

# REPORT ON MACHINERY

No. 28679

Received at London Office

WED. JUL. 28. 1915

Date of writing Report 7<sup>th</sup> June 1915 When handed in at Local Office 7.6.15 Port of Hull

No. in Survey held at Hull Date, First Survey Dec 14/14 Last Survey 28.5.1915

Reg. Book. 375 on the Steel SSK "MANX QUEEN." (CPH 1094.) (Number of Visits 24)

Master 375 Built at Selby By whom built Cochrane & Co. Ltd Tons { Gross 234 Net 115 When built 1915

Engines made at Hull By whom made C. N. Holmes & Co. Ltd when made 1915

Boilers made at Hull By whom made C. N. Holmes & Co. Ltd when made 1915

Registered Horse Power Owners W. H. Beeley Port belonging to Grimby

Nom. Horse Power as per Section 28 65 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

## ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12" 21" 34" Length of Stroke 24" Revs. per minute as per rule 6.9 Dia. of Screw shaft as fitted 7/8" Material of screw shaft St.

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 yes

If two liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 31"

Dia. of Tunnel shaft as per rule 6.26" Dia. of Crank shaft journals as per rule 6.57" Dia. of Crank pin 6 7/8" Size of Crank web 7 1/2" x 3 1/2" Dia. of thrust shaft under collars 6 7/8" Dia. of screw 8-6" Pitch of Screw 10-3" No. of Blades 4 State whether moveable no Total surface 27 1/2"

No. of Feed pumps 1 Diameter of ditto 2 1/8" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 1 Diameter of ditto 2 1/8" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines One Sizes of Pumps 5" x 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2" On forward, One aft. In Holds, &c. 2-2" Slushwell & Forehold

2 1/2" ejector from all bilges.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size 2 1/2" ejector

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 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 Hold Suctions How are they protected Wood casing

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 15.2.15 of Stern Tube 15.2.15 Screw shaft and Propeller 15.2.15

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

## BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Messrs. Stewart & Lloyds

Total Heating Surface of Boilers 10700 Is Forced Draft fitted no No. and Description of Boilers One single-ended

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 31.3.15 No. of Certificate 3069

Can each boiler be worked separately yes Area of fire grate in each boiler 33 No. and Description of Safety Valves to each boiler 2 Spring

Area of each valve 3.98 Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 5" Mean dia. of boilers 147.95" Length 10'0" Material of shell plates S.

Thickness 1 1/2" Range of tensile strength 28 Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams HR

long. seams LR 18 B. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint rivets 85.6 Working pressure of shell by rules 185 Size of manhole in shell 16" x 12"

plate 85.8 No. and Description of Furnaces in each boiler 2 plain Material S. Outside diameter 45"

Length of plain part top 6'4" Thickness of plates crown 15" Description of longitudinal joint welded No. of strengthening rings one

bottom 32" Working pressure of furnace by the rules 184 Combustion chamber plates: Material S. Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 10x9 Back 8 1/2 x 9 1/8 top 8 1/2 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays S. Diameter at smallest part 2.07 Area supported by each stay 90 Working pressure by rules 207 End plates in steam space:

Material S. Thickness 1 1/16" Pitch of stays 17x17 How are stays secured Ns x Ws Working pressure by rules 185 Material of stays S.

Diameter at smallest part 5.79 Area supported by each stay 289 Working pressure by rules 208 Material of Front plates at bottom S.

Thickness 7/8" Material of Lower back plate S. Thickness 29/32 Greatest pitch of stays 14 1/2 x 9 3/8 Working pressure of plate by rules 190

Diameter of tubes 3 1/2" Pitch of tubes 5" Material of tube plates S. Thickness: Front 7/8" Back 7/8" Mean pitch of stays 10"

Pitch across wide water spaces 15" Working pressures by rules 180 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8" x 1 3/4" Length as per rule 32 1/16" Distance apart 8 1/2" Number and pitch of stays in each 2 at 10"

Working pressure by rules 193 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

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IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set each feed & bilge pump valves, one set of coupling bolts & nuts, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & CO. LD

Arthur Holmes

DIRECTOR

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1914: - Dec 14, 1915: - Jan 28, Feb 4, 11, 13, 15, 23, Mar 11, 15, 24, 26, 31, Apr 6, 14, 19, 27. During erection on board vessel - 28, May 4, 5, 17, 18, 21, 26, 28. Total No. of visits: 24. Is the approved plan of main boiler forwarded herewith: yes.

Dates of Examination of principal parts: Cylinders 15.3.15, Slides 26.3.15, Covers 15.3.15, Pistons 26.3.15, Rods 6.4.15, Connecting rods 6.4.15, Crank shaft 19.4.15, Thrust shaft 28.4.15, Tunnel shafts, Screw shaft 13.2.15, Propeller 13.2.15, Stern tube 13.2.15, Steam pipes tested 18.5.15, Engine and boiler seatings 15.2.15, Engines holding down bolts 17.5.15, Completion of pumping arrangements 28.5.15, Boilers fixed 17.5.15, Engines tried under steam 21.5.15, Main boiler safety valves adjusted 21.5.15, Thickness of adjusting washers FV 15/32 "AV 1/2"

Material of Crank shaft S, Identification Mark on Do. 1446, Material of Thrust shaft S, Identification Mark on Do. 1448

Material of Tunnel shafts, Identification Marks on Do., Material of Screw shafts S, Identification Marks on Do. 1429

Material of Steam Pipes Copper solid drawn, Test pressure 360 lbs. hyd. press.

Is an installation fitted for burning oil fuel, 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 No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The Boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of LMC 5.15. in the Register book.

It is submitted that this vessel is eligible for THE RECORD, + LMC 5.15.

JWD. ARK 28/7/15

The amount of Entry Fee ... £ 1 : : When applied for, 21-7 1915. Special ... £ 9 : 15 : Donkey Boiler Fee ... £ : : When received, 8 23/7 1915. Travelling Expenses (if any) £ : 8 : 23/7 1915

J. S. Mackillop, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. JUL. 30. 1915

Assigned LMC 5.15



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