

Rpt. 4.

REPORT ON MACHINERY.

No. 76118.

Date of writing Report

When handed in at Local Office

Received at London Office

No. in
Reg. Book.Survey held at Le Creusot - BoudaurePort of LondonDate, First Survey Nov 28 1910 Last Survey Oct 22 1913506 on the Steel Turret 5 Mth Blk" France "

Master

Built at BoudaureBy whom built Ch. Alet de la JondeTons Gross 5806Engines made at Le CreusotBy whom made Messrs Schneider & CoTons Net 4073

Boilers made at

By whom made

When made

Registered Horse Power

Not for Reg. Bk.Owners Soc des Navires MaritPort belonging to Rouen

Nom. Horse Power as per Section 28

520 N.H.P.

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

GINES, &c.—Description of Engines 2 Stroke Gas Diesel EnginesNo. of Cylinders 450Length of Stroke 560Revs. per minute 230No. of Cranks 8No. of Cranks 8

the screw shaft fitted with a continuous liner the whole length of the stern tube

No

Material of Steel

the propeller boss

Yes

If the liner is in more than one length are the joints burned

No

Is the after end of the liner made water tight

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

If the liner does not fit tightly at the part

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

No

If two

of Tunnel shaft

as fitted 210

Dia. of Crank shaft journals

as fitted 210

Dia. of Crank pin

as fitted 260

Dia. of Crank webs

as fitted 260

Dia. of thrust shaft under

as fitted 210

Dia. of screw shaft

as fitted 210

Total surface

2 m² 12

Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

Donkey Engines

SIZES OF PUMPS

40 tons200 tons

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

In Holds, &c. N^o 1-2 of 3 1/2"N^o 2-3 of 4"

each 4" dia.

Bilge Injections

sizes

Connected to condenser, or to circulating pump

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

None

Are they Valves or Cocks

Both

Are the Discharge Pipes above or below the deep water line

Above

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

How are they protected

Yes

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

crew Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

Manufacturers of Steel

RS, &c.—(Letter for record)

Is Forced Draft fitted

No. and Description of Boilers

Date of test

No. of Certificate

No. and Description of Safety Valves to

Are they fitted with easing gear

Range of tensile strength

Are the shell plates welded or flanged

Length

Material of shell plates

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Size of manhole in shell

No. and Description of Furnaces in each boiler

Material

Outside diameter

No. of strengthening rings

Thickness of plates

Description of longitudinal joint

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure by rules

End plates in steam space

Material of stays

Working pressure by rules

Material of Front plates at bottom

Working pressure of shell by rules

Diameter of stay

How are stays secured

Working pressure by rules

Material of stays

Working pressure by rules

Material of Front plates at bottom

Working pressure of plate by rules

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Girders to Chamber tops: Material

Depth and

Number and pitch of stays in each

Can the superheater be shut off and the boiler worked

Description of longitudinal joint

Diam. of rivet

Thickness

How stayed

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

Are they fitted with easing gear

Area of safety valves to superheater

Working pressure by rules

Distance between rings

Working pressure by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

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Diameter of flue

Material of flue plates

Thickness

How stayed

Area of safety valves to superheater

Working pressure by rules

Distance between rings

Working pressure by rules

Diameter of flue

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:—

See separate list attached hereto

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Nov 28, 29, 30 1910, April 26 1911 Dec 7 1911 July 17 1912 Mar 29 1913
During erection on board vessel -- Oct 16, 20, 23 Dec 23 1912 Jan 12, 18, 24 May 30 June 26 July 16 Aug 12 Sept 27, 30
Total No. of visits 22

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 26.4.11 Slides ✓ Covers 26.4.11 Pistons 7.12.11 Rods 26.4.11
Connecting rods 26.4.11 Crank shaft 26.4.11 Thrust shaft 17.7.12 Tunnel shafts None Screw shaft 23.10.11 Propeller 23.10.11
Stern tube 29.9.11 Steam pipes tested ✓ Engine and boiler seatings 12.1.13 Engines holding down bolts 18.1.13
Completion of pumping arrangements 26.6.13 Boilers fixed ✓ Engines tried under steam 30.9.13 22.10.13
Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Material of Crank shaft Steel Identification Mark on Do. 172 B Material of Thrust shaft Steel Identification Mark on Do. ✓

Material of Tunnel shafts None Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. ✓

Material of Steam Pipes ✓

Test pressure ✓

Is an installation fitted for burning oil fuel ✓

Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

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 Diesel Engines of this vessel have been constructed under special survey in accordance with the approved plans. The maximum compression pressure in the Cylinders is 500 lbs per sq inch. The scavenging pump on each set of Engines, 725 p.m. a day 560 p.m. stroke, is worked off the crankshaft. A 3 stage air compressor is also worked off the fore end of each crankshaft. The high pressure compressed air being delivered into 8 air vessels for starting & manoeuvring purposes, containing 3200 litres, & into 2 Air vessels for the injection of the fuel, containing 220 litres. The compressed air in the air vessels is reduced to 500 lbs per sq inch pressure for starting & manoeuvring purposes by means of reducing valves.

The amount of Entry Fee ... £ 3 :-

Special £ 46 :-

Donkey Boiler Fee ... £ :-

Travelling Expenses (if any) £ 75 :- 10 - 10

Committee's Minute

Assigned

thmc 10.13

When applied for,

17 Nov. 1913

When received,

5.12.1913

A. Ruck. Keene

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

Donnell
Lloyd's Register of British & Foreign Shipping

Lloyd's Register Foundation

The Cylinders & liners are made of cast iron & are water cooled.

The Cylinder covers are made of special steel & are also water cooled, a cooling pump being fitted on each set of Engines with suitable steamers. In each Cylinder cover there are 4 scavange valves, 1 fuel injection valve, one starting air valve & 1 safety valve.

The Pistons are made of cast iron & are oil cooled, a separate pump being fitted for supplying the oil for each piston. The arrangements of the piping is such that the temperature of the oil after cooling each piston can be readily ascertained. On the trial the average temperature of this oil being 200°F .

The Cam shafts are worked by means of cast iron helical spur wheels from the crank shafts.

Each Cylinder has its own fuel pump & the supply of oil to each pump can be regulated by hand & also by the governor. A separate lubricating pump is also fitted for each cylinder there being 2 lubricating pipes to each cylinder.

All working parts of these Engines except the cam boxes, are lubricated by forced lubrication, the oil being used again after being cooled & strained.

A disengaging coupling with 2 coupling bolts is fitted between the crank & thrust shafts, so that the Engines may be disconnected when the vessel is being propelled by sail power only. Breaks being also fitted to the Thrust shafts for this purpose.

A paraffin Motor drives the auxiliary compressor & also a dynamo.

The remainder of the auxiliary Engines including the pumps, steering gear, winches &c being driven by steam from a Donkey Boiler which is fired either by coal or oil fuel.

Steel Steam Screw 5 Met Rls France

The Materials used in The construction of These Engines has been tested by The Bureau Veritas Surveyor as per The list of Tests attached hereto. The various parts of The Engines were also tested hydraulically in The presence of The Bureau Veritas Surveyor as follows.

The Cylinder Liners were tested to 850 lbs per sq inch

The Cylinder jackets to 50 lbs per sq inch

The Scavenge pumps to 28 lbs per sq inch

The oil fuel pipes to 2140 lbs per sq inch

The Cylinder Covers to 1422 lbs per sq inch

The exhaust pipes to 85 lbs per sq inch

The compressed air vessels to 2140 lbs per sq inch

The Engines were tested on The stop & during a 6 hours trial using paraffin oil as fuel

The Mainboard Engine indicating about 1365 horse power with a brake horse power of 925.

A Satisfactory trials at sea were made both with paraffin & heavy oils.

In our opinion This vessel is now eligible for The record of +LMC 10.13 DB 113 lbs

A. Ruck. Reene

A. Donzelles

Lloyd's Engineer Surveyor - Bordeaux