

REPORT ON MACHINERY.

No. 22981
Date 10th October 1906Port of *Sunderland*

Received at London Office

THUR NOV 8 1906

No. in Survey held at *Sunderland*Date, first Survey 25th January 06 Last Survey 10th October 1906

Reg. Book.

on the

S. S. "Persia"

(Number of Visits 58)

Gross 214.72

Net 72.79

When built 1906

Master *J. Huddleston* Built at *M. Shield*By whom built *Wm. Smith & Sons Ltd*Engines made at *Sunderland*By whom made *Wm. Mac Coll & Pollock*

when made 1906

Boilers made at *Sunderland*By whom made *Wm. Mac Coll & Pollock*

when made 1906

Registered Horse Power

Owners *G. H. W. Brit & H. H. Heutall*Port belonging to *Mulford*

Nom. Horse Power as per Section 28

70

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

*Inverted triple expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *12" 20" 32"*Length of Stroke *23"*Revs. per minute *110*

Dia. of Screw shaft

as per rule *6.67*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

Yes

If two

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

*Yes*Length of stern bush *2' 5 3/4"*

Dia. of Tunnel shaft

as per rule *6.08*

Dia. of Crank shaft journals

as per rule *6.38*as fitted *6 3/4"*Dia. of Crank pin *6 3/4"*Size of Crank webs *9 3/4" x 4 1/2"*

Dia. of thrust shaft under

collars *6 3/4"*Dia. of screw *8" 6"*Pitch of Screw *11" 0"*No. of Blades *4*State whether moveable *no*Total surface *29 1/2 sq ft*No. of Feed pumps *one*Diameter of ditto *2 1/4"*Stroke *11 1/2"*

Can one be overhauled while the other is at work

*Yes*No. of Bilge pumps *one*Diameter of ditto *2 1/4"*Stroke *11 1/2"*

Can one be overhauled while the other is at work

*Yes*No. of Donkey Engines *one*Sizes of Pumps *5 1/2" x 3 1/2" x 5" duplex*

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

In Engine Room *2 of 2" & one ejector of 2 1/2"*

In Holds, &c.

*one of 2" to flush well found*No. of Bilge Injections *1*sizes *2 1/2"*

Connected to condenser, or to circulating pump

Yes

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

What pipes are carried through the bunkers

one suction from forward

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

Yes

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

Yes

Dates of examination of completion of fitting of Sea Connections

3.10.06

of Stern Tube

3.10.06

Screw shaft and Propeller

3.10.06

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

*Yes**Yes**Yes**Yes**Yes**Yes**Yes**Yes**Yes*BOILERS, &c.—(Letter for record *S*)

Manufacturers of Steel

W. Beardmore & Co

Total Heating Surface of Boilers

1330 sq ft

Is Forced Draft fitted

Yes

No. and Description of Boilers

one cylindrical multi-tube

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

3/10/06

No. of Certificate

2522

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

35 sq ft

No. and Description of Safety Valves to

each boiler

2 spring

Area of each valve

3.98 sq ft

Pressure to which they are adjusted

180 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

11 1/2"

Mean dia. of boilers

12' 6"

Length

10' 3"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28 1/2/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

d. r. lap.

long. seams

5 x d. 2 1/2"

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

7 3/4"

Lap of plates or

width of butt straps

15 3/4"

Per centages of strength of longitudinal joint

rivets

92.5

plate

85.4

Working pressure of shell by rules

182.9

Size of manhole in shell

16 x 12"

Size of compensating ring

7 x 1 1/2"

No. and Description of Furnaces in each boiler

2-plain

Material

steel

Outside diameter

41 1/2"

Length of plain part

top

6' 0"

bottom

7' 3"

Thickness of plates

crown

49/64"

bottom

64/64"

Description of longitudinal joint

weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

184 lb

Combustion chamber plates: Material

steel

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

1"

Pitch of stays to ditto: Sides

9 x 9 3/4"

Back

11 x 7 3/4"

Top

8 3/4 x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180.4 lb

Material of stays

steel

Diameter at smallest part

1 5/16" x 1.63

Area supported by each stay

8.6 x 94

Working pressure by rules

201.1 lb

End plates in steam space:

Material

steel

Thickness

1 3/16"

Pitch of stays

18 1/2 x 18"

How are stays secured

d. n. w.

Working pressure by rules

187 lb

Material of stays

steel

Diameter at smallest part

2.78"

Area supported by each stay

337 sq ft

Working pressure by rules

180.7 lb

Material of Front plates at bottom

steel

Thickness

27/32"

Material of Lower back plate

steel

Thickness

13/16"

Greatest pitch of stays

13 1/4"

Working pressure of plate by rules

193.5 lb

Diameter of tubes

3 1/4"

Pitch of tubes

4 7/8" x 4 1/2"

Material of tube plates

steel

Thickness: Front

27/32"

Back

27/32"

Mean pitch of stays

11 7/8"

Pitch across wide water spaces

15 1/4"

Working pressures by rules

195 lb

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9 x 1 1/2"

Length as per rule

31 3/4"

Distance apart

9"

Number and pitch of stays in each

2-8 1/4"

Working pressure by rules

183 lb

Superheater or Steam chest; how connected to boiler

Yes

Can the superheater be shut off and the boiler worked

Yes

separately

Diameter

11"

Length

11"

Thickness of shell plates

11/16"

Material

steel

Description of longitudinal joint

d. n. w.

Diam. of rivet

1 1/2"

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 Plates
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 Propeller, 2 top end, 2 bottom end, 2 main bearing & set of coupling bolts, 1 set feed and bilge pump Valves, bolts & nuts assorted & iron of sizes, 1 main feed check, 1 donkey feed check

The foregoing is a correct description,

MAO COLL & POLLOCK, LTD

Manufacturer.

Ships MacColl

Dates of Survey while building	During progress of work in shops—	1906. Jan 25, 25. Feb 14, 25. Mch 9, 27. Apl 5, 12, 25. May, 2, 10, 28, 29. June 1, 7, 8, 19, 23, 30. July, 9, 12, 19.
	During erection on board vessel—	30. Aug 1, 10, 17, 22. Sept, 4, 10, 12, 14, 20, 25, 28. Oct 5, 5, 10.
	Total No. of visits	38

Is the approved plan of main boiler forwarded herewith

Yes

Dates of Examination of principal parts—	Cylinders 10.8.06	Slides 19.7.06	Covers 12.9.06	Pistons 19.7.06	Rods 19.7.06
Connecting rods	23.4.06	Crank shaft 30.6.06	Thrust shaft 30.6.06	Tunnel shafts	✓
Stern tube	30.7.06	Steam pipes tested 5.10.06	Engine and boiler seatings 3.10.06	Engines holding down bolts 5.10.06	
Completion of pumping arrangements	10.10.06	Boilers fixed 5.10.06	Engines tried under steam	10.10.06	
Main boiler safety valves adjusted	10.10.06	Thickness of adjusting washers	S.V. $\frac{3}{16}$ inch, P.V. $\frac{7}{16}$		
Material of Crank shaft	steel	Identification Mark on Do. 27.2.06	Material of Thrust shaft	steel	Identification Mark on Do. 231.P.P. 4.06
Material of Tunnel shafts	steel	Identification Marks on Do. ✓	Material of Screw shafts	steel	Identification Marks on Do. 232.P.P. 4.06
Material of Steam Pipes	Copper	Test pressure	400 lbs		

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery for this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam and worked satisfactorily

The Machinery of this vessel is eligible in our opinion to have the record **L.M.C. 10.06** in the Register Book

It is submitted that this vessel is eligible for THE RECORD

L.M.C. 10.06.

The amount of Entry Fee..	£	1	:	:	When applied for,
Special	£	10	:	13	15.10.19.06
Donkey Boiler Fee	£	:	:	:	When received,
Travelling Expenses (if any) £	:	:	:	:	14/11/06

FRI. NOV 9 1906

Committee's Minute

Assigned

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



© 2020

Lloyd's Register Foundation