

# REPORT ON MACHINERY.

No. 14652  
SAT. 23 JUL. 1921

Received at London Office

Date of writing Report 20 July 1921 When handed in at Local Office HAMBURG 19 HAMBURG Port of HAMBURG  
 No. in Survey held at HAMBURG Date, First Survey 18 June 1921 Last Survey 19 July 1921  
 Reg. Book. 69719 on the Steel S. S. Rabat (Number of Visits 13)  
 Master H. W. Stump Built at Lübeck By whom built Schiffbau v. Henry Koch Tons Gross 1723 Net 1043  
 Engines made at Altona By whom made Ottensener Maschf. When built 1912  
 Boilers made at Lübeck By whom made Schiffbau v. Henry Koch when made 1912  
 Registered Horse Power \_\_\_\_\_ Owners Mc. Andrew & Co Port belonging to London  
 Nom. Horse Power as per Section 28 210 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines 1 = Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 560, 900, 1425 Length of Stroke 850 Revs. per minute 75 Dia. of Screw shaft 311 Material of screw shaft S. M. Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube without liner Is the after end of the liner made water tight in the propeller boss yes 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 —  
 Dia. of Tunnel shaft 263 Dia. of Crank shaft journals 276 Dia. of Crank pin 289 Size of Crank webs 169/560 Dia. of thrust shaft under collars 270 Dia. of screw 4200 Pitch of Screw 4320 No. of Blades 4 State whether moveable no Total surface \_\_\_\_\_  
 No. of Feed pumps 2 Diameter of ditto \_\_\_\_\_ Stroke 400 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto \_\_\_\_\_ Stroke 190 x 216 x 254 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps 152, 101, 152 In Engine Room 2 each of 100; 4 each of 65; from tunnel well 1-65 In Holds, &c. 4 each of 65; from fore peak 1 of 65; from fore tanks 3 each of 100; from aft tanks 2 each of 100  
 No. of Bilge Injections 1 sizes 120 Connected to condenser, or to circulating pump separate pump a separate Donkey Suction fitted in Engine room & size yes 80  
 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 no  
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves and Cocks  
 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 no, only side 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 yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 Dates of examination of completion of fitting of Sea Connections 18 June 1921 of Stern Tube 18 June 1921 Screw shaft and Propeller 18 June 1921  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from cylinder platform

**BOILERS, &c.**—(Letter for record S.) Manufacturers of Steel Schulz Hinault, Hückingen  
 Total Heating Surface of Boilers 312 qm. Is Forced Draft fitted no No. and Description of Boilers 2 single ended multitubular  
 Working Pressure 13 atm. Tested by hydraulic pressure to 18 atm. Date of test 23/10.1912 No. of Certificate authorities  
 Can each boiler be worked separately yes Area of fire grate in each boiler 4185 qm. No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 453 qm. Pressure to which they are adjusted 13 atm. Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 230 Mean dia. of boilers 4000 Length 3320 Material of shell plates S. M. Steel  
 Thickness 26.5 Range of tensile strength 45-51 Are the shell plates welded or flanged flanged Descrip. of riveting: cir. seams lap trip riv. long. seams butt quadr. riv. Diameter of rivet holes in long. seams 31 Pitch of rivets 347 Lap of plates or width of butt straps 620  
 Per centages of strength of longitudinal joint 102, 6, 35 Working pressure of shell by rules 13, 13 Size of manhole in shell 300 x 400  
 Size of compensating ring 840 x 740 x 26.5 No. and Description of Furnaces in each boiler 2 Fox Material S. M. Steel Outside diameter 1250  
 Length of plain part top 256 Thickness of plates crown 15 Description of longitudinal joint welded No. of strengthening rings \_\_\_\_\_  
 Working pressure of furnace by the rules 13.39 atm. Combustion chamber plates: Material S. M. Steel Thickness: Sides 16 Back 16 Top 16 Bottom 22  
 Pitch of stays to ditto: Sides 185 Back 185, 190 Top 185 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 18, 19  
 Material of stays S. M. Steel Diameter at smallest part 34 Area supported by each stay 34225 Working pressure by rules 14.9 End plates in steam space: Material S. M. Steel Thickness 22 Pitch of stays 370 x 400 How are stays secured d. riv. nuts Working pressure by rules 12, 93 Material of stays S. M. Steel  
 Diameter at smallest part 67 Area supported by each stay 148225 Working pressure by rules 17.35 Material of Front plates at bottom S. M. Steel Thickness 22 Material of Lower back plate S. M. Steel Thickness 22 Greatest pitch of stays 450 Working pressure of plate by rules 21.2  
 Diameter of tubes 89 Pitch of tubes 126 x 115 Material of tube plates Steel Thickness: Front 22 Back 23 Mean pitch of stays 252 x 230  
 Pitch across wide water spaces 370 Working pressures by rules 21.5 Girders to Chamber tops: Material S. M. Steel Depth and thickness of girder at centre 210 x 2 x 16 Length as per rule 720 Distance apart 185 Number and pitch of stays in each 3 - 185  
 Working pressure by rules 13 Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately yes Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —  
 If stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —  
 Working pressure of end plates — Area of safety valves to superheater 125 qm. Are they fitted with easing gear yes

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *-*

SPARE GEAR. State the articles supplied:— *The articles of spare gear required by Section 32, page 87 of the Rules have been supplied with and in addition thereto: 1 crankshaft, 1 propeller shaft, 1 white metal lined stern bush, 1 pair of connecting rod brasses, 1 pair of crosshead brasses, 1 air pump rod, 1 set of check valves, a number of cylinder cover bolts, etc. jacking bolts, 2 down boiler tubes, 3 down condenser tubes, ferrules, 1 spring of each size for safety, escape valves, a great quantity of assorted bolts, studs, nuts, bars and plates of iron and mild steel, 1 set of distributing mechanism of valves.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building *classing* } During progress of work in shops -- 18/6.21, 22/6.21, 23/6.21, 25/6.21, 27/6.21, 28/6.21, 29/6.21  
During erection on board vessel -- 2/7.21, 6/7.21, 12/7.21, 16/7.21, 18/7.21, 19/7.21  
Total No. of visits *13*

Is the approved plan of main boiler forwarded herewith *no*

" " " donkey " " " *-*

Dates of Examination of principal parts—Cylinders 23/6.21 Slides 23/6.21 Covers 23/6.21 Pistons 23/6.21 Rods 23/6.21  
Connecting rods 23/6.21 Crank shaft 25/6.21 Thrust shaft 25/6.21 Tunnel shafts 25/6.21 Screw shaft 18/6.21 Propeller 18/6.21  
Stern tube 18/6.21 Steam pipes tested *-* Engine and boiler seatings 27/6.21 Engines holding down bolts 27/6.21  
Completion of pumping arrangements 12/7.21 Boilers fixed *-* Engines tried under steam 19/7.1921  
Main boiler safety valves adjusted 16/7.21 Thickness of adjusting washers *ST.B = P = 3/8", ST.B = 3/8", P.B. = ST.B = 3/8", P. = 3/8"*  
Material of Crank shaft *Steel* Identification Mark on Do. *-* Material of Thrust shaft *Steel* Identification Mark on Do. *-*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *-* Material of Screw shafts *Steel* Identification Marks on Do. *-*  
Material of Steam Pipes *Steel* Test pressure *40 atm.*

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. Cam*

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

*All working parts of the engines have been opened out, were found in good, safe condition. The shaftings are free from defects. The Main Boilers have been examined throughout, were found in satisfactory condition, after some leakages had been repaired. The pumping arrangements are as shown on the submitted, accepted plan. A separate Donkey Suction of 80 mm diameter has been fitted. With regard to the after peak it is stated by the Owners' representatives that it will never be used for carrying water ballast. The fore peak tank top flat is above the load water line. The Machinery, Boilers of this vessel are in good, safe condition, in conformity with the submitted, accepted plans and otherwise in accordance with the Secretary's letters E 9/6.21, S. 13/6.21, eligible in my opinion to be classed in the Society's Reg. Bk., to have notification of L. M. C. 7.21*

Certificate (if required) to be sent to *Surveyors*  
The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	

*M. Wood*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. AUG. 19 1921*

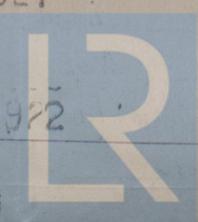
*FRI. +2 DEC. 1921*

Assigned *Lmc 7.21*

*FRI. 23 JAN 1925*

*FRI. 10 FEB. 1922*

**MACHINERY CERTIFICATE**  
**WRITTEN**



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