

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 24th Jan 1911 When handed in at Local Office Jan 30th 1911 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 4th Dec 1910 Last Survey 21st Jan 1911
 Reg. Book. 355 on the Sachsen (Number of Visits 74)
 Master A. Wagner Built at Belfast By whom built Holland & Wolff L^o Tons { Gross 4986 Net 5113 }
 Engines made at Belfast By whom made - when made 1911
 Boilers made at - By whom made - when made -
 Registered Horse Power - Owners Hamburg-Amerikanische Packetfahrt-Actien-Gesellschaft Port belonging to Hamburg
 Nom. Horse Power as per Section 28 694 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 26"-39"-56"-78 1/2" Length of Stroke 54" Revs. per minute 78 Dia. of Screw shaft 16 1/2" Material of S. Steel
 as fitted 16 1/2" screw shaft)
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 Yes 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 64"
 Dia. of Tunnel shaft 14 1/4" as per rule 14 1/4" Dia. of Crank shaft journals 15 1/2" as per rule 15 1/2" Dia. of Crank pin 15 3/4" Size of Crank webs 29 1/2" x 11 1/2" Dia. of thrust shaft under
 collars 15 1/2" Dia. of screw 18"-9" Pitch of Screw 18"-9" No. of Blades 4 State whether moveable Yes Total surface 10528 sq ft.
 No. of Feed pumps 2 Diameter of ditto 5 1/4" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 4 Sizes of Pumps 2 10 1/2" x 8 x 26 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3-3 1/2" x 4 3-2 1/2" Walden 9 x 10 x 12 Holds, &c. 13-3 1/2" x 6-2 1/2"
 No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size 10"-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 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 Both
 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 Fine hold customs How are they protected Warp 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
 Dates of examination of completion of fitting of Sea Connections 14-11-10 of Stern Tube 16-11-10 Screw shaft and Propeller 16-11-10
 Is the Screw Shaft Tunnel watertight Stated to be Is it fitted with a watertight door Yes worked from From E Room Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel W. Caldwell & Sons L^o
 Total Heating Surface of Boilers 19160 sq ft. Forced Draft fitted Yes No. and Description of Boilers 4 Single End Cyl.
 Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 26-10-10 No. of Certificate 434
 Can each boiler be worked separately Yes Area of fire grate in each boiler 62 sq ft. No. and Description of Safety Valves to
 each boiler Two - direct Spring area of each valve 9.62 sq in Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15'-6" Length 11'-0" Material of shell plates Steel
 Thickness 1 1/4" Range of tensile strength 29-33 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & double
 long. seams Butt & lap Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 23 1/2"
 Per centages of strength of longitudinal joint rivets 84.3 Working pressure of shell by rules 244 lbs Size of manhole in shell 16" x 18"
 Size of compensating ring M. Nels No. and Description of Furnaces in each boiler 3 - Mansions Material Steel Outside diameter 49 1/2"
 Length of plain part top 0 bottom 0 Thickness of plates crown 2 3/32 bottom 3 3/32 Description of longitudinal joint Mild No. of strengthening rings 5
 Working pressure of furnace by the rule 238 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 1 7/16
 Pitch of stays to ditto: Sides 7 1/2" x 7 1/2" Back 7 1/2" x 7 1/2" Top 7 1/2" x 8" If stays are fitted with nuts or riveted heads Nuts used Working pressure by rules 251 lbs
 Material of stay Steel Diameter at smallest part 1 1/2" Area supported by each stay 68 sq in Working pressure by rules 274 lbs End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 16" x 15 1/4" How are stays secured Nuts & Washers Working pressure by rules 246 lbs Material of stays Steel
 Diameter at smallest part 2 1/8" x 2 1/8" Area supported by each stay 244 sq in Working pressure by rules 278 lbs Material of Front plates at bottom Steel
 Thickness 1 1/2" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 14" Working pressure of plate by rule 241 lbs
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plate Steel Thickness: Front 1 1/2" Back 1 3/16" Mean pitch of stays 7 1/2" x 7 1/2"
 Pitch across wide water spaces 13 3/4" Working pressures by rules 388 lbs with 8" girders Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 9" x (8" x 2) Length as per rule 31 1/2" Distance apart 8" to 7" Number and pitch of stays in each 3-7 1/2"
 Working pressure by rules 232 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 -

