

REPORT ON OIL ENGINE MACHINERY.

No. 75010

TUE. 6 DEC. 1921

Received at London Office

Writing Report

When handed in at Local Office

14.11.21 Port of

Newcastle-on-Tyne.

in Survey held at

So. Shields.

Date, First Survey

5 April 1921

Last Survey 9 Nov. 1921

Book.

on the ^{Single}
~~Triple~~ Screw vessels

s.s. "Arran Firth"

Tons ^{Gross}
~~Net~~

er

Built at

So. Shields

By whom built *Hepbles (1919) Ltd*

Yard No. 657. When built 1921

ines made at

Stockholm

By whom made *J.C. & Bolinders Co. Ltd*

Engine No. When made

key Boilers made at

None.

By whom made

Boiler No. — When made —

ke Horse Power

320

Owners

*Ferrum S.S. Co. Ltd*Port belonging to *Glasgow.*

Horse Power as per Rule

91.

Is Refrigerating Machinery fitted for cargo purposes

No. Is Electric Light fitted *Yes.*

ENGINES, &c. Type of Engines

*Roller Oil Engine*2 ~~or 4~~ stroke cycleSingle ~~or double~~ acting *Reversible*

um pressure in cylinders

No. of cylinders

No. of cranks

Diameter of cylinders

of stroke

Revolutions per minute

Means of ignition

Kind of fuel used

a bearing between each crank

Span of bearings (Page 92, Section 2, par. 7 of Rules)

ce between centres of main bearings

Is a flywheel fitted

Diameter of crank shaft journals

as per Rule

er of crank pins

Breadth of crank webs

Thickness of ditto

ter of flywheel shaft

as per Rule

Diameter of tunnel shaft

as per Rule

Diameter of thrust shaft

as per Rule

ter of screw shaft

as per Rule

Is the screw shaft fitted with a continuous liner the whole length of the stern tube.

No liner.

after end of the liner made watertight in the propeller boss

If the liner is in more than one length are the joints burned

liners are fitted, is the shaft lapped or protected between the liners

If without liners, is the shaft arranged to run in oil

of outer gland fitted to stern tube

None.

Length of stern bush

2'-6"

Diameter of propeller

6'-6"

of propeller

5'-1"

No. of blades

3.

state whether moveable

Fixed.

Total surface

15 sq.

square feet

d of reversing *Timing Friction Clutch* Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Yes.

Thickness of cylinder liners

e cylinders fitted with safety valves

Means of lubrication

Are the exhaust pipes and silencers water cooled or lagged with

inducting material

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Exhausts up funnel.

No. of cooling water pumps

Is the sea suction provided with an efficient strainer which can be cleared

n the vessel

Yes.

No. of bilge pumps fitted to the main engines

1

Diameter of ditto

4"

Stroke

5"

me be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

1

How driven

Belt driven from main dynamo, or aux. dynamo

of pumps

2" Swainson Rotary.

No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

3-2"

n holds, etc.

3-2"

No. of ballast pumps

1

How driven

Belt driven

Sizes of pumps

2" Swainson Rotary

e ballast pump fitted with a direct suction from the engine room bilges

yes 2"

State size

2"

Is a separate auxiliary pump suction fitted in

ne Room and size

No.

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine Room always accessible

Yes

the sluices on Engine Room bulkheads always accessible

None.

Are all connections with the sea direct on the skin of the ship

Yes.

they valves or cocks

Valves.

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

Yes.

the discharge pipes 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.

all pipes, cocks, valves and pumps in connection with the machinery accessible at all times

Yes.

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

unication between the sea and the bilges

Yes.

Is the screw shaft tunnel watertight

None.

Is it fitted with a watertight door

Yes.

ed from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

of main air compressors

Yes.

No. of stages

Yes.

Diameters

Yes.

Stroke

Yes.

Driven by

Yes.

of auxiliary air compressors

None.

No. of stages

—

Diameters

—

Stroke

—

Driven by

—

of small auxiliary air compressors

1.

No. of stages

Double Acting

Diameters

3"

Stroke

3"

Driven by

Hand.

of scavenging air pumps

None.

Diameter

Stroke

—

Driven by

—

meter of auxiliary Diesel Engine crank shafts

as per Rule
as fitted

Are the air compressors and their coolers made so as to be easy of access

Yes.

RECEIVERS:—No of high pressure air receivers

Internal diameter

Cubic capacity of each

erial

Seamless, lap welded or riveted longitudinal joint

Range of tensile strength

ness

working pressure by Rules

No. of starting air receivers

Internal diameter

al cubic capacity

Material

Seamless, lap welded or riveted longitudinal joint

ge of tensile strength

thickness

Working pressure by rules

Is each receiver, which can be isolated,

d with a safety valve as per Rule

Can the internal surfaces of the receivers be examined

What means are provided for cleaning their

r surfaces

Is there a drain arrangement fitted at the lowest part of each receiver

IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS.....					
" " PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....					
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS	24. 8. 21. 17. 8. 21. 1. 9. 21.		2 5 1/2 lb" 2 5 1/2 lb" 2 5 1/2 lb"	J.P. J.P. J.P.	

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

Receivers

Separate Tanks

SPARE GEAR 1 Cylinder Cover. 1 set top and frames. 1 H.P. compression ring for piston. 2 spare sight feed glasses for 1 doz. blow lamp burner nozzles. 1 " bottom " " 1 H.P. " " " 2 " " " bearing. 2 bolts nuts for connecting rod frames. 2 bolts nuts for gudgeon pin bearings. 2 pressure valves for bilge pump 3 bolts & nuts for cylinder cover. 1 bolt & nut for connecting cylinder to crank case. 2 suction " " " 1 screw for fastening the thrust bearing. 1 screw for fastening the lubricator. 1 bolt with nuts for eccentric rod. 1 bolt with nut for killing arm. 1 bolt with nut for regulating weights. 2 bolts for main bearings. 1 set coupling bolts for propeller shaft.

The foregoing is a correct description,

For HEPPLES (1919) LIMITED,

W. J. Hepples
MANAGING DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1921
During erection on board vessel --
Total No. of visits 27
Apr. 5. 12. 13. 19. 20. 25 May 9. Jul. 1. 28. 29. Aug. 3. 8. 10. 23. 31. Sep. 13. 20. 21. 23. Oct. 5. 10. 11. 18. 26. Nov. 4.

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
Crank shaft Thrust shaft Tunnel shafts 20.5.21. Screw shaft 20.5.21 Propeller 9.5.21 Stern tube 5.4.21 Engine seatings 28.7
Engines holding down bolts 23.8.21 Completion of pumping arrangements 9.11.21 Engines tried under working conditions 9.11.21
Completion of fitting sea connections 3.8.21 Stern tube 28.7.21 Screw shaft and propeller 28.7.21
Material of crank shaft Identification Mark on Do. Material of thrust shaft Identification Mark on Do.
Material of ~~crank~~ shafts forged iron Identification Marks on Do. 20.5.21 Material of screw shafts forged iron Identification Marks on Do. 20.5.21
Is the flash point of the oil to be used over 150° F. Yes.
Is this machinery duplicate of a previous case No If so, state name of vessel

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

The machinery of this vessel has been fitted out, on board, under special survey, & the materials & workmanship are good.

After fitting in place on board, the machinery was examined under working conditions, & light & loaded ship trials carried out & found to work satisfactorily.

The machinery throughout is now in good & efficient condition & eligible in my opinion to have the record of L.M.C. 11.21. Marked in the Society's Register Book.

It is submitted that this vessel is eligible for

THE RECORD. L.M.C. - 11.21. (Annual Survey)

Oil Engines 2 S.C.S.A. 4 Cy. 16 2/3 " 18 7/8 " 91 N.H.P.

The amount of Entry Fee ... £
Special ... £ 14. 17.
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
When applied for, 11/12/21
When received, 10.3.22

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

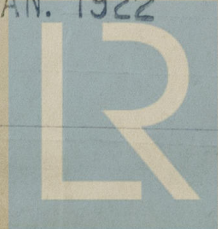
FRI. 16 DEC. 1921

Assigned

L.M.C. 11.21
oil engines

MACHINERY CERT
WRITTEN

20 JAN. 1922



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Lloyd's Register
Foundation