Stoke Newington

By whom made

T. Snarson & Co.

When made 6/93

Where fixed Stoke Newington

No. 93.

Working pressure 80 lbs

Tested by hydraulic pressure to 160 lbs

No. of Certificate 674

Fire grate area 24 sq ft

Description of safety valves Direct Spring

No. of safety valves 2

Area of each 7.0 sq ft

Pressure to which they are adjusted 80 lbs

If fitted with easing gear Yes

If steam from main boilers can enter the donkey boiler No

Description of riveting long seams D.B.S. double

Diameter of donkey boiler 9 ft

Length 10 ft

Material of shell plates S

Thickness 3/8"

Pitch of rivets 3 3/8"

Whether punched or drilled d.

Lap of 8 1/2"

Per centage of strength of joint 91

Rivets 91

Plates 45.9

Thickness of shell 3/8"

Radius of do. 18" x 13"

Stays to do. 18" x 13"

Dia. of stays 2" eff.

Diameter of furnace 2' 10"

Bottom —

Length of furnace 6' 5 1/2"

Thickness of furnace plates 1/32"

Stayed by 14" Stays 9" x 9" pitch

Working pressure of shell by rules 84 lbs

joint D.B.S.

Thickness of furnace 1/32"

plates 1/32"

Stayed by 14" Stays 9" x 9" pitch

Working pressure of shell by rules 84 lbs

Thickness of 1/32"

plates 1/32"

Working pressure of furnace by rules 85 1/2 lbs

Diameter of 3"

Thickness of 3/8"

plates 3/8"

Thickness of 3/16"

plates 3/16"

plates 3/16"

SPARE GEAR.

State the articles supplied:— 1 Set of connecting rod top & bottom end bolts and nuts. 2 main bearing bolts and nuts. Set of coupling bolts and nuts. 1 set of feed and bilge pump valves, propeller nuts bolts and associated iron.

The foregoing is a correct description,

Ltjhan Richardson Manufacturer.

General Remarks

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

This vessel has left for Sunderland, & to complete the survey the following require to be done:— the donkey boiler and fittings to be efficiently secured, all safety valves to be adjusted under steam, the pumping arrangements to be completed as per approved plan, the machinery to be tried under steam, and the spare gear examined. The machinery of this vessel has been built under special survey the materials and workmanship are sound and good and renders the vessel eligible in my opinion to have the notation **LMC-893** in the Register Book when the survey has been completed as above & the surveyors at Sunderland have been advised by letter.

The whole of the above detailed work has now been completed in a satisfactory manner J.S. Field

It is submitted that this vessel is eligible for THE RECORD **LMC-893** —

24/8/93

Certificate (if required) to be sent to

MACHINERY CERTIFICATE

WRITTEN

Newcastle Office

The amount of Entry Fee..

£ 3 : : : : : When applied for,

Special ..

£ 45 : 13 : : : : : 1. 8. 18. 93.

Donkey Boiler Fee ..

£ : : : : : When received,

Travelling Expenses (if any) £

: : : : : at Newcastle

Thomas Field & John Walliker
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI 25 AUG 1893

Assigned

LMC-893



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