

# REPORT ON BOILERS.

No. 27879

Received at London Office

TUE. JUL. 20 1920

Date of writing Report

192

When handed in at Local Office

19 JUL 1920

Port of Sunderland

No. in Survey held at Sunderland  
Reg. Book.

Date, First Survey

3 Mar. 1920 Last Survey

191

(Number of Visits)

Gross 3556  
Tons Net 2283

1612 on the donkey boiler for S/S "GRACIANA"

Master Built at Glasgow

By whom built B. Bonnell & Co. Ltd.

When built 1903

Engines made at Glasgow

By whom made D. Rowan & Co.

When made 1903

Boilers made at Sunderland

By whom made J. Dickinson & Sons Ltd. (No. 1065)

When made 1920

Registered Horse Power 364

Owners Furber & Witherby & Co. Ltd.

Port belonging to W. Hartlepool

## MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY. - Manufacturers of Steel

John Spence & Sons Ltd.

Letter for record (5) Total Heating Surface of Boilers 1172 sq ft Is forced draft fitted no No. and Description of Boilers One single ended marine Working Pressure 120 Tested by hydraulic pressure to 240 Date of test 1-6-20

No. of Certificate 3693 Can each boiler be worked separately yes Area of fire grate in each boiler 34 sq ft No. and Description of safety valves to each boiler Two, direct spring Area of each valve 4.91 sq in Pressure to which they are adjusted 120 lb

Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork about 12" clear Mean dia. of boilers 11'-0" Length 11'-0"

Material of shell plates steel Thickness 1/16" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no

Description of riveting: cir. seams DR long. seams DRS, TR Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 3/4"

Gap of plates or width of butt straps 9 1/8" Per centages of strength of longitudinal joint rivets 94.3 Working pressure of shell by plate 80.2

Number of manholes in shell 121 Size of manhole in shell 16" x 12" Size of compensating ring 7 1/8" x 1/16" No. and Description of Furnaces in each boiler 2 plain

Material steel Outside diameter 3'-2" Length of plain part 80" Thickness of plates 1/16" crown 5/8" bottom 5/8"

Description of longitudinal joint welded No. of strengthening rings none Working pressure of furnace by the rules 129 Combustion chamber plates: Material steel Thickness: Sides 5/16" Back 5/16" Top 5/16" Bottom 7/8"

Pitch of stays to ditto: Sides 10 1/2 x 8 Back 10 x 10 Top 10 1/2 x 8 If stays are fitted with nuts or riveted heads nut in use Working pressure by rules 135 Material of stays steel Area at smallest part 1.45

Area supported by each stay 94.60 Working pressure by rules 122 End plates in steam space: Material steel Thickness 3/4"

Pitch of stays 15 x 14 1/2 How are stays secured DN TW Working pressure by rules 123 Material of stays steel Area at smallest part 2.50

Area supported by each stay 2180 Working pressure by rules 119 Material of Front plates at bottom steel Thickness 1/16" Material of lower back plate steel Thickness 1/16"

Greatest pitch of stays 12 1/2 x 10 Working pressure of plate by rules 127 Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 1/16" Mean pitch of stays 11 1/2" Pitch across wide

inter spaces 1-2" Working pressures by rules 120 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 1 @ 6 1/2" x 7/8"

Length as per rule 33-18" Distance apart 8" Number and pitch of Stays in each 2 @ 10 1/2"

Working pressure by rules 131 Steam dome: description of joint to shell none % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

PERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

*As per*  
The foregoing is a correct description,  
John Dickinson & Sons, Limited.  
Aschmann Manufacturer.

Dates During progress of 1920 Mar. 3, 25, Apr. 27, May 13, 31, June 1 Is the approved plan of boiler forwarded herewith

Survey while building During erection on board vessel Total No. of visits

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

All materials and workmanship are good.  
The boiler has been constructed under special survey and is to be sent to West Hartlepool  
to be fitted in the vessel.

Survey Fee ... £ 3 : 18 : : When applied for, 19 JUL 1920

Travelling Expenses (if any) £ : : When received, 21/7/20

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

Committee's Minute FRI. OCT. 22 1920

Assigned

