

REPORT ON MACHINERY.

No. 4138

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No. in Survey held at Kiel Date, First Survey 28th Octbr 1913 Last Survey 8th June 1914

Reg. Book. 91 Supp. on the Steel S. S. "Frostburg" (Number of Visits 37)

Master Fr. Goormann Built at Kiel By whom built Howaldtswerke Tons { Gross 6342
Net 3947

Engines made at Kiel By whom made Howaldtswerke when made 1914

Boilers made at Kiel By whom made Howaldtswerke when made 1914

Registered Horse Power 732 Owners Deutsche Dampfschiffahrts-Gesellschaft Port belonging to Bremen

Tom. Horse Power as per Section 28 732 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Engines, &c.—Description of Engines Quadruple Expansive No. of Cylinders 4 No. of Cranks 4

Dia. of Cylinders 27 1/4, 40, 57 1/2, 81 1/2 Length of Stroke 57 Revs. per minute 72 1/2 Dia. of Screw shaft 16 1/2 as per rule 16 1/2 Material of Steel
as fitted 17 screw shaft

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

the propeller boss yes If the liner is in more than one length are the joints burned no 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 no If two

liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 85 1/2

Dia. of Tunnel shaft 15 1/4 as per rule 15 1/4 Dia. of Crank shaft journals 15 7/8 as per rule 15 7/8 Dia. of Crank pin 16 1/2 Size of Crank webs 10 1/2 x 2 1/2 Dia. of thrust shaft under

bars 16 1/8 Dia. of screw 14 1/4 Pitch of Screw 19 No. of Blades 4 State whether moveable yes Total surface 116 sq ft

No. of Feed pumps 2 Diameter of ditto 5 1/8 Stroke 28 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 5 1/8 Stroke 28 Can one be overhauled while the other is at work yes

No. of Donkey Engines 4 Sizes of Pumps See Specification No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 off 3 1/2, 1 off 4 3/4 In Holds, &c. 10 off 3 1/2, 2 from Tanks 7 off 5, 1 off 3 1/2, from aft peak tank 1 off 3 1/2, from forepeak tank 1 off 3 1/2

No. of Bilge Injections 1 sizes 10 Connected yes to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes, 4 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 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 & 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

Are that pipes are carried through the bunkers fore suction pipes 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 25/3, 14 of Stern Tube 25/3, 14 Screw shaft and Propeller 25/3, 14

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from by hand platform

Boilers, &c.—(Letter for record 5) Manufacturers of Steel Fried. Krupp, Aktien-Gesellschaft, Essen & Ruhr

Total Heating Surface of Boilers 10889 sq ft Is Forced Draft fitted yes No. and Description of Boilers 4 Single and multitubular

Working Pressure 213 lbs Tested by hydraulic pressure to 426 lbs Date of test 3/4, 2/4, 2/5, 1/5, 1/5 No. of Certificate 246, 247, 248, 249

Can each boiler be worked separately yes Area of fire grate in each boiler 59.5 sq ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 14.5 sq in Pressure to which they are adjusted 213 lbs Are they fitted with easing gear yes

Smallest distance between boilers on uptakes and bunkers or woodwork 2 1/2 Mean dia. of boilers 14 7/8 Length 11 1/4 Material of shell plates Steel

Thickness 1 1/4 Range of tensile strength 28-32 Tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap, double riv.

No. of rivets 91.3 % Diameter of rivet holes in long. seams 1.5 Pitch of rivets 10 Lap of plates or width of butt straps 2 1/4

Percentages of strength of longitudinal joint 34.8 % Working pressure of shell by rules 224 lbs Size of manhole in shell 15 1/4 x 11 1/4

No. of compensating ring 10 1/4 No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 45 1/4

Length of plain part 2 Thickness of plates 6 1/2 Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 222 lbs Combustion chamber plates: Material Steel Thickness: Sides 687 Back 687 Top 687 Bottom 1

Ch of stays to ditto: Sides 687 Back 687 Top 687 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 246 lbs

Material of stays Steel Diameter at smallest part 1 1/8 Area supported by each stay 62 sq in Working pressure by rules 224 lbs End plates in steam space:

Material Steel Thickness 1 1/4 Pitch of stays 7.37 How are stays secured double nut & wash Working pressure by rules 240 lbs Material of stays Steel

Diameter at smallest part 3 Area supported by each stay 246 sq in Working pressure by rules 285 lbs Material of Front plates at bottom Steel

Thickness 1 1/8 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 19.7 Working pressure of plate by rules 275 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 Material of tube plates Steel Thickness: Front 1.05 Back 1.9 Mean pitch of stays 7 1/2

Ch across wide water spaces 13 3/4 Working pressures by rules 224 lbs Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 8.68 x .87 Length as per rule 33.3 Distance apart 7.76 Number and pitch of stays in each 3-7 1/2

Working pressure by rules 216 lbs Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked

separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Dia. of rivet

holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no

If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no

Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

