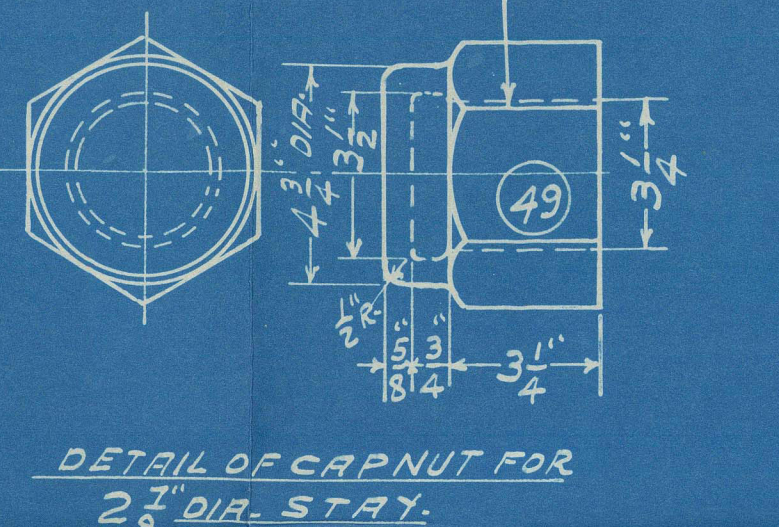


Technical drawing of a boiler section showing dimensions and components. The drawing includes the following labels and dimensions:

- BACK TUBE SHEET**: Located at the top right.
- ORDINARY TUBES #102 W.G.**: Located in the upper central section.
- STAY TUBES #28 W.G.**: Located in the lower central section.
- 12 CONTINUOUS THDS PER INCH**: A note with an arrow pointing to the stay tubes.
- Dimensions**:
 - Top left: $1\frac{1}{16}$ "
 - Top center: $7 FT. 7\frac{1}{2}$ "
 - Top right: $13\frac{1}{16}$ "
 - Left side (vertical): $3\frac{1}{16}$ " OVER, $4\frac{1}{2}$ " TUBES
 - Left side (horizontal): $2\frac{1}{2}$ "
 - Right side (vertical): $5\frac{1}{16}$ "
 - Right side (horizontal): $5\frac{1}{16}$ "
 - Bottom left: $5\frac{1}{16}$ "
 - Bottom center: $1\frac{3}{4}$ "
 - Bottom right: $5\frac{1}{16}$ "
 - Bottom right (horizontal): $1\frac{3}{4}$ "
 - Bottom right (vertical): $5\frac{1}{16}$ "
 - Bottom right (diagonal): $2\frac{1}{2}$ "



BUREAU OF COMMERCE.

$PLATE\% = \frac{10.3125 - 1.5625}{10.3125} \times 100 = 84.8\%$

$RIVET\% = \frac{5 \times 1.917 \times 1.75 \times 85}{10.3125 \times 1.578} \times 100 = 37.60\%$

LLLOYDS RULE.

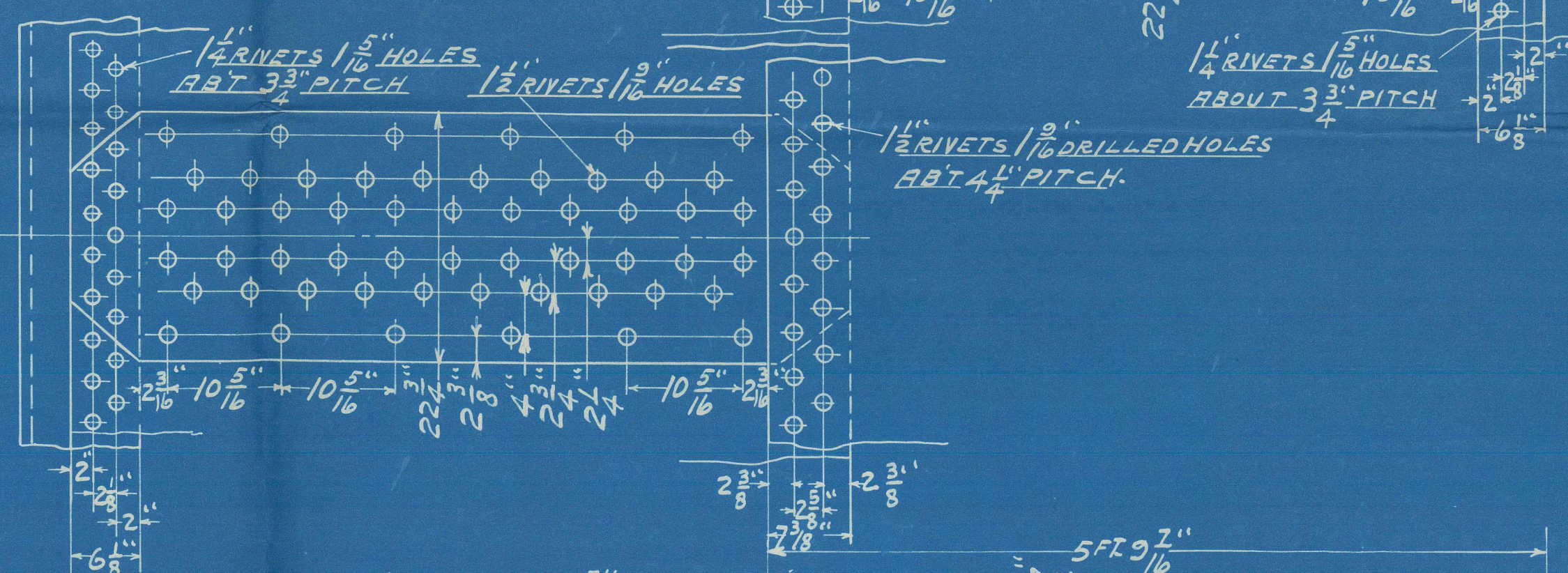
$PLATE\% = \frac{10.3125 - 1.5625}{10.3125} \times 100 = 84.8\%$

$RIVET\% = \frac{5 \times 1.767 \times 1.75 \times 85}{10.3125 \times 1.578} = 80.6\%$

LLOYDS RULE.

$$RIVET\% = \frac{5 \times 1.767 \times 1.75 \times .85}{10.3125 \times 1.578} = 80.6\%$$

INSIDE BUTTSTRAP / $\frac{5}{16}$ " THICK
OUTSIDE BUTTSTRAP / $\frac{1}{4}$ " THICK



CONSTRUCTED UNDER THE BOARD OF SUPERVISING INSPECTORS			
DEPT. OF COMMERCE & LLOYDS RULES.			
FOR LLOYDS WORKING PRESSURE		LLOYDS RULES	
SHELL	1/31	$P = 6000 \times 4.518 + 20 \times 211 \frac{1}{2}$	$P = 210 \times 4.888 + 20 \times 233 \frac{1}{2}$
	5	$67.83.5$	$180.37.182$
FURNACE	5	$P = 135 \times 10^{-2} = 210^{\circ}$	$P = 125 \times 10^{-2} = 213$
TOP HEAD	1/31	$P = 17.5 \times 18.5^2 = 219^{\circ}$	$P = 17.5 \times 18.5^2 = 233$
PLATE	5	16.5^2	26.2^2
TOP HEAD	2/3	$P = 16.5 \times 5.5 \times 10 = 872.5^{\circ}$	$P = 10.40 \times 6.49 = 263$
STAYS	5	6.49	$16.5 \times 5.5 = 91$
TOP HEAD	1/31	$P = 3625 \times 3.15 \times 27000 = 231^{\circ}$	$P = 3845 \times 3.33 \times 27000 = 243$
PLATE	5	3.15×3.15	3.33×3.33
C.C. CROWN	5	$P = 135 \times 10^{-2} = 248^{\circ}$	$P = 135 \times 10^{-2} = 232$
PLATE	5	7.35^2	63.41^2
C.C. CROWN	5	$P = 135 \times 10^{-2} \times 10 = 5062^{\circ}$	$P = 1200 \times 10^{-2} \times 10 = 280$
PLATE	5	7.35^2	$10.75 \times 7.25^2 = 280$
WRAPPER	5	$P = 135 \times 10^{-2} = 256^{\circ}$	$P = 135 \times 10^{-2} = 265$
PLATE	5	7.25^2	50.78^2
WRAPPER	5	$P = 7.25 \times 7.25 \times 10 = 5336^{\circ}$	$P = 7500 \times 10^{-2} \times 10 = 295$
PLATE	5	7.25^2	52.62^2
C.C. BACK	5	$P = 135 \times 10^{-2} = 240^{\circ}$	$P = 135 \times 10^{-2} = 256$
PLATE	5	7.5^2	52.62^2
C.C. BACK	5	$P = 7.5 \times 7.5 \times 10 = 5020^{\circ}$	$P = 7500 \times 10^{-2} \times 10 = 285$
PLATE	5	7.5^2	52.62^2
CROWN	5	$P = 217.5 \times 2.25^2 = 227^{\circ}$	$P = 133.6 \times 2.25^2 = 258$
WELDED	5	$(36.35 \times 3.72) \times 3.75 \times 0.36$	$(35.75 \times 3.75) \times 3.75 \times 0.36$
WELDED	5		140.71^2
WELDED	5		140.71^2

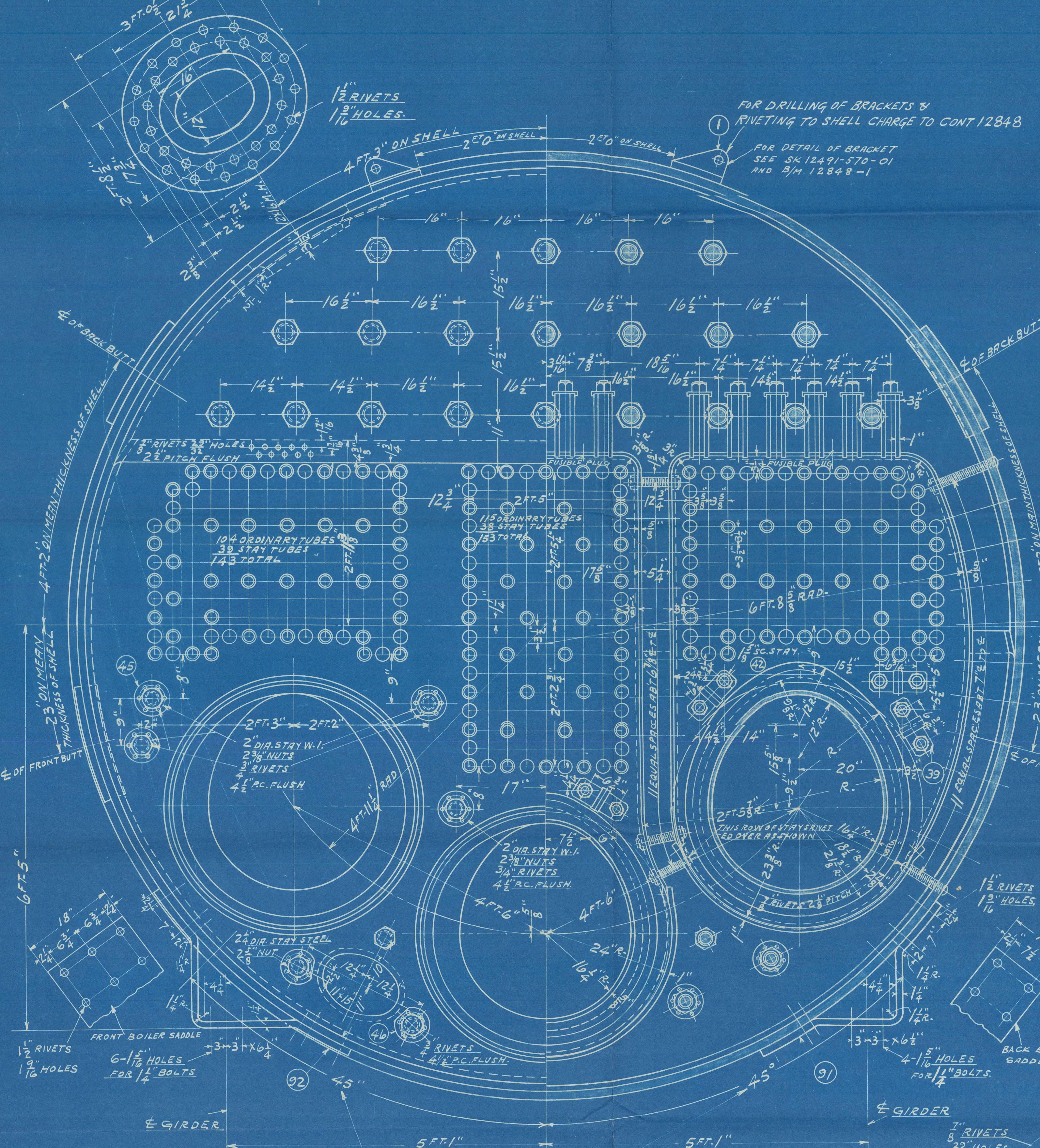
ALTERATIONS	DATE APP.
REPAIRS MADE TO PUMP REPAIRS MADE TO PUMP REPAIRS MADE TO PUMP REPAIRS MADE TO PUMP REPAIRS MADE TO PUMP	26.12.17 26.12.17 26.12.17 26.12.17 26.12.17
BOILER DATA	ONE BOILER
TUBES	HEATING SURFACE
FURNACES	156 #
COMB. CHAMBER	214.7 #
BACK TUBE PLATE	4.08 #
TOTAL H.S.	260.15 #
GRATES SURFACE	59.125 #
H.S./G.S.	4.4
CALORIMETER	11.3 #
G.S./CAL.	5.23
ALTERATIONS	DATE APP.
WIDTH OF FRONT BOILER WIDTH OF FRONT BOILER WIDTH OF FRONT BOILER WIDTH OF FRONT BOILER WIDTH OF FRONT BOILER	21 MAY 17 21 MAY 17 21 MAY 17 21 MAY 17 21 MAY 17

TENSILE STRENGTH OF SHELL PLATES & GIRDERS 60000 TO 70680 LBS.
 " " " FLANGE " 53240 TO 67200 LBS.
 WORKING PRESSURE 210 LBS PER SQ. INCH.
 WATER TEST " 315 " " "
 EVAPORATION 300 LBS. OF WATER PER SQ. FT. OF GRATE PER HOUR.
 3" TWIN SAFETY VALVE COMBINED AREA OF 19.24 "²

FOR DETAILS OF BOTTOM HEAD STAY
SEE DR-1265/-561-3

2 - BOILERS AS DRAWN } FOR
1 - " TO OTHER HAND } ONE
SHIP

DUPLICATE FOR SECOND
SHIP



LAP IN MIDDLE CIRCUMFERENTIAL SEAM
TRIPLE RIVETED FOR THIS LENGTH.

ALL CALKING EDGES OF BOILER
PLATE TO BE MACHINE PLANED
SEAMS BUTTS & LAPS TO FIT
CLOSELY DRAWN UP, METAL TO
METAL AND AFTER BEING RIVETED
CALKED INSIDE & OUTSIDE.

ALLS CREW STAYS W-1.
SCREW STAYS ON BACK HEAD MARKED THIS:
① 2 DIA. NUTS / 4 DEEPING C & BACK HEAD, NET AREA 2"
SCREW STAYS ON BACK HEAD MARKED THIS:
① 2 DIA. NUTS / 2 DEEP IN C. NO NUTS ON
BACK HEAD NET AREA 1.997"
WRAPPERS SCREW STAYS 1 3/4" DIA. NUTS 1 1/2" DEEP
RIVETED OVER IN SHELL.
S / ROER SCREW STAYS 1 3/4" DIA. NUTS 1 1/2" DEEP
ALL SCREW STAYS HAVE 12 FULL V-THREADS
PER INCH.
ALL SCREW STAYS TO HAVE 3/16" HOLES DRILLED
2" BEYOND INNER SURFACE OF PLATE.

12-24-62
PENNA. SHIPBUILDING CO.
SIX BOILERS.
ENGINE DEPARTMENT.
TITLE 14 FT 11 MEAN DIA X 11 FC OVER
HEADS - S.E. SCOTCH BOILER
210 LBS. WORKING PRESSURE.
SCALE 1" = 1 FT. DRAWN BY DATE 4-2-62
TRACED BY CCC CHECKED BY ZBI. CHIEF ENGINEER PNY
NEW YORK SHIPBUILDING COMPANY
CAMDEN, NEW JERSEY U.S.A.
DR 12723-561-1
APPROVED *John J. ...* CHIEF ENGINEER

h h ✓

Box No 12955

210 lbs h P.

For Pen J B C

C F.

Duplicate

No 233
LLOYD'S TEST
315 lbs
23-9-18 A.T.T.



Henry Clay

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Lloyd's Register

W11467-0031 Foundation

NEW YORK SHIPBUILDING CORP
CAMDEN, N. J., U. S. A.,
BLUE PRINT ROOM

Print No. 52

Made JUL 8 1918

For Dept. Co YDS

W11467-0031



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Foundation