

REPORT ON MACHINERY.

No. 28782

Date of writing Report

19

When handed in at Local Office

3 APR 1924

Port of

Received at London Office

SUNDERLAND

MON. APR. 7 1924

No. in Survey held at
Reg. Book.

SUNDERLAND

Date, First Survey 13 June 23

Last Survey 1 April 1924

(Number of Visits 42)

on the new steel S/S GOATHLAND.

Master

Built at Sunderland

By whom built

R. Thompson & Son (45 N° 320) then built 1924

Engines made at

Sunderland

By whom made

N.E. Marine Engineering Co. Ld (N° 2540) then made 1924

Boilers made at

Sunderland

By whom made

N.E. Marine Engineering Co. Ld (N° 2540) then made 1924

Registered Horse Power

Owners

Rowland & Marwood S. S. & Co. Ltd Port belonging to White

Nom. Horse Power as per Section 28

340

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25" 42" 68"

Length of Stroke

45"

Revs. per minute

66

Dia. of Screw shaft

as per rule 14.057

Material of

Screw shaft

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

—

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

light thimble

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

—

Length of stern bush

4'-11 1/2"

Dia. of Tunnel shaft

as per rule 12.45"

as fitted 12 1/2"

Dia. of Crank shaft journals

as per rule 13.07"

as fitted 13 1/4"

Dia. of Crank pin

13 1/4"

Size of Crank webs

14 1/2" x 8 1/2"

Dia. of thrust shaft under

collars

13 1/2"

Dia. of screw

14'-3"

Pitch of Screw

14'-3"

No. of Blades

4

State whether moveable

no

Total surface

900 sq ft

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

7 1/2" x 2 1/2" 7 1/2" x 5" 6" x 7 1/2" x 10 1/2"

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

In Engine Room

3 @ 2 1/2"

In Holds, &c.

N° 1 hold - 2 @ 2 3/4"

N° 2 hold - 2

N° 3 hold - 2 @ 2 3/4"

N° 4 hold - 2 @ 2 3/4"

Tunnel well - 1 @ 2 1/2"

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes 4 1/2"

Are all the bilge suction pipes fitted with

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 hold suction

How are they protected

under timber boards

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

top platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John Spencer & Son Ltd.

Total Heating Surface of Boilers

52760 sq ft

Forced Draft fitted

no

No. and Description of Boilers

2 SB.

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

25-2-24

No. of Certificate

3864

Can each boiler be worked separately

yes

Area of fire grate in each boiler

64 sq ft

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

9.62 sq in

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

22 1/2"

Mean dia. of boilers

16'-3 1/2"

Length

11'-0"

Thickens

1 1/4"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

VR

long. seams

VR

Diameter of rivet holes in long. seams

13/8"

Pitch of rivets

9 1/16"

Lap of plates or width of butt straps

1'-8 1/4"

Per centages of strength of longitudinal joint

rivets 90

plate 85.72

Working pressure of shell by rules

180

Size of manhole in shell

end 16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

4

Deighton

Material

S

Outside diameter

38 1/4"

Length of plain part

top

bottom

Thickens of plates

crown 1 1/2"

bottom 1 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

steel

Thickens: Sides

25"

Back

25"

Top

25"

Bottom

15"

Pitch of stays to ditto: Sides

11 1/8" x 10 3/8"

Back

11 1/4" x 10 3/8"

Top

13 x 7 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182

Material of stays

steel

Area at smallest part

2.36 sq ft

Area supported by each stay

118 sq ft

Working pressure by rules

180

End plates in steam space:

Material

steel

Material

steel

Thickens

1 3/8"

Pitch of stays

23 3/8" x 2 3/4"

How are stays secured

WN&W

Working pressure by rules

180

Material of Front plates at bottom

steel

Thickens

7/8"

Material of Lower back plate

steel

Thickens

2 1/2"

Greatest pitch of stays

14 1/2" x 10 5/16"

Working pressure of plate by rules

183

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 5/8"

Material of tube plates

steel

Thickens: Front

7/8"

Back

25"

Mean pitch of stays

10.9"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

184

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 9 1/8" x 1"

Length as per rule

33"

Distance apart

13"

Number and pitch of stays in each

3 @ 7 3/4"

Working pressure by rules

182

Steam dome: description of joint to shell

none

% of strength of joint

Diameter

Thickens of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickens

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

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

Date of Test

Diameter of Safety Valve

2020

Lloyd's Register

Foundation

1100-0071

IS A DONKEY BOILER FITTED? *yes*

If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:— *two connecting rod top and bottom end bolts and nuts. two main bearing bolts. one set of coupling bolts. one set of feed and bilge pump valves. iron and bolts of various sizes. one screw shaft and one propeller.*

The foregoing is a correct description.

C. T. Adams Manufacturer.

Dates of Survey while building { During progress of work in shops - - June 13, July 5, 20, Aug. 15, 16, Sep. 7, Oct. 17, 23, Nov. 6, 14, 19, Dec. 5, 17, 19, 1924, Jan. 11, 15, 21, 31
During erection on board vessel - - Feb. 7, 8, 12, 15, 16, 20, 22, 25, 26, 28, 29, Mar. 5, 6, 10, 11, 12, 14, 17, 18, 19, 22, 26, 29, 31, Apr. 1
Total No. of visits *42*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *7-2-24* Slides *26-2-24* Covers *7-2-24* Pistons *15-2-24* Rods *22-2-24*

Connecting rods *12-2-24* Crank shaft *26-2-24* Thrust shaft *7-2-24* Tunnel shafts *26-2-24* Screw shaft *26-2-24* Propeller *5-3-24*

Stern tube *5-3-24* Steam pipes tested *14-3-24* Engine and boiler seatings *6-3-24* Engines holding down bolts *19-3-24*

Completion of pumping arrangements *28-3-24* Boilers fixed *19-3-24* Engines tried under steam *20-3-24*

Completion of fitting sea connections *6-3-24* Stern tube *10-3-24* Screw shaft and propeller *10-3-24*

Main boiler safety valves adjusted *20-3-24* Thickness of adjusting washers *Port boiler - F 7/16" A 3/8" Star boiler - 7/16"*

Material of Crank shaft *1 steel* Identification Mark on Do. *LLOYD'S NO 6659 L.C.D. 26-2-24* Material of Thrust shaft *1 steel* Identification Mark on Do. *LLOYD'S NO 6659*

Material of Tunnel shafts *1 steel* Identification Marks on Do. *LLOYD'S NO 6659* Material of Screw shafts *Snapped* Identification Marks on Do. *LLOYD'S NO 3236*

Material of Steam Pipes *Solid drawn steel* Test pressure *600 lbs per sq in*

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 materials and workmanship are good.
The machinery has been constructed under special survey and is eligible in my opinion for classification and the record
+ LMC 4.24.*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4.24 CL

The amount of Entry Fee ... £ *5* :
Special ... £ *76* :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, *1 APR 1924*
When received, *1.5.24*

Committee's Minute *FRI 11 APR 1924*

Assigned *+ Lmb 4.24 C.L.*

S. C. Davis
Engineer Surveyor to Lloyd's Register of Shipping.



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