

# REPORT ON BOILERS.

No. 41414

Received at London Office **12 OCT. 1921**

Date of writing Report **10.10.21** When handed in at Local Office **10.10.21** Port of **Glasgow**  
 No. in Survey held at **Glasgow** Date, First Survey **1st Dec. 1919** Last Survey **3rd Oct. 1921**  
 No. of Book. **10** (Number of Visits **44**) Gross Tons **3872**  
 on the **Twin screw motor vessel "MALIA"** Net Tons **2339**  
 Built at **Glasgow** By whom built **W. Hamilton & Co (No 377)** When built **1921**  
 Engines made at **1st Wheelhead** By whom made **Cammell Laird & Co** When made **1921**  
 Machinery made at **Glasgow** By whom made **D. Rowan & Co (No 743)** When made **1921**  
 Registered Horse Power \_\_\_\_\_ Owners **J. J. Brocklebank** Port belonging to **Liverpool**

**MULTITUBULAR BOILERS** — ~~\_\_\_\_\_~~ OR **DONKEY**. — Manufacturers of Steel **J. Colville & Sons W. Beardmore & Co. Ld.**

Number for record **5** Total Heating Surface of Boilers **1201 sq ft** Is forced draft fitted **no** No. and Description of Boilers **1 Single ended multitubular** Working Pressure **120 lbs** Tested by hydraulic pressure to **240** Date of test **1-10-20**  
 No. of Certificate **15514** Can each boiler be worked separately  Area of fire grate in each boiler **Oil fuel** No. and Description of Safety valves to each boiler **Two spring loaded** Area of each valve **5.9 sq in** Pressure to which they are adjusted **120 lbs**  
 Are they fitted with easing gear **Yes** In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler   
 Smallest distance between boilers **18 in** <sup>caseing</sup> ~~uptakes and bunkers or woodwork~~ <sup>INT</sup> dia. of boilers **12'-0"** Length **9'-6"**  
 Material of shell plates **S** Thickness **23/32"** Range of tensile strength **28-32 tons** Are the shell plates welded or flanged **no**  
 Description of riveting: cir. seams **L.D.R.** long. seams **T.R. All Stays** Diameter of rivet holes in long. seams **7/8"** Pitch of rivets **5 5/8"**  
 Width of butt straps **14"** Per centages of strength of longitudinal joint rivets **88.4** Working pressure of shell by rules **122 lbs** Size of manhole in shell **16" x 12"** Size of compensating ring **30" x 26" x 7/8"** No. and Description of Furnaces in each boiler **Two plain** Material **S** Outside diameter **45 9/16"** Length of plain part **5-10 3/4"** Thickness of plates <sup>crown</sup> **19/32"** <sub>bottom</sub> **3 7/8"**  
 Description of longitudinal joint **weld** No. of strengthening rings **none** Working pressure of furnace by the rules **123** Combustion chamber material: Material **S** Thickness: Sides **9/16"** Back **17/32"** Top **9/16"** Bottom **11/16"** Pitch of stays to ditto: Sides **9 3/4" x 9"** Back **8 x 8 7/8"**  
**9 3/4" x 9"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **125 lbs** Material of stays **Iron** Area at smallest part **1.48 sq ft** Area supported by each stay **70 sq ft** Working pressure by rules **125 lbs** End plates in steam space: Material **S** Thickness **1 1/16"**  
 How are stays secured **S. nuts** Working pressure by rules **121 lbs** Material of stays **S** Area at smallest part **4.9 sq ft**  
 Area supported by each stay **360 sq ft** Working pressure by rules **140 lbs** Material of Front plates at bottom **S** Thickness **13/16"** Material of back plate **S** Thickness **21/32"** Greatest pitch of stays **13** Working pressure of plate by rules **128** Diameter of tubes **3"**  
 Material of tube plates **S** Thickness: Front **13/16"** Back **11/16"** Mean pitch of stays **11 9/16"** Pitch across wide spaces **14"** Working pressures by rules **130 lbs** Girders to Chamber tops: Material **S** Depth and thickness of girder at centre **7 x 1 1/4"** Length as per rule **28 25/32"** Distance apart **9"** Number and pitch of Stays in each **2 @ 9 3/4"**  
 Working pressure by rules **133 lbs** Steam dome: description of joint to shell  % of strength of joint   
 Thickness of shell plates  Material  Description of longitudinal joint  Diam. of rivet holes   
 Working pressure of shell by rules  Crown plates  Thickness  How stayed

**SUPERHEATER.** Type  Date of Approval of Plan  Tested by Hydraulic Pressure to   
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler   
 Pressure to which each is adjusted  Is Easing Gear fitted

**VERTICAL DONKEY BOILER** — No. \_\_\_\_\_ Description \_\_\_\_\_ Manufacturers of steel \_\_\_\_\_  
 By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_ Working pressure \_\_\_\_\_  
 Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_  
 Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Per centage of strength of joint Rivets \_\_\_\_\_ Plates \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_  
 No. of Stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_  
 Description of joint \_\_\_\_\_ Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown \_\_\_\_\_  
 Stayed by \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_

The foregoing is a correct description,  
**D. Rowan & Co Ltd** Manufacturer.  
 See accompanying Machinery report  
 During progress of work in shops --   
 During erection on board vessel ---   
 Total No. of visits **44** Is the approved plan of main boiler forwarded herewith   
 " " " donkey " "

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been built under Special Survey and in accordance with the Rules, on completion it was tested by water pressure to 240 lbs per sq in and found satisfactory in all respects: it has been fitted on board in a satisfactory manner, tried under working conditions and found efficient. It has been fitted to burn Oil fuel. (F.P. above 150°) in a satisfactory manner: the requirements of Section 149 of the Rules have been complied with.

*[Faint handwritten notes and diagrams, possibly related to boiler specifications or survey details.]*

Certificate (if required) to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.  
 The  
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The amount of Entry Fee .. £	:	:	When applied for.
Special .. .. . £ 8 0	:	:	11.10.21
Donkey Boiler Fee .. .. £	:	:	When received.
Travelling Expenses (if any) £	:	:	13.10.21

*J. Selles.*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute  
 Assigned See accompanying mach<sup>y</sup> report

GLASGOW 11 OCT 1921

