

pt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 37.

Date of writing Report 15<sup>th</sup> June 1923. When handed in at Local Office 15<sup>th</sup> June 1923. Port of Winterthur. Received at London Office THU. 25 OCT. 1923. Date, First Survey 23<sup>rd</sup> March 1923. Last Survey 15<sup>th</sup> June 1923.

Survey held at Winterthur. Number of Visits. Tons Gross/Net. Built at Wallsend. By whom built Swan Hunter & Wigham Yard No. When built 1923. Engines made at Winterthur. By whom made Sulzer Freres. S.A. Engine No. 10107/10109 When made 1923. Boiler No. When made. Brake Horse Power 160 (2ENG). Owners Philippe Tobacco Co. Port belonging to. Horse Power as per Rule 46 (2ENG). Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Type of Engines Airless Injection. Internal Comb. Engines 2 or 4 stroke cycle 2 Single or double acting Single. Minimum pressure in cylinders 35 ATS. 500lb. No. of cylinders 2. No. of cranks 2. Diameter of cylinders 270 mm. 10 5/8". Length of stroke 370 mm. 14 9/16". Revolutions per minute 300. Means of ignition Temperature due to compression. Kind of fuel used Heavy fuel oil.

Span of bearings (Page 87, Section 3, par. 7 of Rules) 640 mm. Is a flywheel fitted Yes. Diameter of crank shaft journals as per Rule 139.5 mm. as fitted 150 mm. Breadth of crank webs as per Rule 185.5 mm. as fitted 210 mm. Thickness of ditto as per Rule 48.12 mm. as fitted 84 mm. Diameter of flywheel shaft as per Rule 139.5 mm. Diameter of tunnel shaft as per Rule 150 mm. Diameter of thrust shaft as per Rule. Diameter of screw shaft as fitted. Is the screw shaft fitted with a continuous liner the whole length of the stern tube.

Is the liner in more than one length are the joints burned. If the liner is in more than one length are the joints burned. If without liners, is the shaft arranged to run in oil. Length of stern bush. Diameter of propeller. No. of blades. state whether moveable. Total surface square feet. Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes. Thickness of cylinder liners 22 mm. Means of lubrication Forced. Are the exhaust pipes and silencers water cooled or lagged with insulating material No. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine.

No. of cooling water pumps 1 SINGLE ACTING. No. of bilge pumps fitted to the main engines. Diameter of ditto. Stroke. No. of auxiliary pumps connected to the main bilge lines. How driven. No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room. No. of ballast pumps. How driven. Sizes of pumps. Is a separate auxiliary pump suction fitted in the bilge room and size. Are all the bilge suction pipes fitted with roses. Are the roses in Engine Room always accessible.

Are all connections with the sea direct on the skin of the ship. Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates. Are they each fitted with a discharge valve always accessible on the plating of the vessel. 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 stages. Diameters. Stroke. Driven by. No. of stages. Diameters. Stroke. Driven by. No. of stages. Diameters. Stroke. Driven by. CRANK CASE SCAVENGING FOR ALL CYLINDERS. Diameter 270 mm. Stroke 370 mm. Driven by Crank shaft. Are the air compressors and their coolers made so as to be easy of access.

RECEIVERS:—No. of high pressure air receivers. Internal diameter. Cubic capacity of each. Seamless, lap welded or riveted longitudinal joint. Range of tensile strength. working pressure by Rules. No. of starting air receivers STARTING AIR TAKEN FROM MAIN ENGINE RECEIVERS. Seamless, lap welded or riveted longitudinal joint. thickness. Working pressure by rules. Is each receiver, which can be isolated, with a safety valve as per Rule. Can the internal surfaces of the receivers be examined. What means are provided for cleaning their surfaces. Is there a drain arrangement fitted at the lowest part of each receiver.



48-0178

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	8-5-23	35 ATs.	75 ATs.	R	Test satisfactory
" " COVERS .....	15-5-23	" "	" "	R	
" " JACKETS .....	8-5-23	1 "	3 "	R	
" PISTON WATER PASSAGES .....					-do-
MAIN COMPRESSORS—1st STAGE .....					-do-
" 2nd " .....					
" 3rd " .....					
AIR RECEIVERS—STARTING .....					
" INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....	13-6-23	100 ATs.	200 ATs.	R	Test satisfactory
FUEL PUMPS & VALVES .....	13-6-23, 15-6-23	" "	" "	R	
STARTING AIR VALVES .....	" 13-6-23	30 "	60 "	R	-do-
SILENCER .....	" 13-6-23	" "	3 "	R	-do-
" WATER JACKET .....	1-6-23, 8-6-23	1 "	3 "	R	-do-
SEPARATE FUEL TANKS .....	15-6-23	0.	5.		-do-

PLANS. Are approved plans forwarded herewith for shafting 20/3/23. Receivers ✓ Separate Tanks 20/3/23.

SPARE GEAR 1 Fuel valve, 1 Starting air valve, 4 Fuel needles with guide bushes, 4 Flame, & 4 atomizing plates, 4 Suction valves for crank case scavenging, 4 Plungers with guide bushes for fuel pumps, 2 suction & 2 delivery valves for fuel pumps, 2 Valves for cylinder lubricating pump, 2 Valves for cooling water pumps, 12 Piston rings, 2 Connecting rod bottom end bolts, 2 main bearing bolts, 2 sets of working springs, 2 Cylinder cover bolts, 1 length of fuel pipe with connections, 2 sets of joints, 2 sets of gauge glasses for sight lubrication.

The foregoing <sup>Superior</sup> correct description,

*Mitoboy*  
Manufacturer.

Dates of Survey while building: During progress of work in shops - 23-3-23, 29-3-23, 4-5-23, 8-5-23, 15-5-23, 22-5-23, 1-6-23, 4-6-23, 8-6-23, 11-6-23, 13-6-23, 15-6-23. During erection on board vessel - . Total No. of visits

Dates of Examination of principal parts—Cylinders 4/6/23, 13/6/23 Covers 4/6/23, 13/6/23 Pistons 4/6/23, 13/6/23 Rods ✓ Connecting rods 4/6/23, 13/6/23

Crank shaft 4/6/23, 13/6/23 Thrust shaft ✓ Tunnel shafts - Screw shaft - Propeller - Stern tube - Engine seatings - Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions

Completion of fitting sea connections. Stern tube identification Mark on Do. - 10109 - 1923. Material of crank shaft Ann. S.M. Ing. Steel identification Mark on Do. - 10109 - 1923. 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 *no.* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials and workmanship good. Full power trials of Engines in shop satisfactory.*

*The Engines fitted up on board. Tested under working conditions found efficient*  
*L.G. Challinors*

Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute)

The amount of Entry Fee ... £ : :  
Special ... £ 20-0-0  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *monthly*  
When received, *monthly*

*W.B. Vallis*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 OCT. 1923

Assigned

