

REPORT ON MACHINERY.

No. 21109.

Port of *Glasgow*Received at London Office *TUES. 1 SEP 1903*No. in Survey held at
Reg. Book.Date, first Survey *14 Feb'y*Last Survey *21st Augt 1901*(Number of Visits *21*)

on the

Master

Built at

Glasgow

By whom built

*J. W. Henderson & Co. Ltd.*Gross
Tons

Net

When built *1903*

Engines made at

Glasgow

By whom made

*J. W. Henderson & Co. Ltd.*when made *1903*

Boilers made at

Glasgow

By whom made

*J. W. Henderson & Co. Ltd.*when made *1903*

Registered Horse Power

99 1/2

Owners

Andrew Coats Esq.

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

99.52

Is Refrigerating Machinery fitted

No.

Is Electric Light fitted

*Yes*ENGINES, &c.—Description of Engines *Yarn Triple screw*

No. of Cylinders

Six

No. of Cranks

*Six*Dia. of Cylinders *10" - 16" - 26 1/2"*Length of Stroke *18"*Revs. per minute *190*

Dia. of Screw shaft

as per rule 5 7/8"

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*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 *24 1/4"*

Dia. of Tunnel shaft

as per rule 5 3/8"

Dia. of Crank shaft journals

as per rule 5 3/8"

Dia. of Crank pin

5 7/8"

Size of Crank webs

4 1/2" x 4"

Dia. of thrust shaft under

collars *5 5/8"*

Dia. of screw

6 3/4"

Pitch of screw

8' 0"

No. of blades

4

State whether moveable

No

Total surface

15 sq ft

No. of Feed pumps

One to each engine

Diameter of ditto

2 1/2"

Stroke

*10"*Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps

One to each engine

Diameter of ditto

2 1/2"

Stroke

*10"*Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines

3

Sizes of Pumps

*General 4 x 4 x 8 duplex**Feed 4 x 4 x 1 1/2 single**Sanitary 4 x 4 x 6 single*

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

In Engine Room *Three 2"**In Holds, &c.**2 forward 2, one aft 2"*

No. of bilge injections

One size 2 3/4"

Connected to condensers, or to circulating pump

*Yes*Is a separate donkey suction fitted in Engine room & size *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

all in

Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

engine room

Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

Forward bilge pipes, waste water

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

Yes

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

*Yes*worked from *Top platform of engine room*

OILERS, &c.—

(Letter for record *(S)*)

Total Heating Surface of Boilers

1553 sq. ft.

Is forced draft fitted

No. and Description of Boilers

One single ended cylindrical

Working Pressure

200 lb.

Tested by hydraulic pressure to

Date of test *21-4-03*

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

42 sq. ft.

No. and Description of safety valves to

each boiler *2 spring loaded*

Area of each valve

4.06

Pressure to which they are adjusted

205 lb.

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

Mean dia. of boilers

13' 0"

Length

10' 6"

Material of shell plates

Thickness *1 3/16"*

Range of tensile strength

29/32 ton

Are they welded or flanged

No.

Descrip. of riveting: cir. seams

*double, lap long. seams**Triple, butt*

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/8"

Lap of plates or width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

91.60

Working pressure of shell by rules

201 lb.

Size of compensating ring

2' 10" x 30" x 1 1/2"

No. and Description of Furnaces in each boiler

2 Mansons

Material

Steel

Outside diameter

50 1/2"

Length of plain part

*top 2' 10"**bottom 2' 10"*

Thickness of plates

5/8"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

200 lb.

Combustion chamber plates: Material

Steel

Thickness: Sides

4/16"

Back

3/32"

Top

5/8"

Pitch of stays to ditto: Sides

8 1/2" x 8"

Back

8 1/2" x 8"

Top

8 1/2" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

206 lb.

Material of stays

steel

Diameter at smallest part

1 1/2"

Area supported by each stay

59 sq. in.

Working pressure by rules

248 lb.

End plates in steam space:

Material

Steel

Thickness

1 1/8"

Pitch of stays

14" x 14"

How are stays secured

double nuts

Working pressure by rules

207 lb.

Diameter at smallest part

2' 8"

Area supported by each stay

289 sq. in.

Working pressure by rules

219 lb.

Material of Front plates at bottom

Steel

Thickness

1 1/8"

Material of Lower back plate

Steel

Thickness

1/8"

Greatest pitch of stays

13 1/2"

Working pressure of plate by rules

219 lb.

Diameter of tubes

3 1/4"

Pitch of tubes

8" x 1 1/2"

Material of tube plates

steel

Thickness: Front

1 1/4"

Back

3/4"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

200 lb.

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

16" x 3"

Length as per rule

Working pressure by rules

207 lb.

Superheater or Steam chest; how connected to boiler

—

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

—

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

*—**—**—**—**—**—**—**—**—</*

DONKEY BOILER— No. Description *Blake's Patent Boiler*
 Made at *Middlesbrough* By whom made *Richardson, Westgarth & Co.* When made *1903* Where fixed *stokehold*
 Working pressure *100 lb.* Tested by hydraulic pressure to *300 lb.* No. of Certificate *2987* Fire grate area *✓* Description of safety valves *spring loaded*
 No. of safety valves *one* Area of each *4.9* Pressure to which they are adjusted *102 lb.* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *4.9* Length *10'-0"* Material of shell plates *Steel* Thickness *13/32* Range of tensile strength *27/32* Descrip. of riveting long. seams *DR lap.* Dia. of rivet holes *13/16* Whether punched or drilled *drilled* Pitch of rivets *2 3/4*
 Lap of plating *4 1/4* Per centage of strength of joint *Rivets 79.2* Thickness of shell crown plates *5/8* Radius of do. *4'-0"* No. of Stays to do. *✓*
 Dia. of stays. *✓* Diameter of furnace Top *2'-3"* Bottom *3'-7"* Length of furnace *3'-0 1/2* Thickness of furnace plates *7/16* Description of joint *Lap S.R.* Thickness of furnace crown plates *7/16* Stayed by *Lap 7/16 dished, 2.9 rad.* Working pressure of shell by rules *101.9*
 Working pressure of furnace by rules *100 lb.* Diameter of uptake *2 1/2* Thickness of uptake plates *B. 2 3/32* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *8 top & bottom end bolts, 2 main bearing bolts, 1 set coupling bolts nuts for one coupling Set of valves for all the pumps (Meed, Bilge and Air) Assortment of Bolts, nuts, springs & other gear etc.*

The foregoing is a correct description,
a. J. Henderson Manufacturer.

Dates of Survey while building
 During progress of work in shops— *1903 Feb 4, Mar 13, 20, 24, 26, Apr 9, 24, 28, May 6, 8, 27, June 4, 11, 16*
 During erection on board vessel— *20, 22, July 2, August 6, 10, 18, 24,*
 Total No. of *21,* Is the approved plan of main boiler forwarded herewith *✓*
 " " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery and boilers have been built under Spec Survey, the materials and workmanship are of good description. On completion the main boiler was tested by hydraulic press: & double the working pressure & was found tight and sound in every respect. The engines were tried under steam & were found to work satisfactorily. In my opinion they are eligible for record LMC 8-03 in the Yacht Register.

It is submitted that
 this vessel is eligible for
 THE RECORD + LMC 8. 03. FD. ELEC. LIGHT.

J.M. *Ch.*
3.9.03

(Label)

No. *6*

W1011-0246 2/2

The amount of Entry Fee. £ : :
 Special £ *15* : :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *21.8.1903*
 When received, *4.9.03*

Jos: M.
 Engineer Surveyor to Lloyd's

Committee's Minute *Glasgow 31 AUG 1903*

Assigned *+ L.M.C. 8, 03* *b. B. C.*
When fee is paid

MINISTRY CERTIFICATE
 WRITTEN 5.9.03



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 Lloyd's Register
 Foundation

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

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It is submitted that
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 THE RECORD + LMC 8. 03. FD. ELEC. LIGHT.

The amount of Entry Fee.. £ : : When applied for,
 Special .. £ 15 : : *21.8.1903*
 Donkey Boiler Fee .. £ : : When received,
 Travelling Expenses (if any) £ : : *4.9.1903*

Committee's Minute

Glasgow 31 AUG 1903

Assigned

+ L.M.C. 8, 03
When fee is paid

L.B.C.

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



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MACHINERY CERTIFICATE
 WRITTEN 5.9.03