

Rpt. 4.

REPORT ON MACHINERY.

No. 3454

Received at London Office

THU. 17 MAR. 1921

Date of writing Report Jan. 31, 1921 When handed in at Local Office

Port of

SAN FRANCISCO,

No. in Survey held at Oakland, Calif.

Date, First Survey August 9, 1920 Last Survey Jan. 31, 1921

Reg. Book.

(Number of Visits 24)

65858 on the Steel Sc. Sr. "MEMNON"

Gross 3473.93

Net 2070

When built 1921

Master -- Built at Oakland, Cal. By whom built Hanlon D.D. & S.B. Co.

Engines made at Milwaukee, Wis By whom made Allis, Chalmers Mfg. Co. when made 1921

Boilers made at Minneapolis, Minn. By whom made Wm. Bros. Boiler & Mfg. Co. when made 1921

Registered Horse Power Owners United States Shipping Board Port belonging to San Francisco

Nom. Horse Power as per Section 28 397 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Vertical triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24"x39"x65" Length of Stroke 42" Revs. per minute 72 Dia. of Screw shaft as per rule 13.62 Material of steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes welded 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 welded 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 57"

Dia. of Tunnel shaft as per rule 12.2 Dia. of Crank shaft journals as per rule 12.81 Dia. of Crank pin 13" Size of Crank webs Dia. of thrust shaft under

collars 13 1/4" Dia. of screw 16.6" Pitch of Screw 14.0" No. of Blades 4 State whether moveable Yes Total surface 75.9 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 7/8" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 7/8" Stroke 21" Can one be overhauled while the other is at work Yes

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

In Engine Room and Boiler room 4-3" Tunnel well 1-3" In Holds, &c. No. 1 hold 2-3". No. 2 Hold 2-3"

Deep tank 2-3". No. 3 Hold 4-3". No. 4 Hold 2-3"

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes, 3"

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 valves

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 Oil and bilge How are they protected 2"x12" wood covering

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 Yes Is it fitted with a watertight door Yes worked from Deck

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Lukens & Worth

Total Heating Surface of Boilers 7200 sq. ft. Is Forced Draft fitted No No. and Description of Boilers 3 Foster Water tube

Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 5-11-20 AWL No. of Certificate 63

Can each boiler be worked separately Yes Area of fire grate in each boiler oil burner 33 No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 9.62 sq. ft. Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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 Foster Date of Approval of Plan

Tested by Hydraulic Pressure to 600 lbs.

Date of Test 26-9-19 W.V.S. Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 14" Pressure to which each is adjusted 205 Is Easing Gear fitted No

002897-002906-0143

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—Two main bearings, bolts and nuts. 2 crosshead brasses, bolts and nuts. 1 cylinder escape valve complete. 1 air pump rod, 2 main bearings, 2 crank pin brasses, 1 set of coupling bolts, 2 crosshead brasses, 1 set of valves for each size pump aboard including bilge fire, air, ballast and fuel oil pumps. 1 set of boiler check valves. 1 set of link brasses. 1 set of eccentric straps complete. 1 main engine piston rod and valve rod. 1 set of cylinder covers, bolts and nuts. 1 line bilge pump plunger. 1 set of piston rings for each size piston of main engine. 2 safety valve springs. 4 thermometers. 20 boiler tubes, 50 hand hole plates. 50 condenser tubes. 100 ferrules. 2 pressure gauges. Large assortment of bolts, nuts, washers, rod, plate packing, etc.

The foregoing is a correct description,

Hanlon Drydock and Shipbuilding Co.

D. K. Byers

Manufacturer.

Dates of Survey while building { During progress of work in shops - - July 25. August 2, 5, 9. October 30. January 11th
During erection on board vessel - - - Aug. 9, 20, Sept. 1, 22, 29. Oct. 5, 12, 22, 30. Nov. 5, 23. Dec. 1, 9, 16, 22. Jan. 5, 11, 25, 29.
Total No. of visits 24

Is the approved plan of main boiler forwarded herewith

Yes

Dates of Examination of principal parts—Cylinders Oct. 5 Slides Oct. 5th Covers Nov. 23 Pistons Oct. 5 Rods Oct. 5

Connecting rods Oct. 5 Crank shaft Oct. 12 Thrust shaft Nov. 5th Tunnel shafts Oct. 12th Screw shaft Aug. 9th Propeller Aug. 9th

Stern tube Sept. 22nd Steam pipes tested Jan. 5, 11th Engine and boiler seating Sept. 1, Oct. 5 Engines holding down bolts Jan. 26th

Completion of pumping arrangements Dec. 22nd Boilers fixed December 1st Engines tried under steam January 25th

Completion of fitting sea connections Sept. 29th Stern tube Sept. 1st Screw shaft and propeller Sept. 22nd

Main boiler safety valves adjusted

Thickness of adjusting washers

locknuts

Material of Crank shaft steel Identification Mark on Do. 16-9-19 Material of Thrust shaft steel Identification Mark on Do. 2480

Material of Tunnel shafts steel Identification Marks on Do. 2362-2347 Material of Screw shafts Steel Identification Marks on Do. 2339

Material of Steam Pipes copper

Test pressure 400 lbs.

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 See S.F. Rpt. No. 3414 "MEDON"

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

The machinery and boilers of this vessel were constructed under Special Survey of material tested to Rule Requirements and the workmanship was found good throughout. On completion the machinery was thoroughly tested under working conditions with satisfactory results and, in the opinion of the undersigned, the machinery is eligible to be classed in the Register Book * L.M.C. 1-21. Fitted for Oil Fuel 1-21. F.P. above 150°F. Electric Light.

It is submitted that this vessel is eligible for

THE RECORD. + L.M.C. 1. 21

CL

3 WATER TUBE BOILERS

FITTED FOR OIL FUEL 1.21 F.P. ABOVE 150°F.

Subject to the Water Tube Boilers

being surveyed annually.

Roll

23/3/21

APR

1/3 Mach fee or \$66.33, plus \$62.65 expense credit Chicago-their Mach Rpt. No. 139.
" " " " \$66.40, plus \$64.95 " " Duluth " Boiler " " 68.

The amount of Entry Fee ... \$ 15.00 : When applied for,
Special Chicago Expenses ... \$ 199.11 : Feb 12th 1921
Donkey Boiler Fee ... \$ 62.65 :
Duluth Expenses ... \$ 64.95 :
Travelling Expenses (if any) \$ 4.20 : When received, 18/4/21

A. W. Lawson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York FEB 23 1921

Assigned + L.M.C. 1. 21

MACHINERY CERT.
WRITTEN 31/3/21
dated 17.3.21



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Foundation