

Rpt. 4.

REPORT ON MACHINERY.

No. 3635.

Received at London Office

MON. 21 NOV. 1921

Date of writing Report

19

When handed in at Local Office

19

Port of SAN FRANCISCO.

No. in Survey held at San Francisco, Cal.

Date, First Survey April 7th

Last Survey October 25, 1921.

Reg. Book.

(Number of Visits 46)

on the S/S "BIRKENHEAD", Hull No. 166.

Master

Built at Oakland, Cal.

By whom built

Moore Shipbuilding Co.

Tons

Gross

Net

When built 1921

Engines made at Hamilton, Ohio.

By whom made

Hooven, Owens Rentschler Co.

when made 1921

Boilers made at Oakland, Cal.

By whom made

Moore Shipbuilding Co.

when made 1921

Registered Horse Power

Owners

Vacuum Oil Company

Port belonging to

New York

Nom. Horse Power as per Section 28 680

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute 75

Dia. of Screw shaft

as per rule 15.75

as fitted 17

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

If two

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

Length of stern bush

5'-8"

Dia. of Tunnel shaft

Dia. of Crank shaft journals

as per rule

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

18' 0"

Pitch of Screw

17.5

No. of Blades

4

State whether moveable

Yes

Total surface

100

No. of Feed pumps

2

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

3

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

7x6x10

12x8x12

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

and Boiler

In Engine Room

5-3

In Holds, &c. F.P.1-3, A.P.1-3. P.Room 2-3

No. of Bilge Injections

1

Connected to condenser or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes

3 1/2

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the suction pipes on Engine room bulkheads always accessible

Yes

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

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

No

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Luken Steel Co.

Total Heating Surface of Boilers 9900

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Scotch Marine

Working Pressure 220

Tested by hydraulic pressure to

330

Date of test

15-4-21

No. of Certificate

174 A.W.L.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

Oil Burner

No. and Description of Safety Valves to

each boiler

2 spring loaded

Area of each valve

9.6

Pressure to which they are adjusted

220

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

24"

Mean dia. of boilers

15 1/2

Length

12' 0"

Material of shell plates

Steel

Thickness

1 1/16

Range of tensile strength

60000

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 5/8

Pitch of rivets

9 1/2

Lap of plates or width of butt straps

22 1/2

Per centages of strength of longitudinal joint

93.7

Working pressure of shell by rules

238

Size of manhole in shell

12x16

Size of compensating ring

No. and Description of Furnaces in each boiler

3 Morrison

Material

Steel

Outside diameter

48 1/8

Length of plain part

Thickness of plates

bottom

Description of longitudinal joint

Weld

No. of strengthening rings

No

Working pressure of furnace by the rules

235

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4

Back

3/4

Top

Bottom

Pitch of stays to ditto: Sides

6 1/2 x 8

Back

8 1/2 x 6 7/8

Top

8 x 6 1/2

If stays are fitted with nuts or riveted heads

riveted

Working pressure by rules

252

Material of stays

Steel

Area at smallest part

1.75

Area supported by each stay

56.72

Working pressure by rules

278

End plates in steam space

Material

Steel

Thickness

1 5/16

Pitch of stays

18

How are stays secured

D.Nuts.

Working pressure by rules

238

Area at smallest part

10.32

Area supported by each stay

324

Working pressure by rules

330

Material of Front plates at bottom

Steel

Thickness

7/8

Material of Lower back plate

Steel

Thickness

7/8

Greatest pitch of stays

16

Working pressure of plate by rules

260

Diameter of tubes

3

Pitch of tubes

4 1/8

Material of tube plates

Steel

Thickness: Front

7/8

Back

7/8

Pitch across wide water spaces

13

Working pressures by rules

315

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

11x3

Length as per rule

34

Distance apart

8

Number and pitch of stays in each

4 at 6 1/2

% of strength of joint

No

Working pressure by rules

290

Steam dome: description of joint to shell

No

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

No

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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

W1006-0090

Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—1 set of top end brasses with bolts and nuts. 1 set of bottom end brasses with bolts and nuts. Set of main bearing parts with bolts and nuts. 1 set of coupling bolts and nuts. 1 set of rings for H.P. I.P. and L.P. pistons. 1 set of valves for air and bilge pumps H.P. and I.P. valve spindles complete. 1 link block and brasses. Air pump rod and bucket. Piston and nut. 1 crank shaft section. Valve chest and cylinder cover studs. 1 eccentric strap. Piston follower studs. Relief valve springs. Assorted nuts, bolts, and iron, etc. Spare Tail shaft.

The foregoing is a correct description,

Wm. Shephard & Co.
by E. Moore

Manufacturer.

Dates of Survey while building
During progress of work in shops -- Dec. 3, 7, 20, 24. Jan. 6, 17, 31. Feb. 18. Mar. 1, 14, 19, 30. Apr. 6, 7, 15, 20. May 9, 12, 19, 23, 27, 31. June 2, 6, 14, 22, 27. July 5, 9, 11, 13, 22. Aug. 10, 13, 22, 29.
During erection on board vessel -- Sept. 12, 21, 26. Oct. 1, 7, 11, 18, 24, 25.
Total No. of visits 46

Is the approved plan of main boiler forwarded herewith? Yes

Dates of Examination of principal parts—Cylinders - Slides See Covers Engine Pistons Report Rods
Connecting rods Crank shaft Thrust shaft June 27 Tunnel shafts - Screw shaft June 27 Propeller June 27
Stern tube May 19 Steam pipes tested Aug. 24 Engine and boiler seatings Aug. 13 Engines holding down bolts Oct. 11
Completion of pumping arrangements Oct. 7 Boilers fixed Oct. 7 Engines tried under steam Oct. 24
Completion of fitting sea connections June 22 Stern tube July 5 Screw shaft and propeller July 9
Main boiler safety valves adjusted Oct. 11 Thickness of adjusting washers Locknuts
Material of Crank shaft - Identification Mark on Do. - Material of Thrust shaft Steel Identification Mark on Do. Lloyd's No. 1073
Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts Steel Identification Marks on Do. Lloyd's No. 1074
Material of Steam Pipes Steel Test pressure 660 AWL 23-3-
Is an installation fitted for burning oil fuel? Yes Is the flash point of the oil to be used over 150°F. Yes
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 s/s "BARGOYLE", Rpt. No. 3462.

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

The machinery of this vessel was constructed under special survey of materials tested to Rule Requirements and the workmanship found good throughout. On completion the machinery was tried under working conditions with satisfactory results, and in the opinion of the undersigned, this machinery is eligible to be classed in the Register Book with the Records of L.M.C. 10-21. Fitted for Oil Fuel 10-21. F.P. above 150° F. "Electric Light".

DAMAGE to cargo pump. See Damage report, copy of which is hereto attached.

Water chamber of starboard cargo pump found slightly cracked while testing pipe lines, this has now been efficiently repaired as a temporary measure and the Owners state that a new water end will be fitted on vessel's arrival on the East Coast.

It is submitted that this vessel is eligible for THE RECORD.

F.L.M.C. - 10.21. F.D. C.L.

Fitted for Oil Fuel, 10.21, F.P. above 150° F.

Subject - Permanent repairs being effected to starboard cargo pump on arrival on East Coast of America. 2/5. Much for (cost 218.00) plus 9/132.35 Expense, to be credited Cleveland Office, their Eng. Rpt. No. 161.

The amount of Entry Fee ... \$ 30.00
Special ... \$ 545.00
Donkey Boiler Fee ... \$ 132.35
Travelling Expenses (if any) ... 10.85

When applied for,

Nov. 2, 1921

When received,

27.1.22

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York NOV - 9 1921

Assigned + L.M.C. - 10.21 subject

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

NEW YORK 11/14/21
New York 22.8.22



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