

REPORT ON MACHINERY.

No. 24326

Port of Glasgow

Received at London Office TUES, 21 AUG 1906

No. in Survey held at Reg. Book.

Date, first Survey 9th Feb 05 Last Survey Aug 10th 1906

(Number of Visits)

1790 on the

Glasgow S S "Juvenic"

Master

Built at Port Glasgow By whom built Russell & Co

Engines made at

Glasgow

By whom made

David Rowan & Co (1842) when made 1906

Boilers made at

do

By whom made

do

when made 1906

Registered Horse Power

Owners A Weir & Co

Port belonging to Glasgow

Nom. Horse Power as per Section 28

589

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

28 $\frac{1}{2}$ - 47 - 78

Length of Stroke

54

Revs. per minute

60

Dia. of Screw shaft

as per rule 16.1

Material of

Iron

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

8-9

Dia. of Tunnel shaft

as per rule 14.4

Dia. of Crank shaft journals

as per rule 15.13

Dia. of Crank pin

15.4

Size of Crank webs

10

Dia. of thrust shaft under

collars

15.4

Dia. of screw

19-6

Pitch of Screw

19-0

No. of Blades

4

State whether moveable

Yes

Total surface

124

No. of Feed pumps

2

Diameter of ditto

4

Stroke

31

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

5

Stroke

31

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

8x5x8, 9x13x10.5x3.5x6

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

In Engine Room

3-3.5

In Holds, &c. 2-3.5 each hold

No. of Bilge Injections

1

sizes

7

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

For suction

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

Dates of examination of completion of fitting of Sea Connections

8

of Stern Tube

8

Screw shaft and Propeller

exam at

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Top gratings

BOILERS, &c.—(Letter for record (S))

Manufacturers of Steel

Glyde Bridge

Steel Co. Ltd.

Total Heating Surface of Boilers

8400

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three Single Ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

24/5/06

No. of Certificate

8181

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63.2

No. and Description of Safety Valves to

each boiler

2 Spring

Area of each valve

9.6

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

all 2.6

Mean dia. of boilers

15.6

Length

12.0

Thickness

1.4

Range of tensile strength

28.2-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D. R. L.

long. seams

D. B. S.

Diameter of rivet holes in long. seams

1.76

Pitch of rivets

9

Lap of plates or width of butt straps

19.5

Per centages of strength of longitudinal joint

83.4

Working pressure of shell by rules

183 lb

Size of manhole in shell

16x12

Size of compensating ring

2.7x2.3

No. and Description of Furnaces in each boiler

3 Dighton

Material Steel Outside diameter

4.2.8

Length of plain part

top 1

Thickness of plates

crown 1.9

Description of longitudinal joint

mild

No. of strengthening rings

Working pressure of furnace by the rules

147

Combustion chamber plates: Material

steel

Thickness: Sides

2.1/32

Pitch of stays to ditto: Sides

8.3/8

Back

8.5/8

Top

8.3/8

If stays are fitted with nuts or riveted heads

nuts

Material of stays

steel

Diameter at smallest part

2.07

Area supported by each stay

81

Working pressure by rules

304

Material

steel

Thickness

1.7/32

Pitch of stays

1.9/8x16.3/4

How are stays secured

D. nuts

Diameter at smallest part

6.41

Area supported by each stay

320

Working pressure by rules

200

Material of Front plates at bottom

steel

Thickness

3.1/32

Material of Lower back plate

steel

Thickness

2.7/32

Greatest pitch of stays

1.4

Diameter of tubes

2.5

Pitch of tubes

3.7/8

Material of tube plates

steel

Thickness: Front

3.1/32

Pitch across wide water spaces

1.3.5

Working pressures by rules

185 lb

Girders to Chamber tops: Material

steel

thickness of girder at centre

9.1/2x1.78x2

Length as per rule

35

Distance apart

9.1/4

Working pressure by rules

206 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

How stayed

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W1108-0092

VERTICAL DONKEY BOILER—

Manufacturers of Steel

Inal tubular. See Rpt 5.

No.	Description	By whom made	When made	Where fixed
Made at	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
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
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:— Propeller Shaft, 2 propeller blades, set circulating pump valves, set of air pump valves, pr. crank pin bushes, set of piston valve rings, 20 condenser tubes, etc, & the bolts, nuts, etc required by the rules.

The foregoing is a correct description,

David Lowan Manufacturer.

Dates of Survey while building: During progress of work in shops— 1905. Feb. 9. 15. Mar. 1. 2. 7. 11. 21. Apr. 4. 6. 16. 24. May 5. 17. 19. Jun. 12. 16. 29. July 1. 14. 22. Oct. 4. 19. Nov. 4. 20. Dec. 16. 21. 28. 1906. Jan. 10. 11. 16. Feb. 6. 9. 23. 28. Mar. 5. 6. 9. 12. 17. 21. 22. May 10. 24. 31. Aug. 4. 5. 11. 16. 10. 17. 24. 31. Total No. of visits 51.

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

Dates of Examination of principal parts—Cylinders 17.5.06 Slides 10.5.06 Covers 10.5.06 Pistons 10.5.06 Rods 22.3.06 Connecting rods 22.3.06 Crank shaft 23.2.06 Thrust shaft 6.3.06 Tunnel shafts 28.2.06 Screw shaft 30.11.06 Propeller 17.5.06 Stern tube 17.5.06 Steam pipes tested 4.5.7.06 Engine and boiler seatings 11.7.06 Engines holding down bolts 11.7.06 Completion of pumping arrangements 1.8.06 Boilers fixed 6.8.06 Engines tried under steam 10.8.06 Main boiler safety valves adjusted 6.8.06 Thickness of adjusting washers St. Bl. 5 7/8 P 3/2 Cu. Bl. 5 7/8 P 3/2 Pt. Bl. 5 7/8 Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. Material of Steam Pipes Copper Test pressure 360 lbs

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

The engines & boilers 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 our opinion eligible for notation *L M C 8.06* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L M C 8.06 F.D. The light

The amount of Entry Fee... £ 3 : : When applied for, Special... £ 49.9 : : 20 AUG 1906 Donkey Boiler Fee... £ : : When received, Travelling Expenses (if any) £ : : 27/8/06

Committee's Minute

Glasgow 20 AUG 1906

Assigned *L M C 8.06*

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

MACHINERY CERTIFICATE WRITTEN 21/8/06

Lloyd's Register Foundation