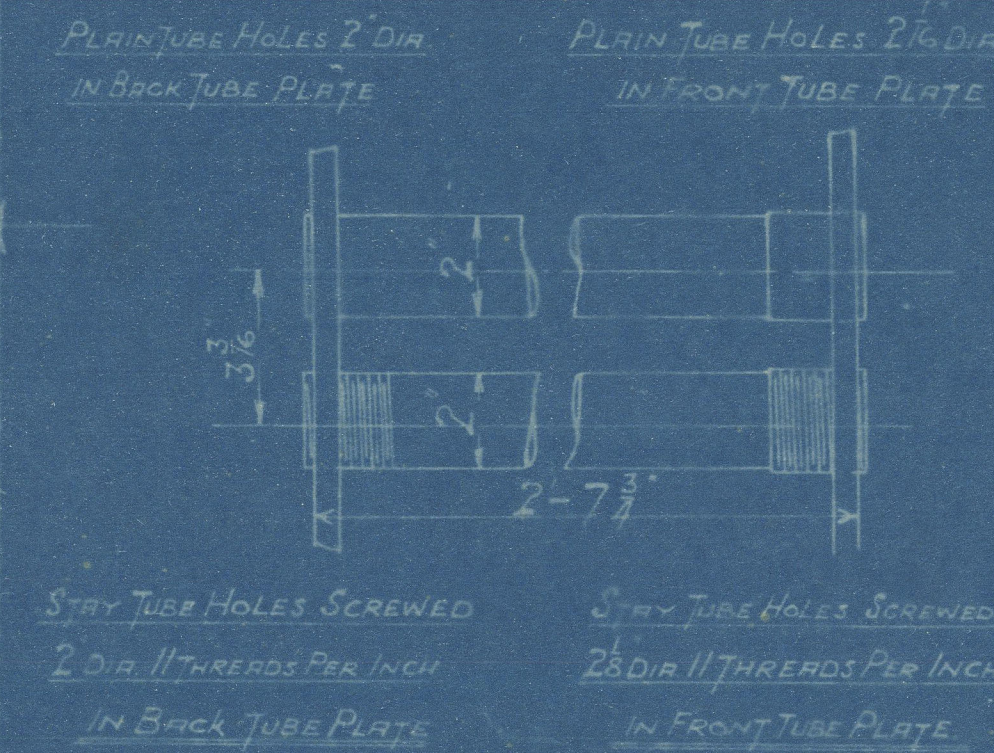
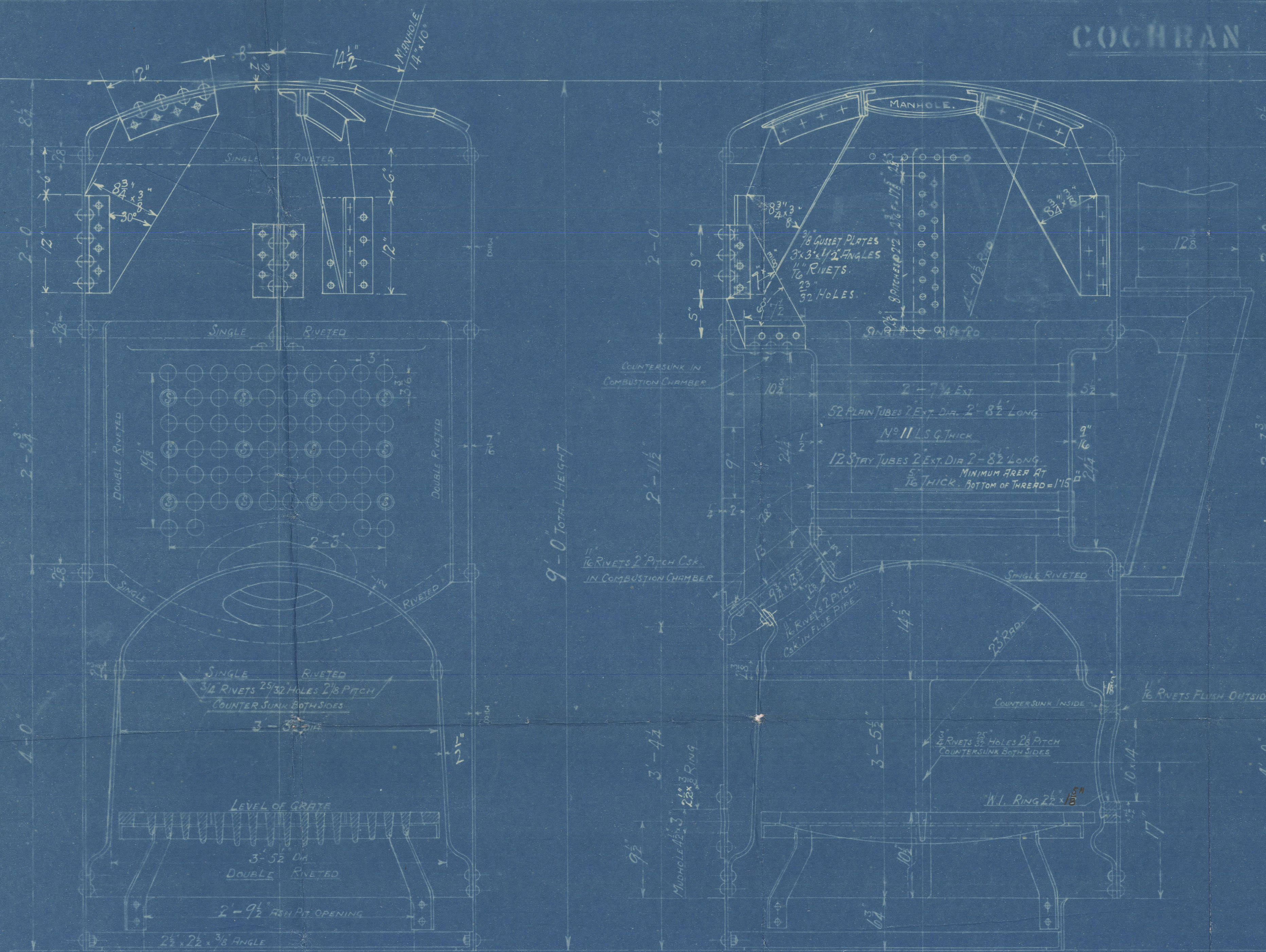


# COCHRAN PATENT VERTICAL MULTITUBULAR BOILER

## HORIZONTAL FLUE TUBES

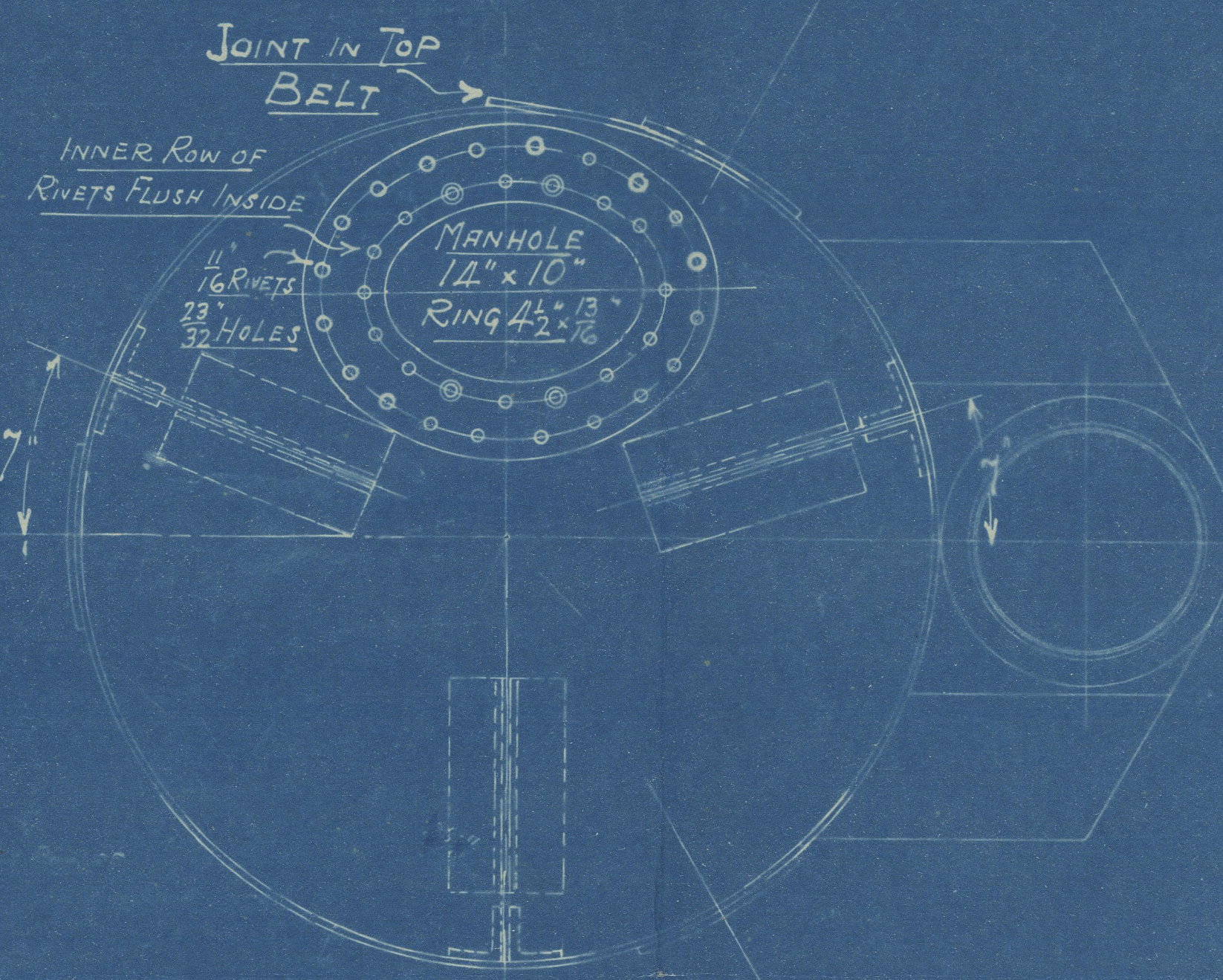
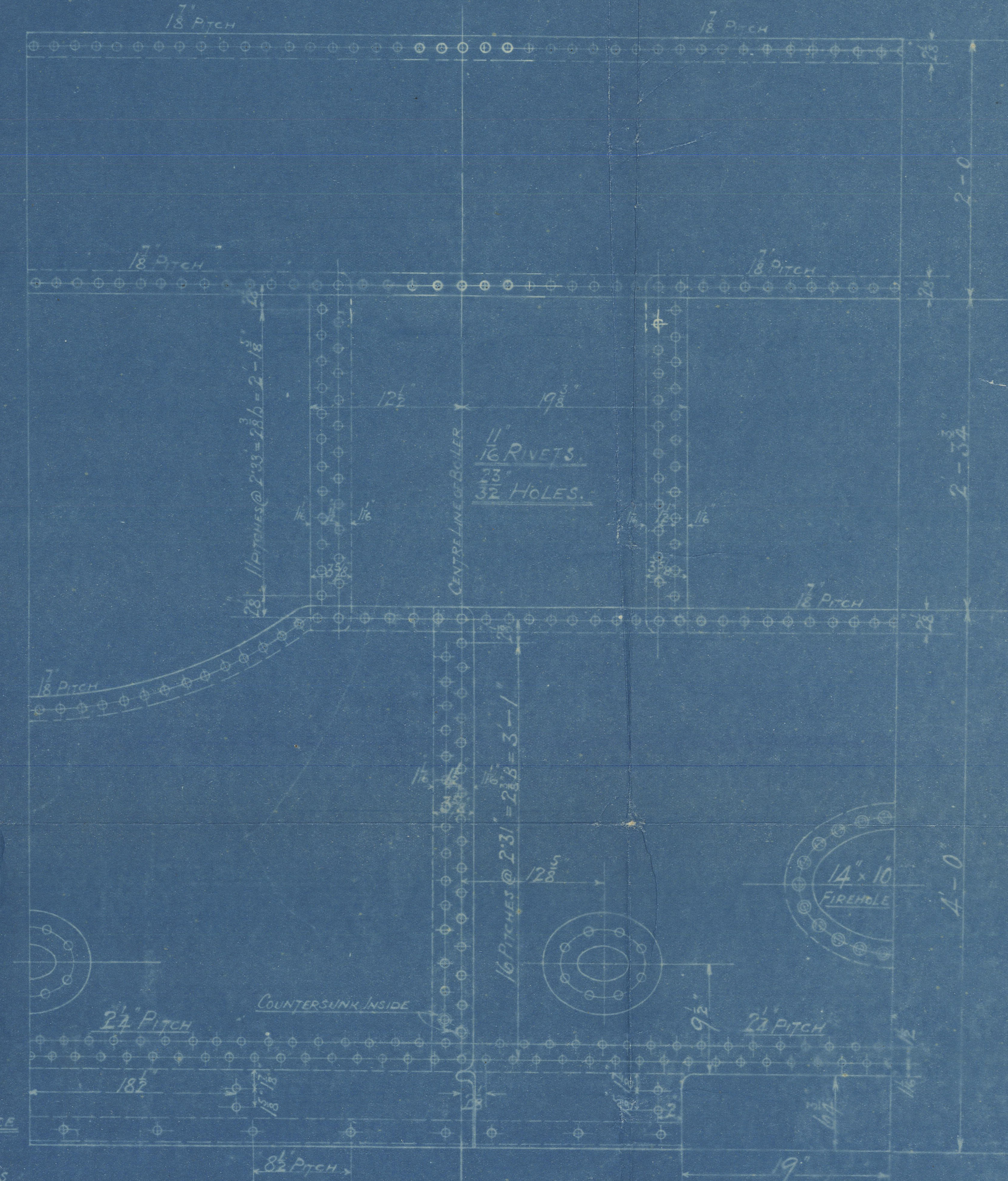
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HEATING SURFACE	
TUBES	85 Sq. Ft.
PLATE	35 . . .
TOTAL	120 . . .
GRATE AREA	85 . . .

BOARD OF TRADE	
PLATE	$\frac{2 \times 2 \times 1075}{2 \times 2} \times 100 = 67\%$
RIVETS	$\frac{23 \times 405 \times 2 \times 1 \times 9}{23 \times 231 \times 375 \times 125} \times 100 = 83\%$
FRONT TUBE PLATE	$\frac{31875 \times 2 \times 0.937}{31875} \times 100 = 34.4\%$
BACK TUBE PLATE	$\frac{31875 \times 2}{31875} \times 100 = 37.2\%$
SHELL	$\frac{60280 \times 67 \times 2 \times 375}{19148 \times 100} = 129 \text{ LBS.}$
FRONT TUBE PLATE	$\frac{58240 \times 34.4 \times 5625}{18143 \times 100} = 139 \text{ LBS.}$
BACK TUBE PLATE	$\frac{58240 \times 37.2 \times 5}{18143 \times 100} = 188 \text{ LBS.}$
FURNACE SIDE	$\frac{64350 \times 25}{117541 \times 42} = 139 \text{ LBS.}$
FURNACE CROWN	$\frac{9900 \times 5}{46} = 107 \text{ LBS.}$

STEEL PLATES & RIVETS ALL HOLES BORED IN PLACE  
MAN & MUDHOLE DOORS MADE OF TESTED PLATES  
& FITTED WITH STUDS SCREWED THRO' DOORS WITH NUTS  
INSIDE (MADE BY MESSRS BARR, THOMSON & CO. KILMARNOCK)



LLOYDS	
PLATE	$\frac{2 \times 2 \times 1075}{2 \times 2} \times 100 = 67\%$
RIVETS	$\frac{23 \times 405 \times 2 \times 1 \times 9}{23 \times 231 \times 375 \times 125} \times 100 = 83\%$
FRONT TUBE PLATE	$\frac{31875 \times 2 \times 0.937}{31875} \times 100 = 34.4\%$
BACK "	$\frac{31875 \times 2}{31875} \times 100 = 37.2\%$
SHELL	$\frac{20575 \times 2 \times 67}{46} = 115 \text{ LBS.}$
FRONT TUBE PLATE	$\frac{20575 \times 34.4 \times 26}{145} = 102 \text{ LBS.}$
BACK "	$\frac{20575 \times 37.2 \times 5}{145} = 115 \text{ LBS.}$
FURNACE CROWN	$\frac{2000 \times 5}{128} = 130 \text{ LBS.}$
" SIDES	$\frac{501300 \times 5}{128 \times 75} = 150 \text{ LBS.}$

PATENT BOILER N° 6569.  
4'-0" x 9'-0" x 120 x 100 LBS.

SCALE 1/2 INCH TO 1 FOOT

COCHRAN & CO ANNAN LD.  
ENGINEERS & BOILERMAKERS  
ANNAN, SCOTLAND

SIEMENS MARTIN MILD STEEL PLATES  
TENSILE TESTS  
PLATES NOT EXPOSED TO FLAME OR FLANGED 28 TO 32 TONS.  
PLATES EXPOSED TO FLAME OR FLANGED 26 TO 30 TONS

SURVEY-BOARD OF TRADE & LLOYDS.

DRAWING N° 0249



COCHRAN & CO., ANNAN, LTD.

Enclosure.

FOR

Messrs.....

*Lloyd's Register*

W869-0084 1/2



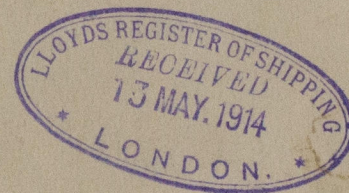
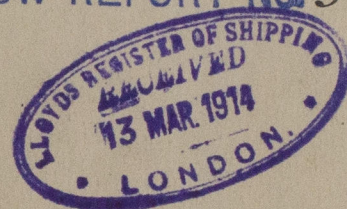
10249

COCHRAN & CO. LTD.

*Donkey* Boiler No. 6569

Drawing No. 10249

GLASGOW REPORT No. 53978



S. S. "Killellan"

Std. Rpt. No. 26378

RETAIN

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Foundation