

J. MEREDITH.
Crown-Sheet for Locomotive Boilers.

No. 205,406.

Patented June 25, 1878.

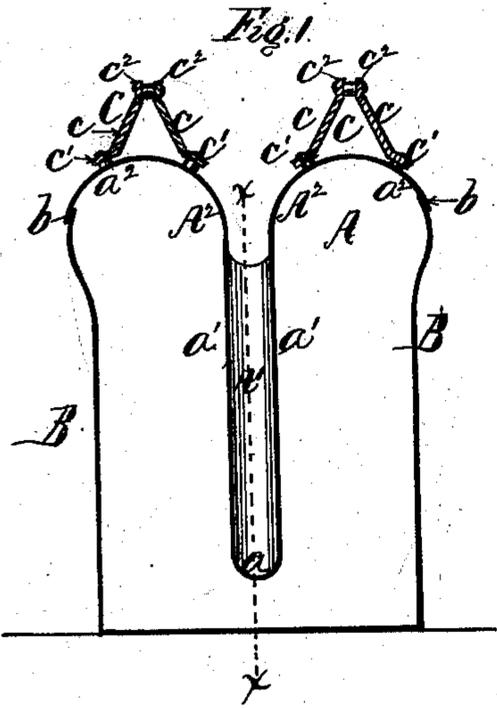


Fig. 1.

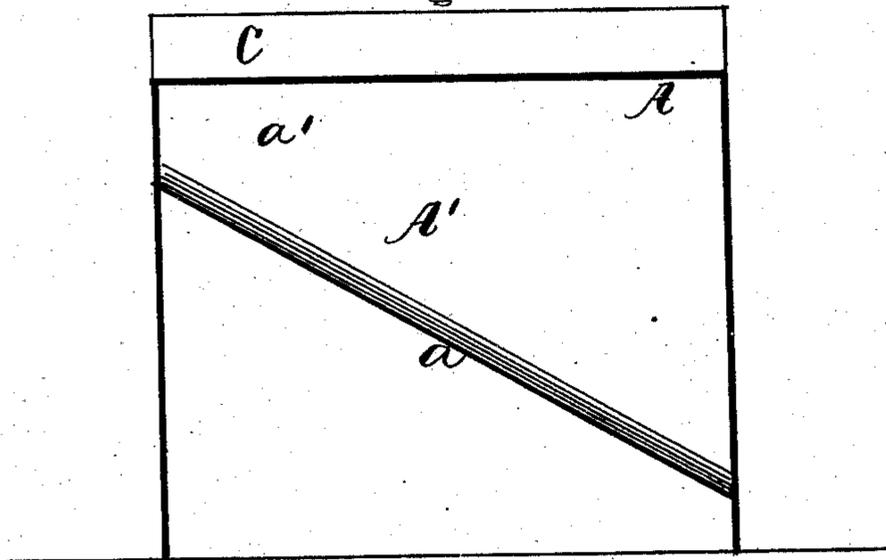


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN MEREDITH, OF AURORA, ILLINOIS.

IMPROVEMENT IN CROWN-SHEETS FOR LOCOMOTIVE-BOILERS.

Specification forming part of Letters Patent No. 205,406, dated June 25, 1878; application filed April 17, 1878.

To all whom it may concern:

Be it known that I, JOHN MEREDITH, of Aurora, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Crown-Sheets for Locomotive-Boilers, of which the following is a specification:

This invention relates to a crown-sheet having a central deflection, which largely increases the heating-surface, and hence economizes in the item of fuel.

The crown-sheet thus built is self-supporting, or may be made so, if desired, although I use a peculiar bracing, which will be hereinafter more fully explained.

This form of crown-sheet, by reason of the absence of flat surfaces and sharp angles, is less liable to be strained or cracked, and is free from the undue accumulation of sediment.

The invention will be readily understood by reference to the accompanying drawings.

Figure 1 is a transverse sectional elevation of a fire-box having the improved crown-sheet. Fig. 2 is a longitudinal sectional elevation of the same, taken on the line *x x*, Fig. 1.

The crown-sheet A has a central deflection, which forms a narrow channel, A^1 , the bottom or floor *a* of which slopes from rear to front at an angle of about thirty degrees, more or less, as shown in Fig. 2, the front part of it extending down to near the grate-bars. The side plates a^1 , that form the channel A^1 , are curved around at their bottom edge, so as to form the sloping bottom *a* without any sharp angles, and the top part of the sheet is curved out-

wardly on each side of the channel A^1 , so as to form a convex swell, A^2 , the exterior of which may be strengthened by the bracing C, as will be presently explained.

Outside of each of the convex swells A^2 the crown-sheet will be curved downward in elliptical curves a^2 until they meet the side plates B, to which they are to be secured by the riveted seam *b*.

The bracing C consists of two longitudinal plates, *c*, having flanges c^1 at their bottom edges and similar flanges c^2 at their top edges. These bracing-plates are then set together in the form of the letter A, and the top flanges c^2 are riveted together, while the bottom flanges c^1 are riveted to the convex part A^2 of the crown-sheet, thus forming a strong bracing for that part of the boiler.

Having thus described my invention, I desire to claim—

1. The central inclined channel A^1 , when formed by the crown-sheet A, with convex swell A^2 and elliptical curves a^2 and the side pieces a^1 , substantially as and for the purpose set forth.

2. The bracing-plates C, consisting of the longitudinal plates *c*, flanges c^1 and c^2 , in combination with the convex part A^2 of the crown-sheet A, substantially as and for the purpose set forth.

JOHN MEREDITH.

Witnesses:

THOMAS MEREDITH,
ISAAC MORGAN.