

REPORT ON MACHINERY.

No. 35647

Received at London Office

WED. 15 DEC. 1915

Date of writing Report

16

When handed in at Local Office

19

Port of Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

15/4/14

Last Survey

10 Dec 1915

1050 on the

M.S. BOSTONIAN

(Number of Visits)

Gross 6225.03

Master J. J. Key 1912-1915 Built at Glasgow

By whom built

Harland & Wolff Ltd

When built 1915

Engines made at

Glasgow

By whom made

Burmester & Wain

when made 1915

Boilers made at

Ayr

By whom made

Cochran

when made 1914-12

Registered Horse Power

Owners

4 Leyland & Co Ltd

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

534

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Two screw driven four stroke cycle

No. of Cylinders

No. of Cranks 12

Dia. of Cylinders

630

Length of Stroke

850

Revs. per minute

130

Dia. of Screw shaft

as per rule 298

Material of

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 continuous 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

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 5-8

Dia. of Tunnel shaft

as per rule 279

Dia. of Crank shaft journals

as per rule 359

Dia. of Crank pin

390

Size of Crank web

21-6x7-3

Dia. of thrust shaft under

collars 326

Dia. of screw 12-6

Pitch of Screw 9-9

No. of Blades 3

State whether moveable

Yes

Total surface

48

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

In Holds, &c.

No. 1

No. 2

No. 3

No. 4

No. 5

No. 6

Tunnel wells

Two

No. 1

No. 2

No. 3

No. of Bilge Injections

5

Connected to

Is a separate Donkey Suction fitted in Engine room & size

Yes

5

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

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the

stackhead plates

Yes

Are the Discharge Pipes above or below the deep water line

Below

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

Dates of examination of completion of fitting of Sea Connections

13-1-15

11-1-15

of Stern Tube

13-1-15

Screw shaft and Propeller

13-1-15

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Main Deck

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

Working-pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

Thickness of plates

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

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 rivets

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

Lloyd's Register

W1081-0050

Foundation

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *See Separate List*

SPARE GEAR. State the articles supplied: *See Separate List*

The foregoing is a correct description
FOR THE BURMEISTER AND WAIN (DIESEL SYSTEM)
OIL ENGINE COMPANY, LIMITED.

Manufacturer.

Dates of Survey while building
During progress of work in shops - *1914 Apr 13-27 Jun 24 July 3-13-14-30 Aug 14-17-27 Sept 2-10-17-18-22-23-30 Oct 5-7-12-13-26 Nov 24-25-12*
During erection on board vessel - *Dec 4-10-14-16-23-29-1915 Jan 6-13-20-23-27-29 Feb 3-10-17 Mar 5-16-17-24-31 Apr 9-16-21-28 May 3-6-10-12-21-25-28 June 1-4-10-15-23-30 July 7-30 Aug 16-18-19 Sept 9-24 Oct 12 Nov 1-5-11-12-16-17-19-23-25-26 Dec 1-4-7*
Total No. of visits *84*

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

" " " donkey " " " *✓*

Dates of Examination of principal parts - Cylinders *20-1-15* Slides *✓* Covers *16-4-15* Pistons *16-3-15* Rods *17-3-15*

Connecting rods *17-3-15* Crank shaft *17-3-15* Thrust shaft *4-11-14* Tunnel shafts *26-11-14* Screw shaft *13-1-15* Propeller *13-1-15*
(at Belfast)

Stern tube *13-1-15* Steam pipes tested *✓* Engine and boiler seatings *29-9-15* Engines holding down bolts *29-9-15*

Completion of pumping arrangements *26-11-15* DONKEY Boilers fixed *5-11-15* Engines tried under steam *17-11-15 7-12-15*

Main boiler safety valves adjusted *25-11-15* Thickness of adjusting washers *Starboard 44" Port 46"*

Material of Crank shaft *Steel* Identification Mark on Do. *17-2-15* Material of Thrust shaft *Steel* Identification Mark on Do. *WDH 1915*

Material of Tunnel shafts *Steel* Identification Marks on Do. *RJB 26-11-14* Material of Screw shafts *Steel* Identification Marks on Do. *RJB 26-11-14*

Material of Steam Pipes *✓* Test pressure *✓*

Is an installation fitted for burning oil fuel *Yes in Donkey boiler* Is the flash point of the oil to be used over 150°F. *Yes*

Have the requirements of Section 49 of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The materials and workmanship*

are good. The machinery has been built under special survey in

accordance with the approved plans and the requirements of the rules

and has been tried at full power and found to work well and is

eligible in our opinion to be classed with record of + LMC 12-15