

REPORT ON MACHINERY.

No. 6316

MON. 10 JUN 1907

Port of *Belfast*

Received at London Office

19

No. in Survey held at *Belfast*Date, first Survey *6 June 1906* Last Survey *24 May 1907*

Reg. Book.

(Number of Visits *43*)

on the

*S.S. Fulani*Master *R. Mintz*

Built at

Belfast

By whom built

*Harland & Wolff*Gross *2730*Net *2326*When built *1907*

Engines made at

Belfast

By whom made

Harland & Wolff

when made

1907

Boilers made at

"

By whom made

"

when made

"

Registered Horse Power

Owners

Edgar Dempster & Co

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

528

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

26"-44"-74"

Length of Stroke

48

Revs. per minute

76

Dia. of Screw shaft

as per rule 14.98

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

63"

Dia. of Tunnel shaft

as per rule 13.7

Dia. of Crank shaft journals

as per rule 14.38

Dia. of Crank pin

15"

Size of Crank webs

21x108"

of thrust shaft under

collars

4 1/2"

Dia. of screw

17-8"

Pitch of Screw

18-0"

No. of Blades

4

State whether moveable

Yes

Total surface

84 1/2 sq ft.

No. of Feed pumps

2

Diameter of ditto

4 1/2"

Stroke

28"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

28"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

Sizes of Pumps

1 Double West 8x10 1/2 x 18" 1 West 7 1/2 x 5 x 12" 1 1/2" 1 1/2" 1 1/2"

Suctions connected to both Bilge and Donkey pumps

In Engine Room

*3-3 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"**1 1/2" 1 1/2" 1 1/2"*

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

Pump

Is a separate Donkey Suction fitted in Engine room

Yes

size

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

Below

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

Low hold suction

How are they protected

Wood casings

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

22-1-07

of Stern Tube

22-1-07

Screw shaft and Propeller

22-1-07

Is the Screw Shaft Tunnel watertight

Stated to be

Is it fitted with a watertight door

Yes

worked from

*Upper Deck*BOILERS, &c.—(Letter for record *S*)

Manufacturers of Steel

H. Colville & Sons

Total Heating Surface of Boilers

7395

Is Forced Draft fitted

Yes

No. and Description of Boilers

3-Single End Cyl.

Working Pressure

205 lbs

Tested by hydraulic pressure to

440 lbs

Date of test

26-4-07

No. of Certificate

395

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

55 1/2 sq ft

No. and Description of Safety Valves to

*each boiler**2-Union Springs*

Area of each valve

8.29 sq in

Pressure to which they are adjusted

205 lbs

Smallest distance between boilers or between boiler and bunkers

14-5"

Mean dia. of boilers

14-5"

Length

11-9"

Material of shell plates

Steel

Thickness

1/4"

Range of tensile strength

29-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seam

Top & Bottom

long. seams

Butt

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

22 1/2"

Per centages of strength of longitudinal joint

94.4

Working pressure of shell by rules

205 lbs

Size of manhole in shell

16" x 12"

Material

Steel

Outside diameter

48 1/2"

Size of compensating ring

Mr. Neils

No. and Description of Furnaces in each boiler

3-Brown

Material

Steel

No. of strengthening rings

Yes

Length of plain part

9"

Thickness of plates

3 1/2"

Description of longitudinal joint

Weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

211 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/32"

Back

3/32"

Top

3/32"

Bottom

3/32"

Pitch of stays to ditto: Sides

7 1/2" x 7 1/2"

Back

7 1/2" x 7 1/2"

Top

7 1/2" x 7 1/2"

Bottom

7 1/2" x 7 1/2"

Are stays fitted with nuts or riveted heads

Nuts

Working pressure by rules

209 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

57 1/2"

Working pressure by rule

232 lbs

plates in steam space:

Steel

Material of stays

Steel

Material

Steel

Thickness

1/8"

Pitch of stays

18 1/2" x 15 1/2"

How are stays secured

Nuts & Washers

Working pressure by rules

238 lbs

Material of Front plates at bottom

Steel

Diameter at smallest part

28 1/2" x 28 1/2"

supported by each stay

286 1/2" x 286 1/2"

Working pressure by rule

225 lbs

Material of Front plates at bottom

Steel

Thickness

1/8"

Greatest pitch of stays

12 1/2"

Thickness

1/8"

Material of Lower back plate

Steel

Thickness

1/8"

Mean pitch of stays

7 1/2" x 7 1/2"

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2" x 3 1/2"

Pitch across wide water spaces

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	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 Propeller blades; H. P. & L. P. slide valve spindles. Pair crank pin bushes; impeller for Circ. pump; air pump rod & bucket; 20 Condenser tubes; escape valve springs. Half set fire bar set: all per to Lloyd's Rules extra.*

The foregoing is a correct description,

Manufacturer.

Earland & Wolff & Co.

Dates of Survey while building	During progress of work in shops - -	<i>1906. June 6. Nov. 19. 22. 24. Dec. 5. 11. 14. 19. 1907. Jan. 4. 9. 10. 25.</i>
	During erection on board vessel - -	<i>Feb. 7. 1. 4. 9. 12. 14 up till May 27</i>
	Total No. of visits	<i>43</i>

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

Dates of Examination of principal parts—Cylinders	<i>17-12-06</i>	Slides	<i>12-06</i>	overs	<i>12-06</i>	donkey	<i>12-06</i>	Rods	<i>12-06</i>
Connecting rods	<i>4-4-06</i>	Crank shaft	<i>4-12-07</i>	Thrust shaft	<i>4-12-07</i>	Tunnel shafts	<i>4-12-07</i>	Screw shaft	<i>6-3-07</i>
Stern tube	<i>4-12-06</i>	Steam pipes tested	<i>21-5-07</i>	Engine and boiler seatings	<i>15-5-07</i>	Engines holding down bolts	<i>21-5-07</i>	Engines tried under steam	<i>23-3-07</i>
Completion of pumping arrangements	<i>15-5-07</i>	Boilers fixed	<i>21-5-07</i>	Engines tried under steam	<i>23-3-07</i>	Engines tried under steam	<i>23-3-07</i>	Engines tried under steam	<i>23-3-07</i>
Main boiler safety valves adjusted	<i>23-5-07</i>	Thickness of adjusting washers	<i>10-12-07</i>	Thickness of adjusting washers	<i>10-12-07</i>	Thickness of adjusting washers	<i>10-12-07</i>	Thickness of adjusting washers	<i>10-12-07</i>
Material of Crank shaft	<i>Steel</i>	Identification Mark on Do.	<i>LLOYDS</i>	Material of Thrust shaft	<i>do</i>	Identification Mark on Do.	<i>do</i>	Material of Thrust shaft	<i>do</i>
Material of Tunnel shafts	<i>do</i>	Identification Marks on Do.	<i>do</i>	Material of Screw shafts	<i>do</i>	Identification Marks on Do.	<i>do</i>	Material of Screw shafts	<i>do</i>
Material of Steam Pipes	<i>Solid Drawn Steel</i>	Test pressure	<i>650 lbs</i>	Test pressure	<i>650 lbs</i>	Test pressure	<i>650 lbs</i>	Test pressure	<i>650 lbs</i>

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

The machinery of this vessel has been constructed under Special License, and in accordance with the Rules. The materials and the workmanship are of good description, throughout, and on trial under steam, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 5-07 with notation "Forced Draft & Electric Light"

This vessel's machinery is a duplicate of that fitted in the sister vessels "Hauri" & "Sierra Leone"

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

L.M.C. 5.07

Electric Light

P. D.

10/6/07

The amount of Entry Fee	£ <i>3</i> : - : -	When applied for	<i>5-6-07</i>
Special	£ <i>46</i> : 8 : -	When received	<i>25/6/07</i>
Donkey Boiler Fee	£ : : -		
Travelling Expenses (if any)	£ : : -		

R. J. O. Pennington
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. 11 JUN 1907*

Assigned

+ L.M.C. 5.07

MACHINERY CERTIFICATE WRITTEN.