

REPORT ON MACHINERY.

No. 13485

Received at London Office

Date of writing Report 2nd July 1913 When handed in at Local Office 19 Port of Hamburg
 No. in Survey held at Fleensburg Date, First Survey 28th Decr. 12 Last Survey 30th June 1913
 Reg. Book. on the "Steel S. S. Sumatra" (Number of Visits 13)
 Master L. Wellhöfer Built at Fleensburg By whom built Fleensburger Schiffbau Ges. Tons 4677
 Engines made at Fleensburg By whom made Fleensburger Schiffbau Ges. when made 1913
 Boilers made at Fleensburg By whom made Fleensburger Schiffbau Ges. when made 1913
 Registered Horse Power 836 Owners Deutsch-Austral. Dampfschiffahrtsges. Port belonging to Hamburg
 Nom. Horse Power as per Section 28 836 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 26 3/4, 38 3/4, 56 3/4, 82 3/4 Length of Stroke 59 Revs. per minute 78 Dia. of Screw shaft 16 3/8 Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes 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 — Length of stern bush 5' 9 1/4"
 Dia. of Tunnel shaft 15 3/8 as per rule 15 0 1/4 Dia. of Crank shaft journals 15 1/4 as per rule 15 7/8 Dia. of Crank pin 16 5/8 Size of Crank webs 10 1/2 x 18 1/2 Dia. of thrust shaft under collars 16 7/8 Dia. of screw 20 3/8 Pitch of Screw 16 9/16 No. of Blades 4 State whether moveable yes Total surface 97 29 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 4 1/8 Stroke 2 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 2 1/2 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 5 Sizes of Pumps See Specifications No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 5 off 4 1/2" 1 from well 4" 1 from Recast, 1 from Tunnel 2 1/2" 1 from Funnel peak 3 1/2" In Holds, &c. 12 off 4"
 from Tanks 16 off 4" from Fore and Aft Peaks 2 off 3 1/2"
 No. of Bilge Injections 1 sizes 1 5/8 Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room of size yes, 4"
 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 & 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 water
 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 Fore hold suction How are they protected by wood boxes
 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 8/5 of Stern Tube 27/5 Screw shaft and Propeller 27/5
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Cylinder platform

BOILERS, &c.—(Letter for record B) Manufacturers of Steel Fried. Krupp, Aktien-Ges. Essen/Ruhr.
 Furnaces: Reinhardt, Stahlwerke, Duisburg
 Total Heating Surface of Boilers 12456 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 4 Single ended multi-tubular
 Working Pressure 213 lbs. Tested by hydraulic pressure to 426 lbs. Date of test 8/4 & 8/5 1913 No. of Certificate 204-215-206 & 207
 Can each boiler be worked separately yes Area of fire grate in each boiler 66.8 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 12.66 sq. in. Pressure to which they are adjusted 213 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15 10 1/16 Length 12' 8" Material of shell plates Steel
 Thickness 1.4" Range of tensile strength 28-32 Tons Are the shell plates welded or flanged — Descrip. of riveting: cir. seams lap, dbl. riv. long. seams dbl. riv. 2 riv. Diameter of rivet holes in long. seams 1.65" Pitch of rivets 20.5" Lap of plates or width of butt straps 3.187 x 1.2"
 Per centages of strength of longitudinal joint 122% Working pressure of shell by rules 238 lbs. Size of manhole in shell 12.6 x 16.56"
 Size of compensating ring 8.68 x 1.4" No. and Description of Furnaces in each boiler 3 horizontal Material Steel Outside diameter 29 1/4"
 Length of plain part 4.2 Thickness of plates 1.67 Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 230 lbs. Combustion chamber plates: Material Steel Thickness: Sides .67 Back .67 Top .67 Bottom .984
 Pitch of stays to ditto: Sides 7.87 Back 7.87 Top 7.87 If stays are fitted with nuts or riveted heads with heads Working pressure by rules 262 lbs.
 Material of stays Steel Diameter at smallest part 1.5" Area supported by each stay 62 sq. in. Working pressure by rules 255 lbs. End plates in steam space: Material Steel Thickness 1.08 Pitch of stays 15" How are stays secured dbl. rivets Working pressure by rules 277 lbs. Material of stays Steel
 Diameter at smallest part 3" Area supported by each stay 226 sq. in. Working pressure by rules 326 lbs. Material of Front plates at bottom Steel
 Thickness 1.02 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 12" Working pressure of plate by rules 190 lbs.
 Diameter of tubes 3 1/2 Pitch of tubes 3.66 x 3.74 Material of tube plates Steel Thickness: Front 1.02 Back .95 Mean pitch of stays 7.3"
 Pitch across wide water spaces 13 1/8 Working pressures by rules 242 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 11 x 13 1/4 Length as per rule 35.5 Distance apart 7.5 Number and pitch of stays in each 3 x 7.87
 Working pressure by rules 222 lbs. Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately — 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 — Are they fitted with easing gear —

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the Ship? Double bottom. Water Capacity. Tons. 120. of Visits. 26.

