

Rpt. 5a.

REPORT ON BOILERS.

No. 3672

WED. OCT 27 1920

Date of writing Report 191 When handed in at Local Office 191 Port of Philadelphia, Pa.

No. in Survey held at Wilmington, Del. Date, First Survey Last Survey 191

Reg. Book. on the "China Arrow" Fore River Plant No. 1385 Tons Gross Net

Master Built at Quincy By whom built Bethlehem S.W. Corp. When built 1920

Engines made at By whom made Bethlehem Shipbuilding Corporation When made

Boilers made at Wilmington, Del., By whom made Ltd., Harlan Plant When made 1920

Registered Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Lukens Steel Co.

(Letter for record 7) Total Heating Surface of Boilers 9315 sq. ft. Is forced draft fitted No. and Description of Boilers Three Single Ended Working Pressure 230. Tested by hydraulic pressure to 330. Date of test 9-2-20

No. of Certificate 349. Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to each boiler Two direct spring Area of each valve 9.62 sq. ft. Pressure to which they are adjusted

Are they fitted with easing gear 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 Mean dia. of boilers 15'-4 1/2" Length 11'-6"

Material of shell plates Steel Thickness 1 1/2" Range of tensile strength 71,680 lb. Are the shell plates welded or flanged No.

Descrip. of riveting: cir. seams D.R. L.A.P. long. seams T.R. D.B.S. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/8"

Lap of plates or width of butt straps 22 3/8" Per centages of strength of longitudinal joint rivets 90.6 plate 83.3. Working pressure of shell by rules 240 Size of manhole in shell 12" x 16" Size of compensating ring 38" x 32 1/2" No. and Description of Furnaces in each boiler 3 Corrugated Material Steel Outside diameter 48 3/8" Length of plain part top bottom Thickness of plates crown 1 1/2" bottom 1 1/2"

Description of longitudinal joint weld. No. of strengthening rings Working pressure of furnace by the rules 234 Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1" Pitch of stays to ditto: Sides 7 1/2" x 7" Back 7 1/2" x 7 1/2" Top 7 1/2" x 7" If stays are fitted with nuts or riveted heads Riveted heads Working pressure by rules 228 Material of stays Iron Diameter at smallest part 2.06" Area supported by each stay 53.5 sq. ft. Working pressure by rules 289. End plates in steam space: Material Steel Thickness 1 1/2"

Pitch of stays 16 1/2" x 15" How are stays secured Double nuts Working pressure by rules 230 Material of stays Steel Diameter at smallest part 2 7/8"

Area supported by each stay 247.5 sq. ft. Working pressure by rules 272. Material of Front plates at bottom Steel Thickness 1 1/2" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 13" x 7 1/2" Working pressure of plate by rules 396. Diameter of tubes 2 1/2"

Pitch of tubes 3 1/2" x 3 3/4" Material of tube plates Steel Thickness: Front 1 1/2" Back 3/4" Mean pitch of stays 9" Pitch across wide water spaces 12 3/4" Working pressures by rules 278. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9" x 2" Length as per rule 2'-11" Distance apart 7 3/8" Number and pitch of Stays in each 44 - 7"

Working pressure by rules 266 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

The foregoing is a correct description,

By S. S. Smith Manufacturer.

ASSISTANT GENERAL MANAGER

Dates of Survey 1919 During progress of work in shops - - - 1920 During erection on board vessel - - -

Is the approved plan of boiler forwarded herewith Copy

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey and in accordance with approved plan. The materials and workmanship are good and efficient. To complete the survey, the boilers to be installed on board, all mountings to be fitted and safety valves adjusted under steam.

Credit Phila. & Survey Fee. Survey Fee ... £ : : When applied for, 191

Travelling Expenses (if any) £ : : When received, 21.12.191

Phila do do \$ 8.50.

J. Blallock. Engineer Surveyor to Lloyd's Register of Shipping.

New York OCT 13 1920

Committee's Minute

Assigned See Bos. Rpt. 1404

Lloyd's Register of Shipping

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