

REPORT ON MACHINERY.

No. 26336

Received at London Office

Date of writing Report

19

When handed in at Local Office

27.5-13. Port of Hull.

FRI. JUN. 13. 1913

No. in Survey held at
Reg. Book.

Hull.

Date, First Survey

Jan 8th

Last Survey

May 24th 1913158 upon the *Shut Se. K. "SCOTT"*

(Number of Visits 25

Gross 288
Net 115

Master

Built at

Selby

By whom built *Cochrane & Sons Ltd.*

When built 1913.

Engines made at

By whom made

when made 1913.

Boilers made at

Hull

By whom made

Messrs. Charles F. Holmes & Co. Ltd. when made 1913.

Registered Horse Power

Owners *Pickering & Halden is Ship. Mgmt. Co. Ltd.* belonging to *Hull.*

Nom. Horse Power as per Section 28

49.

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

12 $\frac{3}{4}$ " - 22" - 36"

Length of Stroke

24"

Revs. per minute

Dia. of Screw shaft

as per rule 7.57"

as fitted 7.53"

Material of

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

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

If two

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

Length of stern bush

36"

Dia. of Tunnel shaft

as per rule 6.64"

as fitted 6.73"

Dia. of Crank shaft journals

as per rule 7.068"

as fitted 7.068"

Dia. of Crank pin

1 $\frac{1}{4}$ "

Size of Crank webs

4 $\frac{1}{2}$ " x 14"

Dia. of thrust shaft under

collars

1 $\frac{1}{4}$ "

Dia. of screw

9.3"

Pitch of Screw

10-8"

No. of Blades

44

State whether moveable

No.

Total surface

30 sq

No. of Feed pumps

1

Diameter of ditto

2 $\frac{3}{8}$ "

Stroke

14 $\frac{1}{2}$ "

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2 $\frac{3}{8}$ "

Stroke

14 $\frac{1}{2}$ "

Can one be overhauled while the other is at work

No. of Donkey Engines

1

Sizes of Pumps

6" x 14 $\frac{1}{2}$ " x 6"

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

In Engine Room

Two 2" - one forward & one aft.

In Holds, &c. One 2" to dust well, one 2" to main hold,

one 2" to fore-castle. & bilge suction from all bilges with discharge on deck.

No. of Bilge Injections

1 size 3"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

2 $\frac{1}{2}$ " dia.

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

0

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

Hold suction

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.

Dates of examination of completion of fitting of Sea Connections

10.3.13

of Stern Tube

10.3.13

Screw shaft and Propeller

10.3.13

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 *Phoenix A. & Co. Ltd. London & Birmingham.*

Total Heating Surface of Boilers

1295 sq

Is Forced Draft fitted

No.

No. and Description of Boilers

One up. multi. single ended.

Working Pressure

200 lbs.

Tested by hydraulic pressure to

400 lbs.

Date of test

18.4.13

No. of Certificate

1946.

Can each boiler be worked separately

Yes.

Area of fire grate in each boiler

46 sq

No. and Description of Safety Valves to

each boiler

Two. Spring.

Area of each valve

4.90"

Pressure to which they are adjusted

200 lbs.

Are they fitted with easing gear

Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork

6"

EXT.

Mean dia. of boilers

13-6"

Length

10-6"

Material of shell plates

S.

Thickness

1 $\frac{1}{16}$ "

Range of tensile strength

29 tons.

Are the shell plates welded or flanged

No.

Descrip. of riveting: cir. seams

20.9.2.

long. seams

20.8.5.7.9.

Diameter of rivet holes in long. seams

1 $\frac{1}{16}$ "

Pitch of rivets

8"

Lap of plates or width of butt straps

16 $\frac{5}{8}$ "

Per centages of strength of longitudinal joint

rivets 85%

plate 85%

Working pressure of shell by rules

Size of compensating ring

4" x 1 $\frac{3}{16}$ "

No. and Description of Furnaces in each boiler

3 plain

Material

S.

Outside diameter

38"

Length of plain part

top 6-5 $\frac{1}{2}$ "

bottom

Thickness of plates

crown 8 $\frac{1}{16}$ "bottom 6 $\frac{1}{16}$ "

Description of longitudinal joint

Weld.

No. of strengthening rings

0.

Working pressure of furnace by the rules

212 lbs.

Combustion chamber plates: Material

S.

Thickness: Sides

23"

Back

23"

Top

23"

Bottom

23"

Pitch of stays to ditto: Sides

10" x 8"

Back

10" x 8"

Top

11" x 8"

If stays are fitted with nuts or riveted heads

No.

Working pressure by rules

212 lbs.

Material of stays

S.

Diameter at smallest part

2.4"

Area supported by each stay

101.16 sq

Working pressure by rules

212 lbs.

End plates in steam space:

Material

S.

Material

S.

Thickness

1 $\frac{1}{16}$ "

Pitch of stays

18" x 18"

How are stays secured

20.7.8.20.

Working pressure by rules

206 lbs.

Material of stays

S.

Diameter at smallest part

6.33"

Area supported by each stay

324 sq

Working pressure by rules

212 lbs.

Material of Front plates at bottom

S.

Thickness

1 $\frac{1}{16}$ "

Material of Lower back plate

S.

Thickness

1 $\frac{1}{16}$ "

Greatest pitch of stays

14 $\frac{1}{2}$ " x 8 $\frac{1}{4}$ "

Working pressure of plate by rules

204 lbs.

Diameter of tubes

3 $\frac{1}{2}$ "

Pitch of tubes

5 $\frac{1}{2}$ " x 5"

Material of tube plates

S.

Thickness: Front

1 $\frac{1}{16}$ "

Back

8"

Mean pitch of stays

10"

Pitch across wide water spaces

14" & 14"

Working pressures by rules

315 lbs.

Girders to Chamber tops: Material

S.

Depth and

thickness of girder at centre

10 $\frac{3}{4}$ " - 1 $\frac{1}{4}$ "

Length as per rule

2-11 $\frac{3}{8}$ "

Distance apart

Working pressure by rules

212 lbs.

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 rivet

holes

Pitch of rivets

Working pressure of shell by rules

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

2020

Lloyd's Register

Foundation

W777-0140

VERTICAL DONKEY BOILER—

Manufacturers of Steel

| No. | Description | When made | Where fixed |
|--------------------------------------|--------------------------------------------------------|---------------------------|-------------------------------------|
| Made at | By whom made | | |
| Working pressure | tested by hydraulic pressure to | Date of test | No. of Certificate |
| Valves | No. of Safety Valves | Area of each | Pressure to which they are adjusted |
| If fitted with casing gear | If steam from main boilers can enter the donkey boiler | Dia. of donkey boiler | Length |
| Material of shell plates | Thickness | Range of tensile strength | Descrip. of riveting long. seams |
| Dia. of rivet holes | Whether punched or drilled | Pitch of rivets | Lap of plating |
| Working pressure of shell by rules | Thickness of shell crown plates | Radius of do. | No. of stays to do. |
| Diameter of furnace Top | Bottom | Length of furnace | Thickness of furnace plates |
| Working pressure of furnace by rules | Thickness of furnace crown plates | Radius of do. | Stays by |
| Diameter of uptake | Thickness of uptake plates | Thickness of water tubes | Dates of survey |

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

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & CO. LTD.

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 1913: Jan 8. 14. 30 Feb 4. 12. 17. 19. 26. 28 Mar 10. 27. 31 Apr 3. 11. 16. 18. 25
During erection on board vessel - - 28. 30. May 3. 10. 15. 16. 17. 24
Total No. of visits 25

Is the approved plan of main boiler forwarded herewith

yes

Dates of Examination of principal parts—Cylinders 16. 4. 13 Slides 31. 4. 13 Covers 30. 4. 13 Pistons 26. 4. 13 Rods 25. 4. 13
Connecting rods 28. 4. 13 Crank shaft 29. 4. 13 Thrust shaft 3. 5. 13 Tunnel shafts ✓ Screw shaft 26. 2. 13 Propeller 26. 2. 13
Stern tube 26. 2. 13 Steam pipes tested 15. 5. 13 Engine and boiler seatings 10. 3. 13 Engines holding down bolts 15. 5. 13
Completion of pumping arrangements 24. 5. 13 Boilers fixed 17. 5. 13 Engines tried under steam 17. 5. 13
Main boiler safety valves adjusted 17. 5. 13 Thickness of adjusting washers $\frac{3}{16}$ " Forward $\frac{1}{16}$ "
Material of Crank shaft Iron Identification Mark on Do No 1054 T. G. D. Material of Thrust shaft Steel Identification Mark on Do No 1054 T. G. D.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do No 1054 T. G. D.
Material of Steam Pipes Solid drawn copper. ✓ Test pressure 400 lbs. per sq. inch hydraulic.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines secured on board & tried under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 11. 14. 5. 13 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5. 13.

J.W.D.
14/6/13.

The amount of Entry Fee £ 1 : 0 :
Special £ 11 : 14 :
Donkey Boiler Fee £ :
Travelling Expenses (if any) £ :
When applied for, 12/6/13
When received, 30/5/13

Committee's Minute

TUE. JUN 17 1913

Assigned

+ L.M.C. 5-13

MACHINERY CERTIFICATE
WRITTEN

J.G. MacKillop
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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