

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

2 DEC 1942

Date of writing Report 17 SEP 1942

When handed in at Local Office 17 SEP 1942

Port of

IPSWICH

No. in Survey held at

Farnmouth

Date, First Survey 24 Nov. 1941

Last Survey 23 August 1942

Reg. Book.

on the Single Screw Tug "EMPIRE ARIEL"

(Number of Visits 16)

Gross 129

Net Nil

When built 1942

Built at

Thorne

By whom built

Richard Dunston, Ltd.

Yard No. T. 373

Engines made at

Farnmouth

By whom made

Carter (1931) Ltd.

Engine No. 632

when made 1942

Boilers made at

By whom made

Boiler No.

when made

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Rule

94.8

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Trade for which Vessel is intended

ENGINES, &c.—Description of Engines

Triple Expansion

Revs. per minute 150

Dia. of Cylinders

11 3/4" 19 1/2" 32"

Length of Stroke

22"

No. of Cylinders

3

No. of Cranks

3

Crank shaft, dia. of journals

as per Rule 6 3/8"

as fitted 6 3/8"

Crank pin dia.

6 3/8"

Crank webs

Mid. length breadth

shrunken

Thickness parallel to axis

4 1/4"

Intermediate Shafts, diameter

as per Rule

as fitted

6 1/4"

Thrust shaft, diameter at collars

as per Rule

as fitted

6 3/8"

Tube Shafts, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted

7 1/8"

Is the

tube

screw

shaft fitted with a continuous liner

No

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

Thickness between bushes

as per Rule

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 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

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

Is an approved Oil Gland or other appliance fitted at the after

end of the tube shaft

Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia.

8' 0"

Pitch

8' 4"

No. of Blades

4

Material

C.I.

whether Moveable

No

Total Developed Surface

28

sq. feet

Feed Pumps worked from the Main Engines, No.

Can

Diameter

2 1/2"

Stroke

11"

Can one be overhauled while the other is at work

Bilge Pumps worked from the Main Engines, No.

Can

Diameter

2 1/2"

Stroke

11"

Can one be overhauled while the other is at work

Feed Pumps

No. and size

How driven

Pumps connected to the

No. and size

How driven

Ballast Pumps, No. and size

Lubricating Oil Pumps, including Spare Pump, No. and size

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

Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps;—In Engine and Boiler Room

In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size

Independent Power Pump Direct Suctions to the Engine Room Bilges,

No. and size

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

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

Are all Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

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

Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What Pipes pass through the bunkers

How are they protected

What pipes pass through the deep tanks

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

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

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

MAIN BOILERS, &c.—(Letter for record)

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

200 lb

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting

25.9.41

Main Boilers

Auxiliary Boilers

Donkey Boilers

(If not state date of approval)

Superheaters

General Pumping Arrangements

Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:—

1 - pair main bearing bars, 2 - main bearing bolts, 1 bottom end complete with nuts & bolts, 1 - top end complete with nuts & bolts, 1 - set of feed pump valves & seats, 1 - set H.P. I.P. & L.P. piston rings & springs, 1 - set of pump for H.P. piston valves, 1 complete set of blocks & springs each for all valves & piston rods, 1 - set pack for Michell Thrust, 12 condenser tubes & fuses, 1 - set of coupling bolts & nuts, 1 set bilge pump suction & delivery valves, 1 main & 1 aux. check valve, 12 boiler tube stoppers, Assorted nuts, bolts & iron

The foregoing is a correct description,
FOR CRABTREE (1931) LTD.

J. Smith
Managing Director.

Manufacturer.



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Lloyd's Register
Foundation

007593-00757 0006

1941: Nov 24.

During progress of work in shops - -

31-1-42, 27-2-42, 10-3-42, 25-3-42, 3-4-42, 22-4-42, 6-5-42, 20-5-42, 19-5-42, 11-6-42, 17-6-42
26-6-42, 22-7-42, 7-8-42, 25-8-42

Dates of Survey while building

During erection on board vessel - -

Total No. of visits 16.

Dates of Examination of principal parts—Cylinders 17-6-42 Slides 22-7-42 Covers 17-6-42

Pistons 22-7-42 Piston Rods 22-7-42 Connecting rods 22-7-42

Crank shaft 3-4-42 Thrust shaft 22-4-42 Intermediate shafts 22-4-42

Tube shaft ✓ Screw shaft 22-4-42 Propeller 7-8-42

Stern tube ✓ Engine and boiler seatings ✓ Engines holding down bolts ✓

Completion of fitting sea connections ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Crank shaft material *Steel* Identification Mark *Lloyds No 6372 - 12-41 J.F.C.* Thrust shaft material *Steel* Identification Mark *Lloyds No 6059 J.F.C.*

Intermediate shafts, material *Steel* Identification Marks *Lloyds No 6372 - 12-41 J.F.C.* Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material *Steel* Identification Mark *Lloyds No 6507 27-2-42 J.F.C.* Steam Pipes, material ✓ Test pressure ✓ Date of Test ✓

Is an installation fitted for burning oil fuel ✓ 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 ✓ If so, have the requirements of the Rules been complied with ✓

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 has been constructed under Special Survey in accordance with the approved plans & Rule requirements.

The materials & workmanship are sound & of good description.

The machinery has been dispatched to Builders at Thorpe where it is to be installed in a Classed vessel.

The above refers to "EMPIRE ARIEL" - see separate rpt. no. 4

W.S. Shields

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 ... £ 2 : 0 : 0 When applied for, 17 SEP 1942
2 1/2% Special 9 : 10 : 0
+ 25% 2 : 7 : 6
Donkey Boiler Fee ... £ : : : When received, 19...
Travelling Expenses (if any) £ 3 : 5 : 0

W.S. Shields
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 15 DEC 1942

Assigned

See Hnd Bk 51819



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