

H. Miller.

Sheet Metal Can.

N^o 86,571.

Patented Feb. 2, 1869.

Fig. 1.

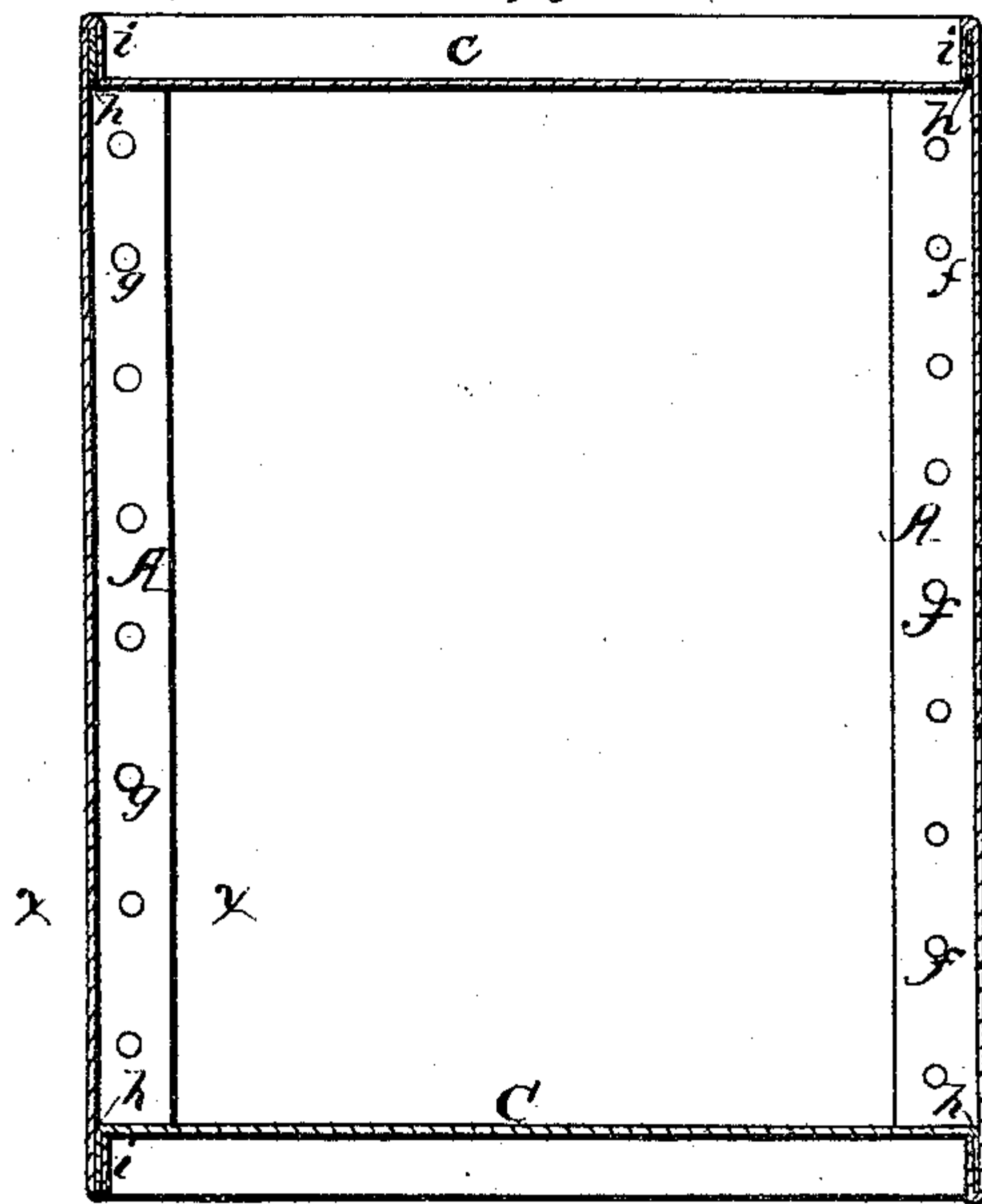


Fig. 2.

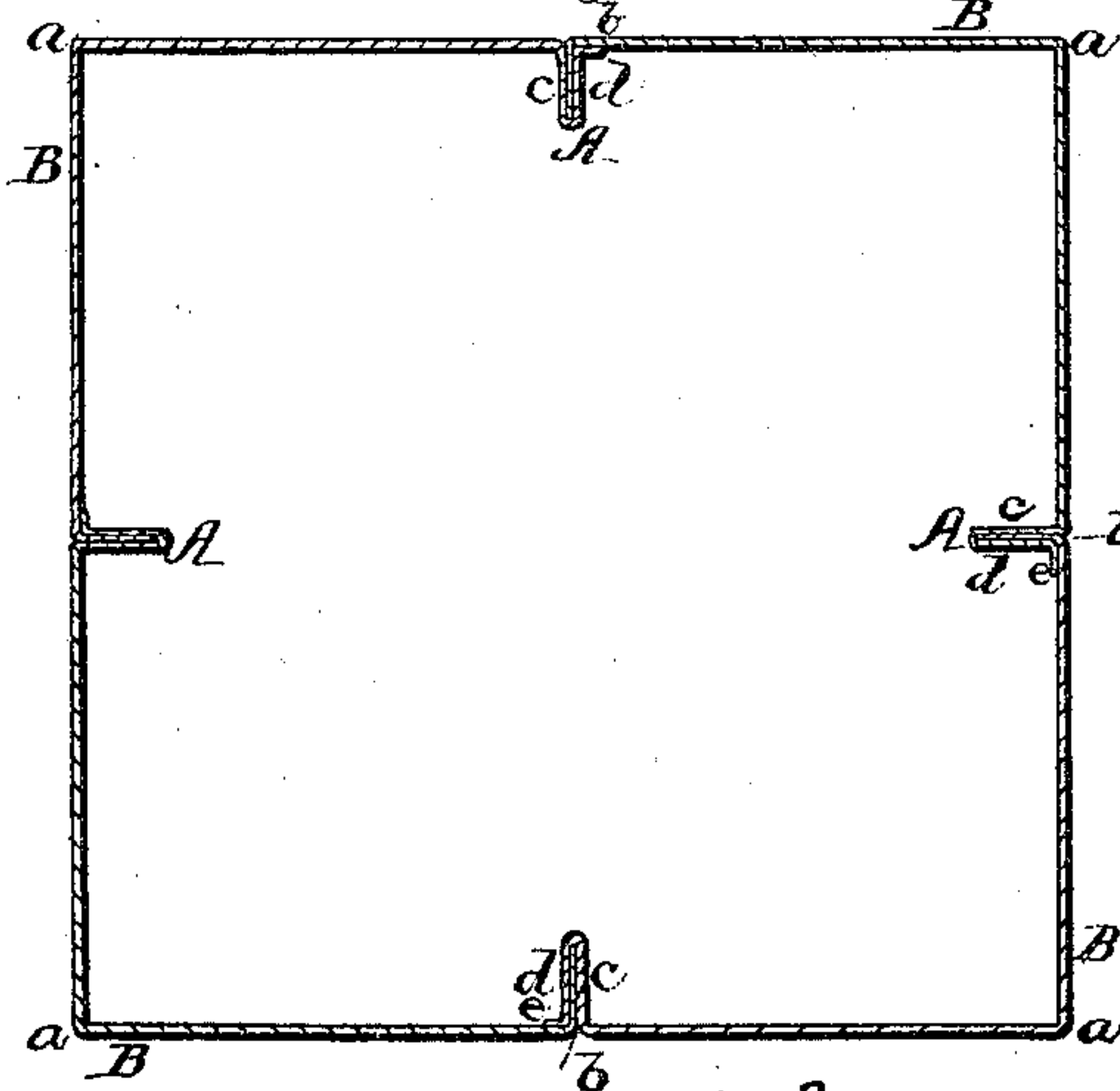


Fig. 3.

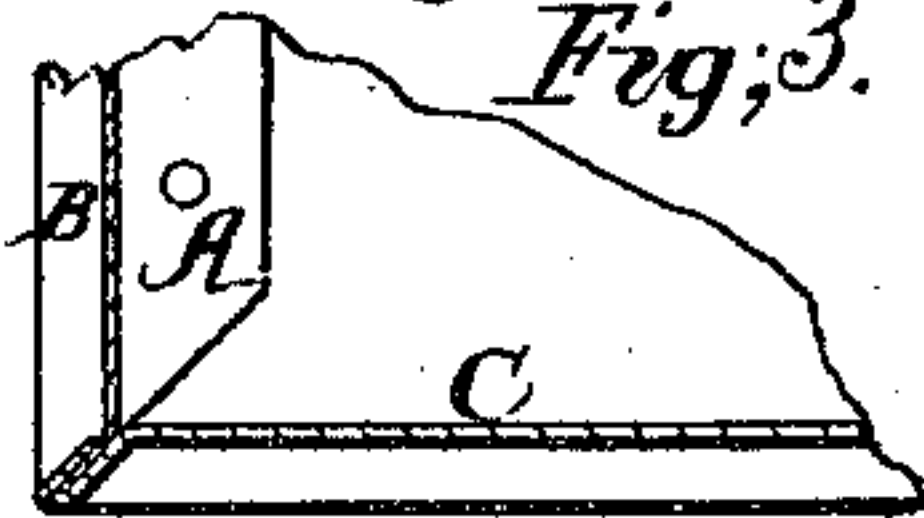


Fig. 4.

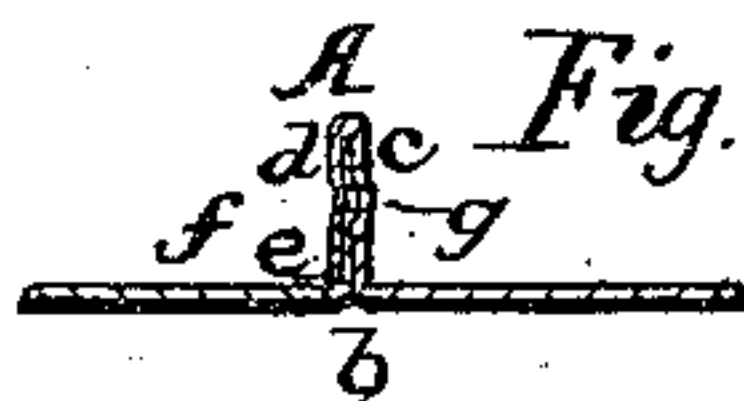


Fig. 5.



Witnesses

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HERMAN MILLER, OF NEW YORK, N. Y.

Letters Patent No. 86,571, dated February 2, 1869.

IMPROVEMENT IN SHEET-METAL CANS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HERMAN MILLER, of the city, county, and State of New York, have invented certain new and useful Improvements in Sheet-Metal Cans; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of a can, with my improvements.

Figure 2 is a horizontal section of the same.

Figure 3 is a vertical section of the lower part of one side of a can, showing a modification of my invention.

Figure 4 is a horizontal section of one of the vertical joints in the line *x x* of fig. 1.

Figure 5 is a horizontal section of a modification of the vertical joint.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates in part to the soldered seams by which the plates which form the sides of sheet-metal cans are longitudinally united, more especially to the seams of cans which are of square form in their transverse section.

Heretofore the longitudinal seams of square sheet-metal cans have been made at the corners thereof, and while the corners have been stiffened and strengthened by the seam, the sides have been left weak, and liable to be bulged.

One object of my invention is to provide for the greater stiffening of the whole body of the can; and to this end,

It consists in uniting the plates which form the sides of the can, at or near the middle of the sides, or at a distance from the longitudinal corners thereof, by means of one or more lap-joints or seams, formed of three thicknesses of metal, and projecting inward at a right angle, or thereabouts, to their respective side or sides, and so form ribs or pillars to strengthen or stiffen the side or sides, the longitudinal corners being formed by the bending of the plates. In this way a better distribution of the strength and stiffness of the can is obtained, for the bending of the plates alone gives the requisite stiffness at the corners, and the seams or joints give the requisite stiffness to the sides. Besides this advantage of the more uniform distribution of the strength and stiffness of the can, the bending of the plates at an acute angle to the sides of the can, which is necessary to form an internal rib or pillar at the corners of the can, is avoided, and moreover, greater facility is afforded for soldering, especially when it is desired to solder the side seams, by dipping them into melted solder, which is the most economical method, inasmuch as the labor of soldering is less, and can be performed by an inferior class of workmen.

My invention also consists in a novel construction

of the internally-projecting seam, whereby greater strength is obtained.

The sides of the can may be formed, according to the size of the can, of one, two, or four plates, *B B*, bent as at *a a*, to form the corners; and the lap-joints or seams *A A*, projecting inwardly into the can, in the form of ribs, are formed by turning inward one of the edges of the plate at a right angle, as shown at *b b* in figs. 2, 4, and 5, and turning inward the other edge, which is to be connected with it in a similar manner, as shown at *c c*, and doubling it to receive the turned-in edge of the corresponding part *b*, as shown at *d d* in the same figures.

The lap *d* of the joint may terminate on the part *b*, close to the angle, but as this would necessitate a very exact trimming of the plates, which are not of uniform size, I prefer to leave margin enough to enable it to be bent again at a right angle, as shown at *e* in figs. 2 and 4, to lap against the main portion of the plate within the angle formed by *b*, for as the width of this turned-in portion *e* is immaterial, the plate will then need no trimming, and the said portion *e* adds strength to the joint, and stiffness to the side of the can.

The edges having thus been bent, the single portion *b* of one edge is inserted between the double portion *c d* of the other, and pinched together tightly with a suitable instrument, preparatory to soldering, which may be done by applying solder to the exterior of the joint with a soldering-iron, or by dipping the rib *A* into a suitable trough containing melted solder.

In order, however, to insure the greater strength of the joint, and to guard against the longitudinal displacement of the parts before and during the soldering, I prefer generally, after pinching the parts together, as described, and before soldering, to make, with a punch and die, or series of punches and dies, or by means of clamps or rollers, a series of indentations, *f f*, at short intervals along one side of the joint, thereby producing a corresponding series of protuberances, *g g*, along the other side, and so causing each of the three thicknesses of metal, *b c d*, of which the joint is formed, to indent itself into or be indented into by the contiguous piece on either side, as shown in fig. 4.

The sides of the can thus formed with inwardly-projecting or lap-joints, forming ribs or pillars *A* on the inside, may have the top and bottom, or heads, *C C*, fitted and secured to them in any suitable manner, as, for instance, in the now well-known manner shown in fig. 3, but I propose, as a better means of preventing the bulging out of the top and bottom, or heads, by pressure, to turn the edges of the latter outward at a right angle, as shown at *h h* in fig. 1, to fit within the interior of the sides of the can, and to double or turn over the sides, as shown at *i i* in the same figure, and then to solder the parts *h h* between the parts *i i* and the sides of the can, either by dipping into melted solder, or by means of a soldering-iron and solder.

This joint is the reverse of the joint shown in fig. 3 between the sides and bottom.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The lap or bend *e* of the edge of the plate, in combination with the internally-projecting seam *b c d*, for giving additional strength to said seam, as herein shown and described.

2. The securing of the two parts, forming the seam, in place, by means of indentations or depressions *f g* in the seam *b c d*, as shown and described.

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Witnesses:

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ARTHUR KINNIER.