

AUX:
REPORT ON OIL ENGINE MACHINERY.

No. 21202

MON JUL 31 1922

Date of writing Report JULY 11th 1922 When handed in at Local Office JULY 11th 1922 Port of NEW YORK N.Y.
No. in Survey held at NEW YORK N.Y. Date, First Survey 12 Nov 20 Last Survey 15 Nov 1921
Reg. Book. Number of Visits 39. 6th JULY 1922.
on the ^{Single} ~~Twin~~ ~~Triple~~ Screw vessel "MISSOURIAN" Tons { Gross 7899.
Master Built at CHESTER, PA By whom built MERCHANT Yard No. 386 When built 1922.
Engines made at NEW YORK N.Y. By whom made DELA VERGNE MACHINE WORKS Engine No. When made 1922.
Donkey Boilers made at PHILADELPHIA By whom made THE WM. CRAMP & SONS STEEL CO. Boiler No. 498 When made 1922.
Brake Horse Power Owners AMERICAN HAWAIIAN S.S. Co Port belonging to NEW YORK.
Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted YES.

OIL ENGINES, &c.—Type of Engines AUX! DIESEL NON REVERSIBLE 2 or 4 stroke cycle 4 Single or double acting SINGLE
Maximum pressure in cylinders 500 LBS. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 32 1/2" IN
Length of stroke 35 1/2" IN Revolutions per minute 300 Means of ignition COMPRESSION Kind of fuel used FUEL OIL
Is there a bearing between each crank YES Span of bearings (Page 92, Section 2, par. 7 of Rules) 36 1/8" IN
Distance between centres of main bearings 600" IN Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 16 1/8" IN
Diameter of crank pins 190" IN Breadth of crank webs as per Rule 380" IN Thickness of ditto as per Rule 92" IN
Diameter of flywheel shaft as per Rule 16 1/8" IN Diameter of tunnel shaft as per Rule 33 1/2" IN Diameter of thrust shaft as per Rule 33 1/2" IN
Diameter of screw shaft as fitted Is the screw shaft fitted with a continuous liner the whole length of the stern tube
Is the after end of the liner made watertight in the propeller boss 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 If without liners, is the shaft arranged to run in oil
Type of outer gland fitted to stern tube Length of stern bush Diameter of propeller
Pitch of propeller No. of blades state whether moveable RITE FLYWHEEL TYPE. Total surface square feet
Method of reversing Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Thickness of cylinder liners 29" IN
Are the cylinders fitted with safety valves YES Means of lubrication FORCED. Are the exhaust pipes and silencers water cooled or lagged with
Non-conducting material YES If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine EXHAUST
No. of cooling water pumps Is the sea suction provided with an efficient strainer which can be cleared
within the vessel No. of bilge pumps fitted to the main engines Diameter of ditto Stroke
Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines How driven
No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
No. of ballast pumps How driven Sizes of pumps
Is the ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
Engine Room and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship
Are they valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
Are the discharge pipes above or below the deep water line Are they each fitted with a discharge valve always accessible on the plating of the vessel
Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Are the bilge suction pipes, cocks and valves arranged so as to prevent any
communication between the sea and the bilges Is the screw shaft tunnel watertight Is it fitted with a watertight door
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
No. of main air compressors No. of stages Diameters Stroke Driven by
No. of auxiliary air compressors No. of stages Diameters Stroke Driven by
No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by
No. of scavenging air pumps Diameter Stroke Driven by
Diameter of auxiliary Diesel Engine crank shafts as per Rule Are the air compressors and their coolers made so as to be easy of access
as fitted
R RECEIVERS:—No. of high pressure air receivers Internal diameter Cubic capacity of each
Material Seamless, lap welded or riveted longitudinal joint Range of tensile strength
Thickness working pressure by Rules No. of starting air receivers Internal diameter
Total cubic capacity Material Seamless, lap welded or riveted longitudinal joint
Range of tensile strength thickness Working pressure by rules Is each receiver, which can be isolated,
Fitted with a safety valve as per Rule Can the internal surfaces of the receivers be examined What means are provided for cleaning their
Inner surfaces Is there a drain arrangement fitted at the lowest part of each receiver

IS A DONKEY BOILER FITTED? HYDRAULIC TESTS:-

If so, is a report now forwarded?

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	18.4.21-22.4.21	WATER JACKETS	14.3	C. J. H.	
" " COVERS	16.5.21-26.5.21	"	14.3	C. J. H.	
" " JACKETS	24.10.21	"	14.3	C. J. H.	
" " PISTON WATER PASSAGES		"	14.3	C. J. H.	
MAIN COMPRESSORS—1st STAGE	16.5.21	TESTED UNDER			
2nd	16.5.21	WORKING COND.			
3rd					
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES	24.10.21			C. J. H.	
FUEL PIPES	24.10.21			"	
FUEL PUMPS	24.10.21			"	
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

YES.

Receivers

Separate Tanks

SPARE GEAR SEE REPORT ON MAIN ENGINES.

The foregoing is a correct description,

Le ha Vergne Machines.

Manufacturer.

Dates of Survey while building
During progress of work in shops-- 1920: Nov 12, 24 Dec 17, 30 1921: Jan 10, 13, 24 Feb 17 Mar 4, 29 Apr 15, 18, 22, 28 May 16, 26 Oct 24 Nov 25
During erection on board vessel-- 1922: MAR. 10, 13, 15, 20, 29 APR. 4, 10, 19, 25, 28 MAY. 4, 10, 12, 17, 24, 31 JUNE 6, 13, 20, 28.
Total No. of visits JULY 6. 39.

Dates of Examination of principal parts—Cylinders 29.3.21 Covers 29.3.21 Pistons 15.4.21 Rods Connecting rods 15.4.21
Crank shaft 17.2.21 Thrust shaft Tunnel shafts Screw shaft Propeller Stern tube Engine seatings
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions 24.10.21
Completion of fitting sea connections Stern tube Screw shaft and propeller
Material of crank shaft STEEL Identification Mark on Do. C. J. H. Material of thrust shaft Identification Mark on Do.
Material of tunnel shafts Identification Marks on Do. Material of screw shafts Identification Marks on Do.
Is the flash point of the oil to be used over 150° F. YES.

Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) These auxiliary engines have been constructed under special survey and in accordance with the Rules. The workmanship and materials are sound and good. The engines have been tried under working conditions in the shop with satisfactory results and are in my opinion eligible to be fitted in a classed vessel.

THE ENGINES HAVE BEEN SECURED ONBOARD IN A SATISFACTORY MANNER, THEY HAVE BEEN TRIED UNDER FULL WORKING CONDITIONS, AND WERE FOUND IN GOOD AND SAFE WORKING CONDITION.

The amount of Entry Fee ... £ 5/6
Special ... £
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
When applied for, 19
When received, 19

J. H. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Phil. Rept 4418
New York, Jul. 18, 1922