H. C. MILLIGAN.

Seam or Joint for Can.

No. 205,119. Patented June 18, 1878.

Fig. 1.

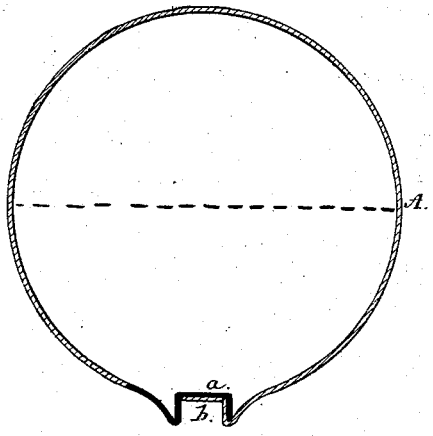
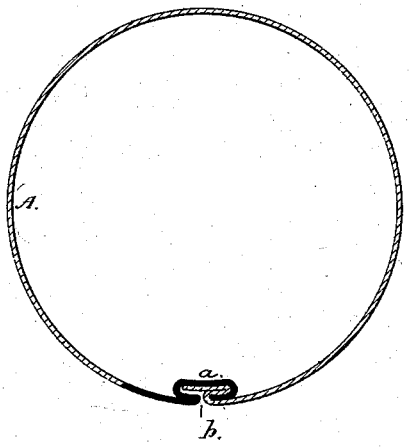


Fig. 2.



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HENRY C. MILLIGAN, OF ELIZABETH, NEW JERSEY.

IMPROVEMENT IN SEAMS OR JOINTS FOR CANS.

Specification forming part of Letters Patent No. **205,119**, dated June 18, 1878; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, HENRY C. MILLIGAN, of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Seams or Joints for Sheet-Metal Cans; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to certain new and useful improvements in seams for sheet-metal cans and other metallic vessels, as well as pipes; and it has for its object to so form the seam which joins the edges of the piece of sheet metal that the joint, while being perfectly tight and strong, shall at the same time confine and conceal the edges within the folds forming the joint.

Previous to my invention very many plans have been suggested for doing away with the tardy and expensive process of forming seams in sheet-metal goods by the use of solder, and various folds and laps have been given to the adjoining edges of the metal to make a strong and tight seam; but the plans most generally adopted either involve the exposure of the edges, or else the necessity of independent pieces of metal for concealing the edges of the sheet composing the body of the vessel, or else present an unsightly exterior rib.

My invention consists in so forming the laps and seam that while a perfect joint is made the edges of the metal shall be securely held and concealed within the folds made in the formation of the seam, while at the same time preserving a practically smooth exterior finish, without any ribs or creases, as will be hereinafter and in detail explained.

In order that those skilled in the art may know how to make the improved seam above referred to and appreciate its advantages, I will proceed to describe the peculiarities and manner of forming the same, referring by letters to the accompanying drawing, in which—

Figure 1 is horizontal section of a cylinder or vessel-body after it has been subjected to the first step in the formation of a seam necessary to connect its edges, and Fig. 2 a similar view after it has been subjected to the second or final step in the process of forming the seam.

In the drawings I have shown the seam magnified, in order that it may be more readily observed and understood; but in practice, of course, the seam lies flatter or closer to the wall of the vessel or pipe, and the edges of the exterior folds come absolutely in contact to make a neat finish.

The strip or sheet of metal which forms the body of the vessel or pipe is bent around a former or mandrel, which is so formed that when a suitable hammer or press is brought to act upon the metal the two edges are pressed into the condition and position relatively as seen at Fig. 1. The tube or body of the vessel is then subjected to a blow or pressure, which will produce the results indicated at Fig. 2.

Similar letters indicate like parts in the two figures.

A is the sheet metal, the heavy black line *a* indicating one edge and the section-lined portion *b* indicating the other. In the first step in the formation of the seam both edges are bent about in a line at right angles to a chord or diameter of the cylinder, as shown in dotted lines, Fig. 1, and again parallel to the same, the edge *a* being again returned, forming, as it were, an inverted cup, as clearly shown at Fig. 1, the edge *b* abutting against one of the vertical sides of said cup; and when the partially-formed seam is subjected to the second step in the process the extreme end *b* is confined between the fold of the edge *a*, and the extreme edge *a* is confined between the fold of *b* and the wall of the can or cylinder, and when tightly pressed the two initial or exterior folds come in close contact, leaving the exterior a practically perfect cylinder or plain surface, as the case may be, with the seam on the inside and flattened, concentric or parallel with the body or wall of the vessel, and with no projecting or exposed edges.

I do not wish to confine myself to the formation of the seam shown on cylindrical vessels, as it may with equal advantage be employed in joining the edges of vessels irrespective of their design or shape.

The seam as formed, as will be readily ob-

served by reference to the drawing, has four thicknesses of metal on one side and five thicknesses on the other of the central or longitudinal line between the folds.

I do not wish to be understood as limiting myself in any manner to the exact form of the seam, so long as it involves the peculiarity of confining the extreme edges of the metal within the folds.

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

1. The method of forming side seams or joints in sheet-metal cans or cylinders by first lapping the edges and then bending them into the position shown at Fig. 1, and subsequently flattening down the same into the position shown at Fig. 2.

2. A sheet-metal cylinder, can, or vessel, the wall of which is made of one or more sheets, joined at the edges to form a smooth exterior by folds of the sheet (or sheets) upon itself near to the edges, the edges being confined within folds, substantially as shown and described.

Witness my hand and seal this 17th day of May, 1878.

HENRY C. MILLIGAN. [L. S.]

In presence of—

ROBERT P. LEHLBACH,

REUNE J. D. DUNN.