

REPORT ON OIL ENGINE MACHINERY.

No. 424

Received at London Office 23 JUN 1928
 10. Port of Cleveland Ohio
 11. Date, First Survey Mar. 16 Last Survey Apr. 20 1928
 12. Number of Visits 5
 13. Survey held at Grove City, Pa
 14. When handed in at Local Office 21 May 28
 15. On the Single Screw vessels (Not stated)
 16. Master Grove City Built at Grove City By whom built Bessemer Gas Eng. Co. Yard No. 424 When built 1928-4
 17. Engines made at Grove City By whom made Bessemer Gas Eng. Co. Engine No. 424 When made 1928-4
 18. Donkey Boilers made at Grove City By whom made Bessemer Gas Eng. Co. Boiler No. 424 When made 1928-4
 19. Brake Horse Power 450 Owners Nicholson Transit Co. Port belonging to Detroit
 20. Nom. Horse Power as per Rule 115 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

21. Type of Engines Bessemer Diesel 2 or 4 stroke cycle 4 Single or double acting 8
 22. Maximum pressure in cylinders 550 No. of cylinders 6 No. of cranks 6 Diameter of cylinders 14"
 23. Length of stroke 18 Revolutions per minute 245 Means of ignition Solid injection Kind of fuel used Diesel oil
 24. Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 14.25"
 25. Distance between centres of main bearings 24" Is a flywheel fitted Yes Diameter of crank shaft journals 8" as per Rule 8" as fitted 10"
 26. Diameter of crank pins 10" Breadth of crank webs 10.64" as per Rule 10.64" as fitted 12 1/2" Thickness of ditto 4.48" as per Rule 4.48" as fitted 5 1/4"
 27. Diameter of flywheel shaft 8" as per Rule 8" as fitted 10" Diameter of tunnel shaft 8" as per Rule 8" as fitted 10" Diameter of thrust shaft 8" as per Rule 8" as fitted 10"
 28. Diameter of screw shaft 8" as per Rule 8" as fitted 10" Is the screw shaft fitted with a continuous liner the whole length of the stern tube
 29. 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
 30. 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
 31. 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
 32. Type of outer gland fitted to stern tube Length of stern bush Diameter of propeller
 33. Pitch of propeller Duct No. of blades 4 state whether moveable Yes Total surface 1 square feet
 34. Method of reversing Duct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 1"
 35. Are the cylinders fitted with safety valves Yes Means of lubrication Forced feed Are the exhaust pipes and silencers water cooled or lagged with
 36. non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
 37. No. of cooling water pumps Is the sea suction provided with an efficient strainer which can be cleared
 38. within the vessel No. of bilge pumps fitted to the main engines Diameter of ditto Stroke
 39. Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines How driven
 40. Sizes of pumps No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
 41. and in holds, etc. No. of ballast pumps How driven Sizes of pumps
 42. Is the ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
 43. Engine Room and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
 44. Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship
 45. Are they valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
 46. 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
 47. 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
 48. communication between the sea and the bilges Is the screw shaft funnel watertight Is it fitted with a watertight door
 49. worked from If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork 15 HP. Elect. Motor
 50. No. of main air compressors One No. of stages Two Diameters 5 1/2" + 2 3/4" Stroke 5" Driven by Motor
 51. No. of auxiliary air compressors No. of stages Diameters Stroke Driven by
 52. No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by
 53. No. of scavenging air pumps Diameter Stroke Driven by
 54. 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
 55. as fitted

56. AIR RECEIVERS:—No. of high pressure air receivers Internal diameter Cubic capacity of each
 57. Material Seamless, lap welded or riveted longitudinal joint Range of tensile strength
 58. Thickness working pressure by Rules No. of starting air receivers Internal diameter
 59. Material Seamless, lap welded or riveted longitudinal joint
 60. Working pressure by rules Is each receiver, which can be isolated,
 61. Can the internal surfaces of the receivers be examined What means are provided for cleaning their
 62. Is there a drain arrangement fitted at the lowest part of each receiver
 63. Surfaces

If so, is a report now forwarded?

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARK.
ENGINE CYLINDERS		550 #	4/5 #		The tests were not witnessed by the undersigned
" " COVERS		550 #	4/5 #		
" " JACKETS.....		15 #	4/5 #		
" PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....					
" 2nd "		250 #			
" 3rd "					
AIR RECEIVERS—STARTING					
" INJECTION		250 #			
AIR PIPES		1000 #			
FUEL PIPES		4000 #			
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

Receivers 70

Separate Tanks

SPARE GEAR ✓

The foregoing is a correct description,
 J. Bessing Gas Engine Co
 147 Oxford Street London W. Manufacturers.

Dates of Survey while building	{	During progress of work in shops--	March 16, 17. April 5, 6, 7, 20
		During erection on board vessel--	
	Total No. of visits		5

(Total No. of visits 2)

Dates of Examination of principal parts—Cylinders Mar. 16 to Apr. 20 Covers Mar. 16 to Apr. 20 Pistons Mar. 16 to Apr. 20 Rods Mar. 16 to Apr. 20 Connecting rods Mar. 16 to Apr. 20

Crank shaft Mar. 16 to Apr. 20 Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____ Stern tube _____ Engine seatings _____

Engines holding down bolts.....	Completion of pumping arrangements.....	Engines tried under working conditions.....
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Completion of fitting sea connections	Stern tube	Screw shaft and propeller
Material of crank shaft	Identification Mark on Do.	Identification Mark on Do.

LLOYDS 434-732
 2-2-26 1-27-28
 W. J. F.

Steel
 Steel
 LLOYDS 434-732
 2-2-26 1-27-28
 W. J. F.

Material of tunnel shafts.....	Identification Marks on Do.....	Material of screw shafts.....	Identification Marks on Do.....
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Is the flash point of the oil to be used over 150° F.

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.) The above engines have been built under Special Survey. The materials & workmanship employed in their construction were found to be sound efficient. The vessel for which they are intended is not classed with this Society.

The amount of Entry Fee	...	£	:	:	When applied for,
Special	...	£	:	:	31 May 1978
Donkey Boiler Fee	...	£	:	:	When received,
Travelling Expenses (if any)	...	£	:	:	19

Committee's Minute NEW YORK JUN 13 1928

signed *Transmit to London*

G. Drummond
Engineer Surveyor to Lloyd's Register of Shipping.

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