

ure to
Boiler
fitted

t. 5a.

REPORT ON BOILERS.

No. 7824

of writing Report 5th July 1917 When handed in at Local Office

Port of Belfast

Received at London Office JUL 1917

Survey held at Belfast

Date, First Survey 29th Feb 1916 Last Survey 4th July 1917

Book.

(Number of Visits 121)

on the

S.S.S. Mahana

Gross 11796

Greene

Built at

Belfast

By whom built

Markman Clark & Co Ltd 1917

Lines made at Newcastle

By whom made

Parsons Marine Steam Turbine Co Ltd 1916-17

Engines made at Belfast

By whom made

Markman Clark & Co Ltd 1917

Registered Horse Power

Owners

Shaw Savill & Albion Co Ltd

Belonging to Southampton

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel Bessemer & Co Ltd

for record

Total Heating Surface of Boilers 5398.2 sq ft

forced draft fitted

Yes

2 Single End Glin

Working Pressure 180 lbs

tested by hydraulic pressure to 360 lbs

of Certificate 496

Can each boiler be worked separately

Yes

Area of fire grate in each boiler 66.2 sq ft

valves to each boiler

2 Direct Spring

Area of each valve 11.04 sq ft

Pressure to which they are adjusted 180 lbs

they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Least distance between boilers or uptakes and bunkers

wooden about 8 ft

Mean dia. of boilers 15'-4 1/2"

Length 11'-9"

Material of shell plates

Steel

Thickness 1 25/64

Range of tensile strength 28-32 tons

Are the shell plates welded or flanged No

rip. of riveting: cir. seams

L. Dr Treble

seams

White Treble

Diameter of rivet holes in long. seams 1 3/32

Pitch of rivets 9 1/8"

width of butt straps 20 1/2"

Per centages of strength of longitudinal joint

ribs 85.7

Size of manhole in shell

16" x 12"

Size of compensating ring

McNeill

No. and Description of Furnaces in each

4 Monsoon

Material Steel

Outside diameter 42 1/2"

Length of plain part

top 9'

bottom 9'

Thickness of plates crown 3 1/2"

Description of longitudinal joint

Weld

No. of strengthening rings

5

Working pressure of furnace by the rules

193 lbs

Combustion chamber

Material Steel

Thickness: Sides 5"

Back 5"

Top 5"

Bottom 1 3/8"

Pitch of stays to ditto: Sides

8 3/8" x 7 1/2" x 8"

Back 9 1/8" x 7 3/4"

Working pressure by rules 185 lbs

Area supported by each stay

72 1/2"

Working pressure by rules

254 lbs

Material of stays

Steel

Diameter at

plates in steam space: Material Steel

Thickness 1 1/4"

Diameter at smallest part 3 1/2"

of stays

21 1/2" x 1 1/2"

are stays secured

Nuts & Washers

Working pressure by rules

183 lbs

Material of stays

Steel

Diameter at

smallest part 3 1/2"

supported by each stay

408 sq ft

Working pressure by rules

216 lbs

Material of Front plates at bottom

Steel

Thickness 1"

Material of

back plate

Steel

Thickness 1"

Thickness 5"

Greatest pitch of stays

15 1/2"

Working pressure of plate by rules

188 lbs

Diameter of tubes

2 1/2"

Material of tube plate

Steel

Thickness: Front 1 5/16"

of tubes 3 1/2" x 3 5/8"

Material of tube plate

Steel

Thickness: Front 1 5/16"

Back 1 1/8"

Mean pitch of stays

1 1/4" x 7 1/4"

Pitch across wide

spaces 13 1/2"

Working pressures by rules

184 lbs

at centre 8 5/8" (3/4" x 2)

Length as per rule

31 9/16"

Distance apart

8 1/2"

Number and pitch of Stays in each

3-7 1/2"

Superheater or Steam chest: how connected to boiler

Iron tubes

the superheater be shut off and the boiler worked

are been

separately

Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

offered with rings

Distance between rings

Working pressure by rules

180 lbs

End plates: Thickness

How stayed

Area of safety valves to superheater

7.07 sq ft

Are they fitted with easing gear

Yes

The foregoing is a correct description,

FOR WORKMAN, CLARK & CO., LIMITED,

Manufacturer.

During progress of

work in shops - -

See other sheet

Is the approved plan of boiler forwarded herewith

Yes

Total No. of visits

During erection on

board vessel - -

GENERAL REMARKS

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

See other sheet

Survey Fee

£

When applied for, 191

Travelling Expenses (if any) £

When received, 191

Committee's Minute

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

R. F. Pennington

FRI 13 JUL 1917

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Lloyd's Register

igned

Foundation

W1633-0196 1/2

917

Belfast

I. V. Mahana

Pumps

2 Weirs General Service

4" x 9 1/2" x 21"

1 Aux^y Air

15" x 7 1/2" x 10"

1 - Centrif. Circulating

6"

1 Main -

15"

2 Bilge

9" x 7 1/2" x 18"

1 Ballast

10" x 12" x 12"

2 Weirs Forced Lubricating

8 1/2" x 5 1/2" x 15"

1 F Water

5" x 5" x 8"

2 Weirs Main Feed

10" x 13 1/2" x 26"

1 Hotwell

8" x 8" x 15"

2 Weirs Dual Air

20" x 11" x 15"

Spare Gear

1 Propeller shaft

1 - Bow & 2 blades & 27 studs & nuts

12 Coupling bolts & nuts

1 Turbine Spindle & Pinion

1 Complete Turbine & Pinion bearing of each size

1 Bottom half bush for H. P. Rotor Spindles

1 - - - - L. P. - - -

1 - - - - Pinion shaft end bearings

2 - - - - Gear wheel shaft

1 Top - - - - Pinion shaft end bearings

8 Pads for Turbine adjusting block

1/40 Set of Turbine blades, Dummy & Binding strips, stops etc

12 Holding down bolts & nuts

2 Turbine bolts of each size fitted

100 Main Condenser tubes & 500 ferrules

50 Boiler tubes, dead plates & freedom fittings etc

1 Complete Set Main feed pump valves & springs

1 - - Bilge

1 - - Lubricating oil pump - -

2 Air pump rods & 1 Bucket complete

1 - - head valve seat -

1 Circulating pump Impeller & spindle

1 Set boiler feed Check valves.

4 Safety valve springs

Bolts, nuts, washers etc.

R. M. Beveridge

1917