

REPORT ON MACHINERY.

Port of Belfast

Received at London Office TUES. 22 MAY 1906

No. in Survey held at Belfast

Date, first Survey Feb. 27th 1905 Last Survey May 12th 1906

Reg. Book.

(Number of Visits 89)

on the S.S. Matheran

Master

Built at Belfast By whom built Harland & Wolff

Tons } Gross 7654

Net 4928

When built 1906

Engines made at Belfast By whom made

when made 1906

Boilers made at

By whom made

when made

Registered Horse Power ✓

Owners J. Brocklebank & Co. Ltd. Port belonging to Liverpool

Nom. Horse Power as per Section 28 685

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engine Single Screw Quadruple Expansion No. of Cranks 4

Dia. of Cylinder 26 1/2 - 39 1/2 - 56 - 78 1/2 Length of Stroke 54 Revs. per minute 11 Dia. of Screw shaft as per rule 15.83 Material of screw shaft S. Steel
 as fitted 16.25

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 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 64

Dia. of Tunnel shaft as per rule 14.57 Dia. of Crank shaft journals as per rule 15.29 Dia. of Crank pin 16 Size of Crank webs 2 1/2 x 11 1/2 of thrust shaft under collars 15 1/2 Dia. of screw 8 - 6 Pitch of Screw 20 - 0 No. of Blades 4 State whether moveable Yes Total surface 95 1/2 sq. ft.

No. of Feed pumps 1 Diameter of ditto 5 1/2 Stroke 30 Can one be overhauled while the other is at work ✓

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 2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 5 - 3 1/2" 3 - 2 1/2" In Holds, &c. 9 - 3 1/2" 5 - 2 1/2"

No. of Bilge Injections 1 sizes 9 1/2" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & 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 None

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 None 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 9-4-06 of Stern Tube 9-4-06 Screw shaft and Propeller 9-4-06

Is the Screw Shaft Tunnel watertight Stated to be it fitted with a watertight door Yes worked from E. Room Top platform

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel D. Colville & Sons

Total Heating Surface of Boilers 4212 Is Forced Draft fitted No No. and Description of Boiler 2. Raubke End. Cylind.

Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 3-1-06 No. of Certificate 369

Can each boiler be worked separately Yes Area of fire grate in each boiler 3. End 115 1/2 sq. ft. No. and Description of Safety Valves to each boiler 3 - Direct Spring Area of each valve 9.62 sq. 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 About 40" diam. of boilers 14 - 5 1/2 Length 18 - 9 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 29 - 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. Dr. Machine

long. seams Butt. Machine Diameter of rivet holes in long. seams 1 7/8 Pitch of rivets 10 Lap of plates or width of butt straps 22 1/2

Per centages of strength of longitudinal joint rivets 93.2 Working pressure of shell by rules 246 lbs Size of manhole in shell 6" x 12"

plate 84.3 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 6 - Raubke Material Steel Outside diameter 46 1/2"

Length of plain part top 4" Thickness of plates crown 3 1/4" Description of longitudinal joint Weld No. of strengthening ring 4 on 28"

bottom 7" bottom 3 1/4" Working pressure of furnace by the rules 244 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/32 Back ✓ Top 5/32 Bottom 3/4"

Pitch of stays to ditto: Sides 7 1/2" x 7 Back ✓ Top 7 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 216 lbs

Material of stay Steel Diameter at smallest part 1 1/2" x 1 1/8" Area supported by each stay 54 1/2 sq. Working pressure by rules 218 lbs End plates in steam space:

Material Steel Thickness 1 1/4" Pitch of stays 16" x 14 1/2" How are stays secured Nuts & Washers Working pressure by rules 260 lbs Material of stays Steel

Diameter at smallest part 2 7/8" x 2 1/2" supported by each stay 232 sq. Working pressure by rules 240 lbs Material of Front plates at bottom Steel

Thickness 1 1/2" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓

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

Pitch across wide water spaces 14" Working pressures by rules 338 lbs and 338 lbs Chamber tops: Material Iron Depth and thickness of girder at centre 9" x (3" x 2) Length as per rule 49 1/2" Distance apart 7 1/2" Number and pitch of stays in each 6 - 7 1/2"

Working pressure by rules 298 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



