

REPORT ON MACHINERY.

No. 25646

Received at London Office

APR 10 1913

Date of writing Report

19

When handed in at Local Office

9. 4. 10/3 Port of

Sunderland.

No. in Survey held at
Reg. Book.

Date, First Survey

28 October

Last Survey

4 April 1913

(Number of Visits)

42

Tons

Gross 4068

Net 2557

Master

Built at

Sunderland

By whom built

Sunderland S. B. Coy. Ltd.

When built

1913.

Engines made at

Sunderland

By whom made

North Eastern Nav. Eng. Co. Ltd.

when made

1913

Boilers made at

do

By whom made

do

do

(2085 C.)

when made

1913.

Registered Horse Power

Owners

Hall Bros. & Co. Ltd.

Port belonging to

Newcastle-on-Tyne

Nom. Horse Power as per Section 28

341

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

25" x 42" x 68"

Length of Stroke

45"

Revs. per minute

65

Dia. of Screw shaft

as per rule 14"

Material of screw shaft

Steel

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

Yes

Length of stern bush

5'-0"

Dia. of Tunnel shaft

as per rule 12.45"

Dia. of Crank shaft journals

as per rule 13.08"

Dia. of Crank pin

13.2"

Size of Crank webs

20.2" x 8.2"

Dia. of thrust shaft under

collars

13.2"

Dia. of screw

Pitch of Screw

17' 3"

No. of Blades

4

State whether moveable

No

Total surface

91 sq. ft.

No. of Feed pumps

Two

Diameter of ditto

3.2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

1" x 9" x 9"

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

In Engine Room

Three @ 3.2" diameter

In Holds, &c.

2 @ 3.2" dia No 1 hold, 2 @ 3.2" dia

No. of Bilge Injections

1

sizes

4.2"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes 3.2"

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

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

None

How are they protected

Yes

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

1-3-13

of Stern Tube

18-3-13

Screw shaft and Propeller

18-3-13

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top platform.

BOILERS, &c.—(Letter for record

(r))

Manufacturers of Steel

Spencer & Sons Ltd.

Total Heating Surface of Boilers

5312 sq. ft.

Is Forced Draft fitted

No

No. and Description of Boilers

Two single ended

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

22-1-13

No. of Certificate

3081

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60.2 sq. ft.

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

7.07 sq. ft.

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

20"

Mean dia. of boilers

16.3.2"

Length

11' 0"

Material of shell plates

Steel

Thickness

1.18"

Range of tensile strength

28.8 to 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R.

long. seams

I.R.D.B. 5

Diameter of rivet holes in long. seams

1.32"

Pitch of rivets

9.7"

Gap of plates or width of butt straps

20.8"

Per centages of strength of longitudinal joint

rivets 86.5

plate 86.2

Working pressure of shell by rules

180 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

9.8" x 1.4"

No. and Description of Furnaces in each boiler

Three Cor.

Material

Steel

Outside diameter

50.2"

Length of plain part

top

bottom

Thickness of plates

crown 1.19"

bottom 1.22"

Description of longitudinal joint

weld.

No. of strengthening rings

25"

3"

3"

Working pressure of furnace by the rules

18 lbs.

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4"

Back

3/4"

3/4"

Pitch of stays to ditto: Sides

8.2" x 11.8"

Back

10.8" x 10.8"

Top

8.2" x 11.8"

If stays are fitted with nuts or riveted heads

hubs

Material of stays

Iron

Diameter at smallest part

2.43"

Area supported by each stay

101 sq. in.

Working pressure by rules

180 lbs.

End plates in steam space:

Material

Steel

Thickness

1.32"

Pitch of stays

2.4" x 23.8"

How are stays secured

D.N. Wash

Working pressure by rules

180 lbs.

Material of stays

Steel

Diameter at smallest part

9.62"

Area supported by each stay

56 sq. in.

Working pressure by rules

180 lbs.

Material of Front plates at bottom

Steel

Thickness

3/4"

Greatest pitch of stays

11.4" x 10.8"

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

1.16"

Mean pitch of stays

11.4" x 9.8"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

Pitch across wide water spaces

14.2"

Working pressures by rules

192 lbs.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8.2" x 2"

Length as per rule

31"

Distance apart

Working pressure by rules

180 lbs.

Superheater or Steam chest; how connected to boiler

None

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

Diameter of flue

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

Yes

011280-011293-0083

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fired _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safe _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing 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 _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two off Bolts + Nuts for top + bottom ends + main bearings, one set coupling bolts, one set each valves for all pumps One cast iron propeller, one tail shaft assorted bolts nuts + iron.

EASTERN MARINE ENGINEERING CO LTD

The foregoing is a correct description,

Manufacturer.

Dates of Survey _____ During progress of work in shops --- 1912 Oct. 28. Nov. 18. 12. 19. 26. 29. Dec. 4. 6. 12. 16. 17. 20. 24. 27. 30. 31. Jan. 4. 10. 16. 17. 21. 22. 28. _____

while building _____ During erection on board vessel --- Feb. 2. 4. 11. 12. 18. 21. 25. 27. Mar. 7. 10. 12. 18. 26. Apr. 1. 2. 3. 4. _____

Total No. of visits (42)

Is the approved plan of main boiler forwarded herewith ☒ Yes

" " " donkey " " " ☒ Yes

Dates of Examination of principal parts—Cylinders 9-1-13 Slides 16-1-13 Covers 20-12-12 Pistons 20-12-12 Rods 20-12-13

Connecting rods 20-12-12 Crank shaft 20-1-13 Thrust shaft 11-2-13 Tunnel shafts 21-1-13 Screw shaft 10-3-13 Propeller 11-2-13

Stern tube 10-3-13 Steam pipes tested 14-1-13 Engine and boiler seatings 4-3-13 Engines holding down bolts 1-4-13

Completion of pumping arrangements 2-4-13 Boilers fixed 26-3-13 Engines tried under steam 2-4-13

Main boiler safety valves adjusted 2-4-13 Thickness of adjusting washers 2 1/2", F 3/8", A 5/16"; 1 1/2", F 7/16", A 3/8";

Material of Crank shaft Steel Identification Mark on Do. 20456 M.B. Material of Thrust shaft Steel Identification Mark on Do. 2033 M.B.

Material of Tunnel shafts Steel Identification Marks on Do. 2040-1 M.B. Material of Screw shafts Steel Identification Marks on Do. 5214 PA

Material of Steam Pipes Hot iron lap welded 3/8" + 1/4" thick Test pressure 540 lbs

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

The machinery of this vessel has been built under special survey, the materials + workmanship are of good quality + the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been securely fitted in board + tried under steam and is in good + safe working condition + eligible in my opinion to be classed and have passed **L.M.C. 4-13** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4.13.

APR 11/4/13

JURD 11/4/13

William Butler

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

The amount of Entry Fee .. £ 3 : 0 : 0: When applied for, _____

Special £ 34 : 1 : 0: 9-4-13

Donkey Boiler Fee £ : : : When received, _____

Travelling Expenses (if any) £ : : : 18/4/13

Committee's Minute

FRI. APR. 11. 1913

Assigned

+ done 4.13

MACHINERY CERTIFICATE WRITTEN.



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