

REPORT ON MACHINERY.

No. 38162.

Received at London Office SEP. 18. 1918

of writing Report

19

When handed in at Local Office

19

Port of Glasgow

in Survey held at

Glasgow

Date, First Survey

Last Survey September 6. 1918

Book.

on the

S.S. "Macharda"

(Number of Visits)

ster

Built at Port Glasgow

By whom built

Russell & Co

(700)

Tons } Gross
Net

When built 1918

ines made at

Glasgow

By whom made

D. Rowan & Co Ltd

683

when made

1918

ilers made at

Glasgow

By whom made

D. Rowan & Co Ltd

(683)

when made

1918

gistered Horse Power

Owners

Port belonging to

n. Horse Power as per Section 28

888.889

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

a. of Cylinders 28" 40" 57" 82"

Length of Stroke 57"

Revs. per minute 70

Dia. of Screw shaft

as per rule 16.6

Material of

screw shaft

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

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

Yes

If two

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

Length of stern bush 5'-10"

a. of Tunnel shaft

as per rule 15.35

Dia. of Crank shaft journals

as per rule 16.12

Dia. of Crank pin 17"

Size of Crank webs 11"

Dia. of thrust shaft under

lars 17"

Dia. of screw 19-6"

Pitch of Screw 18-0

No. of Blades 4

State whether moveable

Yes

Total surface 128 ft

o. of Feed pumps 2

Diameter of ditto 19 1/4"

Stroke 30"

Can one be overhauled while the other is at work

Yes

o. of Bilge pumps 2

Diameter of ditto 6"

Stroke 12"

Can one be overhauled while the other is at work

Yes

o. of Donkey Engines 4

Sizes of Pumps

9 1/2 x 7 x 24, 10 x 9 x 21

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

Engine Room (4) 3 1/2" Tunnel Well (1) 3 1/2" x (1) 2"

In Holds, &c. Nos. 1, 2, 3, 4, 5, 6. two in each 3 1/2"

o. of Bilge Injections 1

sizes 12"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

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

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

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

That pipes are carried through the bunkers

ford suction

How are they protected

in timbers

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Dates of examination of completion of fitting of Sea Connections

See Summary

of Stern Tube

D

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from top platform

MILERS, &c.—(Letter for record

S)

Manufacturers of Steel

William Beardmore & Co Limited

11436 # + 2775 # = 14211 # TOTAL HEATING SURFACE

3 DB, & 1 SEAUX B.

Total Heating Surface of Boilers

11436 #

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Double ended

Working Pressure 220

Tested by hydraulic pressure to

440

Date of test

16-3-14

No. of Certificate

12604. Part

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

99 ft

No. and Description of Safety Valves to

each boiler 3 Spring Loaded

Area of each valve

11.04

Pressure to which they are adjusted

225-

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

about 2'-0"

Mean dia. of boilers

13'-3"

Length 21'-6"

Material of shell plates

Thickness 3/32 to 1/2"

Range of tensile strength

28 to 32

Are the shell plates welded or flanged

220

Descrip. of riveting: cir. seams

Top 87 1/2

my. seams

Butt

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets 89.7

plate 80.0-

Working pressure of shell by rules

220

Size of manhole in shell

Size of compensating ring

30 1/2 x 34 1/2 x 1 1/4"

No. and Description of Furnaces in each boiler

6 Doughton

Material

Steel

Outside diameter 40 1/8"

Length of plain part

top

Thickness of plates

crown 3/16

Description of longitudinal joint

Welded

No. of strengthening rings

Working pressure of furnace by the rules

220

Combustion chamber plates: Material

Steel

Thickness: Sides

25/32

Back

3/4"

Top

25/32

Bottom

Pitch of stays to ditto: Sides

10 x 8 3/4"

Back

10 x 8 3/4"

Top

10 x 9 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

Steel

Diameter at smallest part

2.39

Area supported by each stay

90 sq"

Working pressure by rules

225-

End plates in steam space

Material

Steel

Thickness

1 1/4"

Pitch of stays

17 1/2 x 17 1/4"

How are stays secured

2 nuts

Working pressure by rules

Diameter at smallest part

7-06

Area supported by each stay

337 sq"

Working pressure by rules

221

Material of Front plates at bottom

Steel

Thickness

3/16"

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

L

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4 x 3 3/4"

Material of tube plates

3/51

Thickness: Front

15/16

Back

25/32

Mean pitch of stays

Pitch across wide water spaces

13"

Working pressures by rules

225-

Girders to Chamber tops: Material

Steel

Thickness of girder at centre

8 3/8 x 7 1/8"

Length as per rule

31"

Distance apart

9 1/2"

Number and pitch of stays in each

Working pressure by rules

220

Superheater or Steam chest; how connected to boiler

220

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

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

Yes

Lloyd's Register

Foundation

W 600-0151

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. Description *None* See attached Rm for Auxiliary Boiler.
 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 Sq
 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
 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 Radius of do. 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 bolts & nuts 2 bottom end bolts & nuts 2 main bearing bolts & nuts 1 set of coupling bolts & nuts fuel & budge pump & iron bolts & nuts assorted, also 2 propeller blades. etc.

The foregoing is a correct description,

David Rowan *[Signature]* Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 10/3, Jan 10, Mar 12, 13, Apr 3, 10, 17, 19, 24, 28, May 7, 23, Jun 2, 30, July 2, 29, Aug 1, 5, Sept 11, 17, 23, Oct 1, 4, 8, 20, Nov 3, Dec 8, 10, 29, 1914
 During erection on board vessel -- 2/5, 9, 14, 19, 20, 23, Dec 5, 6, 1918, Jan 25, 4/6, 5, 13, 15, May 14, 22, 27, Apr 10, 16, May 23, 4, 14, 16, 24, 31, June 4, 5, 6, 11, 12, 1917
 Total No. of visits 114
 Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 12/2/14 Slides 5/2/18 Covers 12/2/14 Pistons 5/2/18 Rods 5/2/18
 Connecting rods 5/2/18 Crank shaft 9/10/17 Thrust shaft 9/10/17 Tunnel shafts 27/5/18 Screw shaft 14/5/18 Propeller 16/5/18
 Stern tube 6/5/18 Steam pipes tested 24/7/18, 24/5/18 Engine and boiler seatings *examined* Engines holding down bolts 6-8-18
 Completion of pumping arrangements 15-8-18 Boilers fixed 8-9-18 Engines tried under steam 6-9-18
 Main boiler safety valves adjusted 29/5/18 Thickness of adjusting washers *see list*
 Material of Crank shaft *Steel* Identification Mark on Do. *653 29/10/17* Material of Thrust shaft *Steel* Identification Mark on Do. *5672 29/10/17*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *12707 27/5/18* Material of Screw shafts *Steel* Identification Marks on Do. *718 27/5/18*
 Material of Steam Pipes *Lap welded iron* Test pressure 660 lbs.

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

These engines and boilers have been built under special survey the materials & workmanship are of good description they have been well fitted on board & tried under steam. In our opinion this machinery is now eligible to have certification of + L.M.C 9.18 in the Register Book. & Carrying oil fuel F.P. about 150°F in double bottom & deep tank.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 9.18

20-9-18 J.P.B.

The amount of Entry Fee .. £ 3 : : When applied for, 16-9-1918
 Special .. £ 64 : : When received, 24-9-1918
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 17 SEP 1918

Committee's Minute GLASGOW.

Assigned + L.M.C 9.18
 MACHINERY CERTIFICATE
 WRITTEN 18-9-18

A.M. McLeod + Wm. H. Copman
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



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