

REPORT ON MACHINERY

No. 11106

Date of writing Report 14th Dec 1921.When handed in at Local Office 16th Dec. 1921.

Received at London Office

JAN. DEC. 11 1921

No. in Survey held at

Southampton

Date, First Survey Nov 1921.

Last Survey 8th December 1921.

Reg. Book.

38924 on the STS "LEASOWE."

(Number of Visits 58.)

Master

Built at Southampton

By whom built J. I. Thornycroft & Co. Ltd

Gross Tons

When built 1921

Engines made at Southampton

By whom made J. I. Thornycroft & Co. Ltd

when made 1921.

Boilers made at Southampton

By whom made J. I. Thornycroft & Co. Ltd

when made 1921.

Registered Horse Power

Owners Corporation of Wallasey Port belonging to Liverpool.

Nom. Horse Power as per Section 28 208

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders 6

No. of Cranks 6

Dia. of Cylinders 14 $\frac{1}{2}$ " 23 $\frac{1}{2}$ " 38"

Length of Stroke 24"

Revs. per minute 128.

Dia. of Screw shaft as per rule 7.93"

as fitted 8 $\frac{1}{2}$ "

Material of screw shaft S.

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner

Is the after end of the liner made water tight

yes. 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

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

Length of stern bush 3'-0"

Dia. of Tunnel shaft as per rule 6 $\frac{1}{16}$ "as fitted 7 $\frac{1}{8}$ "

Dia. of Crank shaft journals as per rule 7.35"

as fitted 7 $\frac{3}{8}$ "Dia. of Crank pin 7 $\frac{3}{8}$ "Size of Crank webs 14 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ "

of thrust shaft under

collars 7 $\frac{3}{8}$ "

Dia. of screw 8-9

Pitch of Screw 11'-5"

No. of Blades 3

State whether moveable no

Total surface 19 $\frac{1}{2}$ "No. of Feed pumps 7 $\frac{1}{2}$ " x 5" x 10"

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

auxiliaries

Can one be overhauled while the other is at work

in E. R.

No. of Bilge pumps 2

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

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

In Holds, &c. Two - 2 $\frac{1}{2}$ "

No. of Donkey Engines 5.

Sizes of Pumps

The general service 7 $\frac{1}{2}$ " x 5" x 10"

one combined air and

12" x 12" C.C. pump

In Holds, &c. Two - 2 $\frac{1}{2}$ "In Engine Room Two - 2 $\frac{1}{2}$ "

No. of Bilge Injections 1.

sizes 8"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size yes. 2 $\frac{1}{2}$ "

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 none.

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 alone.

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 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.

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel Stewart and Lloyd's.

Total Heating Surface of Boilers 3939

Is Forced Draft fitted no.

No. and Description of Boilers 3 Single-ended.

Working Pressure 180 lbs.

Tested by hydraulic pressure to 360.

Date of test 21.9.21.

No. of Certificate 357.

Can each boiler be worked separately yes.

Area of fire grate in each boiler 42 $\frac{1}{2}$ "

No. and Description of Safety Valves to each boiler 2 Spring-loaded

Area of each valve 2 $\frac{1}{2}$ "

Pressure to which they are adjusted 183 lbs

Are they fitted with easing gear yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-8 $\frac{1}{2}$ "

Mean dia. of boilers 11'-6"

Length 10'-9"

Material of shell plates S

Thickness 1 $\frac{1}{16}$ "

Range of tensile strength 24-33.

Are the shell plates welded or flanged no.

Descrip. of riveting: cir. DR

long. seams TREDS.

Diameter of rivet holes in long. seams 1 $\frac{1}{8}$ "Pitch of rivets 7 $\frac{5}{8}$ "Lap of plates or width of butt straps 1'-4 $\frac{3}{8}$ "

Per centages of strength of longitudinal joint rivets 85.25

plate 85.24

Working pressure of shell by rules 202

Size of manhole in shell 12" x 16"

Size of compensating ring

No. and Description of Furnaces in each boiler Two Corrugated

Material S

Outside diameter 3'-9"

Length of plain part top 11"

Thickness of plates crown 9 $\frac{1}{16}$ "

Description of longitudinal joint welded.

No. of strengthening rings

Working pressure of furnace by the rules 196.

Combustion chamber plates: Material S

Thickness: Sides 5 $\frac{1}{8}$ "

Back 19"

Top 5 $\frac{1}{8}$ "Bottom 7 $\frac{1}{8}$ "Pitch of stays to ditto: Sides 8 $\frac{3}{4}$ " x 8 $\frac{1}{4}$ "Back 8 $\frac{1}{4}$ " x 8 $\frac{1}{4}$ "Top 8 $\frac{3}{4}$ " x 8 $\frac{1}{4}$ "

If stays are fitted with nuts or riveted heads nuts.

Working pressure by rules 180.

Material of stays S.

Area at smallest part 1.73

Area supported by each stay 72.2

Working pressure by rules 192.

End plates in steam space:

Material S

Thickness 3 $\frac{1}{16}$ "Pitch of stays 16" x 15 $\frac{1}{2}$ "

How are stays secured N x Ws

Working pressure by rules 193.

Material of stays S.

Area at smallest part 5.05

Area supported by each stay 248

Working pressure by rules 212.

Material of Front plates at bottom S.

Thickness 7 $\frac{1}{8}$ "

Material of Lower back plate S.

Thickness 25"

Greatest pitch of stays 13" x 8 $\frac{1}{8}$ "

Working pressure of plate by rules 191

Diameter of tubes 3"

Pitch of tubes 4" x 4 $\frac{1}{8}$ "

Material of tube plates S.

Thickness: Front 7 $\frac{1}{8}$ "Back 3 $\frac{1}{4}$ "Mean pitch of stays 8" x 12 $\frac{3}{8}$ "Pitch across wide water spaces 13 $\frac{1}{4}$ "

Working pressures by rules 180

Girders to Chamber tops: Material S.

Depth and

thickness of girder at centre 8" x 13 $\frac{1}{16}$ "Length as per rule 2'-6 $\frac{1}{2}$ "Distance apart 8 $\frac{1}{4}$ "Number and pitch of stays in each 2 at 8 $\frac{3}{4}$ "

Working pressure by rules 202

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

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

Is Easing Gear fitted

Date of Test

Diameter of Safety Valve

Pressure to which each is adjusted

Lloyd's Register Foundation

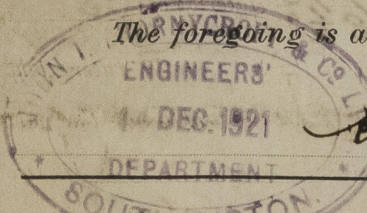
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IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of Coupling bolts and nuts, one set each feed and bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts, etc., Two oil fuel sprayers. Eight oil fuel sprayer caps.*

The foregoing is a correct description,



W. A. Gibson for Manufacturer.
J. J. Thringcraft & Co.

Dates of Survey while building	During progress of work in shops --	<i>1.9.24.30</i>	<i>4-14-22</i>	<i>3.11.20.25.26</i>	<i>1.9.10.18</i>	<i>4-14-21</i>	<i>4.6.9.14.23.25</i>
		<i>11-20.</i>	<i>12-20</i>	<i>1-21.</i>	<i>2-21.</i>	<i>3-21</i>	<i>4-21.</i>
	During erection on board vessel --	<i>4.9.10.24</i>	<i>1.27.</i>	<i>4.8.11.13.18.26.28</i>	<i>9.15.25</i>	<i>6.16.21.30.</i>	
		<i>5-21.</i>	<i>6-21</i>	<i>7-21.</i>	<i>8-21</i>	<i>9-21.</i>	
	Total No. of visits	<i>3.14.22.25.26.30.</i>	<i>16.28.30</i>	<i>2.3.5.8</i>			
		<i>10-21.</i>	<i>11-21.</i>	<i>12-21.</i>			

Is the approved plan of main boiler forwarded herewith

58.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *6.9.21.* Slides *6.9.21.* Covers *6.9.21.* Pistons *16.9.21.* Rods *16.9.21.*
Connecting rods *21.9.21.* Crank shaft *3.10.21.* Thrust shaft *3.10.21.* Tunnel shafts *3.10.21.* Screw shaft *25.8.21.* Propeller *25.8.21.*
Stern tube *25.8.21.* Steam pipes tested *26.10.21.* Engine and boiler seatings *16.9.21.* Engines holding down bolts *25.10.21.*
Completion of pumping arrangements *8.12.21.* Boilers fixed *25.10.21.* Engines tried under steam *8.12.21.*
Completion of fitting sea connections *16.9.21.* Stern tube *16.9.21.* Screw shaft and propeller *16.9.21.*
Main boiler safety valves adjusted *3.12.21.* Thickness of adjusting washers *SBS 3/4 P. 16 CBS 49 P. 32 PBS 32 P. 16*
Material of Crank shaft *S.* Identification Mark on Do. *P. 833.* Material of Thrust shaft *S.* Identification Mark on Do. *P. 815.*
Material of Tunnel shafts *S.* Identification Marks on Do. *P. 815.* Material of Screw shafts *S.* Identification Marks on Do. *P. 790.*
Material of Steam Pipes *Copper.* Test pressure *360 lbs.*

Is an installation fitted for burning oil fuel

yes.

Is the flash point of the oil to be used over 150°F.

yes (see letter 21/12/21)

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

yes. ✓

Is this machinery duplicate of a previous case

yes.

If so, state name of vessel *SS. "LISCARD."*

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

The engines and boilers of this vessel have been constructed under special survey in accordance with the Rules & approved plans. The materials and workmanship are sound & good. The Boilers tested by hydraulic pressure, and with the engines secured on board, and tested under full working conditions & found efficient. They are respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 12.21 in the Register book.

Oil fuel installation tried under full working conditions & found efficient.

It is submitted that this vessel is eligible for THE RECORD. + L. M. C. - 12. 21.

Fitted for Oil Fuel, 12.21., F.P. above 150°F.

The amount of Entry Fee ... £ *4 : 0 :*
Special ... £ *52 : 0 :*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *16/12/21.*
When received, *18.1.22.*

J. G. MacKillop

Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. DEC. 30 1921

Assigned

+ L.M.C. 12.21

*Letter for oil fuel 12.21
F.P. above 150°F.*

CERTIFICATE WAITING



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