

## REPORT ON MACHINERY.

No. 29167.

WED. 10 AUG 1910

Port of Glasgow

Received at London Office

19

No. in Survey held at

Glasgow

Date, first Survey

14 April 1910Last Survey 5th Aug 1910

Reg. Book.

on the

T. S. S. Bosphorus 2:65(Number of Visits 23)Gross 434Net 233

Master

Built at Glasgow

By whom built

Fairfield & B. & L.When built 1910

Engines made at

Glasgow

By whom made

Fairfield & L.when made 1910

Boilers made at

do

By whom made

dowhen made 1910

Registered Horse Power

Owners Chirk & HainPort belonging to Constantinople

Nom. Horse Power as per Section 28

91

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

## ENGINES, &amp;c.—Description of Engines

Twin Screw TripleNo. of Cylinders 6No. of Cranks 6

Dia. of Cylinders

10-15-25

Length of Stroke

18

Revs. per minute

175

Dia. of Screw shaft

as per rule 5.645Material of steelIs the tube shaft fitted with a continuous liner the whole length of the stern tubeyes

Is the after end of the liner made water tight

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

Length of stern bush Tube 24"

Dia. of Tunnel shaft

as per rule 4.674

Dia. of Crank shaft journals

as per rule 4.9

Dia. of Crank pin

5.4

Size of Crank webs

3 1/2"

Dia. of thrust shaft under

collars

5

Dia. of screw

6-9"

Pitch of Screw

9.0

No. of Blades

3

State whether moveable

no

Total surface

12.4

No. of Feed pumps

1

Diameter of ditto

1

Stroke

1

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

1

Diameter of ditto

1

Stroke

1

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

6 x 4 1/2 x 6, 4 x 4 x 5

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

In Engine Room

1-2"

In Holds, &amp;c.

1-2" each hold

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 &amp; size

yes

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

That pipes are carried through the bunkers

none

How are they protected

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

7

of Stern Tube

7

Screw shaft and Propeller

1/7/10

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yesworked from Top grating

## BOILERS, &amp;c.—(Letter for record (S))

1Manufacturers of Steel Steel Company of Scotland Ltd.

Total Heating Surface of Boilers

1940

Is Forced Draft fitted

noNo. and Description of Boilers One Single ended

Working Pressure

160 lb

Tested by hydraulic pressure to

320 lb

Date of test

21/6/10No. of Certificate 10458

Can each boiler be worked separately

yes

Area of fire grate in each boiler

68.25

No. and Description of Safety Valves to

Each boiler

Double spring

Area of each valve

6.49

Pressure to which they are adjusted

165 lb

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

13.6

Length

11.0

Material of shell plates

steel

Thickness

1"

Range of tensile strength

24/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D. R. L.

Long. seams

D. B. S.

Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

7 7/8"

Lap of plates or width of butt straps

14 7/8"

Percentages of strength of longitudinal joint

86.5

plate

8.6

Working pressure of shell by rules

163 lb

Size of manhole in shell

16 x 12

Use of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 marine

Material

steel

Outside diameter

3.9

Length of plain part

7 1/2"

Thickenss of plates

1 1/2"

Description of longitudinal joint

weld

No. of strengthening rings

1

Working pressure of furnace by the rules

178

Combustion chamber plates: Material

steel

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

1/16"

Pitch of stays to ditto: Sides

7 3/4 x 8 5/8"

Back

9 x 7 3/8"

Top

7 3/4 x 8 5/8"

If stays are fitted with nuts or riveted heads

yes

Working pressure by rules

163

Material of stays

steel

Diameter at smallest part

1.48"

Area supported by each stay

66"

Working pressure by rules

179

End plates in steam space:

Material

steel

Thickness

7/8"

Pitch of stays

15 3/4 x 13 3/4"

How are stays secured

D. 2 rules

Working pressure by rules

160

Diameter at smallest part

3.43

Area supported by each stay

220"

Working pressure by rules

162

Material of Front plates at bottom

steel

Thickenss

3/4"

Material of Lower back plate

steel

Thickenss

5/8"

Greatest pitch of stays

12"

Working pressure of plate by rules

200

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 3/8"

Material of tube plates

steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

11 1/8"

Pitch across wide water spaces

13 1/4"

Working pressures by rules

164 lb

Girders to Chamber tops: Material

steel

Depth and

3 1/4"

Thickness of girder at centre

7 1/2 x 3 1/4 x 2

Length as per rule

30"

Distance apart

8 5/8"

Number and pitch of stays in each

3-7 3/4"

Working pressure by rules

167 lb

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

yes

Separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Stiffened with rings

Distance between rings



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* Description *None*

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:— *Two top end two bottom end two main bearings & set of coupling bolts & nuts, 1 section crank shaft, propeller shaft, propeller, Nutrust shoe, 100 assorted bolts, 4 steel bars & 3 steel plates, 20 condenser ferrules, set of piston rings for one engine, 6 junk ring bolts, etc. For pump valves see Shells. 12/8/10*

The foregoing is a correct description,

FOR THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.

Manufacturer.

*Alex. C. Cleghorn*

MANAGER

Dates of Survey while building { During progress of work in shops - 1910. April 16. 22. May 10. 18. 21. 31. June 3. 9. 15. 18. 20. 21. 24. July 1. 2. 6. 7. 9. 13. }  
 { During erection on board vessel - Aug. 1. 2. 4. 5. }  
 Total No. of visits *23*

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *18/6/10* Slides *31/5/10* Covers *18/6/10* Pistons *31/5/10* Rods *31/5/10*  
 Connecting rods *31/5/10* Crank shaft *15/6/10* Thrust shaft *15/6/10* Tunnel shafts *15/6/10* Screw shaft *21/6/10* Propeller *21/6/10*  
 Stern tube *21/6/10* Steam pipes tested *7/7/10* Engine and boiler seatings *1/7/10* Engines holding down bolts *6/7/10*  
 Completion of pumping arrangements *1/8/10* Boilers fixed *1/8/10* Engines tried under steam *4/8/10*  
 Main boiler safety valves adjusted *1/8/10* Thickness of adjusting washers *P. 1/4 5 5/32*  
 Material of Crank shaft *steel* Identification Mark on Do. *H.G.S.* Material of Thrust shaft *steel* Identification Mark on Do. *H.G.S.*  
 Material of Tunnel shafts *steel* Identification Marks on Do. *H.G.S.* Material of Screw shafts *steel* Identification Marks on Do. *H.G.S.*  
 Material of Steam Pipes *Iron & Copper* Test pressure *480 lb & 320 lb*

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

*The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.*

*This vessel is in my opinion eligible to have notation *L M C 8.10* in the Register Book.*

*(at the request of the Builders & Owners this machinery with fittings, equipment & stores has been compared with the Specification & approved plans.)*

It is submitted that this vessel is eligible for THE RECORD + L M C 8.10.

The amount of Entry Fee. £1 : - : When applied for, *9/8/10*  
 Special £13.13. : 13 : 13. :  
 Donkey Boiler Fee. £ : : When received, *20.8.10*  
 Travelling Expenses (if any) £10 : 0 : *22.8*

*H. Gardner-Smith*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW

Assigned + L M C 8.10.



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