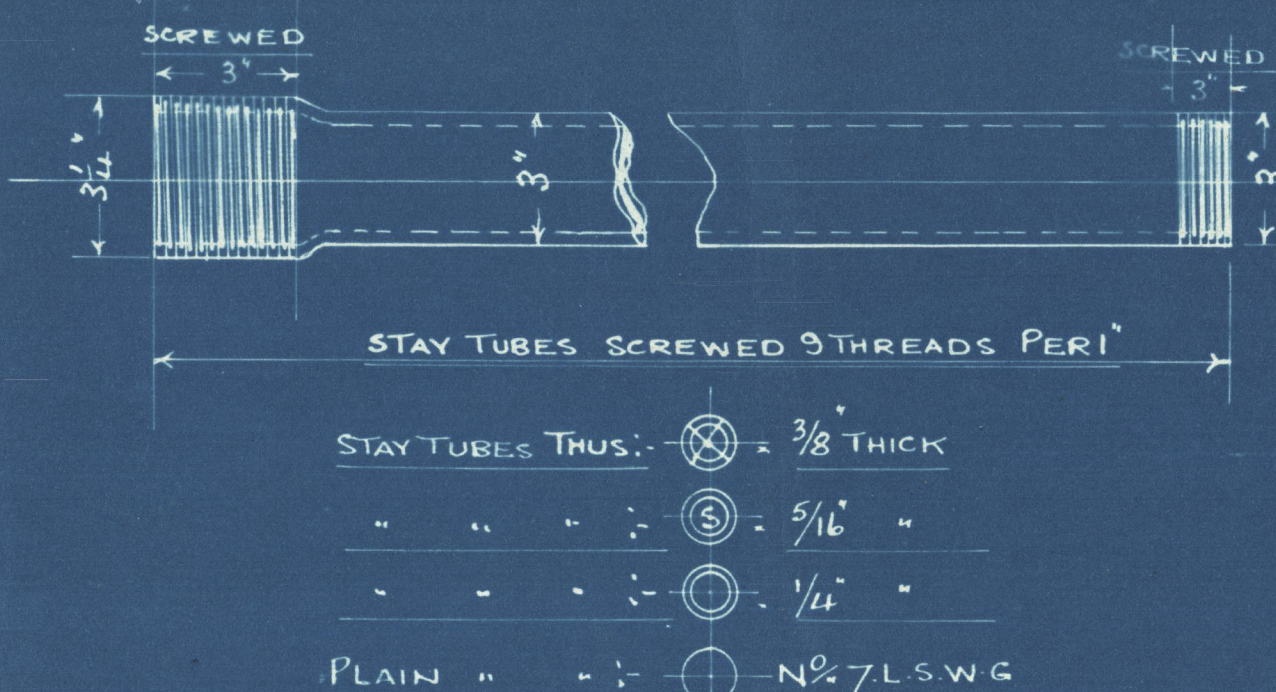


BOILERS NO 1211

3 OFF FOR MESSRS SIR J LAING & SONS LTD NO. 721 5/8.

Approved by Lloyd's June 22nd 34

| HEATING SURFACE ETC | SQ FT |
|--|--------|
| HEATING SURFACE IN ONE TUBE = | 6.0381 |
| " " " 360 TUBES = | 2169 |
| " " " 3 C. CHAMBERS | 248 |
| " " " 3 FURNACES | 147 |
| " " " BACK TUBE PLATE | 44 |
| " " " FRONT " " | 36 |
| TOTAL " " " ONE BOILER | 2644 |
| GRAND " " " THREE " | 7932.4 |
| TOTAL GRATE AREA WITH 5" BARS | 170 |
| " AREA THRO' TUBES (3 BOILERS) | 37.0 |
| TUBE AREA | |
| RATIO = GRATE AREA = | 218 |
| TOTAL STEAM SPACE TO 6" ABOVE LEVEL OF TUBES | 16.85 |



WORKING PRESSURE = 22 OLBS PER SQ INCH.

FITTED WITH FORCED DRAUGHT.

TEST PRESSURE = 38.0 LBS PER SQ INCH TO LLOYD'S REQUIREMENTS.

ALL PLATES, RIVETS AND STAYS OF STEEL.

TUBES OF SOLID DRAWN STEEL.

ALL HOLES DRILLED IN POSITION.

TENSILE STRENGTH OF SHELL PLATES + BUTTSTRAPS.

TO BE NOT LESS THAN 30 NOR MORE THAN 34 TONS PER SQ INCH.

" " " GIRDERS.

" " " 29 " " " 33 " " "

" " " OTHER PLATES, SCREW STAYS AND RIVETS.

" " " 26 " " " 30 " " "

" " " LONGITUDINAL STAYS.

" " " 28 " " " 32 " " "

ELONGATION OF SHELL PLATES, BUTTSTRAPS, GIRDERS AND LONGITUDINAL STAYS.

" " " 20% IN A LENGTH OF 8 INCHES.

" " " OTHER.

" " " 23% " " " 8 TIMES DIA OF TEST PIECE.

" " " SCREW STAYS.

" " " 23% " " " 8 TIMES DIA OF TEST PIECE.

" " " RIVETS.

" " " 25% " " " 8 " " " "

SCALE 1" = 1 FOOT. JUN 14th 1934 J.C.M.F.

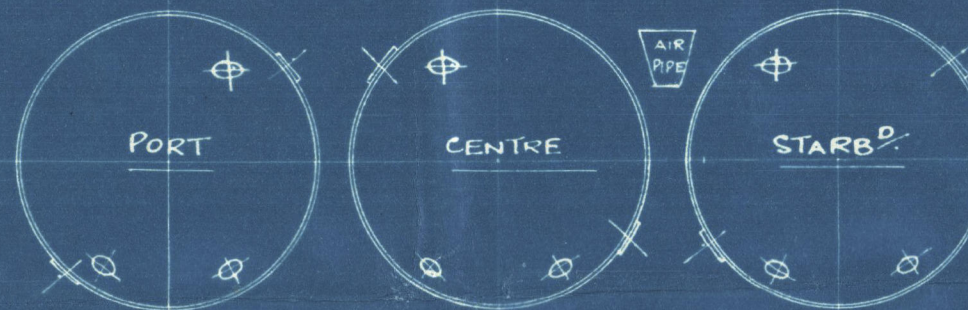
| | | | |
|-----|--|---------------|------------------|
| 654 | PLAIN TUBES 3' EX DIA SWELLED TO 3 1/2' EX DIA AT ONE END FOR 3' IN LENGTH | 7-10 3/8 LONG | Nº 7 L.S.W.G. TK |
| 60 | STAY " 3' " " " 3 1/2' " " " 3' " " | 7-10 3/8 | 3/8 THICK |
| 324 | " " 3' " " " 3 1/2' " " " 3' " " | 7-10 3/8 | 5/16 |
| 42 | " " 3' " " " 3 1/2' " " " 3' " " | 7-10 3/8 | 1/4 |

STAY TUBES SCREWED 9 THREADS PER 1" CONTINUOUS THREAD FOR A DISTANCE OF 3" AT SWELLED END AND 1" AT THE OTHER

48 STAY TUBE NUTS 3/4" THICK TO SUIT 3 1/4" EX DIA END OF STAY TUBES.

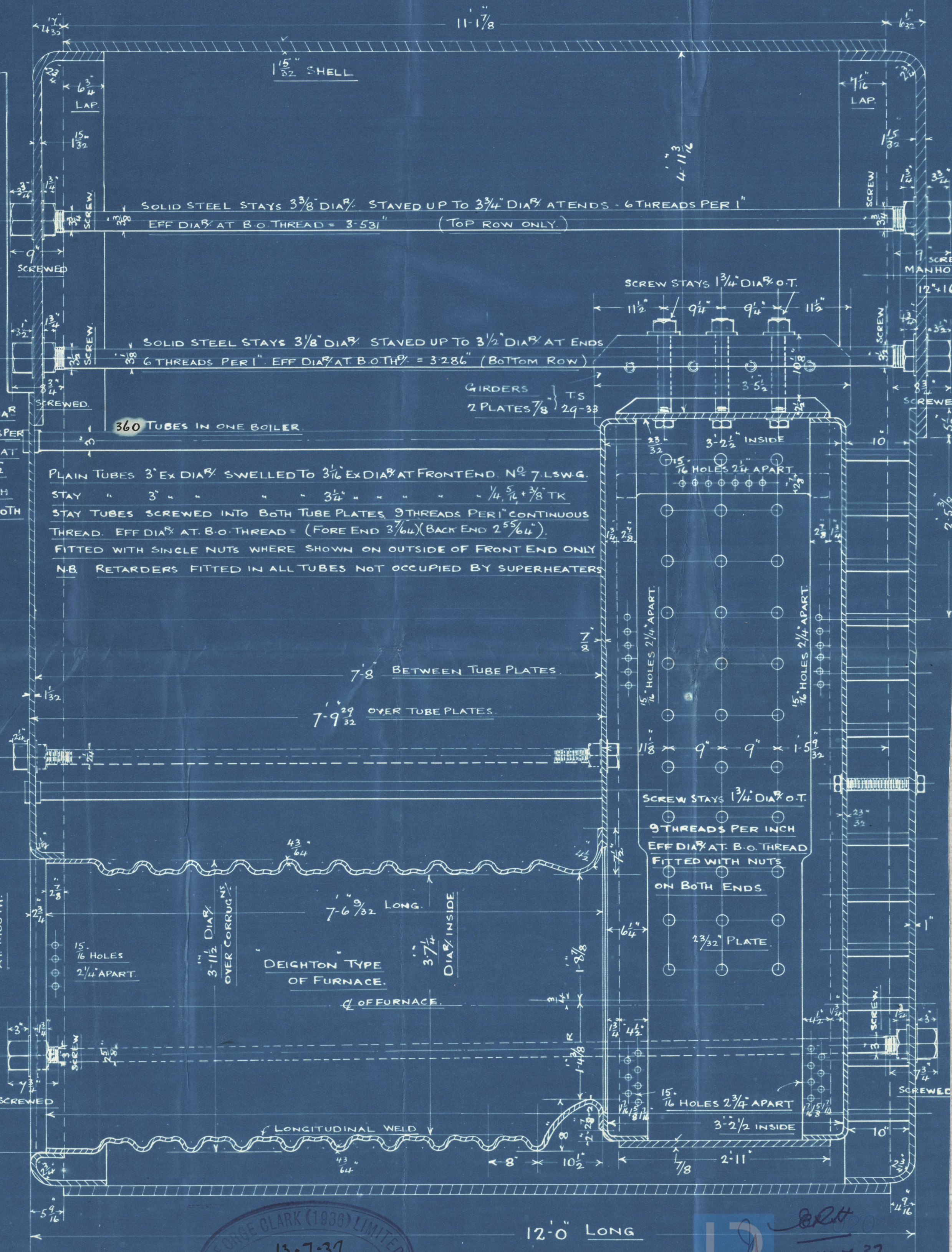
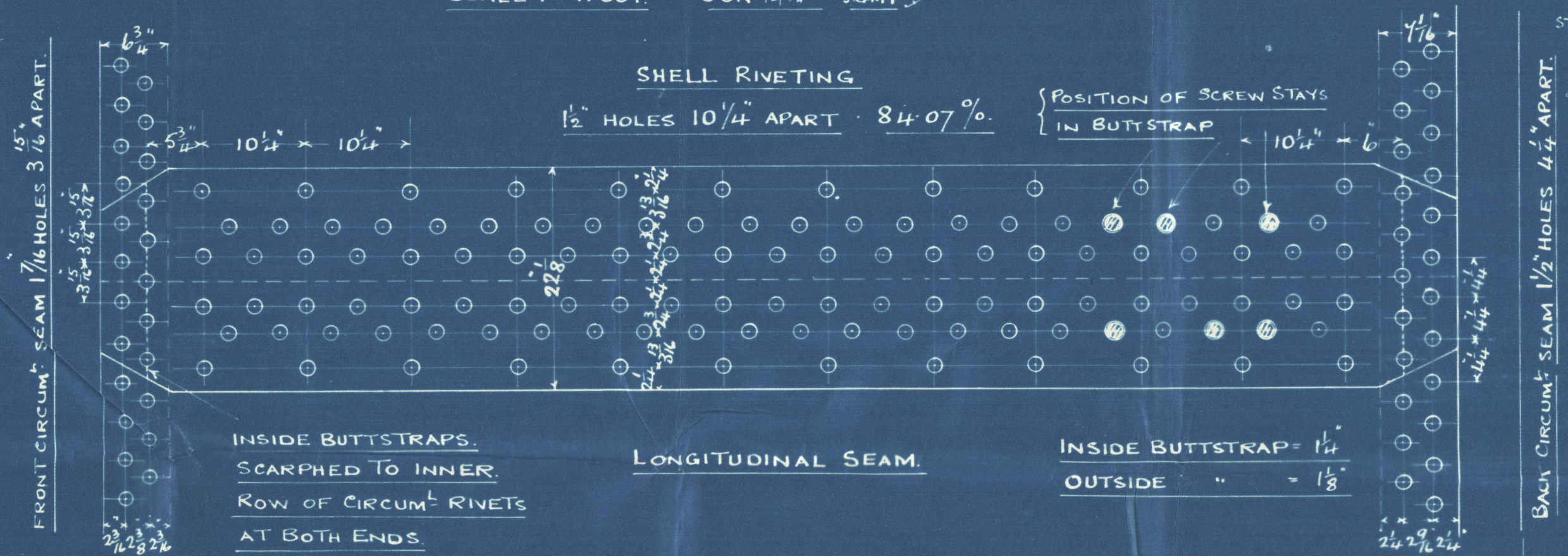
SPARE GEAR

II. PLAIN TUBES



VIEW LOOKING ON BOILER BACKS SHOWING MANHOLES ETC.

SHELL PLATING AS DRAWN FOR PORT AND STARBOARD BOILERS TO OPPOSITE HAND FOR CENTRE BOILER.



G. Clark (1936) L^d

N^o 1211

Amended plan of
Main Boilers

SUNDERLAND RPT. NO. 32480

S.S. "Grayburn"

W169-0022



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Lloyd's Register
Foundation