

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 23 MAR 1942

Date of writing Report 21/3/42 When handed in at Local Office 21/3/42 Port of *W. Hartlepool*

No. in Survey held at *Hartlepool* Date, First Survey 15<sup>th</sup> August, 1941. Last Survey 26<sup>th</sup> March, 1942

Reg. Book. on the *s/s 'EMPIRE DICKENS'* (Number of Visits 93)

Gross Tons 9819

Net Tons

Built at *Haverhill Hill* By whom built *Towness Shipbuilding Co. Ltd.* Yard No. 341 When built 1942

Engines made at *Hartlepool* By whom made *Richardsons Westgarth & Co.* Engine No. 2413 When made 1942

Boilers made at *"* By whom made *"* Boiler No. 2413 When made 1942

Registered Horse Power Owners *Ministry of Sea Transport.* Port belonging to

Nom. Horse Power as per Rule 674 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

Trade for which Vessel is intended

ENGINES, &c.—Description of Engines *Triple expansion, vertical, Surface Condensing*

Dia. of Cylinders *27" x 44" x 76"* Length of Stroke *51"* No. of Cylinders *3* Revs. per minute *85.5*

Crank shaft, dia. of journals *as per Rule 15.214"* Crank pin dia. *16"* Crank webs *Mid. length breadth* Thickness parallel to axis *9 3/8" 10 3/8"*

Intermediate Shafts, diameter *as per Rule 14.49"* Thrust shaft, diameter at collars *as per Rule 15.214"* Thickness around eye-hole *8 1/2"*

Tube Shafts, diameter *as per Rule* Screw Shaft, diameter *as per Rule 16.04"* Is the *tube* shaft fitted with a continuous liner *Yes*

Bronze Liners, thickness in way of bushes *as per Rule 7.9"* Thickness between bushes *as per Rule 13/16"* 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 shaft *No* If so, state type

Propeller, dia. *18'-3"* Pitch *varying* No. of Blades *4* Material *brass* whether Moveable *No* Total Developed Surface *131.75* sq. feet

Feed Pumps worked from the Main Engines, No. *2* Diameter *5"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

Bilge Pumps worked from the Main Engines, No. *2* Diameter *5"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

Feed Pumps { No. and size *2-12" x 9" x 24"* ; *1-9" x 6" x 10"* Pumps connected to the { No. and size *2-5" x 27"* ; *5" Connector Bilge Pump*

How driven *Steam* Main Bilge Line How driven *Man. Oper.* ; *Steam*

Ballast Pumps, No. and size *1-10" x 12" x 12"* Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler

Bilge Pumps;—In Engine and Boiler Room *3 1/2" aft well, 3 1/2" E.R.P., 3 1/2" E.R.S., 2 1/2" Copden, 3 1/2" B.R.P., 3 1/2" B.R.S.*

In Pump Room *MAIN. 2-4" FORD. 1-2 1/2"* In Holds, &c. *FORE PEAK 1-4" DEEP TANK 2-2 1/2" COFF. D. 1-4", COFF. D. (aft.) 3" water*

ector. Aft. PEAK 1-4"

Main Water Circulating Pump Direct Bilge Suctions, No. and size *1-10" p.* Independent Power Pump Direct Suctions to the Engine Room, Bilges, No. and size *1-5" S.*

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes *mudbox, valve steel pipe*

Are 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 *Yes* 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 *below*

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

What pipes pass through the deep tanks *Yes* 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 *none* Is it fitted with a watertight door *worked from*

MAIN BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *10020 sq. ft.*

Which Boilers are fitted with Forced Draft *all* Which Boilers are fitted with Superheaters *all*

No. and Description of Boilers *3 L.E. Multitubular* Working Pressure *220 LB/SQ. IN.*

IS A REPORT ON MAIN BOILERS NOW FORWARDED? *Yes*

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

Can the donkey boiler be used for domestic purposes only *Yes*

PLANS. Are approved plans forwarded herewith for Shafting *2/1/40 30/10/39* Main Boilers *16/10/39* Auxiliary Boilers *Yes* Donkey Boilers *Yes*

(If not state date of approval)

Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements *28/10/41*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes.*

State the principal additional spare gear supplied

The foregoing is a correct description.

For RICHARDSONS, WESTGARTH &amp; Co. LIMITED.

Manufacturer.

DIRECTOR



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Lloyd's Register  
Foundation

005020-005028-0178



1941. Aug. 15. Sept. 5. 22. 24. 26. 30. Oct. 4. 8. 9. 16. 21. 23. 31. Nov. 3. 4. 7. 10. 11. 12. 14. 17. 18. 19. 20. 21. 25. Dec. 4. 5. 6.  
 During progress of work in shops -- 9. 11. 12. 16. 17. 19. 23. 24. 26. 29. 1942. Jan. 2. 5. 6. 7. 9. 12. 15. 16. 17. 19. 20. 21. 22. 23. 26. 27. 28. 29. 31. Feb. 2. 3. 4. 5. 6. 9. 10. 11. 12. 13. 14. 16. 17. 18. 19. 20. 21. 23. 24. 25. 26. 27. March 2. 3. 4. 5. 9. 10. 11. 12. 13. 16. 18. 19. 20.  
 Dates of Survey while building During erection on board vessel -- 1942 Jan. 8. 15. 24. Feb. 10. 25. March 6. 18. 25. 28. 31. April 1. 3. 4. 8.  
 Total No. of visits 93. Incl. 14 visits

Dates of Examination of principal parts—Cylinders 30/9/41 Slides 28/11/41 Covers 28/11/41  
 Pistons 28/11/41 Piston Rods 17/11/41 Connecting rods 20/10/41  
 Crank shaft 8/10/41 Thrust shaft 31/10/41 Intermediate shafts 4/2/42  
 Tube shaft ✓ Screw shaft 31/1/42 Propeller ✓ 10/2/42.  
 Stern tube 31/1/42 Engine and boiler seatings 6/3/42 Engines holding down bolts 18/3/42.  
 Completion of fitting sea connections 1/4/42  
 Completion of pumping arrangements 3/4/42. Boilers fixed 18/3/42. Engines tried under steam 1/4/42.  
 Main boiler safety valves adjusted 31/3/42 Thickness of adjusting washers P.B.H.P. 1 1/2 S. 3/8 - C.B.H.P. 1 1/2 S. 5/16 - S.B.H.P. 1 1/2 S. 7/16.  
 Crank shaft material steel Identification Mark 9822 HAI Thrust shaft material steel Identification Mark 9822 HAI  
 Intermediate shafts, material steel Identification Marks 9822 HAI Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material steel Identification Mark 9822 HAI Steam Pipes, material ✓ Test pressure 660 LB/SQ. IN. Date of Test ✓  
 Is an installation fitted for burning oil fuel Yes. Is the flash point of the oil to be used over 150°F. Yes.  
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes.  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ 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 ✓  
 Is this machinery duplicate of a previous case Yes If so, state name of vessel R/V. 2412 FASEDALE  
 General Remarks (State quality of workmanship, opinions as to class, &c.)

The engines & boilers of this vessel have been constructed under Special Survey & in accordance with the Specification & approved plans.  
 The workmanship & materials have been found good.  
 The machinery has been forwarded to Haverton Hill to be fitted on board by Messrs Furness Shipbuilding Co. in their Yard No 341.  
 In my opinion, this vessel will be eligible to have record of +LMC - with date - on completion.  
 The Machinery has now been fitted on board in accordance with the approved plans & Rule Requirements, tried out under working conditions & found satisfactory & in my opinion is eligible for record of +LMC - 4.42. & notation of TS(CU) - 4.42. force draught & superheated.  
 The ship's side valves re. inspected & strengthened in accordance with Admiralty Notice MS/2385/40 & MS.3199/40.  
 The Steam Pipes for this vessel having been made of Bessemer Steel, the class of this vessel should be made subject to examination of the main steam pipes before the end of April 1946.

Certificate 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 ... £ 6 : 0 :  
 Special. 4/5 LMC ... £ 86 : 19 :  
 Supervisors Donkey Boiler Fee ... £ 21 : 15 :  
 Special 1/5 LMC Travelling Expenses (if any) £ 21 : 15 :  
 Supervisor 5 : 8 :  
 When applied for, 20/3/1942  
 When received, 19/5/42 (note)  
 Committee's Minute FRI. 5 JUN 1942  
 Assigned Lumb. 4. 42  
 22, CR.

Clive Bell  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 L Norman Stuart