

REPORT ON MACHINERY.

No. 23902

Port of Glasgow

TUES. 1 MAY 1906

Received at London Office

19

No. in Survey held at Glasgow & Paisley

Date, first Survey

Last Survey April 4th 1906

Reg. Book.

(Number of Visits)

50 upon the Steam Tug Pioneer.

Master

Built at Glasgow

By whom built

P. Gregor & Sons

Tons

Gross

Net

When built

Engines made at Paisley

By whom made

Fisher & Co.

when made 1906

Boilers made at Pollokshaws

By whom made

A. & H. Dalglisch (B. 1249)

when made 1906

Registered Horse Power

Owners Pioneer Towing Co.

Port belonging to

Hull

Nom. Horse Power as per Section 28

37

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Compound

No. of Cylinders

2

No. of Cranks

2

Dia. of Cylinders

13" x 26"

Length of Stroke

18"

Revs. per minute

Dia. of Screw shaft

as per rule 5.9"

Material of

Iron

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

No

Is the after end of the liner made water tight

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

Lapped

Length of stern bush

24"

Dia. of Tunnel shaft

as per rule 5.25"

Dia. of Crank shaft journals

as per rule 5.5"

Dia. of Crank pin

5.5"

Size of Crank webs

4"

Dia. of thrust shaft under

collars

5.9 1/16"

Dia. of screw

6.0"

Pitch of screw

9.6"

No. of blades

4

State whether moveable

No

Total surface

16 #

No. of Feed pumps

1

Diameter of ditto

2"

Stroke

9"

Can one be overhauled while the other is at work

—

No. of Bilge pumps

1

Diameter of ditto

2"

Stroke

9"

Can one be overhauled while the other is at work

—

No. of Donkey Engines

1

Sizes of Pumps

4 3/4 x 3 x 5

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

In Engine Room

2 - 2"

In Holds, &c.

2 - 2"

No. of bilge injections

1 sizes 2 1/2"

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room & size

4 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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Before launch

Is the screw shaft tunnel watertight

—

Is it fitted with a watertight door

—

worked from

None.

BOILERS, &c.—No. of Certificate

7753

(Letter for record

S)

Total Heating Surface of Boilers

753 #

Is forced draft fitted

No

No. and Description of Boilers

One, Single Ended

Working Pressure

130 lb

Tested by hydraulic pressure to

260 lb per sq. in.

Date of test

1/3/06

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

29 #

No. and Description of safety valves to

each boiler

2 Spring

Area of each valve

3.9"

Pressure to which they are adjusted

135 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Widest inside

dia. of boilers

9.6"

Length

9.0"

Thickness

2 1/32"

Range of tensile strength

28/32"

Are they welded or flanged

No

Descrip. of riveting: cir. seams

DR Lap

long. seams

Steel

Diameter of rivet holes in long. seams

7/8"

Pitch of rivets

4 7/8"

Lap of plates

width of butt straps

9 1/2"

Per centages of strength of longitudinal joint

rivets 88.6

plate 81.0

Working pressure of shell by rules

132 lb

Size of manhole in shell

16" x 12"

Size of compensating ring

6" x 2 1/32"

No. and Description of Furnaces in each boiler

No. plain

Material

Steel

Outside diameter

36"

Length of plain part

top 6.9"

Thickness of plates

crown 9 1/16"

Description of longitudinal joint

Welded

No. of strengthening rings

one L

Working pressure of furnace by the rules

130

Combustion chamber plates: Material

Steel

Thickness: Sides

7/32"

Back

7/32"

Top

7/32"

Bottom

7/32"

Pitch of stays to ditto: Sides

8 x 7 1/2"

Back

8 x 7 1/2"

Top

8 x 7"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

144

Material of stays

Steel

Diameter at smallest part

1.5" 0"

Area supported by each stay

6.2" 0"

Working pressure by rules

134

End plates in steam space:

Material

Steel

Thickness

25/32"

Pitch of stays

1 1/2" x 1 1/2"

How are stays secured

Nuts

Working pressure by rules

130 lb

Diameter at smallest part

2.66"

Area supported by each stay

17.5" 0"

Working pressure by rules

132

Material of Front plates at bottom

Steel

Thickness

25/32"

Material of Lower back plate

Steel

Thickness

25/32"

Greatest pitch of stays

13"

Working pressure of plate by rules

182 lb

Diameter of tubes

3"

Pitch of tubes

4"

Material of tube plates

Steel

Thickness: Front

25/32"

Back

19/32"

Mean pitch of stays

10"

Pitch across wide water spaces

13"

Working pressures by rules

130 lb

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

6 1/4" x 1"

Working pressure by rules

145 lb

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

Material of flue plates

Thickness

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

—

If not, state whether, and when, one will be sent?

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W1550-0228

DONKEY BOILER— No. None Description None
 Made at By whom made Date of test Where fixed
 Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
 No. of safety valves Area of each Pressure to which they are adjusted 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 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
 Thickness of furnace crown plates Stayed by Working pressure of shell by rules
 Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

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

The foregoing is a correct description,

Manufacturer.

Fisher, No

Dates of Survey while building { During progress of work in shops - - } 1905. May 9. 23 Aug 25. 28. 29 Sep 2. 9. 22. 29 Oct 2. 9. 14. 19. 23. 31 Nov 1. 9. 15
 { During erection on board vessel - - } Dec 9. 14. 21. 29 1906. Jan 9. 19. 20. 30 Feb 5. 12. 15. 16. 19. 26 Mar 1. 19. 20 Apr 4
 Total No. of visits 36 Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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

The engines & boiler of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible to have notation **L M C 4.06** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD **L M C 4.06**

msl.

1.5.06

2.5.06

The amount of Entry Fee. £ 1 : : When applied for, 30 APR 1906
 Special £ 8 : :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When received, 31/5/06

H. Gardner Smith & George H. Murdoch
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Glasgow 7 APR 1906

Assigned

+ L M C 4.06

MACHINERY CERTIFICATE
 WRITTEN 1.5.06



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