

REPORT ON MACHINERY.

No. 6605.

MUK. 6 MAY 1909

Received at London Office

19

No. in Survey held at
Reg. Book.
on the

Port of

Date, first Survey 25 Aug 1908 Last Survey 29 Aug 1909

(Number of Visits 65)

Gross 3213

Net 1611

When built 1909

when made 1909

when made

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Master

Built at

By whom built

Engines made at

By whom made

Boilers made at

By whom made

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders 24 1/2 - 35 - 50 - 73 Length of Stroke 54

Revs. per minute 87

Dia. of Screw shaft

as per rule 14 1/2 Material of screw shaft

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

Is the after end of the liner made water tight

in the propeller boss

If the liner is in more than one length are the joints burned

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

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

Length of stern bush

Dia. of Tunnel shaft

as per rule

Dia. of Crank shaft journals

as per rule

Dia. of Crank pin

Size of Crank web

Size of thrust shaft under

collars

Dia. of screw

Pitch of Screw

No. of Blades

State whether moveable

Total surface

76 sq ft.

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

SIZES OF PUMPS

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

In Engine Room

4 - 3" & 2 - 2 1/2"

2 - 3" & 10 1/2" x 8" x 20"

7 - 1/2" & 4" x 4" x 10"

Holds, &c. 5 - 3"

No. of Bilge Injections

1 sizes 9 1/2"

Connected to condenser, or to circulating pump

Are the sluices on Engine room bulkheads always accessible

Are the Discharge Pipes above or below the deep water line

Are the Blow Off Cocks fitted with a spigot and brass covering plate

How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Dates of examination of completion of fitting of Sea Connections

19 - 3 - 04

of Stern Tube

14 - 3 - 04

Screw shaft and Propeller

14 - 3 - 09

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

Upper deck.

BOILERS, &c.—(Letter for record

A(S))

Manufacturers of Steel

B. Calverley & Sons

Total Heating Surface of Boilers

9690 sq ft

Is Forced Draft fitted

No. and Description of Boilers

3 - Single End Cylindrical

Working Pressure

215 lbs

Tested by hydraulic pressure to

430 lbs

Date of test

12 - 2 - 09

No. of Certificate

417

Can each boiler be worked separately

Area of fire grate in each boiler

75.3 sq ft

No. and Description of Safety Valves to

each boiler

Two - Horizontal

Pressure to which they are adjusted

220 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

16" - 2"

Length

11' - 9"

Material of shell plates

Steel

Thickens

Range of tensile strength

29 - 33 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap & Butts

long. seams

Butt & Lap

Diameter of rivet holes in long. seams

Pitch of rivets

10"

Lap of plates or width of butt straps

24"

Per centages of strength of longitudinal joint

rivets 102.0

plate 82.5

Working pressure of shell by rules

251 lbs

Size of manhole in shell

16" x 12"

No. of strengthening rings

270

Size of compensating ring

No. and Description of Furnaces in each boiler

4 - Mansions

Material

Steel

Outside diameter

45 1/2"

No. of strengthening rings

270

Length of plain part

top 10"

Thickness of plates

crown 3 1/2"

Description of longitudinal joint

Meld

No. of strengthening rings

270

Working pressure of furnace by the rules

Pitch of stays to ditto: Sides

8" x 8"

Back

8" x 7 1/2"

Top

9 1/2" x 7"

If stays are fitted with nuts or riveted heads

No

Working pressure by rules

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

64 sq in

Working pressure by rules

247 lbs

Material of stays

Material

Steel

Thickness

1 1/2"

Pitch of stays

8 1/2" x 15 1/2"

How are stays secured

Nuts

Working pressure by rules

Diameter at smallest part

2 1/2"

Area supported by each stay

291 3/4 sq in

Working pressure by rules

252 lbs

Material of Front plates at bottom

Steel

Thickness

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

12 3/4"

Working pressure of plate by rules

234 lbs

Diameter of tubes

Pitch of tubes

3 1/2" x 3 1/2"

Material of tube plates

Steel

Thickness: Front

7/8"

Back

3/4"

Mean pitch of stays

Pitch across wide water spaces

13 3/4"

Working pressures by rules

349 lbs

Distance apart

9 1/2"

Number and pitch of stays in each

3 - 7"

thickness of girder at centre

Working pressure by rules

219 lbs

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 of end plates

Area of safety valves to superheater

Are they fitted with easing gear

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

W1529-0088

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
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:—

Raw pellen & haft complete, 2 bronze blades; 2 sets crank pin bushes; 2 sets cross head masses; 2 sets piston rings for each cylinder; circulating pump impeller & spindle; air pump rod & bush; air pump head valve, 2 truss. valves etc; 50 condenser tubes; 15 boiler tubes; 2 spare. The foregoing is a correct description, plan for auxiliaries, & all plan to Lloyd's Rules for Harland & Wolff Ltd

Manufacturer.

Dates of Survey while building	During progress of work in shops—	1908, Aug 25, Sep 21, 23, Oct 5, 7, 15, 21, 27, 30 Nov. 4, 11, 13, 18, 20, 23, 25
	During erection on board vessel—	27 Dec. 1, 4, 8, 11, 16, 18, 22, Jan 5, 11, 15, 19, 22, 25, 29 up to 29 April 1909.
	Total No. of visits	65

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

Dates of Examination of principal parts—Cylinders	25-11-08	Covers	10	Pistons	Rods
Connecting rods	23-3-09	Crank shaft	4-10-08	Tunnel shafts	24-12-08
Stern tube	17-2-09	Steam pipes tested	14-4-09	Engines and boiler seatings	6-4-09
Completion of pumping arrangements	17/4/09	Boilers fixed	1-4-09	Engines tried under steam	21-4-09
Main boiler safety valves adjusted	21-4-09	Thickness of adjusting washers	11-13/32		
Material of Crank shaft	Steel	Identification Mark on Do.	LLOYDS	Material of Thrust shaft	Steel
Material of Tunnel shafts	Steel	Identification Marks on Do.	Do	Material of Screw shafts	Steel
Material of Steam Pipes	Steel	Test pressure	645 lbs		

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

The machinery of this vessel has been constructed under Special Survey, and is of good material and workmanship throughout, on trials under steam, the engines and boilers worked satisfactorily in every respect. In my opinion it is eligible for record + L.M.C. 4.09 with notation "Forced Draft" and "Electric Light".

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 4.09

ARR

F.D.

Elec. Light.

7.5.09

Handwritten signature and date

Handwritten signature of R. J. Bevenish
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register Foundation

VERY CERTIFICATE WRITTEN.