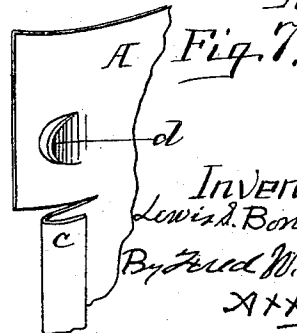
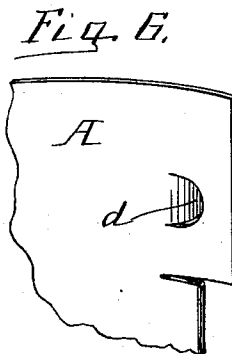
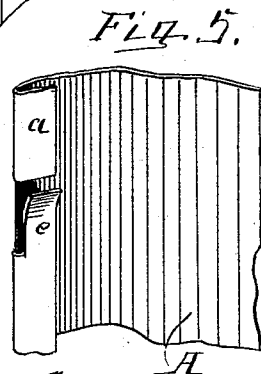
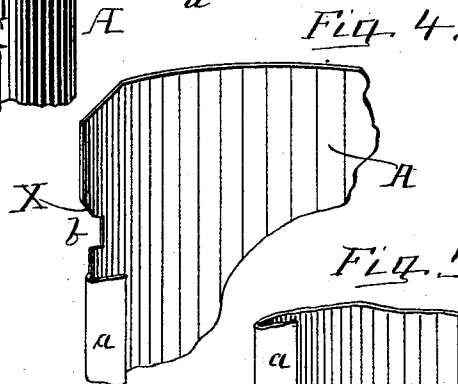
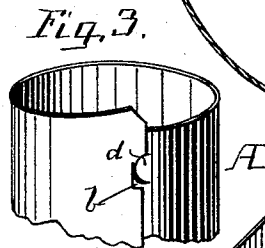
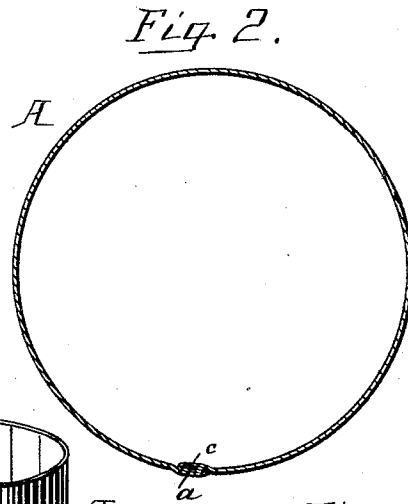
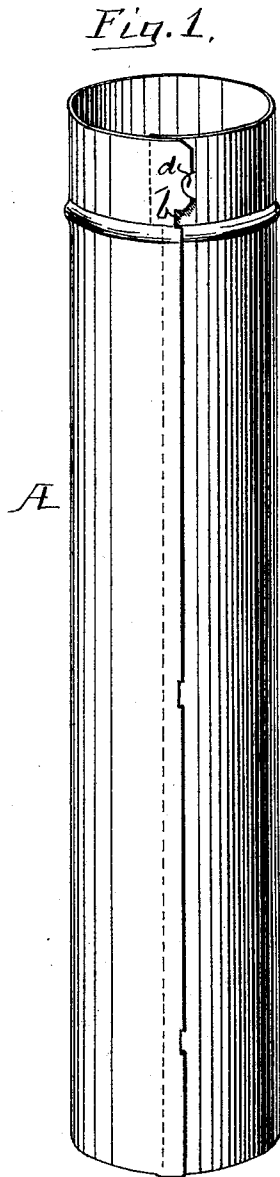


(No Model.)

L. S. BONBRAKE.
STOVEPIPE JOINT.

No. 489,521.

Patented Jan. 10, 1893.



Witnesses.
Laura Shaffer.
James Sterling

Inventor,
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By Fred W. Bond
Atty.

UNITED STATES PATENT OFFICE.

LEWIS S. BONBRAKE, OF DECATUR, ILLINOIS.

STOVEPIPE-JOINT.

SPECIFICATION forming part of Letters Patent No. 489,521, dated January 10, 1893.

Application filed May 11, 1892. Serial No. 432,677. (No model.)

To all whom it may concern:

Be it known that I, LEWIS S. BONBRAKE, a citizen of the United States, residing at Decatur, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Stovepipe-Joints; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1, is a view of a stove pipe, showing the same properly formed, and the joint or seam united. Fig. 2, is a transverse section. Fig. 3, is a view showing a portion of the pipe and illustrating the position of the notch and retaining tongue or tang before the seam is completely locked or formed. Fig. 4, is a view showing a portion of the edge of the sheet provided with the notch and having the inner edge bent or folded. Fig. 5, is a view showing a portion of the sheet, and illustrating the inner bend or fold, showing one of the notched prongs. Fig. 6, is a view showing the edge of the sheet with the retaining tongue, and having the outer bend or fold. Fig. 7, is a similar view showing the opposite side of the section from that shown in Fig. 6.

The present invention has relation to improvements in joints or sections of stove or conducting pipes; and it consists in the different parts and combination of parts, hereinafter described and pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings A, represents a section of pipe which may be made in lengths of from two to ten feet, or any other desired length, and of any desired size. Upon one edge of the sheet which forms the section is bent or formed the flange *a*, which flange is located, when finished, upon the inside of the pipe proper. At the top or upper portion of the sheet which forms the section and upon the side provided with the flange *a*, is formed the notch or recess *b*, which notch or recess is located a short distance above the top or upper end of the flange *a*. The opposite edge of the sheet which forms the section A, is pro-

vided with the flange *c*, which flange is turned outward as indicated in Figs. 6 and 7; this flange *c*, is so formed that it will hook under the flange *a*, when the edges of the sheet which form the section A, are brought together as indicated in Figs. 1 and 2, thereby securely uniting the edges of the sections together, and completing the seam. The edge of the section provided with the outward flange *c*, is provided with the tang *d*, which tang is formed by cutting or punching a portion of the metal from the body of the sheet, and leaving one edge integral with the sheet. This tang should be sprung or bent outward a short distance, as illustrated in Fig. 6, which provides an easy means for slipping or sliding said tang over the edge of the sheet provided with the fold *a*, as hereinafter described. For the purpose of forming a guide to enter the flange, the fold *a*, is brought into engagement with the flange *c*, the tongues *e*, are formed from portions of the fold *a*, said tongues being bent or curved at their top or upper ends away or from the fold *a*, thereby bringing said tongues into position to engage or catch the bend or fold *c*, and guide the fold *a*, over the fold *c*.

In use, when it is desired to unite the edges of the sheet to form a section such as A, the edge provided with the fold *c*, is pressed under the edge provided with the fold *a*, and the tang *d*, entered into the recess *b*, at which time the tongues *e*, will engage the edge of the fold *c*; this step brings the top or upper end of the section in the position illustrated in Fig. 3. The edge of the section A provided with the recess *b*, is pressed or forced so as to bring the tang above the recess, until the ends of the two edges are brought in line with each other as indicated in Fig. 1. For the purpose of causing the edge of the section A, which comes directly above the notch or recess *b*, to be easily entered under the tang *d*, the lower portion of the edge is beveled or inclined as indicated at X, Fig. 4. This inclined portion X, causes the edge provided with the fold *a*, to be forced away from the tang *d*, thereby firmly and securely entering the fold *c*, under the fold *a*, as the inclined portion passes the tang *d*. The tongues *e*, will guide or lead the flange *c*, under the flange *a*, the entire length of the section. It will be un-

derstood that by my peculiar arrangement of forming the joint or seam, no solder is required, and that the seam can be easily disconnected, and united. By the manner of
5 forming the seam the sections can be completed at a factory, and the sheets from which the pipe sections are formed can be placed side by side, thereby occupying very little space, either in shipping or storing.
10 It will be understood that I do not desire to confine my invention to stove pipe, as it will be seen that my invention can be applied to any and all kinds of pipe in which a detachable seam or joint is required. By bending
15 the tongues *e*, outward at their top or upper ends they will be in position to engage the edge of the fold *c*, which temporarily holds the fold *a* directly over the edge of the fold *c*; and by an upward movement or twist of
20 that portion of the section A, provided with the fold *a*, the inclined tongues *e*, will have a tendency to slide under the edge of the fold *c*, which brings the two folds in proper position to be locked together.
25 Having fully described my invention what I

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

1. The combination of the section A, provided with the oppositely turned folds *a* and *c*, the notch or recess *b* and the tang *d*, substantially as and for the purpose set forth. 30

2. The combination of the section A, provided with the oppositely turned folds *a* and *c*, the tongues *e*, formed from the fold *a*, the recess *b*, located above the fold *a*, the tang *d* 35 and a beveled or inclined portion formed upon one side of the recess *b*, substantially as and for the purpose set forth.

3. The combination of the section A, provided with the oppositely turned folds *a* and *c*, the tongues *e*, and the recess *b*, and the tang *d*, substantially as and for the purpose set forth. 40

In testimony that I claim the above I have hereunto subscribed my name in the presence 45 of two witnesses.

LEWIS S. BONBRAKE.

Witnesses:

B. F. CLOUD,

E. H. JEFFRES.