

REPORT ON OIL ENGINE MACHINERY.

No. 57292
15 AUG 1941

Received at London Office

14 AUG 1941

Port of HULL

Date of writing Report

When handed in at Local Office

No. in Survey held at Reg. Book.

Hessle

Date, First Survey 9.4.41

Last Survey 1.8.41

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 Ltd 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 do. 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 200 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 ✓ Mid. length thickness 3 23/32 shrunk Thickness around eye-hole ✓

Flywheel Shaft, diameter as per Rule App. as fitted 5 1/8 Intermediate Shafts, diameter as per Rule App. as fitted 5 1/8 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 Screw 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 ✓ Thickness between bushes as per Rule App. as fitted ✓ 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 two liners are fitted, is the shaft lapped or protected between the liners. Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes

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 7/8 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

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" How driven Main Engine { One 40 tons/hr. { One 8 tons/hr. 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 included above

Ballast Pumps, No. and size One 40 tons/hr. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 3/16 & 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 AP 3" dia & 4 Hold 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 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 No 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 One 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 to 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 ✓

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *Ma Rpt 10541*

Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*
Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*

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

Starting Air Receivers, No. *2* Total cubic capacity *30 cu ft.* Internal diameter *24 1/8"* thickness *7/8" x 15/32"*
End pooling seawater central stroke Material *Steel* Range of tensile strength *End. 26/30 in/0'* Working pressure *by Rules 350*
End welded with riveted straps Actual *350*

IS A DONKEY BOILER FITTED? *Yes* 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*
(If not, state date of approval)

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 *Yes*
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 *13*
1941. Apr. 9 - May. 27. 30 June. 4. 19. 27. 30.
July. 11. 17. 19. 22. 26. Aug 1.

Dates of Examination of principal parts—Cylinders *Ma Rpt* Covers *Ma Rpt* Pistons *Ma Rpt* Rods Connecting rods *Ma Rpt*
Crank shaft *Ma Rpt* Flywheel shaft Thrust shaft *Ma 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. *Yes*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*
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 *Yes* 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 P.M.C. 8.41. 09. & the notation of Oil Eng. 2.S.C.S.A. 7 Cy. 10 1/2" - 13 1/2" - 135 N.H. The Machinery has been installed in accordance with the specifications.

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	£	:	:	When applied for,
<i>1/3</i> Special <i>25%</i>	£	<i>14</i>	<i>1</i>	<i>14.8.1941</i>
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	<i>19</i>

D. J. J. J.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned *+ d.m.b. 8.41 oil eng. 09.*

