

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

12 MAR 1942

Received at London Office

19 MAR 1942

Date of writing Report 26. 2. 1942 When handed in at Local Office HULL to HULL Port of HULL

No. in Survey held at HULL Date, First Survey 12. 2. 41 Last Survey 15. 2. 1942  
 Reg. Book. on the STUG. EMPIRE LINDEN (Number of Visits 48.)

Built at HESSE By whom built Richard Dunstan & Co Ltd Yard No. 5. 419 When built 1942-2

Engines made at HULL By whom made Chas D. Holmes & Co Ltd Engine No. 1578 When made do

Boilers made at HULL By whom made Chas D. Holmes & Co Ltd Boiler No. 1578 When made do

Registered Horse Power 177 Owners The Ministry of War Transport Port belonging to do

Non- Horse Power as per Rule 177 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which Vessel is intended Trawling purposes.

ENGINES, &c.—Description of Engines Triple expansion. Revs. per minute 116.

Dia. of Cylinders 16"-26"-43" Length of Stroke 30" No. of Cylinders 3. No. of Cranks 3

Crank shaft, dia. of journals as per Rule 8.8" as fitted 9 1/8" Crank pin dia. 9 1/8" Crank webs Mid. length breadth shrunk Thickness parallel to axis 5 3/4" Mid. length thickness shrunk Thickness around eye-hole 4 1/6"

Intermediate Shafts, diameter as per Rule 8.375" as fitted 8 5/8" Thrust shaft, diameter at collars as per Rule 8.8" as fitted 9 1/8"

Tube Shafts, diameter as per Rule 9.7" as fitted 9 1/8" Is the screw shaft fitted with a continuous liner No.

Screw Shaft, diameter as per Rule 9.7" as fitted 9 1/8"

Bronze Liners, thickness in way of bushes as per Rule do as fitted do Thickness between bushes as per Rule do as fitted do Is the after end of the liner made watertight in the propeller boss Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes

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 Yes

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 Yes

Propeller, dia. 11'-0" Pitch 11'-8" No. of Blades 4. Material C.I. whether Moveable No. Total Developed Surface 46 sq. feet

Feed Pumps worked from the Main Engines, No. 2. Diameter 3" Stroke 18" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 3" Stroke 18" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size One 7 x 5 x 6" Duplex Pumps connected to the Main Bilge Line { No. and size 2 @ 3 x 18" One 7 x 7 x 8" Duplex  
 How driven Independent Pm. How driven M. Engine } Independent Pm.

Ballast Pumps, No. and size One 7 x 7 x 8" Duplex Lubricating Oil Pumps, including Spare Pump, No. and size None

Are two independent means arranged for circulating water through the Oil Cooler None

Bilge Pumps;—In Engine and Boiler Room 2 @ 2" dia. 2 @ 2 1/4" dia. Suctions, connected to both Main Bilge Pumps and Auxiliary do

In Pump Room One at 2" dia in each space In Holds, &c. Fore peak, Fore hold, Aft Peak

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 5 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One @ 2 1/4" One @ 2 1/4" Duplex

Are all the Bilge Suctions in the Machinery Space 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 On plate boxes Are they fitted with Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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 Yes

What Pipes pass through the bunkers None How are they protected do

What pipes pass through the deep tanks None Have they been tested as per Rule Yes

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 None Is it fitted with a watertight door do worked from do

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 2778 sq ft

Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters None

No. and Description of Boilers 1. S.B. Working Pressure 210 lbs./sq"

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? do

Can the donkey boiler be used for domestic purposes only do

PLANS. Are approved plans forwarded herewith for Shafting 5. 1. 41 Main Boilers 8. 8. 40 Auxiliary Boilers do Donkey Boilers do

(If not state date of approval)

Superheaters do General Pumping Arrangements 1. 11. 40 Oil fuel Burning Piping Arrangements do

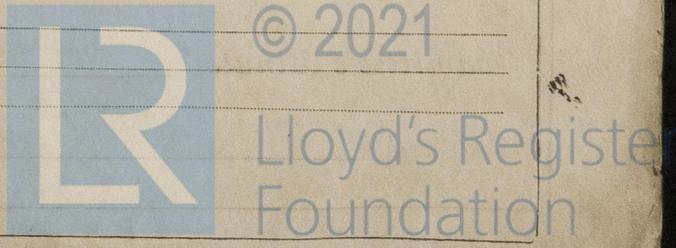
SPARE GEAR.

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.  
 FOR CHARLES D. HOLMES & CO., LTD.

W.R. Brown Manufacturer.



23/9/41

# EMPIRE LINDEN.

Dates of Survey while building

During progress of work in shops -- 1941. Feb. 12. Apr. 11. June 13. 19. July 25. Aug. 15-29. Sept. 1. 2. 9. 12. 15. 16. 18. 19. Oct. 3. 10. 11. Oct. 17. 24. 29. 31. Nov. 7. 11. 12. 14. 17. 19. 21. 29. 30. Dec. 1. 3. 4. 15. 17. 24. 29. 30.

During erection on board vessel -- 1942. Jan. 1. 7-20. 23. Feb. 3. 10. 12. 13. 15.

Total No. of visits 48.

Dates of Examination of principal parts—

Cylinders 11/10/41. 24/10/41. 29/10/41 Slides 15/8/41. Covers 11/11/41. 24/10/41. 29/10/41.

Pistons 15/8/41. 19/9/41. 3/10/41. Piston Rods 31/10/41. Connecting rods 21/11/41.

Crank shaft 10/10/41. Thrust shaft 11/10/41. Intermediate shaft 16/9/41.

Tube shaft ✓ Screw shaft 12/9/41. Propeller 19. 9. 41.

Stern tube 15. 9. 41 Engine and boiler seatings 19. 9. 41 Engines holding down bolts 17. 12. 41

Completion of fitting sea connections 15. 9. 41

Completion of pumping arrangements 12. 2. 42. Boilers fixed 17. 12. 41 Engines tried under steam 15. 2. 42.

Main boiler safety valves adjusted 12. 2. 42 Thickness of adjusting washers F 1/32" A 5/16"

Crank shaft material M.S. Coupling 5832. Journal 5833. AEG. 29/9/41. Identification Mark Pins 5698. Thrust shaft material M.S. 5835 AEG. 23-7-41.

Intermediate shaft material M.S. Identification Marks 5934 AEG. Tube shaft material ✓ Identification Mark ✓

Screw shaft, material M.S. Identification Mark 5494 AEG. 16/7/41. Steam Pipes, material Steel ✓ Test pressure 630. Date of Test 29/12/41.

Is an installation fitted for burning oil fuel 0/0 Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of the Rules for the use of oil as fuel been complied with ✓

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo 0/0 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 0/0

Is this machinery duplicate of a previous case 0/0 If so, state name of vessel EMPIRE. BIRCH.

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

The Machinery of this Vessel has been fitted on board & constructed in accordance with the approved plans, the Rules & the Specification.

The workmanship & materials are good & when tried under steam it was found satisfactory in every respect.

It is eligible, in our opinion, to have the records of L.M.C. 2. 42. ? O.G. & the notations of T. 3 Cy. 16. 26. 43. - 30" 177 NHP. 210 lbs. 1. 8B. 3 Cf. G.S. 64. H.S. 2778. F.D.

The amount of Entry Fee ... £ 5 : 0 : When applied for, Special Specification ... £ 44 : 5 : 13 MAR 1942 Donkey Boiler Fee ... £ 11 : 1 : When received, Travelling Expenses (if any) £ : : 19

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*[Signatures]*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned

