

# REPORT ON BOILERS.

No. 30090

-6 AUG 1929

Received at London Office

1929

Date of writing Report

When handed in at Local Office

1 AUG 1929

Port of *Liverpool*

No. in Survey held at *Liverpool*  
g. Book.

Date, First Survey

Last Survey *24 July* 1929

(Number of Visits ) Gross *3865*  
Tons Net *2348*

on the *S. S. KNIGHT OF THE ROSE.*

Master Built at *Liverpool* By whom built *Lieut. John P. ...* Yard No. *293* When built *1929*

Engines made at *Liverpool* By whom made *George Rank Ltd.* Engine No. *1165* When made *1929*

Boilers made at *Do* By whom made *Do* Boiler No. *1165* When made *1929*

Nominal Horse Power *373* Owners *Pardoe Thomas & Co* Port belonging to *Newport*

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Guthrie & Co. Ltd. Glasgow* (Letter for Record *S*)

Total Heating Surface of Boilers *1139 sq ft* Is forced draught fitted *No* Coal or Oil fired *Coal*

No. and Description of Boilers *One cyl with S.E.* Working Pressure *180 lbs*

Tested by hydraulic pressure to *320 lbs* Date of test *22/3/29* No. of Certificate *4026* Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *34 sq ft* No. and Description of safety valves to each boiler *Two backhams high lift*

Area of each set of valves per boiler *1.875 sq ft* Pressure to which they are adjusted *185 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 or uptakes and bunkers or woodwork *1'-10"* Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating *2'-6"* Is the bottom of the boiler insulated *No*

Largest internal dia. of boilers *11'-4 1/2"* Length *10'-0"* Shell plates: Material *Steel* Tensile strength *29 to 33 tons*

Thickness *5/16"* Are the shell plates welded or flanged *No* Description of riveting: circ. seams *and* *inter.*

Long. seams *T.R.T.B.S.* Diameter of rivet holes in *circ. seams* *1"* Pitch of rivets *3.034"*

Percentage of strength of circ. end seams *plate* *67%* Percentage of strength of circ. intermediate seam *plate* *85.86%*

Percentage of strength of longitudinal joint *plate* *91.3%* Working pressure of shell by Rules *182 lbs*

Thickness of butt straps *outer* *3/16"* *inner* *3/16"* No. and Description of Furnaces in each Boiler *Two uprights bar* *2 of*

Material *Steel* Tensile strength *26-30 tons* Smallest outside diameter *3'-2 1/4"*

Length of plain part *top* *bottom* Thickness of plates *crown* *3 1/2"* Description of longitudinal joint *Welded*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules *187 lbs*

End plates in steam space: Material *Steel* Tensile strength *26 to 30 tons* Thickness *1 1/2"* Pitch of stays *17" x 15 1/4"*

How are stays secured *D.N. & W.* Working pressure by Rules *182 lbs*

Tube plates: Material *front* *back* *Steel* Tensile strength *26-30 tons* Thickness *1 1/2"*

Lean pitch of stay tubes in nests *10 1/4"* Pitch across wide water spaces *14 1/2" x 8 3/4"* Working pressure *front* *190 lbs*

Girders to combustion chamber tops: Material *Steel* Tensile strength *29 to 33 tons* Depth and thickness of girder *back* *191"*

Distance apart *8 3/4"* No. and pitch of stays

Working pressure by Rules *187 lbs* Combustion chamber plates: Material *Steel*

Tensile strength *26 to 30 tons* Thickness: Sides *23/32"* Back *1/8"* Top *1/8"* Bottom *23/32"*

Pitch of stays to ditto: Sides *10" x 9 1/2"* Back *10" x 9 1/2"* Top *9 1/2" x 8 3/4"* Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules *180 lbs* Front plate at bottom: Material *Steel* Tensile strength *26 to 30 tons*

Thickness *1 1/2"* Lower back plate: Material *Steel* Tensile strength *26 to 30 tons* Thickness *1 1/2"*

Pitch of stays at wide water space *16" x 10"* Are stays fitted with nuts or riveted over *Nuts*

Working Pressure *250 lbs* Main stays: Material *Steel* Tensile strength *28 to 32 tons*

Diameter *At body of stay* *2 3/8"* No. of threads per inch *6* Area supported by each stay *15 1/4" x 16 3/8"*

Working pressure by Rules *185 lbs* Screw stays: Material *Steel* Tensile strength *26 to 30 tons*

Diameter *At turned off part* *1 3/4"* No. of threads per inch *9* Area supported by each stay *95"*



Working pressure by Rules 190 lbs Are the stays drilled at the outer ends No Margin stays: Diameter At turned off part, 1 7/8" 2" & 2 1/8"  
 No. of threads per inch 9 Area supported by each stay 126 sq. in. Working pressure by Rules 195 lbs  
 Tubes: Material S. D. STEEL External diameter Plain 3 1/4" Thickness No 8 W.C. 4 1/8" & 3 1/8" No. of threads per inch 9  
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 213 lbs Manhole compensation: Size of opening in leg. 1 1/2"  
 shell plate 16" x 12" Section of compensating ring 7 5/8" x 3 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/8"  
 Outer row rivet pitch at ends 7 1/8" Depth of flange if manhole flanged - Steam Dome: Material -  
 Tensile strength - Thickness of shell - Description of longitudinal joint -  
 Diameter of rivet holes - Pitch of rivets - Percentage of strength of joint Plate - Rivets -  
 Internal diameter - Working pressure by Rules - Thickness of crown - No. and diameter of stays -  
 How connected to shell - Inner radius of crown - Working pressure by Rules -  
 Size of doubling plate under dome - Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell -

Type of Superheater - Manufacturers of -  
 Number of elements - Material of tubes - Internal diameter and thickness of tubes -  
 Material of headers - Tensile strength - Thickness - Can the superheater be shut off and the boiler be worked separately -  
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler -  
 Area of each safety valve - Are the safety valves fitted with easing gear - Working pressure as per Rules -  
 Pressure to which the safety valves are adjusted - Hydraulic test pressure: -  
 tubes - castings - and after assembly in place - Are drain cocks or valves fitted to free the superheater from water where necessary -

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,  
 FOR GEORGE CLARK LIMITED  
Shawbold Manufacturer.

Dates of Survey During progress of work in shops - - Please see Mach. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building During erection on board vessel - - Total No. of visits -

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey & the workmanship & materials are good. On completion the boiler was satisfactory fitted in the vessel. For notation see machinery report.

Survey Fee ... £ : ✓ When applied for, 192  
 Travelling Expenses (if any) £ : ✓ When received, 192

Shawbold  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute See Rpt attached  
 Assigned See Rpt attached

FRI. 9 AUG 1929