

Copy for New York office.

Please Attach to Baltimore Report No 2055

Rpt. 4.

REPORT ON MACHINERY.

No. 1651.

Received at London Office THE 1 MAY 1917

Date of writing Report 31st Jan. 1917. When handed in at Local Office

Port of Stockholm

No. in Survey held at Stockholm

Date, First Survey 3rd June 1916 Last Survey 27th Oct. 1916.

Reg. Book. Suff. on the Twin Screw Motor Vessel "Holden Evans"

(Number of Visits 19)

Tons } Gross 3253
Net 2025
When built 1916

Master W. Habel Built at Baltimore

By whom built Baltimore Dry Dock & Shipbuilding Co.

Engines made at Stockholm

By whom made Messrs. J. & C. G. Rylanders Co. Ltd.

when made 1916.

Boilers made at Red Bank Md.

By whom made The Roberts Boiler Co.

when made 1917

Registered Horse Power 500

Owners Aktieselskabet Motor Tank (Chr. Hannevig Ager.)

Port belonging to Wilmington Del.

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Cylinder two stroke cycle, reversible with air injection

No. of Cylinders 4

No. of Cranks 4

Dia. of Cylinders 520 mm.

Length of Stroke 750 mm. Revs. per minute 160

Dia. of Screw shaft as per rule as fitted

Material of screw shaft

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

Is the after end of the liner made water tight

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

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

Length of stern bush

Dia. of Tunnel shaft as per rule as fitted

Dia. of Crank shaft journals as per rule 235 mm. as fitted 240 mm.

Dia. of Crank pin 240 mm. Size of Crank webs 330 x 334 mm.

Dia. of thrust shaft under

collars 230 mm. Dia. of screw

Pitch of Screw

No. of Blades

State whether moceable

Total surface

No. of Cooling pumps 2

Diameter of ditto 130 mm. Stroke 66 mm.

Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2

Diameter of ditto 160 mm. Stroke 66 mm.

Can one be overhauled while the other is at work Yes.

No. of Donkey Engines

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

In Holds, &c.

No. of Bilge Injections sizes

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

Are the Discharge Pipes 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

Are that pipes are carried through the bunkers

How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Is the examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

MANIFOLDERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

What is the smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

Longitudinal seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

What are the percentages of strength of longitudinal joint

rivets. plate

Working pressure of shell by rules

Size of manhole in shell

What is the diameter of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

What is the thickness of plain part

top bottom

Thickness of plates crown bottom

Description of longitudinal joint

No. of strengthening rings

What is the working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

What is the diameter of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

What is the material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

What is the diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

What is the diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

What is the diameter across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

What is the thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

What is the working pressure by rules

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

Material

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Are they stayed with rings

Distance between rings

Working pressure by rules

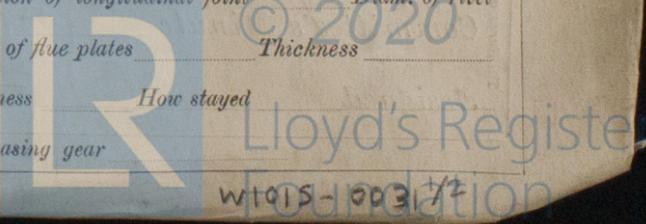
End plates: Thickness

How stayed

What is the working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



IS A DONKEY BOILER FITTED? If so, is a report now forwarded?
SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 5, 5, 6, 20, 22, 30/6; 5, 14, 29/7; 2, 4, 7, 15, 26/8; 5, 19, 2/9; 14, 27/10, 1916.
During erection on board vessel ---
Total No. of visits 19

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 14, 27/10 1916 (Silencers not yet fitted) Covers 14, 27/10 1916 Pistons 14, 27/10 1916 Rods 2/9; 14, 27/10 1916
Connecting rods 14, 27/10 1916 Crank shaft 2/9; 14, 27/10 1916 Thrust shaft 5, 21/9; 14, 27/10 1916 Tunnel shafts Screw shaft Propeller
Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts
Completion of pumping arrangements Boilers fixed Injection air receiver Engines tried in shop under steam 14/10 1916.
Main boiler safety valves adjusted 5, 6/6; 18/10 1916. Thickness of adjusting washers 5, 6/6; 18/10 1916.
Material of Crank shaft S.M. Steel Identification Mark on Do. Lagdis No. 2427 Skm. 27.10.16
Material of Thrust shaft S.M. Steel Identification Mark on Do. Skm. 27.10.16
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.
Material of Pipes Solid drawn copper Test pressure 60 atm; 50 lbs. per sq. inch.
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 Section 49 of the Rules been complied with
Is this machinery duplicate of a previous case. Yes If so, state name of vessel See Gen. Report no. 165 D.

General Remarks (State quality of workmanship, opinions as to class, &c. See appended sheet)
Material of compressor crank shaft S.M. Steel. Identification mark on Do. Lagdis No. 2424 Skm. 27.10.16

The above engine has been installed in this vessel at Baltimore as the Port Main engine. Engine properly secured & tried at full speed & found to work satisfactorily.

Please note. This report received after first entry report had been despatched
H.A. Stewart
H.A. Stewart

The amount of Entry Fee ... £ : : When applied for,
Special for survey in shop 17 : 12 : 10 19 Feb. 1917
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : 19.

Committee's Minute New York 22nd March 1917
Assigned See Balto Rpt No 2055

CYLINDER 500 B. H. P. motor, Cyl. Nos 11568/71. Now fitted as Port Main Engine on twin screw vessel "Holden Evans" Baltimore Report No 2055.

The designs of the crank & thrust shafts and the connecting rods of this type and size of Bolinder Motor have been submitted and approved (See Secretary's letter E. 17.9.15; 21.10.15; 10.2.16.)
12.5.16.

These shafts and connecting rods have been manufactured at the Sandviken and Björneborg Steel Works in accordance with the Rules. They have been inspected while being roughturned and finished and found good and sound. Their materials have been tested by the undersigned and found to fill Rule Requirements.

The cylinders, of cast iron, have been examined and found sound. Thickness of cylinderwalls stated to be .32 mm. and of waterjackets 1.8 mm. Cylinders tested with hydraulic pressure to 529 lbs per sq. inch or twice the working pressure of 18 Atm. and found tight. They have been checked on upper flange of each cylinder: Lloyd's Test 529 lbs. 7.10.16. A Their waterjackets have been tested to 50 lbs and found tight.

The compressor cylinders (2 stage) and their waterjackets have been tested: H. P. cyl. to 60 Atm., L. P. cyl. to 16 Atm., or twice the working pressures, and waterjackets to 50 lbs and all found tight.

The starting air receiver, of low tensile S. M. S. plates, lapwelded by the ordinary "water gas" method, is manufactured at the Avesta Steel Works, who have also manufactured and rolled the steel. Length of receiver 2575 mm.; outside diam. 600 mm., platethickness 9 mm. Plan submitted and approved (See Secretary's letter E. 8.3.16). The steel material has been tested by the undersigned and found good, and the receiver been tested with hydraulic pressure to 30 Atm. or twice the working pressure and found sound and tight. It has been stamped as follows:

Lloyd's Test 30 Atm.
Working Pr. 15 Atm.
No. 2081 Skm. 8.10.16. A

The injection air receiver, of low tensile solid drawn S. M. S. tube, is manufactured at the Avesta Steel Works, who have also manufactured and rolled the steel. Length of receiver 1400 mm., outside diam. 230 mm., platethickness 7 mm. Plan submitted and approved (See Secretary's letter E. 15.1.16). The material has been tested by the undersigned and found good, and the receiver tested by me with hydraulic pressure to 60 Atm. or twice the working pressure and found sound and tight. It has been stamped as follows:

Lloyd's Test 60 Atm.
Working Pr. 30 Atm.
No. 2082 Skm. 8.10.16. A

The motor has been tried in shop under full power in my presence and found to give an effect at normal load and 160 revolutions of 500 B. H. P. It has also been tried with a continuous overload at 550 B. H. P. and found to work well.

The Society's Rules with regard to the details of construction, fitting of valves, lubrication, accessibility, etc., have been adhered to so far as concerns the motor itself. The remaining requirements will have to be attended to at the fitting of the motor in ship, if a classed vessel.

I am of opinion, that this motor is of superior material and workmanship, and as it has been designed and constructed under my special supervision, I have respectfully to submit, that it will be eligible to be classed **LMC**, as soon as it has been fitted in a classed vessel to the satisfaction of the Society's surveyors, and the silencers have been examined and tested.

A. GAKSON
Engineer Surveyor to Lloyd's Register of Shipping.

Note: On the 15th Feb. 1917, the silencers, with waterjackets, of this engine were tested with hydraulic pressure to 50 lbs. per square inch and found tight.

A. GAKSON

A. GAKSON
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
Assisted by Mr. V. Scheel

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