

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report *29th June 1938* When handed in at Local Office

Received at London Office

JUL 12 1938

No. in Survey held at *Elsinore and Halsborg*Date, First Survey *1st September 1937* Last Survey *June 1938*

Reg. Book.

39064 on the *Steel Single Screw Steamer LOTTA*(Number of Visits *51*)Gross *1558.32*Net *1014.16*Built at *Halsborg*By whom built *Halsborg Verft A/S*Yard No. *58*When built *1938*

RECIPROCATING

Engines made at *Elsinore*By whom made *Helsingors Jernskibs- og Maskinfabrik*Engine No. *341*When made *1938*EXHAUST STEAM TURBINE: *Copenhagen*By whom made *Helsingors Jernskibs- og Maskinfabrik*

Boiler No.

When made *1938*Boilers made at *Halsborg*By whom made *Helsingors Jernskibs- og Maskinfabrik*

Boiler No.

When made *1938*Registered Horse Power *EXH. TURB. 375*Owners *Pens. skibsselskabet, Vesthavet (J. Lauritzen)*Port belonging to *Copenhagen*Nom. Horse Power as per Rule *(234) 231*Is Refrigerating Machinery fitted for cargo purposes *no*Is Electric Light fitted *yes*Trade for which Vessel is intended *Keen going service*ENGINES, &c.—Description of Engines *3 cylinder compound engine with exhaust steam turbine on the Elsinore system*Dia. of Cylinders *2HP. 400³/₄ - 1LP. 1000³/₄* Length of Stroke *950³/₄* No. of Cylinders *3* Revs. per minute *115*Crank shaft, dia. of journals *as per Rule 263.5³/₄* Crank pin dia. *265³/₄* Crank webs *Mid. length breadth 428³/₄* No. of Cranks *3*Intermediate Shafts, diameter *as per Rule 251³/₄* Thrust shaft, diameter at collars *as per Rule 263.5³/₄*Tube Shafts, diameter *as fitted 286³/₄* Screw Shaft, diameter *as per Rule 294.5³/₄* Is the *tube* shaft fitted with a continuous liner *yes*Bronze Liners, thickness in way of bushes *as per Rule 16.6³/₄* Thickness between bushes *as per Rule 12.5³/₄* Is the after end of the liner made watertight in thepropeller boss *yes* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *one length*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 *fits tightly*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 tubeshaft *no* If so, state type *yes* Length of Bearing in Stern Bush next to and supporting propeller *1400 mm.*Propeller, dia. *4035 mm* Pitch *3350 mm* No. of Blades *4* Material *Phosphor manganese Bronze* whether Movable *no* Total Developed Surface *6 sq. feet*Feed Pumps worked from the Main Engines, No. *none* Diameter *Stroke* Can one be overhauled while the other is at work *yes*Bilge Pumps worked from the Main Engines, No. *2* Diameter *110 mm* Stroke *250 mm* Can one be overhauled while the other is at work *yes*Feed Pumps { No. and size *2 off - 7" x 5" x 12" simplex* Pumps connected to the { No. and size *1 Ballast pump 9" x 10" x 10" 1 Gen. Service pump 8" x 5" x 8"*Pumps { How driven *Weirs, independent steam pumps* Main Bilge Line { How driven *both pumps are steam driven, duplex type.*Ballast Pumps, No. and size *1 off 9" x 10" x 10"* Lubricating Oil Pumps, including Spare Pump, No. and size *yes*Are two independent means arranged for circulating water through the Oil Cooler *yes* Suctions, connected to both Main Bilge Pumps and AuxiliaryBilge Pumps;—In Engine and Boiler Room *3 off - 65 mm*In Pump Room *yes* In Holds, &c. *F-Holds 2 off 90 mm, A-Holds 4 off 75 mm, Tunnel 2 off 65 mm.*

F-Beak 1 off 65 mm, Tanks No. I 1 off 65 mm, II 4 off 65 mm, III 4 off 65 mm, IV 4 off 65 mm, V 4 off 65 mm, VI 4 off 65 mm, VII 1 off 65 mm, A Beak 1 off 65 mm.

Main Water Circulating Pump Direct Bilge Suctions, No. and size *1 off - 150 mm* Independent Power Pump Direct Suctions to the Engine Room Bilges,No. and size *1 off - 100 mm* Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes *yes*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 - except one through DB* Are they fitted with Valves or Cocks *Valves and 1 blow-off cock.*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 *yes*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 *yes* Is it fitted with a watertight door *yes* worked from *up platform*MAIN BOILERS, &c.—(Letter for record *J.*) Total Heating Surface of Boilers *2 x 1658 sq. ft. = 3316 sq. ft.* Working Pressure *220 lb./sq. in.*Is Forced Draft fitted *yes* No. and Description of Boilers *Two off single ended return multi*IS A REPORT ON MAIN BOILERS NOW FORWARDED? *yes*IS A DONKEY BOILER FITTED? *No* If so, is a report now forwarded? *yes*Is the donkey boiler intended to be used for domestic purposes only *yes*PLANS. Are approved plans forwarded herewith for Shafting *yes* Main Boilers *yes* Auxiliary Boilers *yes* Donkey Boilers *yes*

(If not state date of approval)

Superheaters *yes* General Pumping Arrangements *yes* Oil fuel Burning Piping Arrangements *yes*

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.

AALBORG VERFT A/S

HELSINGORS JERNSKIBS- OG MASKINFABRIK

A. Blumhagen

P. Rasmussen



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Lloyd's Register
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W1158 - 0127

1/9 - 6/9 - 9/9 - 15/10 - 10/12 - 17/12
 7/1 - 12/1 - 14/1 - 18/1 - 20/1 Slides
 6/9 - 7/12 - 20/1 - 2/2
 Dates of Examination of principal parts—Cylinders
 28/9 - 25/1 - 9/2 - 14/3
 Pistons
 28/9 - 1/12 - 7/12 - 9/2 - 22/2
 Piston Rods
 28/9 - 15/10 - 18/10 - 1/12 - 7/12 - 9/2 - 22/2
 Connecting rods
 28/9 - 17/10 - 18/10 - 28/10 - 3/11 - 15/11
 Crank shaft
 28/9 - 18/10 - 26/11
 Thrust shaft
 4/5 - 1938
 Screw shaft
 16/10 - 20/10 1937 - 19/4 1938
 Intermediate shafts
 4/5 1938
 Propeller
 1/3 - 4/5 1938
 Stern tube
 Engine and boiler seatings
 19/4 1938
 Engines holding down bolts
 18/5 1938
 Completion of fitting sea connections
 16/4 1938
 Completion of pumping arrangements
 22/4 1938
 Boilers fixed
 4/5 - 1938
 Engines tried under steam
 21/6 1938
 Main boiler safety valves adjusted
 15/6 1938
 Thickness of adjusting washers Starb: F 7 7/4 A 5 7/4. Port: F 11 7/4 A 9 7/4.
 LLOYD'S No 5332
 Crank shaft material Jensen & Sval Identification Mark 4-26-11-37
 Thrust shaft material Jensen & Sval Identification Mark 4-26-11-37
 LLOYD'S No 3887-88-89-90
 Intermediate shafts, material Jensen & Sval Identification Marks CV. 19-4-38
 Tube shaft, material Identification Mark
 LLOYD'S No 4712
 Screw shaft, material Jensen & Sval Identification Mark 3-24-11-38
 Steam Pipes, material P.M. Sval Test pressure 40 kg/cm² Date of Test 3/6 1938
 Is an installation fitted for burning oil fuel No 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 No 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 Yes ✓
 Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The reciprocating engine has been built by Messrs P. Helsingør Jensen & Mønstergaard, Elsinore, the exhaust steam turbine by Messrs P. Allan, Copenhagen, and installed on board by the builder Messrs Salberg Vægt & Salberg, under Special Survey and in accordance with the requirements of the Rules, the approved plans and the Secretary's letter E dated 27/4 - 11/5 - 9/6 - 22/6 - 9/7 - 30/8 - 15/11 - 1937 and 27/4 - 1938.*

The material has been tested as required by the Rules as per certificates produced or by us and the workmanship is good.

On the trial trip the whole of the machinery was tested under full power working conditions and found satisfactory.

An interim certificate has been issued as per copy enclosed.

Recommend the vessel's machinery to have notation of ~~⚓~~ LMC-6.38 C.L.
25.B. 220lb. - The special notations: "L.P. turbine with S.R. gearing and chain drive
and "Strengthened for navigation in ice" to be made in the Register Book

The amount of Entry Fee ... £ 89.60 :
Special ... £ 13/10.40 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 827.85 / 427.55 p/bk 7/38
842.55 } 154 Pd 31/8/38 p/nk 1/12
2005 Pd 3/10/38 p/nk 4/10

When applied for,
11. 7. 19. 38.
When received,

Committee's Minute
Assigned + Lmb 6.38 J2, Ch
Spt-

McLaurin. E. H. Vesbury.
Engineer Surveyor to Lloyd's Register of Shipping.

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If not, state whether, and when, one will be sent? *never*

Is a Report also sent on the Hull of the Ship? *Yes*

NOTE.—The words which do not apply should be deleted.

Im, 11, 23. — T.