

REPORT ON OIL ENGINE MACHINERY.

No. 57292.
15 AUG 1941

Received at London Office

Date of writing Report

19 When handed in at Local Office

14 AUG 1941

Port of

HULL

No. in Survey held at
Reg. Book.

Hessle

Date, First Survey

9. 4. 41

Last Survey

1. 8. 1941

Number of Visits

13

on the ^{Single}
~~Twin~~
~~Triple~~
~~Quadruple~~ Screw vessel**"EMPIRE BANK"**Tons { Gross 402
Net 183

Built at Hessle By whom built H. J. Scarr & Co. Yard No. 417 When built 1941-8
 Engines made at Manchester By whom made Crosley Bros. Engine No. 12799 When made do.
 Donkey Boilers made at None By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 385 Owners Ministry of Shipping Port belonging to Hull
 Nom. Horse Power as per Rule 135 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Coasting

OIL ENGINES, &c.—Type of Engines Direct injection, heavy oil. 2 or 4 stroke cycle 2 Single or double acting 2
 Maximum pressure in cylinders 800 lbs/sq. in. Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cylinders 7 No. of cranks 7
 Mean Indicated Pressure 76 lbs/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 1/16" Is there a bearing between each crank Yes
 Revolutions per minute 300 Flywheel dia. 37 1/2" Weight 2166 lbs Means of ignition Comp. Kind of fuel used Heavy oil
 Crank Shaft, { Solid forged dia. of journals as per Rule App. as fitted 7 1/2" Crank pin dia. 7 1/4" Crank Webs Mid. length breadth 9 1/4" Thickness parallel to axis 1"
 { Semi built All built Mid. length thickness 3 23/32" shrunk Thickness around eye-hole 1"
 Flywheel Shaft, diameter as per Rule App. as fitted 5 1/8" Intermediate Shafts, diameter as per Rule App. as fitted 5 1/4" Thrust Shaft, diameter at collars as per Rule App. as fitted 5 1/4"
 Tube Shaft, diameter as per Rule App. as fitted 5 1/4" Is the { tube screw } shaft fitted with a continuous liner No
 Bronze Liners, thickness in way of bushes as per Rule App. as fitted 5 1/4" Thickness between bushes as per Rule App. as fitted 5 1/4" Is the after end of the liner made watertight in the propeller boss ✓
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓
 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 ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes Length of Bearing in Stern Bush next to and supporting propeller 24"
 Propeller, dia. 67" Pitch 4' 1" No. of blades 4 Material bronze whether Moveable Solid Total Developed Surface 11.6 sq. feet
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced
 Thickness of cylinder liners 1 1/8" Are the cylinders fitted with safety valves Yes 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 Up funnel
 Cooling Water Pumps, No. One M.E. 5" x 3" Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. One Diameter 5" Stroke 3" Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line { No. and Size One 5" x 3" { One 40 tons/hr. { One 8 tons/hr.
 { How driven Main Engine { Aux. Diesel Engine { Belt driven from Main Engine shaft
 Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓
 Ballast Pumps, No. and size One 40 tons/hr. included above Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 3/16" x 1 3/4" x 2" Stroke
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 3 in No. 2 1/2" dia. & one 2" dia. in oil well. In Pump Room ✓
 In Holds, &c. F.P. 3" dia. A.P. 3" dia. & 4" dia. 2 in No. 2 1/2" dia.
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 2 1/2" dia. included above
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges 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 ✓
 What pipes pass through the bunkers None How are they protected ✓
 What pipes pass through the deep tanks None Have they been tested as per Rule ✓
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door ✓ 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 ✓
 Main Air Compressors, No. One No. of stages 2 Diameters 5 3/4" & 2 1/2" Stroke 4" Driven by Main Engine
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Small Auxiliary Air Compressors, No. One No. of stages 4 Diameters 3 1/4" Stroke 3 1/4" Driven by Aux. Engine
 What provision is made for first Charging the Air Receivers See Above aux. Engine 10' hand starting
 Scavenging Air Pumps, No. 3 in line vertically Diameter 20 1/2" Stroke 7 1/4" Driven by Main Engine
 Auxiliary Engines crank shafts, diameter as per Rule See Nottingham Rpt. as fitted ✓ No. One Position Port. Side of Engine Room
 Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith ✓ Nottingham C-266

AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate *Man Rpt 10541*

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

Injection Air Receivers, No. *✓*Cubic capacity of each *✓*Internal diameter *✓*thickness *✓*Seamless, lap welded or riveted longitudinal joint *✓*Material *✓*Range of tensile strength *✓*Working pressure *✓*by Rules *✓*Actual *✓*Starting Air Receivers, No. *2*Total cubic capacity *30 cu ft.*Internal diameter *24 1/8"*thickness *7/8" x 1 1/32"*Seamless, lap welded or riveted longitudinal joint *✓*Material *Steel*Range of tensile strength *End. 26/30 ksi/0"*Working pressure *End. 20/32 ksi/0"*by Rules *350*Actual *350*IS A DONKEY BOILER FITTED? *NO*If so, is a report now forwarded? *✓*Is the donkey boiler intended to be used for domestic purposes only *✓*PLANS. Are approved plans forwarded herewith for Shafting *2-4-41 & 27/4/40* Receivers *Pollocks 1776-7*Separate Fuel Tanks *Liv. 15-10-40*Donkey Boilers *✓*General Pumping Arrangements *30-5-40*Pumping Arrangements in Machinery Space *1-8-40*Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *✓*State the principal additional spare gear supplied *See attached list*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops--

During erection on board vessel--

Total No. of visits

1941. Apr. 9. May. 27. 30 June. 4. 19. 27. 30.

July. 11. 17. 19. 22. 26. Aug. 1.

13

Dates of Examination of principal parts—Cylinders *Man Rpt* Covers *Man Rpt* Pistons *Man Rpt* Rods *✓* Connecting rods *Man Rpt*Crank shaft *Man Rpt* Flywheel shaft *✓* Thrust shaft *Man Rpt* Intermediate shafts *11-7-41* Tube shaft *✓*Screw shaft *9-4-41* Propeller *9-4-41* Stern tube *9-4-41* Engine sealings *9-4-41* Engines holding down bolts *17-7-41*Completion of fitting sea connections *9-4-41* Completion of pumping arrangements *1-8-41* Engines tried under working conditions *1-8-41*Crank shaft, Material *Steel* Identification Mark *1188 ELK. 10-9-40* Flywheel shaft, Material *✓* Identification Mark *✓*Thrust shaft, Material *Steel* Identification Mark *B41 W.F. 24-4-41* Intermediate shafts, Material *Steel* Identification Marks *5135 J.F.C. 23-7-41*Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *5136 J.F.C. 26-7-41*Identification Marks on Air Receivers *E. 1941. J.N.B. 5-12-40**E. 1964 J.N.B. 12.12.40.*Is the flash point of the oil to be used over 150° F. *✓*Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *✓*Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *NO*If so, have the requirements of the Rules been complied with *✓*If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *NO*Is this machinery duplicate of a previous case *✓*If so, state name of vessel *EMPIRE ISLE*

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

The Machinery of this Vessel has been constructed & fitted on board under Special Survey in accordance with the approved plans & the Rules. The workmanship & materials are good & when tried under full working conditions it was found satisfactory in every respect. It is eligible, in my opinion, to be classed with the record of *2-4-41 M.C. 8-41. O.G.* & the notation of *Oil Eng. 2-S.C.S.A. 7 Cy. 10 1/2" - 13 1/2" - 135 NHP.*

The Machinery has been installed in accordance with the Specification

The amount of Entry Fee .. £ : : When applied for, *14.8.19*

1/3 Special + 25% ... £ 14 : 1 : : When received, *19*

Donkey Boiler Fee ... £ : : : *19*

Travelling Expenses (if any) £ : : : *19*

Committee's Minute

Assigned

+ d.m.b. 8-41

oil Eng. O.G.

Engineer Surveyor to Lloyd's Register of Shipping.



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