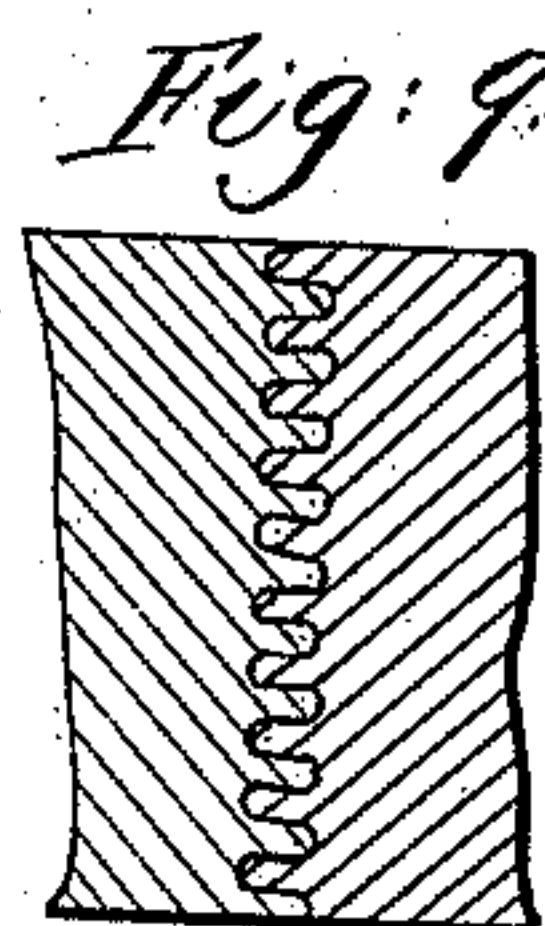
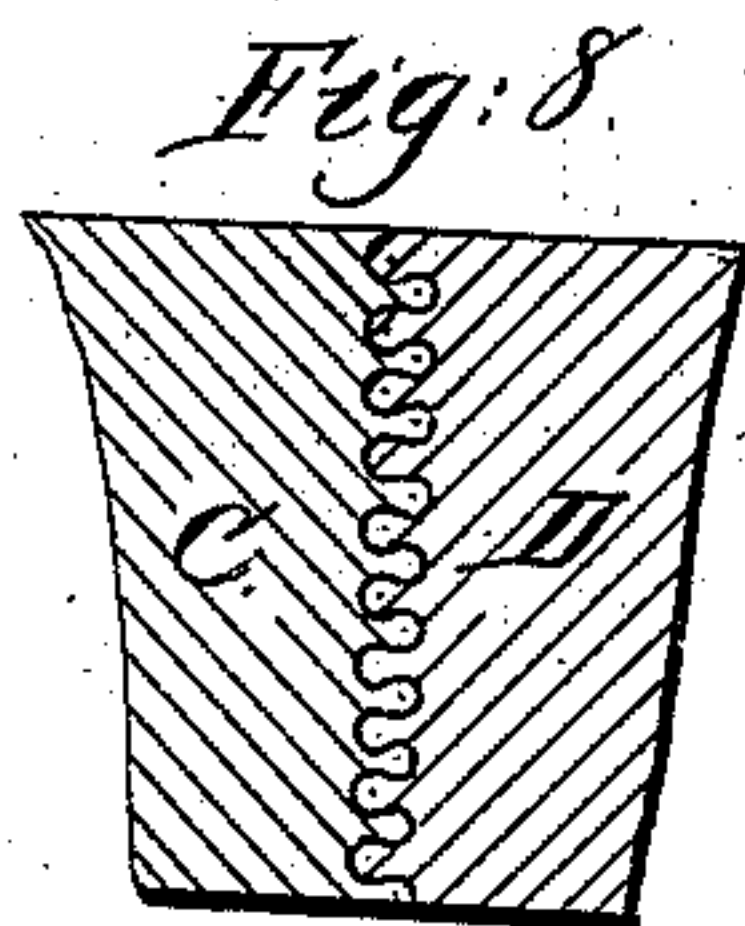
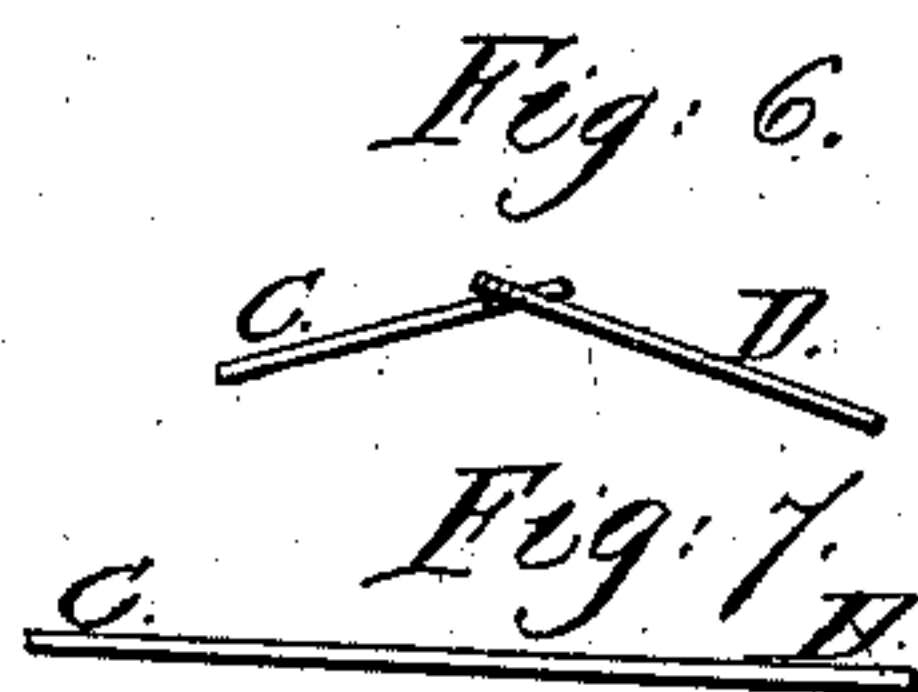
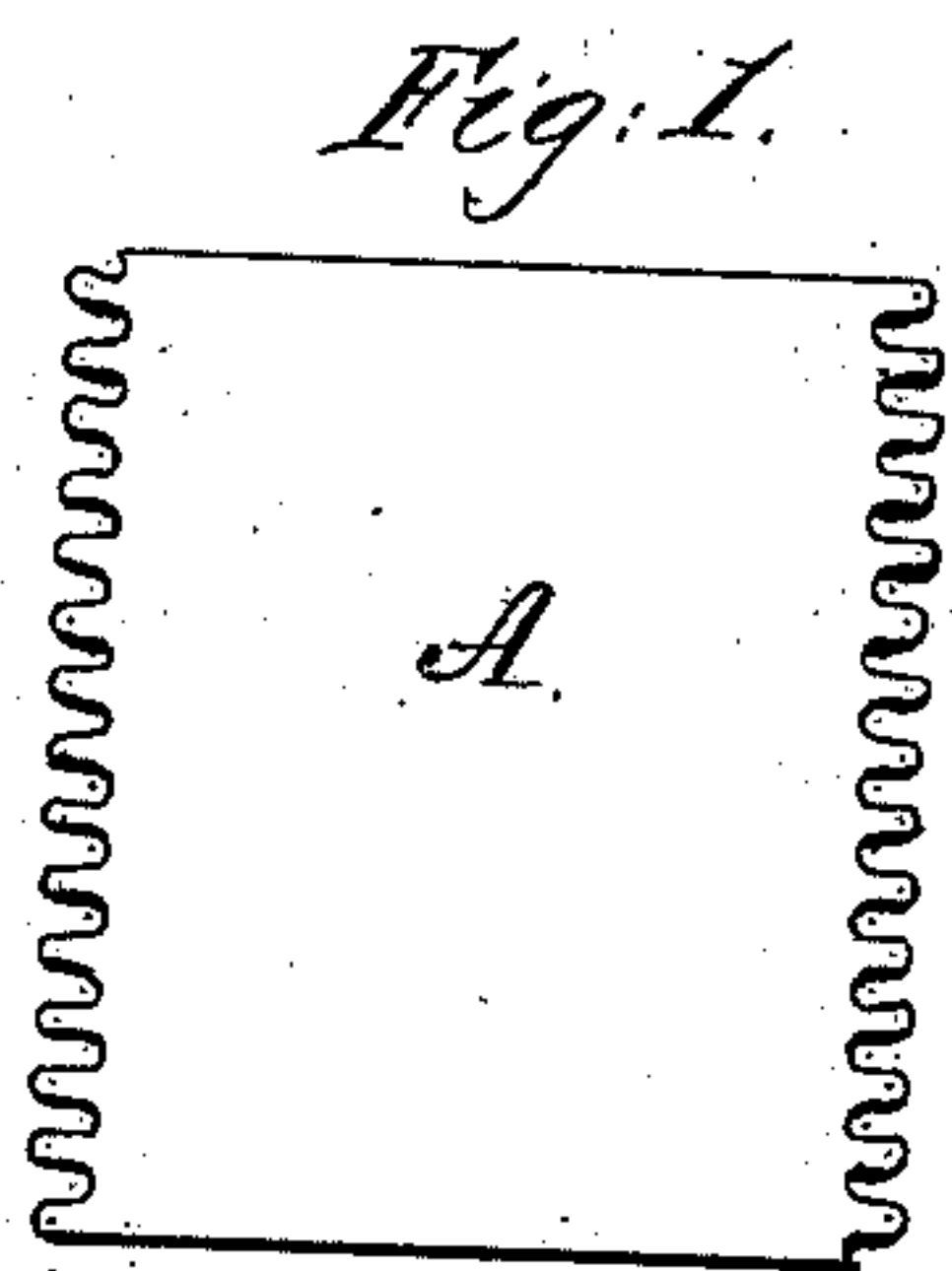


S. R. Wilmot,
Uniting Sheet Metal.
No 70,383. Patented Oct. 29, 1867.



Witnesses:
ag J. Debbets
John P. Shumway

Inventor:
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By his Attorney
Wm E Earl

United States Patent Office.

S. R. WILMOT, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 70,383, dated October 29, 1867.

IMPROVEMENT IN UNITING SHEET METAL.

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, S. R. WILMOT, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new Improvement in Uniting Sheet Metal; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view of a sheet of metal prepared for uniting to form a tube.

Figures 2, 3, 4, and 5 different stages of the same in the process of uniting; and in

Figures 6, 7, 8, and 9, the manner of uniting the two sheets of metal edge to edge.

This invention, designed with special reference to the construction of lamp-tubes, is equally applicable to the uniting of two edges of metal for other purposes, and consists in the peculiar manner of preparing the edges of the metal preparatory to uniting.

In order to the clear understanding of my improvement, I will proceed to describe the same as illustrated in the accompanying drawings.

I will first describe the process for forming the lamp-tube, such as are used for the common kerosene-burner, and which are now drawn up from a piece of metal cut to the proper form, and in which cutting there is more or less waste.

From a sheet of metal of the proper thickness I cut a plate, A, its two edges being formed with teeth or irregularities, the one edge corresponding to the other, so that the projections upon one edge will set into the recesses of the other edge, and these may be of various forms, but I prefer that shown in the drawings, where the projections are round at the point, and the recesses the same. The plate A is then doubled into the form denoted in fig. 2. Then, by another operation, the two edges are brought together, so that the projections on the one set into the recesses on the other, the point of projection extending slightly beyond the root of the recess, as seen in fig. 3. Then, in a roll or other device prepared for the purpose, the two edges are struck together, as denoted in figs. 4 and 5. The points of the one projecting beyond the root of the recesses of the other, when rolled or struck down, expand and form a kind of dove-tail, as denoted in fig. 5, which locks the two together in the most perfect manner, and without the use of solder or any waste of metal, as the edge of one plate cut from the second forms a corresponding edge upon the other without any waste of metal.

I have represented this construction as for lamp-tubes, that is, a flat tube; but tubes of any form may be united in like manner.

To unite two sheets of metal having their edges formed as denoted in fig. 1, set one edge of each sheet C D into the other, as seen in fig. 6, the point of the projections in one overlapping the recess or root of the other; then pass the two through rollers or other device for compressing the joint, so as to flatten the whole to an even thickness, as denoted in fig. 7; the projecting points will expand and dove-tail the two parts together, as denoted in fig. 8, nearly as strong as if of a single piece of metal.

If for brazing or soldering two edges together, in order to give the strength to the joint equal to the strength of the metal, which it cannot have when the edges are simply butted together and soldered, I form the two edges in similar manner, as before described, and place the two together, as in fig. 9, then solder or braze the two together in the usual manner, and the increased length of surface upon the edge which is soldered is so much more than the direct length of the edge as to increase the strength of the solder equal to the strength of the solid metal, and this without increasing the thickness at the joint.

As I have before stated, the form of the edge may be varied from this I have shown, but this I believe to be the best practical form for perfect work. I therefore do not claim any peculiar form of irregularity to the edge, confining myself only to the fact that the irregularities of the one conform to the other, so that the projections of the one will fit into the recesses of the other, as hereinbefore described.

I am aware of the joint known as the brazier's joint, but that I do not claim, as by that the thickness of the metal at the joint is nearly or quite doubled; but what I do claim as my invention, and desire to secure by Letters Patent, is—

The uniting of the two edges of metal by the formation of the corresponding edges, and uniting the same in the manner herein set forth.

Witnesses:

A. J. TIBBITS,

JOHN H. SHUMWAY.

S. R. WILMOT.