

THE NORTH EASTERN MARINE ENGINEERING CO. (LIMITED)

DRAWING

27 OCT. 1939

OFFICE
SUNDERLAND

BOILER PIPE ARRANGEMENT

MESSRS BARTRAM & SONS. LTD: S.S.No. 282-3

WORKING PRESSURE 220 LBS/IN²

LIST OF FITTINGS

[illegible]

PARTICULARS OF SHIPBUILDER'S BRANCHES

| DESCRIPTION | BORE | FLANGE DIA | BOLTING | | |
|------------------------------------|--------|------------|----------------|------|--------|
| | | | N ^o | DIA | P.C. |
| SUPERHEATED STEAM TO DECK | 4" | 9 1/4" | 8 | 3/4" | 7 1/2" |
| " " "STEAM HEAR | 2 1/2" | 7 3/8" | 6 | 3/4" | 5 1/2" |
| " " " DYNAMO | 1 1/2" | 6" | 6 | 3/4" | 4 1/2" |
| SATURATED " DECK | 2 1/2" | 7 3/8" | 6 | 3/4" | 5 1/2" |
| STEAM TO ACCUMULATOR HEATING COILS | 2" | 6 3/4" | 6 | 5/8" | 4 1/2" |

LIST OF PIPES

| PIPE NO. | BORE | DRAWING | DESCRIPTION | MATERIAL |
|----------|--------|---------|--|--------------------|
| 182 | 5" | .276" | SATURATED STEAM TO HEADER, PORT BOILER | SOLID DRAWN STEEL |
| 384 | 5" | " | " " " , STARS ^o | " " " |
| 5 | 5" | " | SUPERHEATED " FROM PORT BOILER | " " " |
| 6 | 5" | " | " " " STARS ^o | " " " |
| 7 | 4" | 5/8" | " " TO RE-HEATER | " " " |
| 849 | 7" | " | " " FROM " " TO ENGINE SUPERVAPOR | " " " |
| 10 | 5" | .276" | " " ENGINE TO S.H. AUXILIARIES | " " " |
| 11,12,13 | 5" | " | " " TO S.H. AUXILIARIES | " " " |
| 14 | 5" | " | " " DECK, FAN DYNAMO, BLOWERS ETC. | " " " |
| 15 | 5" | " | SATURATED STEAM TO RANGE FROM AUXILIARY BOILER | " " " |
| 16 | 5" | " | DE-SUPERHEATED & SATURATED STEAM COMBINED TO RANGE | " " " |
| 17 | 4 1/2" | " | SUPERHEATED STEAM MIXING & DE-SUPERHEATED OVE-PASS PYS | " " " |
| 18 | 4 | .252 | SATURATED STEAM TO MAIN ENGINE (EMERGENCY) | " " " |
| 19 | 4 | .252 | COMBINED DE-SUPERHEATED STEAM TO RANGE | " " " |
| 21,22 | 3 1/2" | 3/4" | SUPERHEATED STEAM TO PORT AUXILIARIES | " " " |
| 23,24,25 | 2 1/2" | 7/8" | " " MIXING & DE-SUPERHEATED OVE-PASS PYS | " " " |
| 26,27 | 2 1/2" | 9/16" | SATURATED STEAM TO SUPERHEATERS, CIRCULATING STEAM BLANKETS | " " " |
| 28,29 | 2 1/2" | 9/16" | SUPERHEATED STEAM TO DE-SUPERHEATED PYS BOILER | " " " |
| 30,31,32 | 2" | 3/8" | DE-SUPERHEATED STEAM FROM PYS BOILER TO RANGE | " " " |
| 33 | 2" | " | SUPERHEATED STEAM TO AIR HEATER TUBE BLOWERS, MAIN HATCH BURNERS | " " " |
| 34,35,37 | 1 1/2" | 1/2" | " " WHISTLE | " " " |
| 39,39,40 | 1 1/2" | " | " " DIAMOND BLOWERS - PORT BOILER | " " " |
| 41,42,43 | 1 1/2" | " | " " " " AUX | " " " |
| 44 | 1" | 3/4" | " " " STARS ^o | " " " |
| 44,44,47 | 3/4" | 3/8" | " " ASH HOIST | " " " |
| 48 | 3/4" | " | " " LARGE BLOWERS PYS | " " " |
| 49,50 | 2 1/2" | 8/16" | " " HEADER DRAINS TO FUNNELS PYS BOILERS | " " " |
| 51,52,53 | 2 1/2" | 8" | MAIN & AUX FEED TO BOILERS | SOLID DRAWN COPPER |
| 54,55,56 | 2 1/2" | 8" | HOTCHKISS CIRCULATING PIPES PORT BOILER | " " " |
| 57,58,59 | 2 1/2" | 8" | " " " STARS ^o | " " " |
| 60,61,62 | 2 1/2" | 8" | " " " AUX | " " " |
| 62,63 | 1 3/4" | 8" | MAIN & AUX FEED TO MAIN BOILERS | " " " |
| 66,67,68 | 1 3/4" | 8" | " " " " " AUX. BOILER | " " " |
| 66,67,68 | 2" | 9" | BOILER CIRCULATING - MAIN BOILERS | " " " |
| 67,67,73 | 1 1/2" | 12" | BOTTOM BLOW DOWN | " " " |
| 74,76,76 | 1 1/2" | 12" | SURFACE " | " " " |
| 77,78,80 | 3 3/8" | 14" | WASTE STEAM BRANCH PIPES PYS BOILERS | " " " |
| 81 | 2 3/4" | 14" | " " " PIPE AUXILIARY BOILER | " " " |
| 82 | 6" | 14" | MAIN WASTE STEAM PIPE UP FUNNEL & GELSON CRANEWAY | " " " |
| 83 | 1 1/2" | 19" | INTERNAL SCUM PIPES WITH PAN | " " " |
| 84,85 | 2 1/2" | " | MAIN AUXILIARY FEED INTERNAL PIPES FOR MAIN BOILERS PYS | GALV 2 IRON |
| 86,87 | 1 3/4" | - | " " " " " AUX. BOILER | " " " |
| 88 | " | - | BOILER CIRCULATING INTERNAL PIPES PYS BOILERS | " " " |
| 89 | 1 1/2" | - | BOTTOM BLOW DOWN " " ALB | " " " |
| 90-91 | 2" | - | WASTE STEAM PIPES FROM SUPERHEATER SAFETY VALVES | " " " |

NOTE:- BLANK FLANGE FITTED FOR SERVICE CONDITIONS.
PORTABLE BEND F.A. SUPPLIED FOR EMERGENCY CONDITIONS
(ie SATURATED STEAM SUPPLY TO MAIN ENGINES DIRECT.)
& SECURED IN A CONVENIENT POSITION.

2 MAIN BOILERS 18'-6" DIA X 4'-4" LENGTH, HOWDEN'S FORCED DRAUGHT, N.E.M.S. SUPERHEATER & ONE AUXILIARY BOILER 13'-0" EXT. DIA X 11'-6" LENGTH, FORCED DRAUGHT, SATURATED STEAM. ALL BOILERS ARRANGED FOR A WORKING PRESSURE OF 220 LBS./SQ. INCH.
A "RODS HOTCH KIDS" CAULDRON TO BE FITTED TO EACH BOILER, AND N.E.M. INTERNAL STEAM SEPARATOR IN EACH MAIN AUX. BOILER
FOUR ZINC PLATES ON TUBES FITTED TO EACH FURNACE, SPIRAL RETARDERS FITTED IN ALL BOILER SMOKE TUBES.
SAFETY VALVES FITTED WITH SCREW EASING GEAR WORKED FROM E.R. STARTING PLATFORM. DRAIN PIPES OF LARGE SIZE 4" LED TO TANK IN STOREY 2.
WHISTLE PIPE TO HAVE VERTICAL LEADS AS NEAR AS PRACTICABLE. STEAM PIPE UNFURNEL TO BE FITTED BETWEEN INNER & OUTER FUNNEL
ALL PIPES TO BE EFFICIENTLY STAYED AND ALL PIPES PASSING THROUGH SCREEN BULKHEAD TO HAVE DUST PROOF COLLARS.
DE-SUPERHEATER FITTED, EACH MAIN BOILER & DE-SUPERHEATER MAIN FEED CHECK VALVES OF DOUBLE SHUT OFF TYPE OPERATED FROM E.R. FLOOR.
DRAINS FROM DIAMOND BLOWERS TO BE CLOSED 1" TIE, CONNECTED DIRECT TO FILTER TANK BY COPPER PIPES.
SUPERHEATER HEADER DRANS TO BE DIRECTED INTO CAST IRON FUNNELS, THEN CONNECTED TO A COMMON COPPER APPLIED TO FILTER TANK.

DRAWING N°10732

CONTRACTS 2952 & 2953

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Foundation

H. C. Maine Eng. Co.

c. 2952-3

Boiler Pipe Arrangement

Bartram's 282-3

"Harpagno"

BUNDESLAND RPT. NO. 32855



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