

REPORT ON MACHINERY.

Port of

MUN. 12 DEC 1904

Survey held at
Book.

Date, first Survey 15 Feb.

Received at London Office

Last Survey 8 Dec 1904

(Number of Visits 5-7)

on the

Tons

Gross 4374
Net 2793

When built 1904

er

Built at

By whom built

nes made at

By whom made

when made

ers made at

By whom made

when made

istered Horse Power

Owner

The Royal Mail Ltd. Pk. Cap. belonging to London

Horse Power as per Section 28

Is Refrigerating Machinery fitted

Is Electric Light fitted

INES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

of Cylinders 23-39-64 Length of Stroke 51" Revs. per minute 68 Dia. of Screw shaft as per rule 14.22 as fitted 14.37 Lgth. of stern bush 57"
 of Tunnel shaft as per rule 12.9 as fitted 13.2 Dia. of Crank shaft journals as per rule 13.5 as fitted 14.0 Dia. of Crank pin 14.5 Size of Crank webs 26 1/2 x 10 Dia. of thrust shaft under
 ers 14" Dia. of screw 17'-0" Pitch of screw 17'-6" No. of blades 4 State whether moveable Yes Total surface 75 sq ft.
 of Feed pumps 2 Diameter of ditto 4" Stroke 28" Can one be overhauled while the other is at work Yes
 of Bilge pumps 2 Diameter of ditto 4" Stroke 28" Can one be overhauled while the other is at work Yes
 of Donkey Engines 2 Sizes of Pumps Sheet No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 5-32 In Holds, &c. 7-8 1/2

of bilge injections / sizes 8" Connected to condenser, or to circulating pump Pump a separate donkey suction fitted in Engine room & size Yes-4"
 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
 all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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 Below
 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
 hat pipes are carried through the bunkers Fore hold suction How are they protected Wood casings
 all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 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 launching screw shaft tunnel watertight Stated &c.
 it fitted with a watertight door Yes worked from Upper Deck

ILERS, &c.—

(Letter for record 3)

Total Heating Surface of Boilers

6309 sq ft.

Is forced draft fitted No

No. and Description of Boilers

3- Single End, Cylind

Working Pressure

205 lbs

Noted by hydraulic pressure to 410 lbs

ate of test 26-8-04 Can each boiler be worked separately Yes

ch boiler 2- Direct Spring Area of each valve 8.29 sq ft.

smallest distance between boilers 16" and bunkers on woodwork

thickness 1 1/2" Range of tensile strength 29-32 tons

they welded or flanged No

Descrip. of riveting: cir. seams Lap 1 1/2" long. seams Butt 1 1/2"

Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10"

Lap of plates as width of butt straps 22 1/2"

er centages of strength of longitudinal joint rivets 92.0 plate 85.0

Working pressure of shell by rules 231 lbs

Size of manhole in shell 16" x 12"

Size of compensating ring No. and Description of Furnaces in each boiler 3- Morrison Material Steel

Outside diameter 45"

length of plain part top 3" bottom 10" Thickness of plates crown 5" bottom 5"

Description of longitudinal joint Weld

No. of strengthening rings 27 on 1st

Working pressure of furnace by the rules 223 lbs

Combustion chamber plates: Material Steel Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 1 1/2"

Pitch of stays to ditto: Sides 7 1/2" x 7 1/2" Back 8 1/2" x 6 1/2" Top 8" x 7" If stays are fitted with nuts or riveted heads Nuts incite

Working pressure by rules 211 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 508 sq in

Working pressure by rules 211 lbs

Material of stays Steel Thickness 3/4" Pitch of stays 16 1/2" x 15"

How are stays secured Nuts & Rivets

Working pressure by rules 211 lbs

Material of Front plates at bottom Steel

Diameter at smallest part 2 1/2" Area supported by each stay 247 1/2 sq in

Working pressure by rules 240 lbs

Thickness 1 1/2" Material of Lower back plate Steel Thickness 1 1/2"

Greatest pitch of stays 12"

Working pressure of plate by rules 211 lbs

Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/2"

Material of tube plate Steel Thickness: Front 7" Back 5" Mean pitch of stays 8 1/2" x 8 1/2"

Pitch across wide water spaces 14"

Working pressures by rules 235 lbs with 7" doubler

Girders to Chamber tops: Material Iron Depth and

thickness of girder at centre 9" x (8+2) Length as per rule 30" Distance apart 8"

Number and pitch of Stays in each 8-4"

Working pressure by rules 231 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

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W845-0102(1/2)

DONKEY BOILER—

Made at _____ By whom made _____ Description _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Where fixed _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boiler _____
 enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of _____
 strength _____ Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Descrip. _____
 joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *See other Sheet.*

The foregoing is a correct description,

W. Harland & Wolff Manufacturer.

Dates of Survey { During progress of work in shops - 15. 19. 25. 29. March 8. 7. 12. 16. 18. 24. 31. April 7. 14. 18. 22. 28. May 3. 4. 9. 14. 17. 21. 24. 27. June 3. 7. 9. 13. 20. 24 and up to 8th Dec^r 1904
 while building { During erection on board vessel -
 Total No. of visits 57

Is the approved plan of main boiler forwarded herewith *Yes*

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

Material of screw shaft *Invert. 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 *Yes*
 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 non-corrosive *Yes*
 If two liners are fitted, is the shaft lapped or protected between the liners *Yes*

The machinery of this vessel has been constructed and Special Survey, and in accordance with the Rules. The material and the workmanship used in the construction, are of first description throughout, and are *tried* in Belfast Lough, worked satisfactorily.

In my opinion, it is eligible for record + L.M.C. 12-04.

The engine and boilers are duplicates of those fitted in the S.S. "Corda". Report No. 10.
 Reports on the Electric Light Refracting Installations, will be forwarded later.

It is submitted that
 this vessel is eligible for
 THE RECORD. + L.M.C. 12.04 ELEC LIGHT. REF McH.

The amount of Entry Fee. £ 3 : - :
 Special .. £ 38 - 18 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :

When applied for,

When received,

Committee's Minute

Assigned

TUES. 13 DEC 1904

+ L.M.C. 12.04.
elec light.

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



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Belfast

J.S. PotaroDonkey PumpsWoods Feed. Wauble 9 $\frac{1}{2}$ " x 4" x 21"

Donkey Feed Pump 7" x 5" x 15" Woodburns Linflo

Ballast Donkey - 10" x 10 $\frac{1}{2}$ " x 10" Duplex

General - - 8" x 4" x 8" -

Spare Gear

Set H.P. & L.P. piston packing rings

- H.P. & M.P. piston valve -

 $\frac{1}{2}$ Crank Shaft

1 Propeller Shaft

1 - Blade & set studs & nuts

Set top & bottom end brasses.

Eccentric rod & strap complete

- pulley.

2 - bolts & 2 studs

Set main bearing bushes

Slide valve rod complete

Centrifugal Pump, impeller, piston rod, Cross head with
brasses & bolts complete.

- valve spindle, piston & crank pin traces

Air pump bucket, rod, head & foot valves set?

Spare escape valve springs for all sizes req^d and spare

Safety valve springs

50 Condenser tubes, boiler tubes set^d, and all spare gear
as per Rule additional.R.J. Pennington