

Rpt. 4.

REPORT ON MACHINERY.

No. 63.

REC'D
 Date of writing Report June 13 1919 When handed in at Local Office June 19 1919 Port of Cleveland Ohio
 No. in Survey held at Hamilton Ohio Date, First Survey 19th May Last Survey 2nd June 1919
 Reg. Book. on the ENG N^o 4543 S.S. SAN. LEON. (Number of Visits 3)

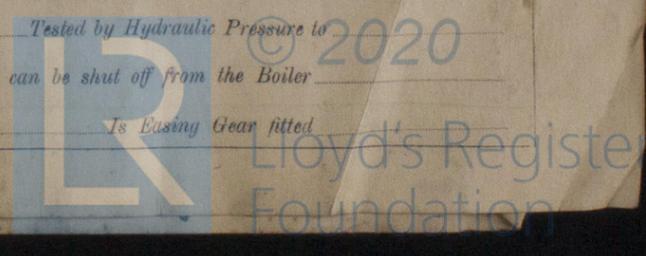
Master J. F. Deaton Built at Wilmington, N. C. By whom built George A. Fuller, Co Tons { Gross 6349
 Engines made at Hamilton Ohio By whom made Hooven Owens & Rentschler Co when made 1919 Net 3808
 Boilers made at Cummins, Pa. By whom made Baderhausen, Co when made 1921 When built 1921
 Registered Horse Power 2800 Owners Emergency Fleet Corporation Port belonging to London England.
 Nom. Horse Power as per Section 28 510, 580 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion (Vertical) No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24 1/2 - 41 1/2 - 72" Length of Stroke 48" Revs. per minute 88 Dia. of Screw shaft 14.29" Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube (2 liners) 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 Soldered 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'-1"
 Dia. of Tunnel shaft 13 3/8" Dia. of Crank shaft journals 13.75" Dia. of Crank pin 14 3/8" Size of Crank webs 29 7/8 x 27" Dia. of thrust shaft under
 collars 14" Dia. of screw 16-9" Pitch of Screw 16-9" No. of Blades 4 State whether moceable No. Total surface 79.5 sq ft.
 No. of Feed pumps 2 Diameter of ditto 12 Stroke 24 Can one be overhauled while the other is at work Yes 88.58.
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 Sizes of Pumps 12 x 10 1/4 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 1/2" Suctions. 1 in bilge well, 2 in wing bilges & 3 in Cofferdam In Holds, &c. None

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 4"
 Are all the bilge suction pipes fitted with roses Stainers Are the roses in Engine room always accessible Yes Are the sluices 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 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 Below
 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) Manufacturers of Steel
 Total Heating Surface of Boilers 9042 Is Forced Draft fitted ✓ No. and Description of Boilers
 Working Pressure 200 # Tested by hydraulic pressure to ✓ Date of test ✓ No. of Certificate
 Can each boiler be worked separately ✓ Area of fire grate in each boiler ✓ No. and Description of Safety Valves to
 each boiler ✓ Area of each valve ✓ Pressure to which they are adjusted ✓ Are they fitted with easing gear
 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 ✓ 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 ✓ Thickness of plates ✓ 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 ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to 2020
 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 ✓



W520-0104

IS A DONKEY BOILER FITTED? ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: Two top & bottom end bolts & nuts. Two main beam bolts & nuts. Set of coupling bolts & nuts. One crank pin bearing. Pair of top end brasses. H.P. valve spindle. Two H.P. two I.P. & one L.P. piston rings. Two H.P. piston valve rings. Set of valves, guards & studs for air & bilge pump. One spare Tail Shaft. marks LLOYD'S, 191, W.C.

The foregoing is a correct description, for engines only. THE HOOVEN OWENS, RENTSCHLER CO. S. Schiller Asst Chief Engr. Manufacturer.

Dates of Survey while building: During progress of work in shops - - May 19th & 26th June 2nd 1919. 3 visits. During erection on board vessel - - Jan. 1921, 4, 12, Feb. 17, 26, March 4, 15, 18, 21, 23. Total No. of visits 12.

Dates of Examination of principal parts: Cylinders 19/5/19 Slides 26/6/19 Covers 2/6/19 Pistons 2/6/19 Rods 19/5/19 Connecting rods 19/5/19 Crank shaft 19/5/19 Thrust shaft 2/6/19 Tunnel shafts Screw shaft Propeller Stern tube Steam pipes tested 9/3/21. Engine and boiler seatings 7th Dec. 20 Engines holding down bolts 21/3/21. Completion of pumping arrangements Boilers fixed 12/1/21 Engines tried under steam 23/3/21. Completion of fitting sea connections 9/3/21. Stern tube 14th Dec. 1920. Screw shaft and propeller 1/1/21. Main boiler safety valves adjusted 23/3/21. Thickness of adjusting washers No Washers.

Material of Crank shaft Steel Identification Mark on Do. JE Material of Thrust shaft Steel Identification Mark on Do. Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. Material of Steam Pipes Steel Test pressure 600 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 No 45/6 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) The above engines have been constructed under special survey, also under the supervision of the American Bureau Surveyors. The materials & workmanship employed in their manufacture, so far as can be seen are sound & efficient. When the engines have been satisfactorily installed in vessel & proved satisfactory under working conditions & spare gear being supplied as required by the rules, the vessel in which they are fitted will in my opinion be eligible for record of I.L.M.C. (with date) The above Engines have been installed in this vessel in a satisfactory manner and tried out & proven satisfactory.

Classed The amount of Entry Fee \$ 30.00 Special \$ 500.50 Donkey Boiler Fee £ Travelling Expenses (if any) \$ 10.77

J. Robinson Wm Hamilton Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York APR - 5 1921 TUE. 27 MAR. 1923 Assigned + L.M.C. J. 21 FRI. 17 AUG. 1923

