

Rpt. 4.

## REPORT ON MACHINERY.

No. 28799

Date of writing Report 31-7-15

When handed in at Local Office

31.7.15 Port of Hull

Received at London Office

7 SEP 1915

No. in Survey held at Reg. Book.

1884 on the

steel screw steamer

Date, First Survey 7.4-15

Last Survey 30-7-15 19

(Number of Visits 34)

Master

Built at

Hull

By whom built

Cochrane &amp; Sons, Ltd

Tons

Gross 113

Net 2

When built 1915-7

Engines made at

Hull

By whom made

Earlie &amp; Co. Ltd

when made 1915-7

Boilers made at

Hull

By whom made

Earlie &amp; Co. Ltd

when made 1915-7

Registered Horse Power

Owners

J. C. Spink

Port belonging to

Hull

Nom. Horse Power as per Section 28

66

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

3

Dia. of Cylinders

12"-20"-32"

Length of Stroke

24"

Revs. per minute

Dia. of Screw shaft

as per rule 1.88"

as fitted 7 1/2"

Material of

steel

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

no liners

Is the after end of the liner made water tight

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

✓

If two

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

Dia. of Tunnel shaft

as per rule 6.19"

as fitted 6 1/4"

Dia. of Crank shaft journals

as per rule 6.5"

as fitted 6 3/4"

Dia. of Crank pin

6 3/4"

Size of Crank web

4 3/4" x 13 1/4"

Dia. of thrust shaft under

collars

6 3/4"

Dia. of screw

8'-2"

Pitch of Screw

10'-3"

No. of Blades

4

State whether moveable

no

Total surface

27 1/2"

No. of Feed pumps

one

Diameter of ditto

2 1/2"

Stroke

11"

Can one be overhauled while the other is at work

✓

No. of Bilge pumps

one

Diameter of ditto

2 1/2"

Stroke

11"

Can one be overhauled while the other is at work

✓

No. of Donkey Engines

one

4 1/2" cylinders

Sizes of Pumps

5 1/2", 3 1/2" x 5" duplex

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

In Holds, &amp;c.

one 2" dia in each compartment

In Engine Room

one

2" dia

No. of Bilge Injections

one

sizes 3"

Connected to condenser or to circulating pump

yes

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

2 1/2" dia

Are all the bilge suction pipes fitted with roses

yes

Are all connections with the sea direct on the skin of the ship

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

none

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are they Valves or Cocks

both

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

wooden casings

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

22-7-15

of Stern Tube

21-7-15

Screw shaft and Propeller

22-7-15

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

Steel Co. of Scotland

Total Heating Surface of Boilers

1170 1/2

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

9-7-15

No. of Certificate

3091

Can each boiler be worked separately

✓

Area of fire grate in each boiler

34 1/2

No. and Description of Safety Valves to

each boiler

two

spring loaded

Smallest distance between boilers or uptakes and bunkers or woodwork

4 ft

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

Thickness

1"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

Y.R. &amp; B. 1

Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

7 5/8"

Lap of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets 86.7

plate 86

Working pressure of shell by rules

184 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

8" x 1"

No. and Description of Furnaces in each boiler

two

plain

Material

Steel

Outside diameter

42 1/4"

Length of plain part

top 77 5/8"

Thickness of plates

crown 2 5/32"

bottom 2 1/32"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

184

Combustion chamber plates: Material

Steel

Thickness: Sides

2 3/32"

Back

2 3/32"

Top

2 3/32"

Bottom

2 3/32"

Pitch of stays to ditto: Sides

10 1/2" x 9"

Back

10" x 9 1/2"

Top

10 1/2" x 9"

If stays are fitted with nuts or riveted heads

nuts

Material of stays

Steel

Area supported by each stay

115 1/2"

Working pressure by rules

188

End plates in steam space:

✓

Material

Steel

Thickness

1 1/32"

Pitch of stays

17" x 15 1/2"

How are stays secured

D. H.

Diameter at smallest part

5 1/8"

Area supported by each stay

264 1/2"

Working pressure by rules

206

Material of Front plates at bottom

Steel

Thickness

13/16"

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

14 1/4" x 9 1/2"

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/16" x 4 3/4"

Material of tube plates

Steel

Thickness: Front

15/16"

Back

13/16"

Mean pitch of stays

9 1/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182

Girders to Chamber tops: Material

Steel

Depth and

✓

thickness of girder at centre

8" x 1 1/2"

Length as per rule

30.4

Distance apart

9"

Number and pitch of stays in each

two

Working pressure by rules

187

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

✓

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

✓

✓

✓



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 feed,  
bilge, air, circulating, & donkey pump valves, six gun ring studs, one  
main & one donkey check valve, one safety valve spring, one propeller.  
A quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

THE BUILDING & ENGINEERING CO. LIMITED.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1915: - Apr 7 12. 19. 20. May 4. 6. 11. 17. 19 Jun 4. 10. 11. 14. 16. 18. 22. 24. 25. 28. 29 Jul 1. 6. 8.  
During erection on board vessel - - 9. 13. 16. 19. 21. 22. 24. 26. 28. 29. 30.  
Total No. of visits 34

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28-6-15 Slides 8-7-15 Covers 28-6-15 Pistons 8-7-15 Rods 8-7-15

Connecting rods 16-7-15 Crank shaft 16-7-15 Thrust shaft 25-6-15 Tunnel shaft 25-6-15 Screw shaft 25-6-15 Propeller 13-7-15

Stern tube 16-7-15 Steam pipes tested 29-7-15 Engine and boiler seatings 21-7-15 Engines holding down bolts 28-7-15

Completion of pumping arrangements 30-7-15 Boilers fixed 30-7-15 Engines tried under steam 30-7-15

Main boiler safety valves adjusted 30-7-15 Thickness of adjusting washers 5/16 P. 1/32 S.

Material of Crank shaft Steel Identification Mark on Do. 1507 F.L.S. Material of Thrust shaft Steel Identification Mark on Do. 1475 J.G.M.

Material of Tunnel shaft Iron Identification Marks on Do. 1474 J.G.M. Material of Screw shaft Iron Identification Marks on Do. 1473 J.G.M.

Material of Steam Pipes Copper Test pressure 400 lbs.

Is an installation fitted for burning oil fuel no 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 machinery of this vessel has been constructed under special survey in accordance with the approved plans & rules of this Society, the materials & workmanship are good, the Boiler & steam pipes have been tested & are above & found sound & good. The Machinery has been properly fitted & secured on board & on completion was tried under steam & found satisfactory. The safety valves have been adjusted & tested for accumulation which did not exceed 192 lbs. In our opinion the vessel is eligible for the record & L.M.C. 7-15.

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 7.15.

A.P.S.

J.W.D.  
10/9/15.

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 9 : 18 :  
Donkey Boiler Fee ... £ ✓ : :  
Travelling Expenses (if any) £ ✓ : :  
When applied for, 19.15  
When received, 21.15 19.15

Franko Stanger & J.G. MacKillop.  
Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. SEP. 14. 1915

Assigned

+ L.M.C. 7.15.

MACHINERY CERTIFICATE  
WRITTEN



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Foundation