

## REPORT ON MACHINERY.

No. 6524.

Port of

LUES. 27 OCT 1908

Received at London Office

Survey held at  
Book.  
on theDate, first Survey 2<sup>nd</sup> February Last Survey 19<sup>th</sup> October 1908

(Number of Vials 95)

er

Built at

By whom built

Tons

Gross 9957

Net 6388

When built

1908

nes made at

By whom made

when made

ers made at

By whom made

when made

istered Horse Power

Owners Shaw Savill & Albion L<sup>d</sup>

Port belonging to Southampton

Horse Power as per Section 28 1080

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

GINES, &amp;c.—Description of Engines

Type Simple Expansion

No. of Cylinders 6

No. of Cylinders 25-4 1/2-70

Length of Stroke 48

Revs. per minute 78

Dia. of Screw shaft

as per rule 14 3/4

Material of screw shaft

the screw shaft fitted with a continuous liner the whole length of the stern tube

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

If two

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

Length of stern bush 5'-2"

Dia. of Tunnel shaft

as per rule 13 3/4

Dia. of Crank shaft journals

as per rule 13 3/4

Dia. of Crank pin 15

Size of Crank web 27 1/2

Dia. of thrust shaft under

llars 15

Dia. of screw 16 1/2

Pitch of Screw 19 1/2

No. of Blades 3

State whether moveable

Total surface 72 1/2 sq ft.

No. of Feed pumps 1

Diameter of ditto 4

Stroke 27

Can one be overhauled while the other is at work

No. of Bilge pumps 1

Diameter of ditto 5 1/2

Stroke 27

Can one be overhauled while the other is at work

No. of Donkey Engines 6

Sizes of Pumps

General 10 x 12 1/2

Duplex 10 x 12 1/2

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

In Holds, &amp;c. 9-3 1/2 x 2-2 1/2

n Engine Room 4-3 1/2

No. of Bilge Injections 2

sizes 9

Connected to condenser, or to circulating pump

Pumps separate Donkey Suction fitted in Engine room &amp; size

Les-3 1/2

Are all the bilge suction pipes fitted with roses

Les

Are the roses in Engine room always accessible

Les

Are the sluices on Engine room bulkheads always accessible

None

Are all connections with the sea direct on the skin of the ship

Les

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Les

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

Les

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Les

What pipes are carried through the bunkers

Two hold suction

How are they protected

Wood casing

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

Les

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

Les

Dates of examination of completion of fitting of Sea Connections

25/6/04

of Stern Tube

28/7/04

Screw shaft and Propeller

25/8/04

Is the Screw Shaft Tunnel watertight

Stated to be

Is it fitted with a watertight door

Les

worked from

Engine Room

to platform

top

platform

BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

H. R. R. & Co. & Co. L<sup>d</sup>

Chapman

Total Heating Surface of Boilers

6308 sq ft

Draft fitted

Les

No. and Description of Boilers

6 Single End Cylind

No. of Certificate

444

Working Pressure

205 lbs

Tested by hydraulic pressure to

410 lbs

Date of test

28-8-08

No. of Certificate

444

Can each boiler be worked separately

Les

Area of fire grate in each boiler

668 sq ft

No. and Description of Safety Valves to

each boiler

Two Rocket Flues

Area of each valve

11-0 1/2 sq in

Pressure to which they are adjusted

Smallest distance between boilers or uptakes and bunkers or woodwork

14 in

Mean dia. of boiler

15-4 1/2

Length

11'-10"

Material of shell plates

Steel

Thickness

1 1/8 in

Range of tensile strength

26-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap Rivet

long. seams

Butt Rivet

Diameter of rivet holes in long. seams

1 1/8 in

Pitch of rivets

10 in

Lap of plates or width of butt straps

22 1/2 in

Per centages of strength of longitudinal joint

rivets 94.7

plate 83.7

Working pressure of shell by rules

239 lbs

Size of manhole in shell

16 x 12 in

Size of compensating ring

M. Reils

No. and Description of Furnaces in each boiler

4 Main

Material

Steel

Outside diameter

42 1/2 in

Length of plain part

top 4

Thickness of plates

bottom 10

Description of longitudinal joint

Weld

No. of strengthening rings

4

Working pressure of furnace by the rules

232 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

4 1/2 in

Back

3 1/2 x 3 1/2

Top

4 1/2

Pitch of stays to ditto: Sides

8 1/2 x 8

Back

8 1/2 x 8

stays are fitted with nuts or riveted heads

Nuts in sides

Working pressure by rules

206 lbs

Material of stay

Steel

Diameter at smallest part

1 1/2 in

Area supported by each stay

69 3/4 sq in

Working pressure by rules

206 lbs

End plates in steam space:

Material

Steel

Material

Steel

Thickness

1 1/2 in

Pitch of stays

19 1/2 x 16

How are stays secured

Nuts &amp; washers

Working pressure by rules

205 lbs

Material of stays

Diameter at smallest part

2 1/2 x 3 3/8

supported by each stay

3 1/2 x 2 1/2

Working pressure by rules

222 lbs

Material of Front plates at bottom

Steel

Thickness

1 1/2 in

Material of Lower back plate

Steel

Thickness

3 1/2

Greatest pitch of stays

13 1/2 in

Working pressure of plate by rules

206 lbs

Diameter of tubes

2 1/2 in

Pitch of tubes

3 3/4 x 3 3/8

Material of tube plate

Steel

Thickness: Front

1 in

Back

1 1/2 in

Mean pitch of stays

Pitch across wide water spaces

13 1/2 in

Working pressures by rules

212 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 1/2 x (3 x 2)

Length as per rule

Working pressure by rules

213 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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

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

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 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 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 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 shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings



# 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  
 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:— 1/2 Crank & shaft, 1 thrust & shaft, 1 propeller shaft, 1 piston rod, valve & spindle, 1 vent valve & pulley & strap, 1 H.P. piston, 1 set of packing rings for H.P. 1. P. & L.P. pistons, 1 H.P. piston valve, 1 I.P. piston valve, 1 pair crank pin bushes, 1 pair cross head bushes, 1 air pump bucket, 1 set of bearings, 1 pair pump & valve pump & plunger etc. all sent to Lloyd's Rules authorities.  
 The foregoing is a correct description,  
 FOR WORKMAN, CLARK & CO., LIMITED Manufacturer.

Dates of Survey while building  
 During progress of work in shops— 1908. Feb. 2. 6. 28 Mar. 9. 13. 20. 25. Apr. 1. 6. 9. 13. 16. 24. 29. May 5. 6. 8. 13  
 During erection on board vessel— 18. 20. 22. 27. 29. June 2. 9. 11. 12. 15. 17. 19. 23 up to October 19<sup>th</sup> 1908.  
 Total No. of visits 95  
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts— Cylinders 5-5-08 Slides 5-5-08 To covers 5-5-08 Pistons 28-8-08  
 Connecting rods Crank shaft 26-3-08 Thrust shaft 26-3-08 Tunnel shaft 26-3-08 Screw shaft 26-3-08 Propeller 24-7-08  
 Stern tube 24-7-08 Steam pipes tested 17-9-08 Engine and boiler seatings 16-9-08 Engines holding down bolts 16-9-08  
 Completion of pumping arrangements 17-10-08 Boilers fixed 18-9-08 Engines tried under steam 17-8-08  
 Main boiler safety valves adjusted 8-8-08 Thickness of adjusting washers 10-13/32  
 Material of Crank shaft I. Steel Identification Mark on Do. 14-8-08 Material of Thrust shaft I. Steel Identification Mark on Do. 14-8-08  
 Material of Tunnel shafts I. Steel Identification Marks on Do. 14-8-08 Material of Screw shafts I. Steel Identification Marks on Do. 14-8-08  
 Material of Steam Pipes W. Iron & Copper Test pressure 320 & 420 lbs per sq. in.

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 workman- ship, and the materials used are of good description, and on trial under steam in perfect order, the machinery worked satisfactorily.  
 In my opinion, it is eligible for record of Survey + L.M.C. 10-08.  
 with notation Force & Draft Electric Light & Refrigerating Machinery

It is submitted that  
 this vessel is eligible for  
 THE RECORD + L.M.C. 10.08.

Elec. light. Ref. Mch. F.D.

The amount of Entry Fee. £ 3 : 0 :  
 Special .. .. £ 44 : - :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for. 26-10-08  
 When received. 29/10/08

Committee's Minute

Assigned

FRI. 30 OCT 1908

+ L.M.C. 10.08  
 F. D. Elec. Light  
 Refrigerating

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



Lloyd's Register  
 Foundation

This office  
 Certificate (if required) to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.