

Rpt. 4.

REPORT ON MACHINERY.

No. 30,558

Received at London Office

Date of writing Report

19

When handed in at Local Office

6/6/18 Port of Hull.

Date, First Survey 22/10/18

Last Survey 5/6/1918

No. in Survey held at Hull.

Reg. Book.

on the

Thomas Booth

Master

Built at

Beverley.

By whom built

Cook, Helton & Gemmell, Ltd.

When built

1918.

Engines made at

Hull.

By whom made

Amos & Smith, Ltd. (No. 2938)

when made

1918.

Boilers made at

Hull.

By whom made

Charles Shipbuilding & Engineering Co. Ltd. (No. 2938)

when made

1918.

Registered Horse Power

Owners

British Admiralty

Port belonging to

Nom. Horse Power as per Section 28

84.

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

12½" - 21" - 35"

Length of Stroke

26"

Revs. per minute

114

Dia. of Screw shaft

as per rule 4.56"

Material of screw shaft

Iron.

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 and non-corrosive

Yes.

If two

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

Length of stern bush

34"

Dia. of Tunnel shaft

as per rule 6.54"

Dia. of Crank shaft journals

as per rule 6.9"

Dia. of Crank pin

as fitted 4.8"

Size of Crank webs

14" x 4"

Dia. of thrust shaft under

collars

4.8"

Dia. of screw

9.6"

Pitch of Screw

11" 1/2"

No. of Blades

4.

State whether moveable

No.

Total surface

35½ sq. ft.

No. of Feed pumps

2.

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes.

No. of Bilge pumps

2.

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes.

No. of Donkey Engines

2 & 3 ejector.

Sizes of Pumps

6" x 3" x 6" & 6" x 4" x 6"

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

In Engine Room One 2" fore, one 2" aft & one 2" bilge aft. In Holds, &c. One 2" from fore hold, one 2" from

slush well, also separate 2" ejector suction from slush well.

No. of Bilge Injections

1 size 3½"

Connected to condenser, or to circulating pump

Pump.

Is a separate Donkey Suction fitted in Engine room of size 2½" ejector.

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 suction.

How are they protected

Hood covering.

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

Yes.

Is it fitted with a watertight door

Yes.

worked from

Yes.

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John Spencer & Sons, Ltd.

Total Heating Surface of Boilers

1590 sq. ft.

Is Forced Draft fitted

No.

No. and Description of Boilers

One single ended.

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

20-4-18.

No. of Certificate

3286.

Can each boiler be worked separately

Yes.

Area of fire grate in each boiler

48.45 sq. ft.

No. and Description of Safety Valves to

each boiler

Two spring loaded.

Area of each valve

4.9 sq. in.

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

11½"

INT. dia. of boilers

162"

Length

10' 6½"

Material of shell plates

Steel.

Thickness

13/32"

Range of tensile strength

28/32 tons.

Are the shell plates welded or flanged

No.

Descrip. of riveting: cir. seams

double.

long. seams

I.R.D.B.S.

Diameter of rivet holes in long. seams

15/32"

Pitch of rivets

8"

Lap of plates or width of butt straps

14"

Per centages of strength of longitudinal joint

rivets 89.3.

plate 85.5.

Working pressure of shell by rules

180 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

9" x 13/32"

No. and Description of Furnaces in each boiler

3 plain.

Material

Steel.

Outside diameter

40 9/16"

Length of plain part

top 8 1/2"

Thickness of plates

crown 25"

bottom 32"

Description of longitudinal joint

Welded.

No. of strengthening rings

Yes.

Working pressure of furnace by the rules

188 lbs.

Combustion chamber plates: Material

Steel.

Thickness: Sides

4/16"

Back

2 1/32"

Top

1/16"

Bottom

1/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 3/8"

Back

9" x 9"

Top

9 1/2" x 9 1/2"

If stays are fitted with nuts or riveted heads

Nuts.

Working pressure by rules

181 lbs.

Material of stays

Steel.

Area at smallest part

2.04 sq. in.

Area supported by each stay

90.25 sq. in.

Working pressure by rules

206 lbs.

End plates in steam space:

Material

Steel.

Thickness

1/16"

Pitch of stays

1 1/8" x 1 1/4"

How are stays secured

D.N. & W.

Working pressure by rules

181 lbs.

Material of stays

Steel.

Area at smallest part

6.10 sq. in.

Area supported by each stay

2.95 sq. in.

Working pressure by rules

215.

Material of Front plates at bottom

Steel.

Thickness

3/32"

Material of Lower back plate

Steel.

Thickness

15/16"

Diameter of tubes

3 1/2"

Pitch of tubes

5" x 4 3/4"

Material of tube plates

Steel.

Thickness: Front

3/32"

Back

1/8"

Mean pitch of stays

10"

Pitch across wide water spaces

14"

Working pressures by rules

184.

Girders to Chamber tops: Material

Steel.

Depth and

thickness of girder at centre

8 1/2" x 13 1/4"

Length as per rule

32"

Distance apart

9 1/2"

Number and pitch of stays in each

Two, 9 1/2"

Working pressure by rules

194.

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

Is Easing Gear fitted

Is Easing Gear fitted

Is Easing Gear fitted

Is Easing Gear fitted

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IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—

Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air, feed & bilge pump valves, one set of piston studs & nuts, three condenser tubes, three boiler tubes, one escape valve spring each size, two donkey pump suction & delivery valves and a quantity of assorted bolts & nuts & iron of various sizes.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. Rackenbury

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1917: Oct 22, Nov 19, 23, 26, Dec 3, 4, 8, 10, 21, 31, 1918: Jan 8, 16, 22, 23, 24, 25, 29, 28, 31, Feb 4, 7, 9, 11.
During erection on board vessel --- 13, 14, 20, 21, 25, 28, Mar 6, 8, 11, 13, 15, 18, 20, 22, 25, 27, Apr 2, 5, 10, 11, 12, 15, 18, 19, 20, 25, May 1, 8, 16, 18, 23, 30, Jun 3, 5
Total No. of visits 57

Is the approved plan of main boiler forwarded herewith *previously sent*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 20-2-18, Slides 13-3-18, Covers 11-2-18, Pistons 11-2-18, Rods 13-3-18.

Connecting rods 2-4-18, Crank shaft 11-4-18, Thrust shaft 11-4-18, Tunnel shafts ✓ Screw shaft 24-1-18 Propeller 29-1-18.

Stern tube 29-1-18, Steam pipes tested 25-4-18, Engine and boiler seatings 29-1-18, Engines holding down bolts 25-4-18.

Completion of pumping arrangements 30-5-18 Boilers fixed 25-4-18. Engines tried under steam 18-5-18.

Completion of fitting sea connections 29/1/18 Stern tube 29/1/18 Screw shaft and propeller 29/1/18

Main boiler safety valves adjusted 18-5-18. Thickness of adjusting washers P. 1 3/2" S. 3/8".

Material of Crank shaft Iron. Identification Mark on Do. 1864 P.F. Material of Thrust shaft Iron. Identification Mark on Do. 1868 P.F.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron. Identification Marks on Do. 1852 G.A.

Material of Steam Pipes Solid drawn copper. 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 ✓

Is this machinery duplicate of a previous case Yes. If so, state name of vessel "Patrick Bowe."

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

The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the rules of this Society. The materials and workmanship are good; the boilers and steam pipes have been tested as above and found sound and good. The machinery has been properly fitted and secured on board the vessel and on completion was tested at full power for two hours as required by the Admiralty and found satisfactory.

The safety valves have been adjusted under steam and tested for accumulation which did not exceed 190 lbs.

In my opinion the vessel is eligible for the record + L.M.C. 6.18.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 6.18.

The amount of Entry Fee ... £ 2 : 0 :
Special ... £ 26 : 2 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 7.6.18
When received, 8.6.18

Committee's Minute

Assigned

TUE 11 JUN. 1918

+ L.M.C. 6:18

Frank L. Stanger, J. McF. Reid.
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation