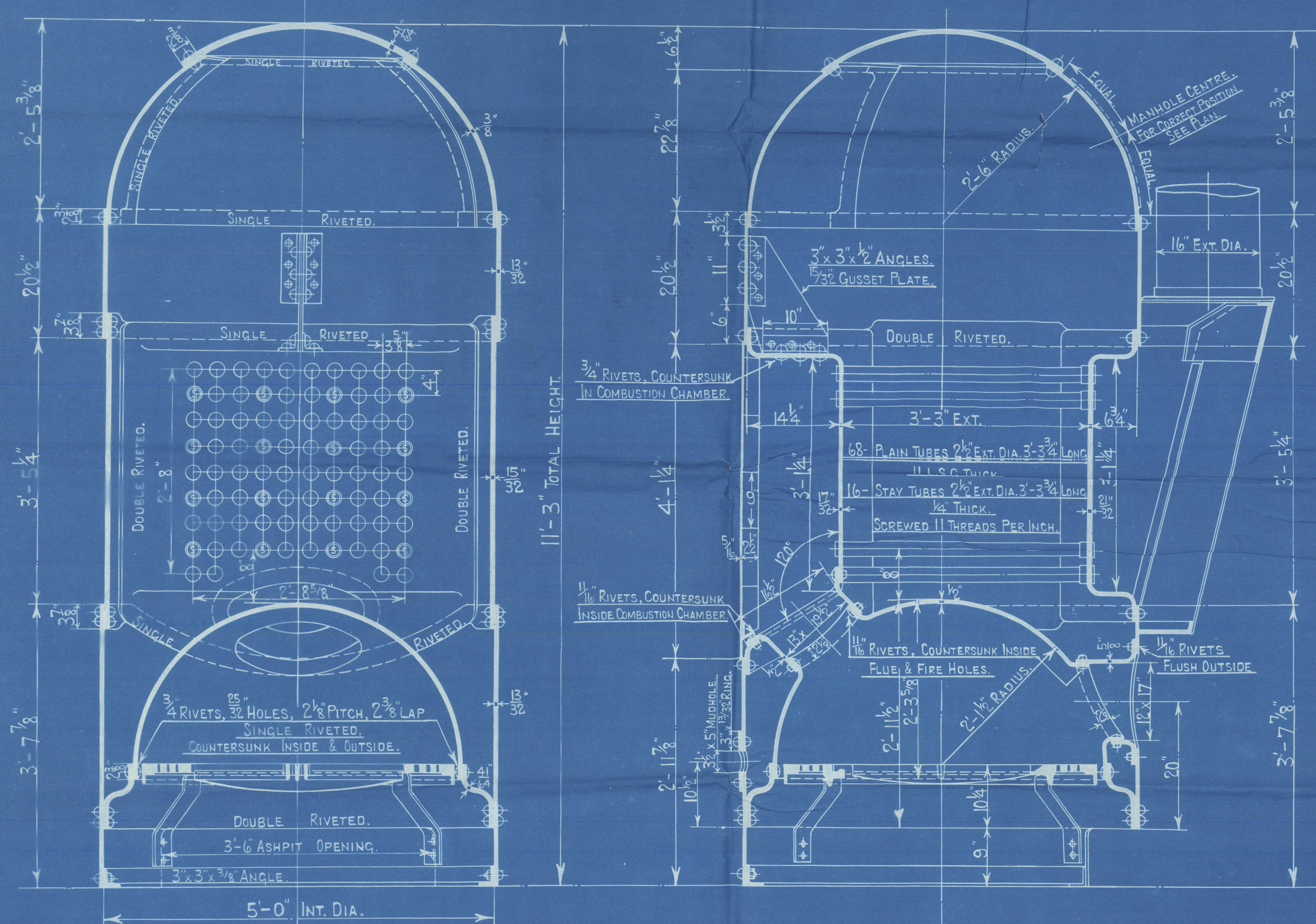


COCHRAN PATENT VERTICAL MULTITUBULAR BOILER.

HORIZONTAL FLUE TUBES.

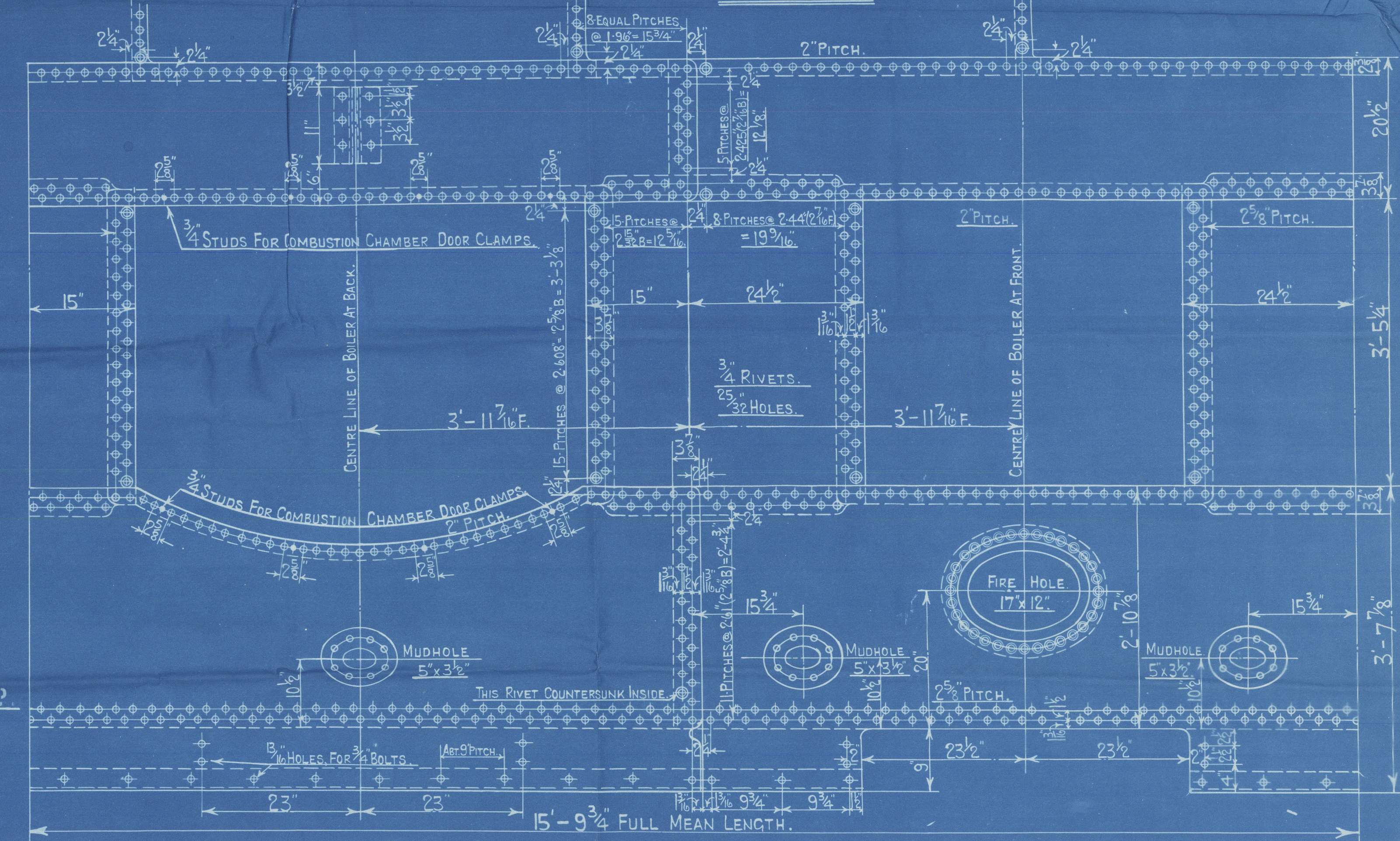
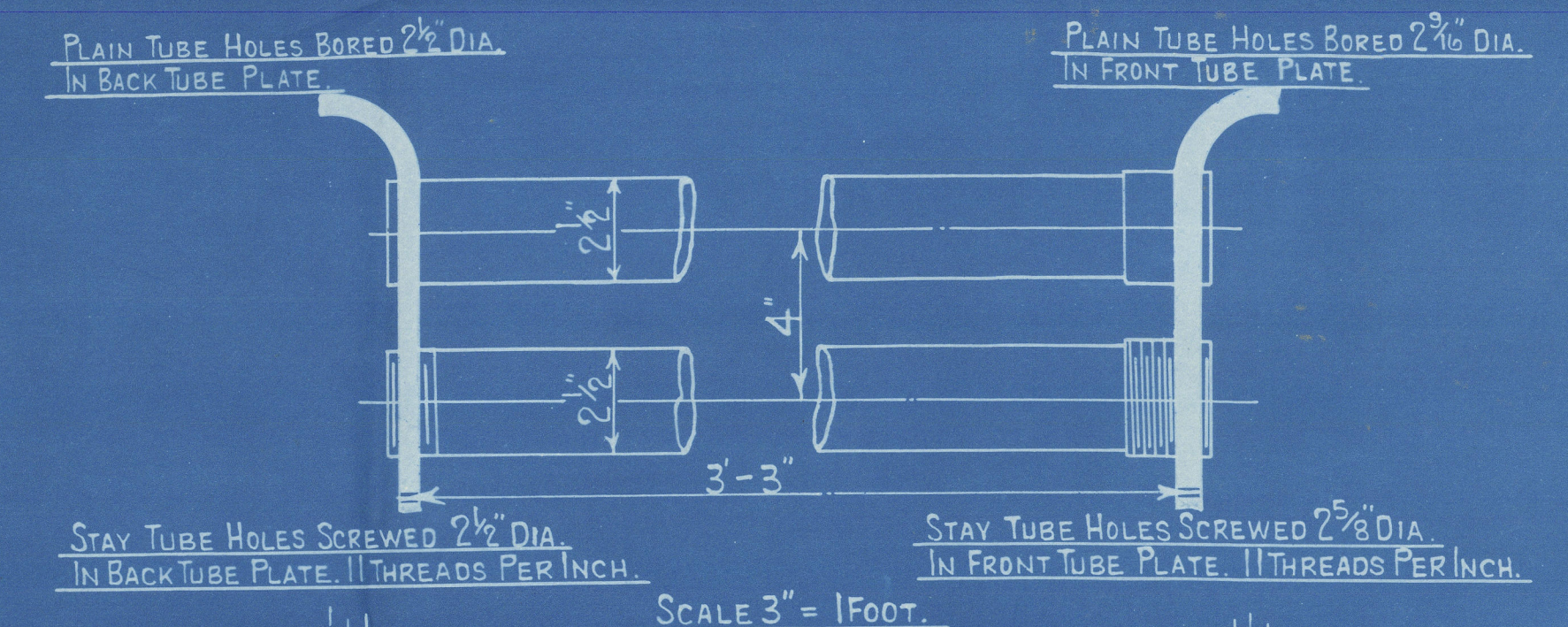


HEATING SURFACE.		
TUBES	173. Sq. Ft.	
PLATE	47. Sq. Ft.	
TOTAL	220. Sq. Ft.	
GRATE AREA	12.5. Sq. Ft.	

LLOYDS.		
PLATE	$\frac{2.425 \times 78.125}{2.425} \times 100$	= 67.7 %
RIVETS	$\frac{2.425 \times 85}{2.425 \times 40.25}$	= 76.8 %
FRONT TUBE PLATE	$\frac{4 \times 2.59375}{4} \times 100$	= 35.1 %
BACK TUBE PLATE	$\frac{4 \times 2.5}{4} \times 100$	= 37.5 %
SHELL	$\frac{20.5(6.5 - 2)67.7}{60}$	= 104. LBS.
FRONT TUBE PLATE	$\frac{20.5(10.5 - 2)35.1}{28}$	= 102. LBS.
BACK TUBE PLATE	$\frac{20.5(8.5 - 2)37.5}{28}$	= 103.8 LBS.
FURNACE	$\frac{1250 \times 12.5}{51}$	= 14.7 LBS.
DOOR RING	$\frac{516 \times 10.25}{60 \times (50 - 51)}$	= 100.3 LBS.

BUREAU VERITAS.		
PLATE	$\frac{2.677 \times 31.000 \times 40.25 \times 100}{60}$	= 129.7 LBS.
RIVETS	$\frac{2.677 \times 47.93 \times 24 \times 22.0}{60 \times 2.61 \times 5}$	= 131.6 LBS.
FRONT TUBE PLATE	$\frac{10.400 \times 4.5 \times 100 \times 2.593}{18.500 \times 2.5}$	= 127. LBS.
BACK TUBE PLATE	$\frac{10.400 \times 4.5 \times 100 \times 2.5}{18.500 \times 2.5}$	= 109.6 LBS.
FURNACE	$\frac{600 \times 12.5}{25.5}$	= 141. LBS.

COCHRAN & CO ANNAN L^{TD}
ENGINEERS & BOILERMAKERS
ANNAN, SCOTLAND.



BOARD OF TRADE.		
PLATE	$\frac{2.425 \times 78.125}{2.425} \times 100$	= 67.7 %
RIVETS	$\frac{2.425 \times 85}{2.425 \times 40.25}$	= 80. %
FRONT TUBE PLATE	$\frac{4 \times 2.59375}{4} \times 100$	= 35.1 %
BACK TUBE PLATE	$\frac{4 \times 2.5}{4} \times 100$	= 37.5 %
SHELL	$\frac{28 \times 22.0 \times 67.7 \times 2 \times 40.6}{4.9 \times 60 \times 100}$	= 116. LBS.
FRONT TUBE PLATE	$\frac{26 \times 22.0 \times 35.1 \times 4.5 \times 100}{22.593 \times 4.5 \times 100}$	= 132. LBS.
BACK TUBE PLATE	$\frac{26 \times 22.0 \times 37.5 \times 4.5 \times 100}{15.218 \times 4.5 \times 100}$	= 169. LBS.
FURNACE	$\frac{14.000 \times 12.5}{51 \times 2}$	= 137. LBS.

Approved 5-2-12
PATENT BOILER N^o 7090. W. H. L. J. J.

5'-0" x 11'-3" x 220# x 100 LBS.

SCALE 1 INCH TO 1 FOOT.

SIEMENS MARTIN MILD STEEL PLATES.

TENSILE TESTS:-
PLATES NOT EXPOSED TO FLAME OR FLANGED. 28 TO 32 TONS.
PLATES EXPOSED TO FLAME OR FLANGED EXCEPT FCE CROWN. 26 TO 30 TONS.
FURNACE CROWN. 26 TO 29 TONS.

STANDARD.
SURVEY-LLOYDS.

COCHRAN & CO., ANNAN, LD.

Boiler No. 7090

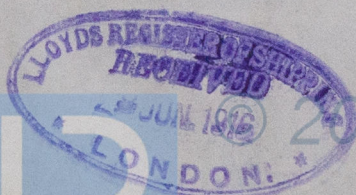
Drawing No. 8918

100 lb⁵"

Mess Ross & Duncan Engine 995
of "Aigburth"

GLASGOW REPORT No. 36109

Gls. Rpt No. 37184.



2020
Lloyd's Register
Foundation
W975-0057