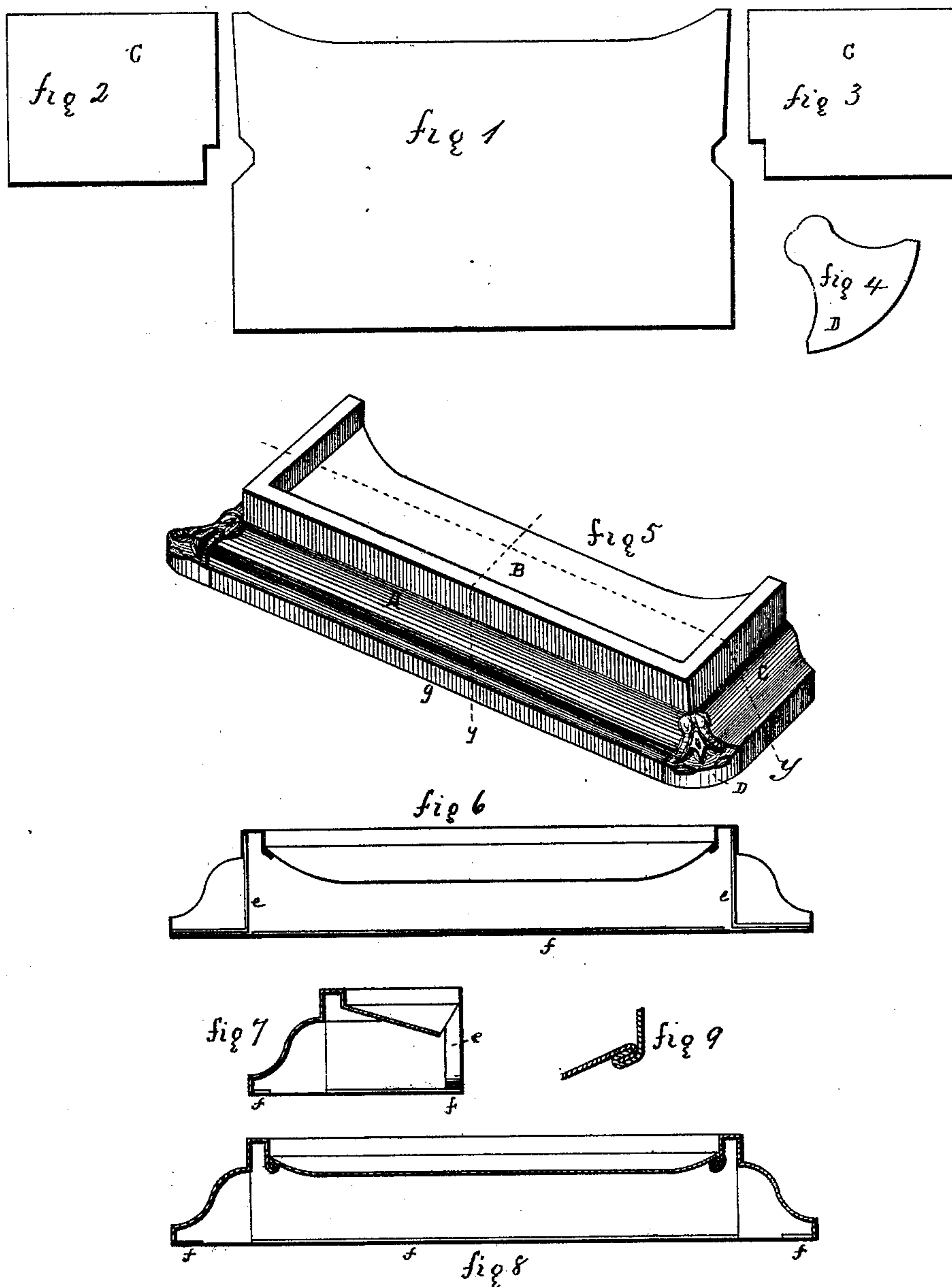


H. ADLER.
Sheet-Metal Fender.

No. 205,820.

Patented July 9, 1878.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY ADLER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN SHEET-METAL FENDERS.

Specification forming part of Letters Patent No. **205,820**, dated July 9, 1878; application filed December 26, 1877.

To all whom it may concern:

Be it known that I, HENRY ADLER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sheet-Metal Fenders; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in sheet-metal fenders; and consists in constructing the front and apron in one piece, and securing the ends of the fender to the ends of the apron through the medium of a double or compound seam, said ends and front being connected by means of corner-pieces.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

In the accompanying drawings, which form part of my specification, Figure 1 represents the sheet for forming the front and apron. Figs. 2 and 3 represent pieces of sheet metal for forming the ends. Fig. 4 represents the corner-pieces. Fig. 5 is a perspective view of the fender. Fig. 6 is a rear elevation of the fender. Fig. 7 is a section at line *y* of Fig. 5. Fig. 8 is a detailed section at line *y'* of Fig. 5. Fig. 9 is an enlarged detailed view of the compound seam.

In the drawings, A represents the front, and B the apron, and these are constructed of one piece of sheet metal by means of a machine such as described in the Letters Patent granted me September 10, 1872, No. 131,239. C are end pieces, which are formed by the aforesaid machine, and united to the apron B by a lap-seam, as shown in Fig. 9. D are corner-

pieces, which are formed by suitable swaging-dies and secured to the front and ends through the medium of rivets, and form an ornamental finish to the fender. *e* represents braces for giving strength and stiffness to the rear end of the end pieces. The inward-projecting flange *f* imparts stiffness to the front edge *g* of the fender, and also to the sides *c* in like manner. The outer end of the horizontal portion of brace *e* is also secured to this flange, thereby not only bracing the side of the fender, but also in turn strengthening the flange.

The advantage of a fender constructed as hereinbefore described consists in its cheapness, lightness, and the strength imparted to it by its peculiar formation, the contour of which is represented in Figs. 5, 7, and 8; and great strength is obtained for the inner end of the end pieces by means of the braces *e*. A fender constructed as hereinbefore described will be very durable and not liable to break by careless handling.

Having thus described the nature, construction, and advantages of my improvement, what I claim as of my invention, and desire to secure by Letters Patent of the United States, is—

A sheet-metal fender the front A and apron B of which are constructed of one piece, and the end pieces C secured to the apron through the medium of a double or compound seam, and the ends of the front and end pieces united by means of corner-pieces D, substantially as herein described, and for the purpose set forth.

HENRY ADLER.

Witnesses:

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