

REPORT ON MACHINERY.

No. 24762

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of Glasgow.

No. in Survey held at
Reg. Book.

Paisley

Date, First Survey 20th March Last Survey 14th Nov. 1906.

(Number of Visits)

on the

Thames Conservancy Dopper No. 5

Tons

Gross

Net

Master

Built at

Paisley

By whom built

Fleming & Ferguson

When built 1906

Engines made at

Paisley

By whom made

Fleming & Ferguson Ltd.

when made

1906

Boilers made at

S

By whom made

S

when made

1906

Registered Horse Power

Owners

Thames Conservancy

Port belonging to

London

Nom. Horse Power as per Section 28

158

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

18". 29". 48"

Length of Stroke

30

Revs. per minute

✓

Dia. of Screw shaft

as per rule

9.2

as fitted

9.4

Material of

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

✓

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

48"

Dia. of Tunnel shaft

as per rule

8.337

as fitted

8.3/4

Dia. of Crank shaft journals

as per rule

8.754

as fitted

9"

Dia. of Crank pin

9.4

Size of Crank webs

6" x 14 1/4"

Dia. of thrust shaft under

collars

9"

Dia. of screw

11' 0"

Pitch of Screw

12' - 6"

No. of Blades

4

State whether moveable

No.

Total surface

47 ft²

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

15"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3"

Stroke

15"

Can one be overhauled while the other is at work

Yes.

No. of Donkey Engines

2

Sizes of Pumps

6" x 4" x 6", 6" x 4" x 6"

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

In Engine Room

2 - 2 1/2"

In Holds, &c.

5 - 2 1/2"

No. of Bilge Injections

1

sizes

5"

Connected to condenser, or to circulating pump

Pump

Is a separate Donkey Suction fitted in Engine room & size

Yes - 2 1/2"

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

—

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

Ford. Suctions

How are they protected

Wood covering

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

None

Is it fitted with a watertight door

—

worked from

—

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Steel Co. of Scotland Ltd.

Total Heating Surface of Boilers

2841 ft²

Is Forced Draft fitted

No.

No. and Description of Boilers

Two Single Ended

Working Pressure

145 lbs

Tested by hydraulic pressure to

350 lbs

Date of test

18. 10. 06.

No. of Certificate

8391

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

59 ft²

No. and Description of Safety Valves to

each boiler

Two Spring Loaded

Area of each valve

5.94

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

width of

Stokehold

dia. of boilers

13' 0"

Length

10' 0"

Material of shell plates

Steel

Thickness

1 3/16

Range of tensile strength

24.5632

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R.L.

long. seams

D.R.S.

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/4"

Lap of plates or width of butt straps

18 3/8"

Per centages of strength of longitudinal joint

rivets. 87.8

plate. 85.7

Working pressure of shell by rules

200 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

2' 2 1/8" x 2' 2 1/8" - 1 3/16"

No. and Description of Furnaces in each boiler

3 Furnaces

Material

Steel

Outside diameter

3' - 2" (3)

Length of plain part

top

bottom

Thickness of plates

crown

bottom

17/32

Description of longitudinal joint

weld

No. of strengthening rings

✓

Working pressure of furnace by the rules

182

Combustion chamber plates: Material

Steel

Thickness: Sides

21/32"

Back

9/16"

Top

21/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

9 3/4" x 8"

Back

7 1/2" x 8 1/4"

Top

9" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180 lbs.

Material of stays

Steel

Area at smallest part

1.46

Area supported by each stay

70

Working pressure by rules

187

End plates in steam space:

Material

Steel

Thickness

1 1/8"

Pitch of stays

17 1/2" x 17 1/2"

How are stays secured

D. nuts

Working pressure by rules

182

Material of stays

Steel

Area at smallest part

6.10"

Area supported by each stay

310"

Working pressure by rules

194

Material of Front plates at bottom

Steel

Thickness

13/16"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

14 1/2"

Working pressure of plate by rules

—

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

9"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

250 lbs.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

7 3/4" x 11/16" x 2"

Length as per rule

24 1/2"

Distance apart

9"

Number and pitch of stays in each

2" - 9"

Working pressure by rules

177 lbs

Steam dome: description of joint to shell

None

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

IS A DONKEY BOILER FITTED?

none.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end bolts, 2 bottom end bolts, set of coupling bolts, two main bearing bolts, assorted iron, feed sludge valves etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1906 Mar. 20 April 30. May 9. 15. June 19. July 12. 21. Aug. 24 30. Sept 10.
During erection on board vessel - - - 19. 27. Oct. 1. 18. 19. Nov. 1. 10. 12. 14.
Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " " none

Dates of Examination of principal parts—Cylinders 24/8/06 etc Slides 24/8/06 etc Covers 24/8/06 etc Pistons 24/8/06 etc Rods 24/8/06 etc

Connecting rods 24/8/06 etc Crank shaft 20/3/06 etc Thrust shaft 9/5/06 etc Tunnel shafts — Screw shaft 15/5/06 etc Propeller 1/10/06

Stern tube 1/10/06 Steam pipes tested 6/11/06 Engine and boiler seatings 1/11/06 Engines holding down bolts 12/11/06

Completion of pumping arrangements 14/11/06 Boilers fixed 14/11/06 Engines tried under steam 14/11/06

Completion of fitting sea connections 18/10/06 Stern tube 18/10/06 Screw shaft and propeller 18/10/06

Main boiler safety valves adjusted 14/11/06 Thickness of adjusting washers St Bl. F 5/16" A 1/2" Pt Bl. F 5/16" A 1/8"

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do.

Material of Tunnel shafts — Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes Copper Test pressure 350 lbs

Is an installation fitted for burning oil fuel

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

If so, state name of vessel

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

These engines & boilers have been constructed under Special Survey & are of good materials and workmanship. They have been satisfactorily fitted on board.

This vessel is in ^{my} opinion eligible for notation + LMC 11.06 in the Register Book.

The boilers are designed for a working pressure of 145 lbs but are only to be used for 160 lbs. The h.p. & the rule sizes of shafting given above are based on 160 lbs pressure.

The amount of Entry Fee ... £ 2 : : When applied for,
Special ... £ 23 : 14 : 19
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19

Sgd. H. Gardner Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + LMC 11.06.



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Foundation