

REPORT ON MACHINERY.

No. 24044.
JULY 6 APR 1909

SAT. 1 MAY 1909

Date of writing Report

When handed in at Local Office

Received at London Office

No. in Survey held at
Reg. Book.

60 supplied the

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

Inverted triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute

Dia. of Screw shaft

as per rule

Material of

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

No. 2 liners

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

no

Length of stern bush

4' 3"

Dia. of Tunnel shaft

as per rule

Dia. of Crank shaft journals

as per rule

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

Pitch of Screw

No. of Blades

State whether moveable

Total surface

77 ft²

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

SIZES OF PUMPS

6" x 7" x 9", 5 1/2" x 3 1/2" x 5 7/8"

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

In Engine Room

3 of 3"

In Holds, &c.

For hold 2 @ 3 1/2"; aft hold 3 @ 3 1/2"

Funnel with one @ 3 1/2"

No. of Bilge Injections

sizes

4"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Yes

3 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

Yes

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

nil

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

Dates of examination of completion of fitting of Sea Connections

16.2.09

of Stern Tube

22.3.09

Screw shaft and Propeller

22.3.09

Is the Screw Shaft Tunnel watertight

See hull Report

Is it fitted with a watertight door

Yes

worked from

top platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons

Total Heating Surface of Boilers

3248 ft²

Is Forced Draft fitted

no

No. and Description of Boilers

2 S.E. Aylrd built

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

8.3.09

No. of Certificate

2752

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

40 ft²

No. and Description of Safety Valves to

each boiler

2 spring

Area of each valve

5.94 ft²

Pressure to which they are adjusted

165 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

14"

Mean dia. of boilers

13' 7"

Length

10' 0"

Material of shell plates

steel

Thickness

Range of tensile strength

28 3/4 / 32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

d.v. lap

long. seams

E.v.d. & S.

Diameter of rivet holes in long. seams

1 3/32"

Pitch of rivets

7 7/8"

Lap of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets

89.1

Working pressure of shell by rules

166 lbs

Size of manhole in shell

16 x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

38 3/4"

Length of plain part

top

Thickness of plates

crown

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

162.4 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

1 1/2"

Top

3/4"

Bottom

Pitch of stays to ditto: Sides

13 x 8 1/2"

Back

9 1/4 x 9 1/4"

Top

13 x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

5-161

5-170

Material of stays

steel

Diameter at smallest part

5 1/2"

Area supported by each stay

85.56

Working pressure by rules

160 lbs

Material of stays

steel

End plates in steam space:

Material

steel

Thickness

1 1/4"

Pitch of stays

24 1/2 x 18"

How are stays secured

nut & washer

Working pressure by rules

160 lbs

Material of stays

Diameter at smallest part

7 1/4"

Area supported by each stay

441

Working pressure by rules

170 lbs

Material of Front plates at bottom

steel

Thickness

3/4"

Material of Lower back plate

Thickness

3/4"

Greatest pitch of stays

14 1/4 x 9 1/4"

Working pressure of plate by rules

162.4 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 3/4"

Material of tube plates

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

11 7/8 x 9"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

164.9 lbs

Girders to Chamber tops: Material

Thickness of girder at centre

8 1/4 x 2"

Length as per rule

30 1/2"

Distance apart

13"

Number and pitch of stays in each

2 - 8 1/2"

Working pressure by rules

165 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 by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed	Date
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety	
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	Rivets Plates	
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:— 2 Top end, 2 bottom and, 2 main bearing and 1 set of coupling bolts, 1 set of feed and bilge pump Valves, 1 Propeller, bolts & nuts assorted and iron of sizes

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

Dates	During progress of work in shops—	1908: Dec 9, 21, 31	1908: Jan 6, 9, 13, 15, 18, 19, 21, 25, 26, 27, 29	Feb. 2, 3, 5, 8, 9, 10, 15, 18, 19, 22, 23, 24, 26	Mar 1, 2, 4, 5, 8, 11, 15, 17
of Survey while building	During erection on board vessel —	22, 25, 28, 29	(Mdb.) 1909 Feb. 16, 22	Apr. 2, 8, 16	
	Total No. of visits	44	(Mdb.) 5		

Dates of Examination of principal parts—	Cylinders	19-2-09	Slides	23-2-09	Covers	15-2-09	Pistons	15-2-09	Rods	24-2-09	
Connecting rods	15-2-09	Crank shaft	18-2-09	Thrust shaft	8-3-09	Tunnel shafts	11-3-09	Screw shaft	19-2-09	Propeller	19-2-09
Stern tube	18-2-09	Steam pipes tested	22-3-09	Engine and boiler seatings	16-2-09	Engines holding down bolts	22-3-09				
Completion of pumping arrangements	25-3-09	Boilers fixed	22-3-09	Engines tried under steam	25-3-09						
Main boiler safety valves adjusted	25-3-09	Thickness of adjusting washers	P.F. $\frac{1}{4}$, P.A. $\frac{3}{32}$, S.F. $\frac{1}{4}$, S.A. $\frac{1}{4}$								
Material of Crank shaft	Steel	Identification Mark on Do.	547B	Material of Thrust shaft	steel	Identification Mark on Do.	KH. 42				
Material of Tunnel shafts	Iron	Identification Marks on Do.	554B	Material of Screw shafts	Iron	Identification Marks on Do.	549A				
Material of Steam Pipes	Copper	Test pressure	1400 lbs								

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam and worked satisfactorily

A report on the Electric Light will be forwarded in due course

It is submitted that this vessel is eligible for THE RECORD + LMC. 4. 09.

Elec. light.

We beg to recommend that this vessel is eligible in our opinion to have the record **RLMC. 4. 09** in the Register Book

The amount of Entry Fee	£ 2 : 0 : 0	When applied for,	3. 4. 1909
Special	£ 30. 19. 0		
Donkey Boiler Fee	£ :	When received,	14/4/09
Travelling Expenses (if any)	£ :		14. 4. 09

Committee's Minute

Assigned

TUES. 4 MAY 1909

+ Lmc 4. 09

MACHINERY CERTIFICATE WRITTEN.

Law Coomber & Wm Morris
Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.



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