

Rpt. 4.

REPORT ON MACHINERY.

No. 23410

Port of

Sunderland

Received at London Office

MON. 16 SEP 1907

No. in Survey held at

Sunderland

Date, first Survey 4th March, 07 Last Survey 22nd August 1907

Reg. Book.

on the

S. S. "Botttingham"

(Number of Visits 43)

Master

Built at

Goole

By whom built

Goole Shipbuilding Co

Gross Tons

Net Tons

When built

1907

Engines made at

Sunderland

By whom made

Messrs Mac Coll & Pollock

when made

1907

Boilers made at

Sunderland

By whom made

Messrs Mac Coll & Pollock

when made

1907

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

81

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Inverted triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

13", 21", 35"

Length of Stroke

24"

Revs. per minute

95

Dia. of Screw shaft

as per rule 8"

as fitted 8 1/2"

Material of

screw shaft

slut

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

no, 2 liners

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

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

no

Length of stern bush

2' 9"

Dia. of Tunnel shaft

as per rule 6 1/4"

as fitted 6 1/2"

Dia. of Crank shaft journals

as per rule 6 1/4"

as fitted 7"

Dia. of Crank pin

7"

Size of Crank webs

10 1/2" x 4 1/2"

Dia. of thrust shaft under

collars

7"

Dia. of screw

10' 0"

Pitch of Screw

11' 4"

No. of Blades

4

State whether moveable

no

Total surface

38 1/2'

No. of Feed pumps

2

Diameter of ditto

2 1/4"

Stroke

12"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 1/4"

Stroke

12"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

5 1/2" x 3 1/2" x 5"

6" x 7 1/2" x 6"

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

In Engine Room

2 of 2" x 10' 3"

In Holds, &c.

one each 2 1/2" to aft peak tank,

tunnel well, fore hold, fore peak tank, two 2 1/2" to aft hold.

No. of Bilge Injections

1

sizes

3"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

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

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

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

11. 6. 07

of Stern Tube

12. 8. 07

Screw shaft and Propeller

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

W. Bleasmore & Co. & Palmers Shipbuilding & Iron Co.

Total Heating Surface of Boilers

1453.5

Is Forced Draft fitted

no

No. and Description of Boilers

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

18. 7. 07

No. of Certificate

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

411

No. and Description of Safety Valves to

each boiler

2 spring

Area of each valve

3.98

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

Mean dia. of boilers

12' 6"

Length

10' 3"

Material of shell plates

Thickness

1 1/2"

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

long. seams

L. & D. S.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 7/8"

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets 91.01

plate 85.71

Working pressure of shell by rules

182.2 lbs

Size of manhole in shell

16 x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

Length of plain part

top 6' 0"

bottom 6' 0"

Thickness of plates

crown 3/4"

bottom 3/4"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

190 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

1 1/16"

Back

7/16"

Top

1 1/16"

Bottom

Pitch of stays to ditto: Sides

9 3/4" x 9 3/4"

Back

9 x 7 1/2"

Top

9 x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

steel

Diameter at smallest part

1 7/8"

Area supported by each stay

67.5

Working pressure by rules

Material

steel

Thickness

1 1/2"

Pitch of stays

17 x 15"

How are stays secured

d. & w.

Working pressure by rules

185 lbs

Material of stays

Diameter

at smallest part

5.05

Area supported by each stay

255

Working pressure by rules

206 lbs

Material of Front plates at bottom

Thickness

1 1/16"

Material of Lower back plate

steel

Thickness

2 1/2"

Greatest pitch of stays

13 1/4" x 9"

Working pressure of plate by rules

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

1 1/16"

Back

1 1/16"

Mean pitch of stays

Pitch across wide water spaces

13 1/4"

Working pressures by rules

235 lbs

Girders to Chamber tops: Material

thickness of girder at centre

8 1/2" x 1 1/2"

Length as per rule

31"

Distance apart

8 1/2"

Number and pitch of stays in each

Working pressure by rules

185 lbs

Superheater or Steam chest; how connected to boiler

Yes

Can the superheater be shut off and the boiler worked

separately

Yes

Diameter

Yes

Length

Yes

Thickness of shell plates

Yes

Material

Yes

Description of longitudinal joint

holes

Yes

Pitch of rivets

Yes

Working pressure of shell by rules

Yes

Diameter of flue

Yes

Material of flue plates

Yes

Thickness

If stiffened with rings

Yes

Distance between rings

Yes

Working pressure by rules

Yes

End plates: Thickness

Yes

How stayed

Working pressure of end plates

Yes

Area of safety valves to superheater

Yes

Are they fitted with easing gear

Yes

Working pressure of end plates

Yes

Area of safety valves to superheater

Yes

Are they fitted with easing gear

Yes

Working pressure of end plates

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

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

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

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 _____ Stayed by _____

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

SPARE GEAR. State the articles supplied:— 2 top end, 2 bottom end, 2 Main bearing & 1 set of coupling bolts, 1 set feed and bilge pump Valves, 1 Main feed check valve, bolts & nuts assorted & iron of sizes

The foregoing is a correct description,

Manufacturer.

Dates of Survey _____

During progress of work in shops— 07. March 4. 7. 25. April 5. 9. 11. 12. 15. 17. 22. 23. 25. 29. May 1. 2. 6. 8. 13. 15. 16. 24. 28. 30. June 11. 7. 11.

During erection on board vessel— 19. 25. July 1. 12. 16. 18. 23. 30. Aug. 1. 7. 12. 14. 16. 17. 19. 22. 23.

Total No. of visits— 41.3

Is the approved plan of main boiler forwarded herewith— Yes

Dates of Examination of principal parts—Cylinders 26.5.07 Slides 25.6.07 Covers 25.6.07 Pistons 13.5.07 Rods 9.4.07

Connecting rods 6.5.07 Crank shaft 16.5.07 Thrust shaft 19.6.07 Tunnel shafts 19.6.07 Screw shaft 19.6.07 Propeller 19.6.07

Stern tube 19.6.07 Steam pipes tested 16.8.07 Engine and boiler seatings 25.6.07 Engines holding down bolts 17.8.07

Completion of pumping arrangements 22.8.07 Boilers fixed 14.8.07 Engines tried under steam 22.8.07

Main boiler safety valves adjusted 22.8.07 Thickness of adjusting washers Port 1/2" Starboard 1/4"

Material of Crank shaft Steel Identification Mark on Do. 181 J.W.D. Material of Thrust shaft Steel Identification Mark on Do. 17 J.H.M.

Material of Tunnel shafts Steel Identification Marks on Do. 59, 60 J.H.M. Material of Screw shafts Steel Identification Marks on Do. 78 J.H.M.

Material of Steam Pipes Copper Test pressure 400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam & worked satisfactorily

We beg to recommend that this vessel is eligible in our opinion to have the record **L.M.C. 07** in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.07

The amount of Entry Fee. £ 1 : - : - When applied for, _____

Special £ 12 : 3 : - 2.2.5.1907

Donkey Boiler Fee £ : : - When received, _____

Travelling Expenses (if any) £ : : - 12.9.07

Committee's Minute

Assigned

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



Lloyd's Register Foundation