

REPORT ON MACHINERY.

No. 31679

Date of writing Report

19

When handed in at Local Office

10/3 to 20 Port of Hull

Received at London Office

FRI MAR 12 1920

No. in Survey held at Reg. Book.

Date, First Survey

Dec 31/18

Last Survey

Feb. 25 1920

on the

S. T. ROBERT MURRAY.

(Number of Visits 30)

Master

Built at

Hull

By whom built

Fletcher & Sons Ltd

Tons

Gross 324

Net 148

When built 1919

Engines made at

Hull

By whom made

Thos & Holmes & Co Ltd (1919)

when made

1919

Boilers made at

Hull

By whom made

do

when made

1919

Registered Horse Power

Owners

British Admiralty

Port belonging to

Hull

Nom. Horse Power as per Section 28

87

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

13-23-37

Length of Stroke

26

Revs. per minute

115

Dia. of Screw shaft

as per rule

8.29

Material of

Steel

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

No

Is the after end of the liner made water tight

in the propeller boss

✓

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

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

No liners Vickers type

Length of stern bush

36

Dia. of Tunnel shaft

as per rule

7.04

Dia. of Crank shaft journals

as per rule

7.39

Dia. of Crank pin

7.1/2

Size of Crank webs

48x11

Dia. of thrust shaft under

collars

No. of Feed pumps

one

Diameter of ditto

2.5

Stroke

14.3/4

Can one be overhauled while the other is at work

✓

No. of Bilge pumps

one

Diameter of ditto

2.5

Stroke

14.3/4

Can one be overhauled while the other is at work

✓

No. of Donkey Engines

one

SIZES OF PUMPS

6 x 4 1/4 x 6

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

In Engine Room two 2" dia

In Holds, &c. one 2" dia in each compartment

No. of Bilge Injections

one

SIZES

3 1/2

Connected to condenser, or to circulating pump

Chump

a separate Donkey Suction fitted in Engine room & size 3 ejects

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

yes

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

Cold water & wind steam

How are they protected

Thermoplastic

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, &c.—(Letter for record 5)

Manufacturers of Steel

Port Talbot & Spencer & Sons

Total Heating Surface of Boilers

1440

Is Forced Draft fitted

No

No. and Description of Boilers

one single ended water

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

24/10/19

No. of Certificate

3401

Can each boiler be worked separately

✓

Area of fire grate in each boiler

48

No. and Description of Safety Valves to

each boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

8" 1/2

Can dia. of boilers

16.5

Length

10.8

Material of shell plates

Steel

Thickness

1 1/4

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Double

long. seams

TR. D.B.S.

Diameter of rivet holes in long. seams

1 1/4

Pitch of rivets

8.5

Lap of plates or width of butt straps

18

Per centages of strength of longitudinal joint

rivets 85.9%

plate 85.5%

Working pressure of shell by rules

202 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

7 x 1 1/4

No. and Description of Furnaces in each boiler

Three plain

Material

Steel

Outside diameter

40

Length of plain part

top 18 1/2

bottom 69

Thickness of plates

crown 3 1/8

bottom 3 1/8

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

206 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4

Back

3/2

Top

3/4

Bottom

3/4

Pitch of stays to ditto: Sides

10 x 8

Back

9 1/2 x 8 1/2

Top

11 x 8

If stays are fitted with nuts or riveted heads

Auto

Working pressure by rules

208 lbs

Material of stays

Steel

Area at smallest part

2.07

Area supported by each stay

88

Working pressure by rules

211

End plates in steam space:

✓

Material

Steel

Thickness

1 1/2

Pitch of stays

19 x 1 1/2

How are stays secured

DNGN

Working pressure by rules

210 lbs

Material of stays

Steel

Area at smallest part

7.5

Area supported by each stay

33.5

Working pressure by rules

233

Material of Front plates at bottom

Steel

Thickness

1/8

Greatest pitch of stays

13 1/2 x 9 1/2

Working pressure of plate by rules

216

Diameter of tubes

3 1/2

Pitch of tubes

4 1/8

Material of tube plates

Steel

Thickness: Front

15/8 x 3/4

Back

5/8

Mean pitch of stays

10

Pitch across wide water spaces

14

Working pressures by rules

275 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

11 x 1 1/2

Length as per rule

36.218

Distance apart

11

Number and pitch of stays in each

328

Working pressure by rules

201 lbs

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

✓

Pressure to which each is adjusted

✓

Is Easing Gear fitted

✓

Diameter of Safety Valve

✓

Pressure to which each is adjusted

✓

Is Easing Gear fitted

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

Date of Test

✓

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

✓

Pressure to which each is adjusted

✓

IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded? ☒

SPARE GEAR.

State the articles supplied:—

Two top end, 2 bottom end, 2 main bearing bolts & nuts, one set coupling bolts & nuts, one set air feed & bilge pump valves, 6 pump ring studs & nuts, one main & one donkey check valve, 2 valves for donkey pump, one safety valve spring, three condenser tubes, one set firebars, a quantity of bolts & nuts of various sizes.

The foregoing is a correct description,

FOR CHARLES D. HOLMES & CO. LTD.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1918:— Dec 31 1919:— May 25. Jun 13. 24. July 24. Aug 1. 25 Sep 2. 5. 8. 12. 23. 25 Oct 1. 2. 6. 8
During erection on board vessel -- 9. 16. 21. 23. 24. 29 Nov 13. Dec 2. 12, 1920:— Jan 30. Feb 21. 23. 25
Total No. of visits 30

Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders 23/10/19 Slides 29/10/19 Covers 23/10/19 Pistons 23/10/19 Rods 1/10/19
Connecting rods 23/10/19 Crank shaft 8/10/19 Thrust shaft 8/10/19 Tunnel shafts -- Screw shaft 13/6/19 Propeller 13/6/19
Stern tube 13/6/19 Steam pipes tested 23/2/20 Engine and boiler seatings 30/1/20 Engines holding down bolts 30/1/20
Completion of pumping arrangements 25/2/20 Boilers fixed 21/2/20 Engines tried under steam 25/2/20
Completion of fitting sea connections 24/6/19 Stern tube 24/6/19 Screw shaft and propeller 24/6/19
Main boiler safety valves adjusted 21/2/20 Thickness of adjusting washers A 5/8" F 7/8"
Material of Crank shaft Steel Identification Mark on Do. 2389 Material of Thrust shaft Steel Identification Mark on Do. 2390
Material of Tunnel shafts Pine Identification Marks on Do. -- Material of Screw shafts Steel Identification Marks on Do. 2347
Material of Steam Pipes Copper Test pressure 400 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 ☒

Is this machinery duplicate of a previous case ☒ If so, state name of vessel *Mersey type.*

General Remarks

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

The engines & boiler of this vessel have been built under special survey & the materials & workmanship are good. On completion they were examined while running full power trials in the Dumbell & found satisfactory. The machinery throughout is now in good & efficient condition & eligible in our opinion to have the record L.M.C.-2-20 marked in Red in the Society's Register Book.

It is submitted that

this vessel is eligible for

L.M.C. 2.20

H.D.

12/3/20

H.P.R.

The amount of Entry Fee ... £ 2.0-0
Special ... £ 26-2-0
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :

When applied for,

11/3/1920

When received,

19.3.20

H. J. Lutherst.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE 16 MAR 1920

+ L.M.C. 2.20

CERTIFICATE WRITTEN



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