J. S. BROOKS.
Sheet-Metal Tubing.

No. 205,238. Patented June 25, 1878.

Fig. 1.

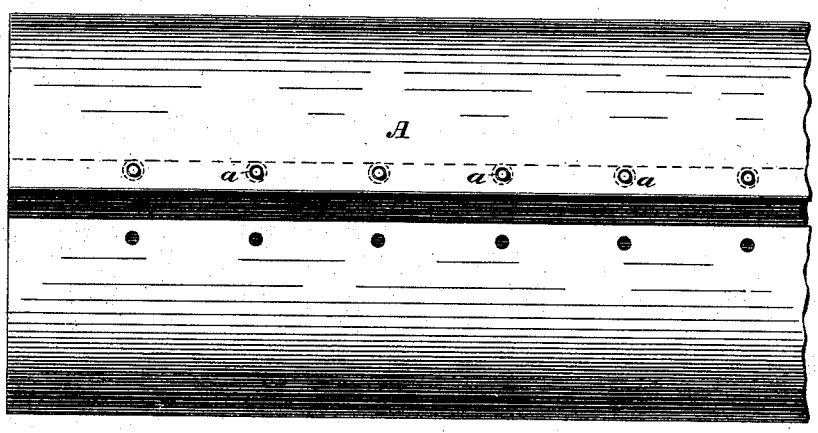


Fig. 2.

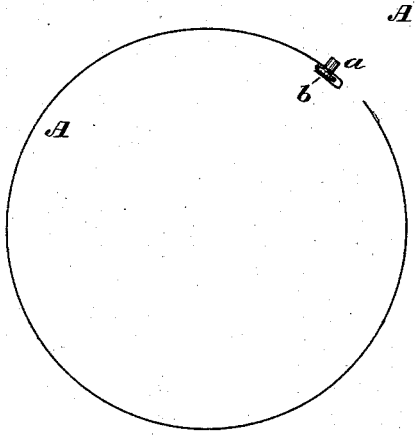


Fig. 4.

Fig. 3.

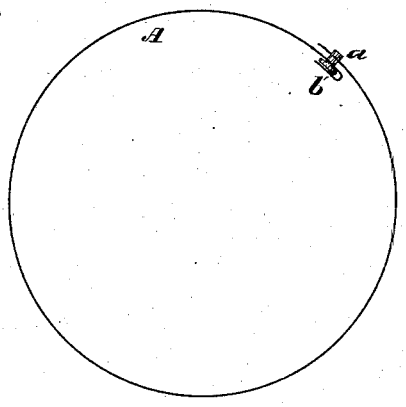
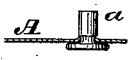


Fig. 5.



ATTEST:

Arthur C. Fraser.
Henry Connett

INVENTOR:

John S. Brooks

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN S. BROOKS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SHEET-METAL TUBING.

Specification forming part of Letters Patent No. **205,238**, dated June 25, 1878; application filed May 7, 1878.

To all whom it may concern:

Be it known that I, JOHN S. BROOKS, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Sheet-Metal Tubing, of which the following is a specification:

This invention relates to what may be called "partly-made" pipe or tubing, and is especially well adapted to stove-pipe.

It consists, essentially, in providing one edge of the metal from which the pipe is formed with a row of rivets projecting through the plate, and attached in some way permanently thereto, and the other edge with a row of holes spaced to coincide with and engage the said rivets, so that when the sheet is curved and the edges are brought together to form the seam, the projecting rivets may be put through the holes and riveted down.

In the drawings, Figure 1 is a side view of a section of partly-made stove-pipe, illustrating my invention. Fig. 2 is an end view of the same. Fig. 3 is an end view, showing the edges engaged. Figs. 4 and 5 are modifications.

A represents a section of sheet-metal tubing of any kind, both edges of which are perforated, so that the holes in each coincide with those in the other when the edges are brought together. In one series of holes are permanently secured, in some suitable way, a row of rivets, *a a*, which are preferably left projecting outward, although they might project inward, if desired.

To secure the rivets permanently in place, I prefer to turn down a portion of the edge to form a flange, *b*, which, after the rivets are inserted, is bent or flattened down over their heads to hold them in position, or the rivets might project through the flange, as in Fig. 4. In lieu of this the rivets might be made with necks or with lessened shanks, and when they are inserted the burrs raised in punching the holes may be set back with a hollow punch, and caused to embrace the necks of the rivets; or the rivets might be secured in place by means of solder, paint, japan, or other suitable material, or in any suitable way.

The construction represented in Figs. 2 and 4 shows a step in my process of producing a partly-made tube. The rivets need not be made to engage the holes in the opposite edge, as in Fig. 3, until the tube is ready to be riveted. Riveting is only an additional and final step in the production of a wholly-made or completed tube.

Pipes thus made may be rolled or nested or closely packed for transportation, and will require only that the rivets be engaged, as shown in Fig. 3, when a tap of the riveting-punch on each rivet will complete them ready for use.

I claim—

1. A sheet of metal of the proper shape to form a section of tube, provided with a row of rivets permanently secured in one edge, their shanks or bodies passing through but one thickness of metal, and a row of corresponding or coincident perforations in the opposite edge, substantially as set forth.

2. A partly-made tube consisting of a sheet of metal cut to the proper shape, having a row of rivets passing through perforations in one edge, and permanently held in place, and a coincident row of rivet-holes in the opposite edge, so that the tube may be completed by lapping the opposite edge over the rivets, passing the rivets through the holes, and heading them down, substantially as set forth.

3. In a sheet-metal tube, the method of holding the rivets in place before riveting the two edges together, the same consisting in embracing or clasping the rivet-head between two folds of the sheet, while the shank of the rivet projects through one of the folds, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN S. BROOKS.

Witnesses:

HENRY CONNETT,

ARTHUR C. FRASER.