

Rpt. 4.

# REPORT ON MACHINERY

No. 81340

Received at London Office

4<sup>th</sup> Dec 18

Date of writing Report

4/12/18

1918

When handed in at Local Office

4/12/18

Port of

London

August 12<sup>th</sup> 1918

No. in Survey held at

Colchester & Dover for

Date, First Survey 1917 Feb 10<sup>th</sup>

Last Survey

July 16<sup>th</sup> 1918

Reg. Book.

on the S. S. William Gray

(Number of Visits 21)

Gross

Tons

Net

Master

Built at

Union Is

By whom built

Penry Farwell Shipbuilding & Engineering Co. Ltd

When built

1918

Engines made at

Colchester

By whom made

A. S. Mumford Ltd (N<sup>o</sup> 1234)

when made

1918

Boilers made at

Lincoln

By whom made

Puoston, Proctor & Co. Ltd

when made

1918

Registered Horse Power

Owners

Admiralty

Port belonging to

✓

Nom. Horse Power as per Section 28

75

Is Refrigerating Machinery fitted for cargo purposes

✓

Is Electric Light fitted

✓

## ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12"-20"-34"

Length of Stroke

23

Revs. per minute

110

Dia. of Screw shaft

as per rule

6.84

as fitted

7.5

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

✓

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

✓

Length of stern bush

2'-6"

Dia. of Tunnel shaft

as per rule

6.11

as fitted

6.5

Dia. of Crank shaft journals

as per rule

6.42

as fitted

6.75

Dia. of Crank pin

6.75

Size of Crank webs

12 1/2" x 2 3/4"

Dia. of thrust shaft under

collars

6.75

Dia. of screw

8'-4"

Pitch of Screw

11'-6"

No. of Blades

4

State whether moveable

No

Total surface

29 sq

No. of Feed pumps

one

Diameter of ditto

2 5/8"

Stroke

12"

Can one be overhauled while the other is at work

✓

No. of Bilge pumps

one

Diameter of ditto

2 5/8"

Stroke

12"

Can one be overhauled while the other is at work

✓

No. of Donkey Engines

one

Sizes of Pumps

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

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

In Engine Room Two 3' dia to bilge + ditto to donkey pp. In galley Holds, &c.

One 2"

No. of Bilge Injections

one

sizes

3"

Connected to condenser, or to circulating pump

✓

Is a separate Donkey Suction fitted in Engine room & size

Yes 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

✓

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

Above

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

Hold suction, steam, hot water, &c.

How are they protected

Strong wood casing

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

Is the Screw Shaft Tunnel watertight

✓

Is it fitted with a watertight door

✓

worked from

✓

## BOILERS, &c.—(Letter for record

Manufacturers of Steel

Total Heating Surface of Boilers

1347

Is Forced Draft fitted

✓

No. and Description of Boilers

One single Ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

5-4-18

No. of Certificate

200

Can each boiler be worked separately

✓

Area of fire grate in each boiler

39.5 sq

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

5.93

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

plate

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

✓

✓

✓

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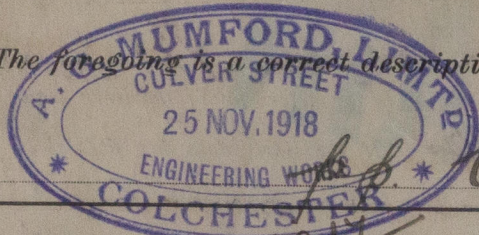


# IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Connecting rod top End bolts & nuts, 2 connecting rod bottom bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts & nuts, 1 feed pump suction & discharge 1 helge pp suction & discharge valve, 1 set of valves for air pp, 1 set of springs for each set of piston & slide, metallic packing, 1 set of valves for air pp, 1 valve for main feed check, 1 spring for boiler safety valve, 6 gauge glasses, a quantity of iron assorted, a quantity of bolts & nuts assorted, 1 complete set of jacks including iron bars.

The foregoing is a correct description,



*H. Blanchy*

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1911 Feb 10 May 15 June 20 July 18 Aug 30 1918 Jan 12. 16. 24. 31 Feb 1919 Apr 19 May 4. 22 June 3. 14. 20 July 16. Aug 12  
During erection on board vessel --  
Total No. of visits 21

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 15.5.17 Slides 30.8.17 Covers 15.5.17 Pistons 24.1.18 Rods 30.6.17  
Connecting rods 24.1.18 Crank shaft Thrust shaft 16.1.17 Tunnel shafts 16.1.17 Screw shaft 15.5.17 Propeller 15.5.17  
Stern tube 20.6.17 Steam pipes tested 25.7.18 Engine and boiler seatings 15.5.18 Engines holding down bolts 17.7.18  
Completion of pumping arrangements 12.8.18 Boilers fixed 15.5.18 Engines tried under steam 12.8.18  
Completion of fitting sea connections 2.4.18 Stern tube 2.4.18 Screw shaft and propeller 2.4.18  
Main boiler safety valves adjusted 12.8.18 Thickness of adjusting washers 5 1/4" P. 32

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. 848  
Material of Tunnel shafts Steel Identification Marks on Do. 849 & 850 Material of Screw shafts Steel Identification Marks on Do. 844 & 845  
Material of Steam Pipes Copper Test pressure 360 lb.

Is an installation fitted for burning oil fuel? Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with?

Is this machinery duplicate of a previous case? If so, state name of vessel "William Tell" John Sauman & Co.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery has been built under Special Survey, and in accordance with the Specification and the Society's Rules, the material and workmanship are sound and good, the Engines & Boiler examined whilst being installed in the vessel, tried under working conditions & found satisfactory, & the safety valves adjusted to 185 lb. It is now eligible in my opinion for the Record of + L.M.C. 8.18 in the Reg. Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.18.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ : : When applied for, 9/17 1918  
Special Donkey Boiler Fee ... £ 12.5.0  
Travelling Expenses (if any) £ 6.2.6  
When received, 12.5.0 pd. 16.12.18 J.S.W.  
2.2.6 pd. 9.4.19 J.S.W.

*A. E. Farmer*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 DEC. 1918

Assigned + L.M.C. 8.18



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