

REPORT ON MACHINERY.

No. 5941

Port of

Belfast

Received at London Office

10 AUG 1905

No. in Survey held at
g. Book.

Date, first Survey Nov. 22nd. 1904 Last Survey Aug. 3rd. 1905

(Number of Visits 51)

on the

S.S. Mahronda

Gross 7630
Net 4921

aster

Built at

Belfast

By whom built

Harland & Wolff L.

When built 1905

Engines made at

Belfast

By whom made

Harland & Wolff L.

when made 1905

Milers made at

By whom made

when made

Registered Horse Power

owners J. J. Brockbank

Port belonging to Liverpool

Horse Power as per Section 28 658

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

GINES, &c.—Description of Engines

Quadruple Expansion

No. of Cylinders 4

No. of Cranks 4

Dia. of Cylinders

26 1/2 - 39 1/2 - 56 - 78 1/2

Length of Stroke

54

Revs. per minute

71

Dia. of Screw shaft

as per rule 15.83
as fitted 16.0

Material of screw shaft S. Steel

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

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

If two

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

Yes

Length of stern bush 64"

Dia. of Tunnel shaft

as per rule 14.57
as fitted 15.0

Dia. of Crank shaft journals

as per rule 15.29
as fitted 15.75

Dia. of Crank pin

16

Size of Crank webs 2 1/2 x 1 1/4

Collars 15 1/4

Dia. of screw

18 - 6

Pitch of screw

20 - 0

No. of blades 4

State whether moveable Yes

Total surface 95 1/2 sq. ft.

No. of Feed pumps 1

and Meters do.

Diameter of ditto

5 1/2

Stroke

20

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto

5

Stroke

30

Can one be overhauled while the other is at work Yes

No. of Donkey Engines

See other sheet

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

In Engine Room

5 - 3 1/2" x 2 - 2 1/2"

In Holds, &c. 9 - 3 1/2" x 6 - 2 1/2"

No. of bilge injections 1

sizes 9 1/2"

Connected to condenser, or to circulating pump Pump

Is a separate donkey suction fitted in Engine room & size Yes 4"

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 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

Fore 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launch

Is it fitted with a watertight door Yes

worked from Upper platform Engine Room

BOILERS, &c.—

(Letter for record)

Total Heating Surface of Boilers

11604 sq. ft.

No. and Description of Boilers

2 S. S. 2 S. S.

Working Pressure

215 lbs

Tested by hydraulic pressure to 430 lbs

Date of test

31-5-05

Can each boiler be worked separately Yes

Area of fire grate in each boiler

111 sq. ft.

No. and Description of safety valves to

each boiler

2 - Direct Spring

Area of each valve

9.62 sq. ft.

Pressure to which they are adjusted

220 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

about 40"

Mean dia. of boilers

14 - 0

Length 16 - 9

Thickness 1 1/2"

Range of tensile strength

29 - 32

Are they welded or flanged No

Descrip. of riveting: cir. seams

Long. seams

Both Double

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

10"

Top of plates or width of butt straps

22 1/4"

Per centages of strength of longitudinal joint

rivets 93.7
plate 84.6

Working pressure of shell by rules

249 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

N. S. Nails

No. and Description of Furnaces in each boiler

3

Material

Steel

Outside diameter 44 1/4"

Length of plain part

top 8 - 6
bottom 8 - 6

Thickness of plates

crown 3 1/2
bottom 3 1/2

Description of longitudinal joint

Weld

No. of strengthening rings 2

Working pressure of furnace by the rules

241 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

Back 1 1/2"

Pitch of stays to ditto: Sides

7 1/2 x 7"

Back

Top 7 1/2 x 7 1/2"

If stays are fitted with nuts or riveted heads

Nuts in shell

Working pressure by rules 217 lbs

Material of stays

Steel

Diameter at smallest part

5 1/2"

Area supported by each stay

54 sq. in.

Working pressure by rules 218 lbs

Material

Steel

Thickness

1 1/2"

Pitch of stays

16 1/2 x 14 1/2"

How are stays secured Nuts & washers

Diameter at smallest part

2 1/2 x 2 1/2"

Area supported by each stay

240 sq. in.

Working pressure by rules

241 lbs

Material of Front plates at bottom Steel

Thickness

15 - 8"

Material of Lower back plate

Steel

Thickness

15"

Greatest pitch of stays 12 1/2"

Diameter of tubes

2 1/2"

Pitch of tubes

4 x 4"

Material of tube plate

Steel

Thickness: Front 1 1/2"

Pitch across wide water spaces

14"

Working pressures by rules

337 lbs

Chamber tops: Material

Iron

Depth and

thickness of girder at centre

8 x (8 x 3)

Length as per rule

49 1/2"

Distance apart

7 1/2"

Number and pitch of Stays in each 3"

Working pressure by rules

235 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

holes

Pitch of rivets

Working pressure of shell by rules

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

Yes

Yes

Yes

Yes

Working pressure of end plates

Area of safety valves to superheater

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Working pressure of end plates

Area of safety valves to superheater

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Yes

Yes

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Yes

DONKEY BOILER— No. Description
Made at By whom made When made Where fixed
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
No. of safety valves Area of each Pressure to which they are adjusted 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 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 Thickness of furnace crown plates Stayed by Working pressure of shell by rules
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:—

See other sheet

The foregoing is a correct description,

for Harland & Wolff Manufacturer.

Dates of Survey while building
During progress of work in shops— 1904 Nov. 22, 30, Dec. 2, 6, 9, 13, 15, 19, 21 1905 Jan. 3, 6, 10, 13, 14, 23, 25 Feb. 4, 3, 8, 10, 13, 20, 22, 24 Mar. 2, 7, 14, 14, 23, 31
During erection on board vessel— 1904 Apr. 11, 18, 19, May 4, 9, 12, 26, 31, June 2, 5, 5, 15, 19, 22, 24, July 14, 4 August 1, 3
Total No. of visits 51

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials used, and the workmanship, are of good description, and on trial in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 8-05.

It is submitted that
this vessel is eligible for
THE RECORD H.L.M.C. 8.05 ELEC. LIGHT.

Impd.
10.8.05.

10.8.05

The amount of Entry Fee. £ 3- 0-0
Special £ 5-2 18-0
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 8-8-05
When received, 15-8-05

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

Committee's Minute

Assigned

MACHINERY CERTIFICATE
WRITTEN



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Lloyd's Register
Foundation

Belfast

Continuation of Report No. 59441 dated 9/8/05 on the

B. Mahonda

Pump

Weirs $12\frac{1}{2} \times 9\frac{1}{2} \times 26$ Feed
 Woodseans $4 \times 5 \times 12$ Auxiliary Feed, S.
 Watsons $12 \times 10 \times 14$ Ballast
 Lay's Muffs $9 \times 6 \times 10$ General
 Evaporator Pump, set?
 Spare Gear

1 Main Bronze Propeller Blade

Pain Crank Pin Brasses.

" Cross head

Air Pump bucket & rod complete

Set piston rings H. P. & I. P.

H. P. valve spindle & neck bush

L. P.

Impeller & spindle for Main Cent. Exh. Pump.

Eccentric Strap complete.

4 Cylinder escape valve & springs

50 Condenser tubes

Set studs & nuts for Cylinder flange.

Exh pump escape valve & spring

Set piston rings for Reversing Engine.

Spare gear for Auxiliary pumps.

Boiler tubes set? and all gear to Lloyd's

Rules additional.

A. M. Bennett