

Rpt. 5.

REPORT ON BOILERS.

No. 19623

Received at London Office

Date of writing Report 4th Dec 1920 When handed in at Local Office 16 January 1921 Port of New York & Jacksonville
 No. in Survey held at Kearny, New Jersey Date, First Survey 15th Sept. 1919 Last Survey 13th Jan. 1921
 Reg. Book. 11010 on the Scotch Marine Boiler # 427 LLOYD'S 'BYRON D. BENSON' Tons { Gross 8211.92 Net 5108
 Master Wm. J. O'Connell Built at Alampa, Florida By whom built Oscar Daniels Co. When built 1922-1
 Engines made at New Jersey By whom made Vulcan Iron Works When made 1920
 Boilers made at Kearny, N.J. By whom made Federal Ship Building Co. When made 1920
 Registered Horse Power 1000 Owners Standard Oil Co. Port belonging to New York

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Carnegie & Illinois Steel Co.

(Letter for record S) Total Heating Surface of Boilers 2806^{sq} ft Is forced draft fitted Yes No. and Description of Boilers 1-3 Furnace, S. & C. Multi Scotch Working Pressure 220^{lbs} Tested by hydraulic pressure to 330^{lbs} Date of test 8-11-20
 No. of Certificate 427 Can each boiler be worked separately Yes Area of fire grate in each boiler 60^{sq} ft No. and Description of safety valves to each boiler 2-3¹/₂ Twin Spring Area of each valve 9.62^{sq} ft Pressure to which they are adjusted 220^{lbs}
 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 24" Mean dia. of boiler 15'-0" Length 11'-6"
 Material of shell plates S Thickness 1³/_{4"} Range of tensile strength 28 to 32^{tons} Are the shell plates welded or flanged No
 Descrip. of riveting: cir. seams DRL long. seams TR/DB Diameter of rivet holes in long. seams 1⁵/_{8"} Pitch of rivets 9³/_{8"}
 Lap of plates or width of butt straps 23³/_{8"} Per centages of strength of longitudinal joint 102% Working pressure of shell by rules 239[#] Size of manhole in shell 12x16" Size of compensating ring 36³/₄ x 32³/₄ x 1³/_{4"} No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 48³/_{8"} Length of plain part 11'-0" Thickness of plates 1⁵/_{8"}
 Description of longitudinal joint Weld No. of strengthening rings 1 Working pressure of furnace by the rules 234 Combustion chamber plates: Material S Thickness: Sides 2¹/_{2"} Back 3¹/_{4"} Top 2¹/_{2"} Bottom 1" Pitch of stays to ditto: Sides 7x7" Back 7¹/₂ x 8"
 Top 7x8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 239[#] Material of stays S Area at smallest part 1.8^{sq} ft Area supported by each stay 3.6^{sq} ft Working pressure by rules 236 End plates in steam space: Material S Thickness 1⁵/_{8"}
 Pitch of stays 15x16" How are stays secured D.N. Working pressure by rules 236 Material of stays S Area at smallest part 5.93^{sq} ft
 Area supported by each stay 240^{sq} ft Working pressure by rules 265[#] Material of Front plates at bottom S Thickness 1" Material of Lower back plate S Thickness 1" Greatest pitch of stays 12³/₄ x 7¹/_{2"} Working pressure of plate by rules 234[#] Diameter of tubes 2³/_{4"}
 Pitch of tubes 4 x 3³/_{4"} Material of tube plates S Thickness: Front 1" Back 1³/_{8"} Mean pitch of stays 11¹/₄ x 8" Pitch across wide water spaces 12³/₄ x 7¹/_{2"} Working pressures by rules 220[#] Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 x 9⁵/_{16"} Length as per rule 35" Distance apart 8" Number and pitch of Stays in each 4 at 7"
 Working pressure by rules 283[#] Steam dome: description of joint to shell Yes % of strength of joint 100
 Diameter 10" Thickness of shell plates 1" Material S Description of longitudinal joint Weld Diam. of rivet holes 1⁵/_{8"}
 Pitch of rivets 9³/_{8"} Working pressure of shell by rules 239[#] Crown plates 1" Thickness 1" How stayed Weld

SUPERHEATER. Type Yes Date of Approval of Plan 1920 Tested by Hydraulic Pressure to 330^{lbs}
 Date of Test 1920 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 10" Pressure to which each is adjusted 220^{lbs} Is Easing Gear fitted Yes

VERTICAL DONKEY BOILER No. 427 Description Scotch Marine Manufacturers of steel Carnegie & Illinois Steel Co.
 Made at New Jersey By whom made Federal Ship Building Co. When made 1920 Where fixed New York Working pressure 220^{lbs}
 tested by hydraulic pressure to 330^{lbs} Date of test 8-11-20 No. of Certificate 427 Fire grate area 60^{sq} ft Description of safety valves 2-3¹/₂ Twin Spring
 No. of safety valves 2 Area of each 9.62^{sq} ft Pressure to which they are adjusted 220^{lbs} If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No
 Dia. of donkey boiler 15'-0" Length 11'-6" Material of shell plates S Thickness 1³/_{4"} Range of tensile strength 28 to 32^{tons}
 Descrip. of riveting long. seams TR/DB Dia. of rivet holes 1⁵/_{8"} Whether punched or drilled Yes Pitch of rivets 9³/_{8"}
 Lap of plating 23³/_{8"} Per centage of strength of joint 102% Working pressure of shell by rules 239[#] Thickness of shell crown plates 1⁵/_{8"}
 Radius of do. 10' No. of Stays to do. 4 Dia. of stays 7" Diameter of furnace Top 12³/_{4"} Bottom 12³/_{4"} Length of furnace 11'-6"
 Thickness of furnace plates 1³/_{4"} Description of joint Weld Working pressure of furnace by rules 234 Thickness of furnace crown plates 1⁵/_{8"}
 Radius of do. 10' Stayed by Weld Diameter of uptake 10" Thickness of uptake plates 1⁵/_{8"}
 Thickness of water tubes 1⁵/_{8"}

The foregoing is a correct description,
FEDERAL SHIP BUILDING CO.
J. H. Christensen Manufacturer.

Dates of Survey while building: During progress of work in shops 1919: Sep. 15, 20, Oct. 10, 15, Nov. 24, Dec. 3, 8, 1920: Jan. 3, 6, 9, May 20, 22, Nov. 8, 24, Dec. 26, 27, 1921: Jan. 13
 During erection on board vessel 1921: Jan. 7, 17, July 9, 21, Aug. 2, 15, 23, Sep. 3, 15, 17, 27, Oct. 4, 6, 11, 22, 24, 26, 27, Dec. 13, 21, 29, 1922: Jan. 10, 13
 Total No. of visits 41
 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " Yes

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

The Boiler has been built under Special Survey in accordance with the approved plan. The material and workmanship employed in its construction, so far as can be seen, are sound and good. The Boiler is eligible in my opinion to be classed B.S. 11.20

The above boiler has been satisfactorily installed on board & on completion safety valves were adjusted under steam to 220 lb.

Certificates (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee .. £	When applied for,
Special £	19
Donkey Boiler Fee £	When received,
Travelling Expenses (if any) £	19

Committee's Minute New York JAN 31 1922

Assigned

See box 438

J. Hockhart, & Hugh Boyle.
Engineer Surveyors to Lloyd's Register of Shipping.



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Is a Report also sent on the Hull of the Ship? If not, state whether, and when, one will be sent?

See

See