

# REPORT ON OIL ENGINE MACHINERY.

No. 19879.

26 SEP 1936

Date of writing Report 19th Sept 36 When handed in at Local Office Sept 25 1936 Port of Grimsby  
 No. in Survey held at Lincoln Date, First Survey 30th March 1936 Last Survey Sept 21 1936  
 Reg. Book. Number of Visits 31

on the Single Screw vessel M/V "CASTLE COMBE" Tons Gross 455  
Double  
Triple  
Quadruple  
 Built at Bristol By whom built Chas. Hill & Sons, Ltd. Yard No. 251 When built 1936  
 Engines made at Lincoln By whom made Ruston & Hornsby, Ltd. Engine No. 17940 When made 1936  
 Donkey Boilers made at By whom made Boiler No. When made  
 Brake Horse Power 38 Owners Old Shipping Co. Port belonging to Bristol  
 Nom. Horse Power as per Rule 7 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes  
 Trade for which vessel is intended [One engine - Size 4 J R Z] boasting

**II ENGINES, &c.** Type of Engines Airless injection, cold starting 2 or 4 stroke cycle 4 Single or double acting 4  
 Maximum pressure in cylinders 750 lbs. Diameter of cylinders 4 1/2" Length of stroke 5 1/2" No. of cylinders 4 No. of cranks 4  
mean 108 lbs. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6 1/2" Is there a bearing between each crank yes  
 revolutions per minute 1000 Flywheel dia. 19" Weight 285 lbs. Means of ignition Compression Kind of fuel used Crude oil.  
 Crank Shaft, dia. of journals as approved 3" Crank pin dia. 3" Crank Webs Mid. length breadth 3 1/2" Thickness parallel to axis shrunk  
 as fitted 3" Mid. length thickness 1 1/16" Thickness around eye hole shrunk  
 Flywheel Shaft, diameter as approved 3" Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule  
 as fitted 3" as fitted as fitted as fitted as fitted  
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner shrunk  
 as fitted as fitted as fitted as fitted

**Bronze Liners, thickness in way of bushes** as per Rule Thickness between bushes as per rule Is the after end of the liner made watertight in the  
as fitted as fitted as fitted  
 propeller boss as per Rule If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner as fitted  
 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 as fitted  
 If two liners are fitted, is the shaft lapped or protected between the liners as fitted Is an approved Oil Gland or other appliance fitted at the after end of the tube as fitted  
 If so, state type as fitted Length of Bearing in Stern Bush next to and supporting propeller as fitted

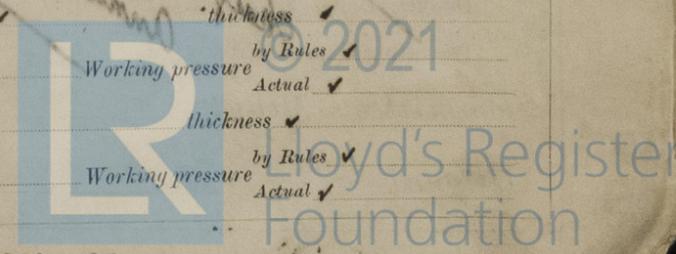
**Propeller, dia.** as fitted Pitch as fitted No. of blades as fitted Material as fitted whether Moveable as fitted Total Developed Surface as fitted sq. feet  
**Method of reversing Engines** as fitted Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication as fitted  
forced. Thickness of cylinder liners 3 1/16" Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
 non-conducting material water If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine as fitted  
**Cooling Water Pumps, No.** one Is the sea suction provided with an efficient strainer which can be cleared within the vessel as fitted  
 What special arrangements are made for dealing with cooling water if discharged into bilges as fitted

**Bilge Pumps worked from the Main Engines, No.** as fitted Diameter as fitted Stroke as fitted Can one be overhauled while the other is at work as fitted  
**Pumps connected to the Main Bilge Line** as fitted No. and Size as fitted  
as fitted How driven as fitted  
**Ballast Pumps, No. and size** as fitted **Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size** one geared.  
 Are two independent means arranged for circulating water through the Oil Cooler as fitted **Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge**  
 Pumps, No. and size:—In Machinery Spaces as fitted In Pump Room as fitted  
 In Holds, &c. as fitted

**Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size** as fitted  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes as fitted 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 as fitted  
 Are all Sea Connections fitted direct on the skin of the ship as fitted Are they fitted with Valves or Cocks as fitted  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates as fitted Are the Overboard Discharges above or below the deep water line as fitted  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel as fitted Are the Blow Off Cocks fitted with a spigot and brass covering plate as fitted  
 What pipes pass through the bunkers as fitted How are they protected as fitted  
 What pipes pass through the deep tanks as fitted Have they been tested as per Rule as fitted  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times as fitted  
 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 as fitted Is the Shaft Tunnel watertight as fitted Is it fitted with a watertight door as fitted worked from as fitted  
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork as fitted

**Main Air Compressors, No.** as fitted No. of stages as fitted Diameters as fitted Stroke as fitted Driven by as fitted  
**Auxiliary Air Compressors, No.** as fitted No. of stages as fitted Diameters as fitted Stroke as fitted Driven by as fitted  
**Small Auxiliary Air Compressors, No.** as fitted No. of stages as fitted Diameters as fitted Stroke as fitted Driven by as fitted  
**Scavenging Air Pumps, No.** as fitted Diameter as fitted Stroke as fitted Driven by as fitted  
**Auxiliary Engines** crank shafts, diameter as per Rule No.— as fitted  
as fitted Position — as fitted

**AIR RECEIVERS:** as fitted Is each receiver which can be isolated, fitted with a safety valve as per Rule as fitted  
 Can the internal surfaces of the receivers be examined and cleaned as fitted Is a drain fitted at the lowest part of each receiver as fitted  
**High Pressure Air Receivers, No.** as fitted Cubic capacity of each as fitted Internal diameter as fitted thickness as fitted  
 Seamless, lap welded or riveted longitudinal joint as fitted Material as fitted Range of tensile strength as fitted Working pressure as fitted  
as fitted Actual as fitted  
**Starting Air Receivers, No.** as fitted Total cubic capacity as fitted Internal diameter as fitted thickness as fitted  
 Seamless, lap welded or riveted longitudinal joint as fitted Material as fitted Range of tensile strength as fitted Working pressure as fitted  
as fitted Actual as fitted



IS A DONKEY BOILER FITTED?

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 **28.2.33.**  
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

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

State the principal additional spare gear supplied

**J. G. W. & Hornsby, Limited**

The foregoing is a correct description.

*J. G. W.*

Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- **March 30 April 6.16.23.30 May 4.11.14.18.21.28 June 3.8.11.15.18.22.25.29 July 6.13.16.20**  
 During erection on board vessel -- **1936 Aug 4.6.31 Sept 3.7.14.17.21.1936 Aug 12. Sept 2.3.7.19.21.23.28.30 Oct 12.14.16.21.24.27 Nov 5.7.16.19 Dec 21.**  
 Total No. of visits **31 + 20 = 51**

Dates of Examination of principal parts—Cylinders **14.5.36.** Covers **15.6.36.** Pistons **18.6.36.** Rods  Connecting rods **18.6.36.**

Crank shaft **21.5.36** Flywheel shaft **21.5.36** Thrust shaft  Intermediate shafts  Tube shaft

Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts

Completion of fitting sea connections  Completion of pumping arrangements  Engines tried under working conditions **17.9.36.**

Crank shaft, Material **Sm. steel** Identification Mark **3247.** Flywheel shaft, Material **Sm. steel** Identification Mark **3247.**

Thrust shaft, Material  Identification Mark  Intermediate shafts, Material  Identification Marks

Tube shaft, Material  Identification Mark  Screw shaft, Material  Identification Mark

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  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 **unknown. Grimaby report N° 19610.**

General Remarks (State quality of workmanship, opinions as to class, &c.) **The workmanship + materials are good.**

**The engine has been built under Special Survey in accordance with the Rules + Approved plans. Running trials were carried out at the Maker's works under brake load with satisfactory results.**

**The engine is being forwarded to Bristol, to be fitted on board the vessel (Yard N° 257) now under construction by Messrs Chas. Hill + Sons, Ltd.**

*This auxiliary engine has now been fitted + secured on board. Trial run full working conditions + found satisfactory*

*Request form attached*

*Ref. H416/P/11-5540.*

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

*changed in the Annual %c.*

*H. L. Silditch + John W. Guynn*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI 22 JAN 1937

TUE 4 MAY 1937

Assigned *See Res 13590.*



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