

REPORT ON MACHINERY.

No. 6428.

Port of

Belfast

Received at London Office

10 FEB 1910

No. in Survey held at

Reg. Book.

on the

S.S. Professor

Date, first Survey 23rd June 1904 Last Survey 2nd Feb^r 1910

(Number of Visits 39)

Gross 3400

Master

Built at

By whom built

Warriman Clark & Co. Ltd. 1910

Engines made at

By whom made

Warriman Clark & Co. Ltd. 1910

Boilers made at

By whom made

Warriman Clark & Co. Ltd. 1910

Registered Horse Power

Owners

Shannon Steamship Co. Ltd. Port belonging to Liverpool

Nom. Horse Power as per Section 28

301

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

20-34-58

Length of Stroke

48

Revs. per minute

70

Dia. of Screw shaft

as per rule 12.9

Material of

J. 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

4'-6"

Dia. of Tunnel shaft

as per rule 11.5

Dia. of Crank shaft journals

as per rule 12.1

Dia. of Crank pin

12.5

Size of Crank

23 1/2 x 8 1/2

Dia. of thrust shaft under

collars

12 1/2

Dia. of screw

16'-0"

Pitch of Screw

16'-6"

No. of Blades

4

State whether moveable

Yes

No. of Feed pumps

2

Diameter of ditto

3 3/4

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

Sizes of Pumps

2 Gens 8 x 6 x 21

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

In Engine Room

5'-3 1/2"

In Holds, &c.

7'-3 1/2" & 1'-2 1/2"

No. of Bilge Injections

1

sizes

4

Connected to condenser, or to circulating pump

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 in Engine room bulkheads always accessible

None

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

Both

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

Fuel tank 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

24-11-04

of Stern Tube

24-11-04

Screw shaft and Propeller

26-11-04

Is the Screw Shaft Tunnel watertight

Stabs Ols

it fitted with a watertight door

Yes

worked from Top platform E. Room

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Barrington & Co. Ltd.

Total Heating Surface of Boilers

5082 sq ft

Forced Draft fitted

No

No. and Description of Boilers

3 Single End Cylind^r

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

2-12-04

No. of Certificate

426

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

47 1/2 sq ft

No. and Description of Safety Valves to

each boiler

Two - Worcester & Sons

Pressure to which they are adjusted

200 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

Aunt 21

Mean dia. of boilers

14-8

Length

10-4

Material of shell plates

Steel

Thickness

1 1/2

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L. D. & S.

long. seams

Butt Joints

Diameter of rivet holes in long. seams

1 1/2

Pitch of rivets

9 1/2

Lap of plates or width of butt straps

20 1/2

Per centages of strength of longitudinal joint

rivets 88.1

plate 84.9

Working pressure of shell by rules

233 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

M. Nails

No. and Description of Furnaces in each boiler

3 - Mansard

Material

Steel

Outside diameter

42 1/2"

Length of plain part

top 5

Thickness of plates

crown 3 1/2

Description of longitudinal joint

Steel

No. of strengthening rings

Yes

Working pressure of furnace by the rules

223 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

2 1/2

Back

34-41

Top

25

Pitch of stays to ditto: Sides

8 1/2 x 7 1/2

Back

8 1/2 x 8

Top

8 1/2 x 7 1/2

Are stays fitted with nuts or riveted heads

Nuts in side

Working pressure by rules

204 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2

Area supported by each stay

68 sq in

Working pressure by rules

231 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/2

Pitch of stays

14 x 14

How are stays secured

Nuts in side

Working pressure by rules

210 lbs

Diameter at smallest part

2 1/2

Area supported by each stay

274 sq in

Working pressure by rules

235 lbs

Material of Front plates at bottom

Steel

Thickness

1

Material of Lower back plate

Steel

Thickness

1

Greatest pitch of stays

16

Working pressure of plate by rules

215 lbs

Diameter of tubes

3 1/2

Pitch of tubes

4 1/2 x 4 1/2

Material of tube plates

Steel

Thickness: Front

1 1/2

Back

1 1/2

Pitch across wide water spaces

14 1/2

Working pressures by rules

381 with 1 1/2

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

7 1/2 x (3/4 x 2)

Length as per rule

Working pressure by rules

221 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

holes

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Lloyd's Register

Foundation

W590-0175

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:— / One piston shaft and boss. Pair Top and bottom end do, air pump rod, head valve seat and set valves, Centrifugal pump impeller & spindle, set H.P. pump packing rings, eccentric pulley & strap, and all plan to Lloyd's Rules Extra.

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED
M. H. Bell Manufacturer.

Dates of Survey while building { During progress of work in shops - 1909: June 23, July 5, Sep: 3, 8, 13, 14, 22, OCT: 12, 15, 20, 22, Nov 2, 10, 15, 16, 19, 19, 22, 23, 24, 26, 30 up to 8th Feb 1910
During erection on board vessel -
Total No. of visits 39

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

Dates of Examination of principal parts—Cylinders 3 - 8 - 1909 Covers Piston Rods
Connecting rods 12 - 04 Crank shaft 2 - Thrust shaft Tunnel shafts 5 Screw shaft 13 - 12 - 09 Propeller 22 - 11 - 09
Stern tube 22 - 11 - 09 Steam pipes tested 12 - 1 - 10 Engine and boiler seatings 10 - 1 - 10 Engines holding down bolts 10 - 1 - 10
Completion of pumping arrangements 31 - 1 - 10 Boilers fixed 19 - 1 - 10 Engines tried under steam 2 - 2 - 10
Main boiler safety valves adjusted 2 - 2 - 10 Thickness of adjusting washers 5-6 / 16
Material of Crank shaft *A. Steel* Identification Mark on Do. *LLYDS 13-12-09* Material of Thrust shaft *Do* Identification Mark on Do. *LLYDS 13-12-09*
Material of Tunnel shafts *Do* Identification Marks on Do. *LLYDS 13-12-09* Material of Screw shafts *Do* Identification Marks on Do. *Do*
Material of Steam Pipes *W. Swan* Test pressure *600 lbs per sq. in.*

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

The machinery of this vessel has been examined under Special Survey, and in accordance with the Rules. The materials and workmanship are of good description, and an trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 2-10 with notation "Restricted Light"

It is submitted that this vessel is eligible for THE RECORD, + LMC 2. 10.

H.D.
10-2-10

APR 8

The amount of Entry Fee.. £ 3 : 0 : When applied for, 9-2-10
Special .. £ 35 : 1 : - :
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : : 12-2-10

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

Committee's Minute

FRI. 11 FEB 1910

Assigned

+ LMC 2. 10

MACHINERY CERTIFICATE WRITER.



Lloyd's Register Foundation

Certificate (if required) to be sent to this office

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