

REPORT ON MACHINERY.

No. 21457

Port of GlasgowReceived at London Office 10 JAN 1904No. in Survey held at Glasgow
Reg. Book. (Suppl)Date, first Survey 15th OctLast Survey 14th Jan 190436 on the S.S. "LADY TENNANT."(Number of Visits 11)Gross 452
Tons }
Net 118
When built 1904Master _____ Built at Glasgow By whom built Kapier & MillerEngines made at Glasgow By whom made D. Rowan & Co when made 1904Boilers made at Glasgow By whom made D. Rowan & Co when made 1904Registered Horse Power _____ Owners Roberts Explosives Co. (Lime.) Port belonging to GlasgowNom. Horse Power as per Section 28 114 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion—Screw No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 16" 26" 43" Length of Stroke 30 Revs. per minute 100 Dia. of Screw shaft as per rule 8.22" Material of steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight
 in the propeller boss yes If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 8.04" Dia. of Crank shaft journals as per rule 8.44" Dia. of Crank pin 8 1/2" Size of Crank webs 5 1/2" Dia. of thrust shaft under
 collars 8 1/2" Dia. of screw 10" 9" Pitch of screw 11" 6" No. of blades 4 State whether moceable no Total surface 36 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pumps 5 1/4" x 3 1/2" x 5" = 3" x 2" x 3" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Four 2" dia. In Holds, &c. Two 2" dia. in each hold.
 No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size yes 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 none
 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 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 before launch Is the screw shaft tunnel watertight none
 Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 1908 sq. ft. Is forced draft fitted no
 No. and Description of Boilers One single ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test _____ Can each boiler be worked separately ✓ Area of fire grate in each boiler 65.8 sq. ft. No. and Description of safety valves to
 each boiler 2 Patent spring Area of each valve 7.069 sq. in. Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 30" Mean dia. of boilers 14" 6" Length 19' 6" Material of shell plates steel
 Thickness 1 3/16" Range of tensile strength 38 to 37 Are they welded or flanged no Descrip. of riveting: cir. seams double long. seams treble
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 1/4"
 Per centages of strength of longitudinal joint 90.5 Working pressure of shell by rules 181 lbs Size of manhole in shell 12" x 16"
 Size of compensating ring Wheils No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 3' 11"
 Length of plain part top } Thickness of plates crown } 9 1/16" Description of longitudinal joint unwelded No. of strengthening rings ✓
 Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material steel Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 13/16"
 Pitch of stays to ditto: Sides 7 1/2" x 8 1/4" Back 7" x 8 3/4" Top 7 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 190 lbs
 Material of stays steel Area at smallest part 1.48 sq. in. Area supported by each stay 63.75 sq. in. Working pressure by rules 185 lbs End plates in steam space:
 Material steel Thickness 1 1/32" Pitch of stays 14 3/4" x 17 1/2" How are stays secured nuts Working pressure by rules 182 lbs Material of stays steel
 Diameter at smallest part 5.268 sq. in. Area supported by each stay 258 sq. in. Working pressure by rules 220 lbs Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate steel Thickness 3/32" Greatest pitch of stays 13 1/4" x 8 3/4" Working pressure of plate by rules 258 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 1/2" Material of tube plates steel Thickness: Front 1 1/64" Back 7/8" Mean pitch of stays 8 7/8"
 Pitch across wide water spaces 14 1/4" Working pressures by rules 182 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 5/8" x 2" - 7/8" Length as per rule 29 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 3 - 7 1/2"
 Working pressure by rules 182 lbs Superheater or Steam chest; how connected to boiler none 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 ✓

DONKEY BOILER— No. *One* Description *bochran's patent vertical*
 Made at *Annan* By whom made *bochran & Co. Annan* When made *1903* Where fixed *in stokehold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *6870* Fire grate area *9 3/4"* Description of safety valves *patent spring*
 No. of safety valves *One* Area of each *3.98"* 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* Dia. of donkey boiler *4' 6"* Length *10' 0"* Material of shell plates *steel* Thickness *13/32"* Range of tensile strength *27-32* Descrip. of riveting long. seams *double* Dia. of rivet holes *25/32"* Whether punched or drilled *drilled* Pitch of rivets *2.5"*
 Lap of plating *3 7/8"* Per centage of strength of joint Rivets *76.4* Thickness of shell crown plates *3/8"* Radius of do. *2' 3"* No. of Stays to do. *none*
 Dia. of stays. *✓* Radius Diameter of furnace Top *1' 10 1/2"* Bottom *✓* Length of furnace *✓* Thickness of furnace plates *7/16"* Description of joint *riveted* Thickness of furnace crown plates *7/16"* Stayed by *✓* Working pressure of shell by rules *114 lbs*
 Working pressure of furnace by rules *117 lbs* Diameter of ^{tubes} uptake *2 1/2"* Thickness of ^{tube} uptake plates *1/2" & 9/32"* Thickness of ^{stay} tubes *1/4"*

SPARE GEAR. State the articles supplied:— *Two top end & two bottom end connecting rod bolts, two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, etc.*

The foregoing is a correct description,

Manufacturer.

David Rowan

Dates of Survey { During progress of work in shops - 1903: Oct 15, Nov 4, 12, 16, 25, Dec 2, 9, 14, 18, 21, 1904: Jan 4,
 while building { During erection on board vessel -
 Total No. of s 11 Is the approved plan of main boiler forwarded herewith *yes*

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

The machinery of this vessel has been constructed under Special Survey, the materials & workmanship are of good quality, it has been securely fitted on board, tried under steam & found to be satisfactory. In my opinion it is eligible to be classed in the Register Book, with the record of L.M.C. 1.04.

Note! Engines are fitted aft.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 1.04.

J.S.
19.1.04

J.W.D.
19.1.04

The amount of Entry Fee. £ 2 : : When applied for,
 Special £ 17 : 11 : 7.1.1904
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : : 8.1.1904

J.W.D. Dimmock
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Glasgow 18 JAN 1904

Assigned

L.M.C. 1.04

MACHINERY CERTIFICATE
 WRITTEN 10.1.04



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