

REPORT ON MACHINERY.

Received at London Office

TUE 11 SEP 1917

Date of writing Report 7th August 1917. When handed in at Local Office 24th August 1917 Port of Göteborg

No. in Survey held at Oscarshamn Date, First Survey 31st August 1915 Last Survey 6th August 1917

Reg. Book. up 132 on the Steel S.S. "Habilia" (Number of Visits 49)

Master C. G. K. Sahlström Built at Oscarshamn By whom built Oscarsh. Mek. Verk. & Skopped. AB When built 1917

Engines made at Oscarshamn By whom made Oscarsh. Mek. Verk. & Skopped. AB when made 1917

Boilers made at Oscarshamn By whom made Oscarsh. Mek. Verk. & Skopped. AB when made 1917

Registered Horse Power ✓ Owners Peder Abblad Svanöke Lloyd Port belonging to Göteborg

Nom. Horse Power as per Section 28 270 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 32 1/2", 35 1/2", 58 1/2" Length of Stroke 36" Revs. per minute 13 Dia. of Screw shaft as per rule 12 1/2" Material of Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube to liner fitted Is the after end of the liner made water tight in 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 Selwells patent prot. bot fitted Length of stern bush 55"

Dia. of Tunnel shaft as per rule 10 1/2" Dia. of Crank shaft journals as per rule 11 1/2" Dia. of Crank pin 11 1/2" Size of Crank webs 14 1/2" x 7 1/2" Dia. of thrust shaft under collars 11 1/2" Dia. of screw 14'-0" Pitch of Screw 15'-0" No. of Blades 4 State whether moveable No Total surface 63 sq. feet

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 16 5/32" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 16 5/32" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9 1/2" x 11 1/2" x 18", 7 1/2" x 4 1/2" x 7", 5 1/2" x 3 1/2" x 5 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Five, 3" In Holds, &c. Two 3" in fore hold, Two 3" in after hold, & One 3" in funnel well

No. of Bilge Injections 1 size 5 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 5 1/2"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are 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 Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers Bilge suction pipes for bunkers & fore hold How are they protected By strong wood casings

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

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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper engine room platform

OILERS, &c.—(Letter for record S) Manufacturers of Steel Kammesmännens-Verke, Akt. Schulz-Knaust

Total Heating Surface of Boilers 3800 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers Two cylindrical, multitubular

Working Pressure 185 lbs. pr. sq. in. Tested by hydraulic pressure to 270 lbs. pr. sq. in. Date of test 10th April 1917 No. of Certificates 101 & 102

Can each boiler be worked separately Yes Area of fire grate in each boiler 43.5 sq. ft. No. and Description of Safety Valves to each boiler Two, spring loaded Area of each valve 15.2 sq. in. Pressure to which they are adjusted 190 lbs. pr. sq. in. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 4'-1 1/16" Length 11'-7 3/4" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 45.6-45.1 kg. pr. cm. 2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams none

ong. seams double riveted Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 7 7/8" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 92.9 plate 83.3 Working pressure of shell by rules 194 lbs. Size of manhole in shell 11 13/16" x 15 3/4"

Size of compensating ring 35 7/16" x 1 3/32" No. and Description of Furnaces in each boiler 3 corrugated Material Steel Outside diameter 3'-9 1/4"

Length of plain part top 7'-6 5/8" bottom 7'-6 5/8" Thickness of plates top 5" bottom 5" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 222 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 5" Top 3/32" Bottom 3/32"

Pitch of stays to ditto: Sides 8 3/32" x 7 3/32" Back 6 1/16" x 6 1/16" Top 8 3/32" x 7 3/32" If stays are fitted with nuts or riveted heads on margin stay Working pressure by rules 218 lbs.

Material of stays Steel Area at smallest part 1.48 sq. in. Area supported by each stay 60 sq. in. Working pressure by rules 197 lbs. End plates in steam space:

Material Steel Thickness 1 3/32" x 1 1/2" Pitch of stays as per plan How are stays secured double nuts Working pressure by rules 190 lbs. Material of stays Steel

Area at smallest part 6.33 sq. in. Area supported by each stay 298 sq. in. Working pressure by rules 213 lbs. Material of Front plates at bottom Steel

Thickness 1 1/32" Material of Lower back plate Steel Thickness 3/8" Greatest pitch of stays as per plan Working pressure of plate by rules

Diameter of tubes 3" Pitch of tubes 4 1/32" x 4 1/4" Material of tube plates Steel Thickness: Front 1 1/32" Back 7/8" Mean pitch of stays 8 1/16" x 8 1/2"

Pitch across wide water spaces 15" Working pressures by rules 196 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/4" x 7/8" Length as per rule 33" Distance apart 7 3/32" Number and pitch of stays in each 3-8 1/4"

Working pressure by rules 218 lbs. Steam dome: description of joint to shell ✓ % of strength of joint ✓

Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓

Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

SUPERHEATER. Type Schmitt's Date of Approval of Plan No plan submitted Tested by Hydraulic Pressure to

Date of Test ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 1 3/4" Pressure to which each is adjusted 190 lbs. pr. sq. in. Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED?

Yes ✓

If so, is a report now forwarded?

Yes ✓

SPARE GEAR.

State the articles supplied: - 2 connecting rod top-end bolts and nuts, 2 connecting rod bottom-end bolts and nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed and bilge pump valves, 1 crank shaft, 1 propeller shaft, 1 propeller, 1 air pump rod, 1 centrifugal pump wheel, ballast & donkey pump valves, 5 main boiler check valves, 6 junk ring bolts, 4 main boiler tubes, 4 donkey boiler tubes, 6 stay tubes, 30 condenser tubes, 1 set of safety valve springs, a quantity of assorted bolts and nuts, iron of various sizes.

The foregoing is a correct description,

FOR OSCARSHAMNS VERSTÅDS
ÅGH SKEPPSVERKSTÄD
Mj. Carlson / Mik Björklund

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1915: Aug. 31, 1916: Jan. 4, 26, Febr. 29, April 19, May 6, 24, June 15, 20, 21, July 4, 5, 6, 24, 25, 26, Aug. 2, 19, 30, 31, Oct. 4, 14, 27, 28, Dec. 25, 18, 1917: Jan. 23, March 1, 27, 28, 29, April 1, 27, May 4, July 17. During erection on board vessel - 1917: May 3, 4, 22, 23, June 10, July 5, 30, 31, Aug. 16. Total No. of visits 49

Is the approved plan of main boiler forwarded herewith? Forwarded for commercial papers for "donkey"

Dates of Examination of principal parts - Cylinders 3/15, 4/26, 19/6, 7/16 Slides 24/7/16 Covers 6/7/16 Pistons 24/7/16 Rods 19/4, 24/5/16 Connecting rods 19/4, 6/5, 15/16 Crank shaft 15/3, 20/16 Thrust shaft 3/16, 29/3/17 Tunnel shafts 19/4, 6/5, 3/8, 22/23/16 Screw shaft 15/16, 29/3/17 Propeller 23/1/17 Stern tube 23/1/17 Steam pipes tested 17/7/17 Engine and boiler seatings 30/8/16 Engines holding down bolts 23/5/17 Completion of pumping arrangements 30/7/17 Boilers fixed 22/5/17 Engines tried under steam 30/7/17 Completion of fitting sea connections 27/4/17 Stern tube 29/3/17 Screw shaft and propeller 27/4/17 Main boiler safety valves adjusted 30/7/17 Thickness of adjusting washers four fitted Material of Crank shaft Steel Identification Mark on Do. 28.10.16 VB. Material of Thrust shaft Steel Identification Mark on Do. 29.3.17 VB. Material of Tunnel shafts Steel Identification Marks on Do. 29.3.17 VB. Material of Screw shafts Steel Identification Marks on Do. 29.3.17 VB. Material of Steam Pipes Steel Test pressure 555 lbs per sq. inch.

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 Section 49 of the Rules been complied with? ✓ Is this machinery duplicate of a previous case? Yes ✓ If so, state name of vessel S.S. "Algeria" ✓

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

This machinery has been built under special survey, and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. The boilers as per approved plans. The workmanship is good. The missing particulars of Superheater will be forwarded you in a few days' time.

The machinery of this vessel is eligible in our opinion to be classed in the Register Book of this Society with the notation of + LMC 8,17, being in a good and safe working condition at a working pressure of 185 lbs per sq. inch.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.17. J. W. Paulson, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ Mr. 36.40: When applied for, 7th Aug. 1917. Special ... £ Mr. 609.70: When received, 13/9/17. Donkey Boiler Fee ... £ Mr. 92.80: Travelling Expenses (if any) £ ...

Committee's Minute FRI. 14 SEP 1917 Assigned + LMC 8.17

Certificate (if required) to be sent to Surveyors' Office, Gothenburg.



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MACHINERY CERTIFICATE WRITTEN.