

Rpt. 4.

## REPORT ON MACHINERY.

No. 32354

Date of writing Report

19

When handed in at Local Office

24/12 20 Port of Hull.

Received at London Office

TUE. 28 DEC. 1920

No. in Survey held at  
Reg. Book.

Hull.

Date, First Survey

4. 12. 19

Last Survey

23. 12. 1920

1920

on the

ST. "AVANT GARDE."

(Number of Visits 20)

Master

Built at

Selby.

By whom built

Cochrane &amp; Sons Ltd

Tons

Gross

491.

Net

528.

When built

1920.

Engines made at

Hull.

By whom made

Cochrane &amp; Sons Ltd No 3185

when made

1920.

Boilers made at

Hull.

By whom made

Cochrane &amp; Sons Ltd No 3185

when made

1920.

Registered Horse Power

Owners

La Roche Freres.

Port belonging to

Le Havre.

Nom. Horse Power as per Section 28

127.

Is Refrigerating Machinery fitted for cargo purposes

no.

Is Electric Light fitted

yes.

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

15" 25" 42"

Length of Stroke

27"

Revs. per minute

112.

Dia. of Screw shaft

as per rule 8.48"

Material of

S.

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

✓

If two

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

✓

Length of stern bush

40" ✓

Dia. of Tunnel shaft

as per rule 4.47"

Dia. of Crank shaft journals

as per rule 7.84"

Dia. of Crank pin

8"

Size of Crank web

15 3/4" x 5"

Dia. of thrust shaft under

collars

8"

Dia. of screw

11-0.

Pitch of Screw

10-4 1/2

No. of Blades

4.

State whether moveable

no.

Total surface

40 ft

No. of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke

18"

Can one be overhauled while the other is at work

yes.

No. of Bilge pumps

2.

Diameter of ditto

2 1/2"

Stroke

18"

Can one be overhauled while the other is at work

yes.

No. of Donkey Engines

2.

Sizes of Pump 6 1/2" x 4 3/4" x 6. 7 x 7 x 8"

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

In Engine Room 3-2" FORWARD. AFT. EJECTOR.

In Holds, &amp;c. 4-2" RESERVE BUNKER. AFTER

SLUSHWELL, FORWARD HOLD, FORWARD SLUSHWELL, EJECTOR FOR BILGE.

No. of Bilge Injections

/ sizes

4." ✓

Connected to condenser, or to circulating pump

pump.

Is a separate Donkey Suction fitted in Engine room &amp; 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

Both.

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

Forward Suctions.

How are they protected

Wood casing.

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.

Is the Screw Shaft Tunnel watertight

✓

Is it fitted with a watertight door

✓

worked from

BOILERS, &amp;c.—(Letter for record

S.)

Manufacturers of Steel

John Spencer &amp; Sons.

Total Heating Surface of Boilers

2371 ft<sup>2</sup>

Is Forced Draft fitted

no.

No. and Description of Boilers

One single ended.

Working Pressure

150 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

4.10.20.

No. of Certificate

3455.

Can each boiler be worked separately

✓

Area of fire grate in each boiler

74 ft<sup>2</sup>

No. and Description of Safety Valves to

each boiler

2-Spring.

Area of each valve

7.068 ft<sup>2</sup>

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

11"

Mean dia. of boilers

183.62"

Length

11-0"

Material of shell plates

S.

Thickness

3/16"

Range of tensile strength

29-33.

Are the shell plates welded or flanged

"

Descrip. of riveting: cir. seams

DR.

long. seams

TRDBS.

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/4"

Lap of plates or width of butt straps

18 3/8"

Per centages of strength of longitudinal joint

rivets 87.9

plate 85.7

Working pressure of shell by rules

181.

Size of manhole in shell

16" x 12"

Size of compensating ring

3-4" x 2-6"

No. and Description of Furnaces in each boiler

4-Plain

Material

S.

Outside diameter

38.62"

Length of plain part

top 6-10 1/2"

Thickness of plates

bottom 6-4 1/2"

crown 13"

bottom 16"

Description of longitudinal joint

welded.

No. of strengthening rings

✓

Working pressure of furnace by the rules

208.

Combustion chamber plates: Material

S.

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

13/16"

Pitch of stays to ditto: Sides

9 3/4" x 7 1/2"

Back

9" x 10"

Top

9 3/4" x 7 1/2"

If stays are fitted with nuts or riveted heads

nuts.

Working pressure by rules

185 lbs.

Material of stays

S.

Area at smallest part

2.66 ft<sup>2</sup>

Area supported by each stay

89.07 ft<sup>2</sup>

Working pressure by rules

228.

End plates in steam space:

Material

S.

Thickness

1 1/4"

Pitch of stays

19 1/2" x 19 3/4"

How are stays secured

DN. &amp; W.

Working pressure by rules

192.

Material of stays

S.

Area at smallest part

7.242 ft<sup>2</sup>

Area supported by each stay

385.156 ft<sup>2</sup>

Working pressure by rules

196

Material of Front plates at bottom

S.

Thickness

31/32"

Material of Lower back plate

S.

Thickness

31/32"

Greatest pitch of stays

3 1/2" x 9 5/8"

Working pressure of plate by rules

230.

Diameter of tubes

3 1/4"

Pitch of tubes

9 1/4" x 9 1/2"

Material of tube plates

S.

Thickness: Front

31/32"

Back

29/32"

Mean pitch of stays

9.2"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

197.

Girders to Chamber tops: Material

S.

Depth and

thickness of girder at centre

9 1/4" x 1.75"

Length as per rule

34"

Distance apart

9.75"

Number and pitch of stays in each

30 7 1/2"

Working pressure by rules

183.

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

W1334 0280



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts & nuts, one set of coupling bolts and nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts, etc. Piston rings for each cylinder. One set each top & bottom end brasses, one set of main bearing brasses.

The foregoing is a correct description,

For AMOS & SMITH LTD.

*S. J. Robinson*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- }  
{ During erection on board vessel -- }  
Total No. of visits

1919: Dec 4. 1920: Mar 24, June 27-29 July 6, 4-26 Aug 12-26-28  
Sept 2, 10, 16-20-31 Oct 4-10 Nov 16-19-20-25 Dec 2-4-9-23

24

Is the approved plan of main boiler forwarded herewith

no

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 13.9.20 Slides 16.9.20 Covers 16.9.20 Pistons 16.9.20 Rods 20.9.20  
Connecting rods 20.9.20 Crank shaft 7.7.20 Thrust shaft 25.8.20 Tunnel shafts ✓ Screw shaft 27.3.20 Propeller 27.3.20  
Stern tube 27.3.20 Steam pipes tested 20.11.20 Engine and boiler seatings 31.3.20 Engines holding down bolts 19.11.20  
Completion of pumping arrangements 2.12.20 Boilers fixed 19.11.20 Engines tried under steam 25.11.20  
Completion of fitting sea connections 31.3.20 Stern tube 31.3.20 Screw shaft and propeller 31.3.20  
Main boiler safety valves adjusted 25.11.20 Thickness of adjusting washers SV  $\frac{3}{8}$ " PV  $\frac{5}{16}$ "

Material of Crank shaft S Identification Mark on Do. 2285 Material of Thrust shaft S Identification Mark on Do. 2288

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. 2448

Material of Steam Pipes Copper solid drawn Test pressure 360 lbs

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 Yes

Is this machinery duplicate of a previous case yes If so, state name of vessel SS "PATRIE" Hull No. 32224

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

The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 12.20. in the Register book.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC. 12. 20

Reck  
30/12/20

The amount of Entry Fee ... £ 2 : :  
Special ... £ 19 : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :

When applied for,  
24/12-20  
When received,  
3.1.21

*A. G. Mackillop*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

UE JAN. 4 1921

+ LMC 12.20

FRI AUG. 19 1921

CERTIFICATE WRITTEN  
copy 26.3.23



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Lloyd's Register  
Foundation

Certificate (if required) to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.