

DUBLIN, WICKLOW, AND WEXFORD RAILWAY,

LOCOMOTIVE DEPARTMENT.

SPECIFICATION

FOR

LOCOMOTIVE BOILER,

WITH COPPER FIRE-BOX, COMPLETE, TO TRACING.

No. CLASS.

The boiler and outside fire-box to be made accurately to the dimensions figured on tracing.

OUTSIDE
FIRE-BOX.

The outside fire-box to be feet inches from bottom of barrel to bottom of foundation ring, × feet inches long, × feet inches wide, × feet inches high, outside dimensions. The front and back plates to be one plate each, the front plate to be inch thick, the back plate inch thick; both plates to be flanged as shown on tracing; top and sides to be formed of one plate, inch thick; all plates to be zigzag double riveted, with rivets inch diameter, inch pitch; the back plate to have drilled one, stuffing box hole inch diameter; four holes inch diameter, eleven longitudinal stay holes inch diameter, tapped threads per inch, eight inch tapped holes for fire door, four mud plug holes inch diameter, tapped threads per inch, one fire hole inches × inches. The front plate to have drilled, mud plug holes, inches diameter, tapped threads per inch; all plug holes to be inch from top of foundation ring to centre of holes, and to have a boss securely riveted round each hole; boss to be inch thick; plates to be extended at corners, to inches below bottom of foundation ring, and to be riveted to lugs, welded on same, for the purpose of making the corners sound and tight.

BARREL.

The barrel of boiler to be made perfectly circular and straight, to be feet inches long, × feet inch smallest outside diameter, to be in three parts, each part to be made of one plate inch thick, planed on both edges and ends; circumferential seams to be lap-jointed with inch lap, zigzag double riveted with rivets inch diameter, × inch pitch. Horizontal seams to be butt jointed, with butt straps both inside and outside, and to be zigzag double riveted on each side of.

butt with rivets inch diameter \times inch pitch. The steel angle for securing smoke-box tube plate to barrel of boiler, to be inches \times inches \times inches, when bored and faced up, and to be zigzag double riveted to both barrel of boiler and tube plate, with rivets inch diameter \times inch pitch.

SMOKE-BOX
TUBE PLATE.

Smoke-box tube plate to be inch thick, and to be flanged as shown on tracing, to have drilled tube holes, inch diameter, and one steam pipe hole inches diameter, with six inch tapped holes. Eleven longitudinal stay holes inch diameter, tapped, eleven threads per inch, plug holes, inch diameter, tapped, eleven threads per inch. Copper saving plate to follow the form of the bottom tubes, to be secured to tube plate, with bolts and set screws as shown on tracing.

SMOKE BOX.

The smoke-box to be feet inches wide at centre, and feet inches wide at cylinder part, \times feet inches long, inside \times feet inches high, to be made of plates inch thick, securely rivited to angle iron, inches \times inches \times inch on inside as shown on tracing inch iron saving plates to be riveted on inside of front and sides of smoke-box, all rivets to be countersunk on outside of smoke-box; door to be feet diameter plate flanged all round, and fitted with strong wrought-iron hinges, fastener and baffle plate.

DOME

The dome to be made of one plate inch thick, welded and flanged as shown on tracing, and to be zigzag double riveted to boiler, with rivets inch diameter, inch pitch, the flange at top of dome for making joint, to be inches wide \times inch thick when faced up. Strengthening piece to be riveted round dome hole on inside of barrel, to take double row of rivets, securing dome to barrel, and single row of rivets inside dome circle.

DOME COVER.

The dome cover to be made of one plate inch thick, flanged for joint. Flange, when faced up to be inches wide \times inch thick. Dome and cover to be fitted with bolts and nuts, inch diameter \times inches pitch, diameter of dome to be foot inches \times feet inches high.

MANHOLE

The manhole to be of one plate inch thick, flanged, and securely riveted to top of fire-box shell with rivets inch diameter \times inch zigzag pitch, joint flange when faced up to be inch thick.

FOUNDATION
RING.

The Foundation Ring to be inches wide \times inches deep, having lugs welded to it at each corner, as shown on tracing, inch deep, to which the outside fire-box plates are riveted; inch diameter holes to be drilled in lugs for securing ash-pan.

NOTE.—Rivets round firehole door ring, and foundation ring, are to be *slightly countersunk and snapped, as shown on tracing.*

INSIDE
FIRE-BOX

The inside fire-box to be made of the very best copper plates, manufactured by _____ to be _____ feet _____ inches long \times _____ feet _____ inches wide \times _____ feet _____ inches high, outside dimensions. The tube plate to be _____ inch thick, reduced to _____ inch below tubes, and to have drilled _____ tube holes bare _____ inch diameter; the door plate, sides and top plate to be _____ inch thick, sides and top to be formed of _____ plate, and all to be properly riveted together with rivets, _____ inch diameter \times _____ inch pitch, slightly countersunk and snapped; sides, back, and front plates, to be stayed to outside fire-box plates, with copper stays, _____ inch diameter, screwed threads per inch, to be tightly screwed into their places, and riveted over at each end to form a good-sized head, as shown on tracing.

The top of fire-box to be supported by wrought-iron bridge stays _____ inches deep at centre \times _____ inches deep at ends, the ends to overlap the fire-box, and to be accurately fitted to the vertical plates, and to be secured to top of fire-box, with crown stays _____ inch diameter. Bridge stays to be _____ inches clear of top of fire-box, and distance pieces _____ inches diameter, to be accurately fitted between bridge stays and top of fire-box at each crown stay; the crown stays to be turned, fitted, and screwed, both into top of fire-box and bridge stays, and to have hexagon nuts and washers inside of fire-box; double links to be attached from tee irons at top of outside fire-box to bridge stays with _____ inch diameter pins, having split cotters in ends, as per tracing.

CHIMNEY

The chimney to be of the form and dimensions shown on tracing, to be made of plates _____ inch thick butt jointed.

The boiler and fire-box to be thoroughly caulked, both inside and outside, and to stand a test of _____ lbs. per _____ inch. hydraulic pressure.

All holes throughout boiler and fire-box are to be drilled and *not* punched.

All the boiler plates, outside fire-box plates, smoke-box tube plate, and door, and angle ring for connecting barrel of boiler to smoke-box tube plate, are to be of Siemen's Mattin mild steel. *Manufactured by _____ tests _____*

Bridge stays, suspension links, foundation ring, fire-door ring, rivets bolts, angle and tee irons, are to be made of *best Scrappe-iron Rivets of Best Yorkshire iron*

The smoke-box plates and chimney are to be made of B. B. Staffordshire iron.

The whole to be finished in the best workmanlike manner, to the satisfaction of the ~~Lucas~~ Engineer of the Company.

The Contractor is not to take the advantage of any omission or difference between drawing and specification ; but should any occur, the ~~Lucas~~ Engineer *must* be consulted in all such cases.

Any parts objected to must be replaced at the expense of the Contractor.

Boiler to be delivered at Westland-row *via* Loop-line, carriage paid, within months from date of order.

Lucas Engineer.