(No Model.)

J. W. ABRAHAMS.

JOINT FOR SHEET METAL TUBING.

No. 430,458. Patented June 17, 1890.

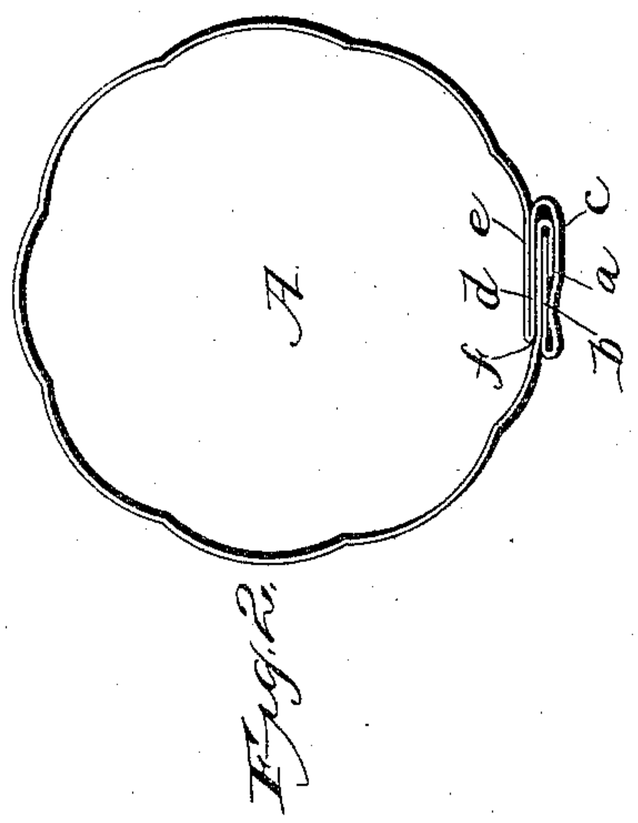

Fig. 2.

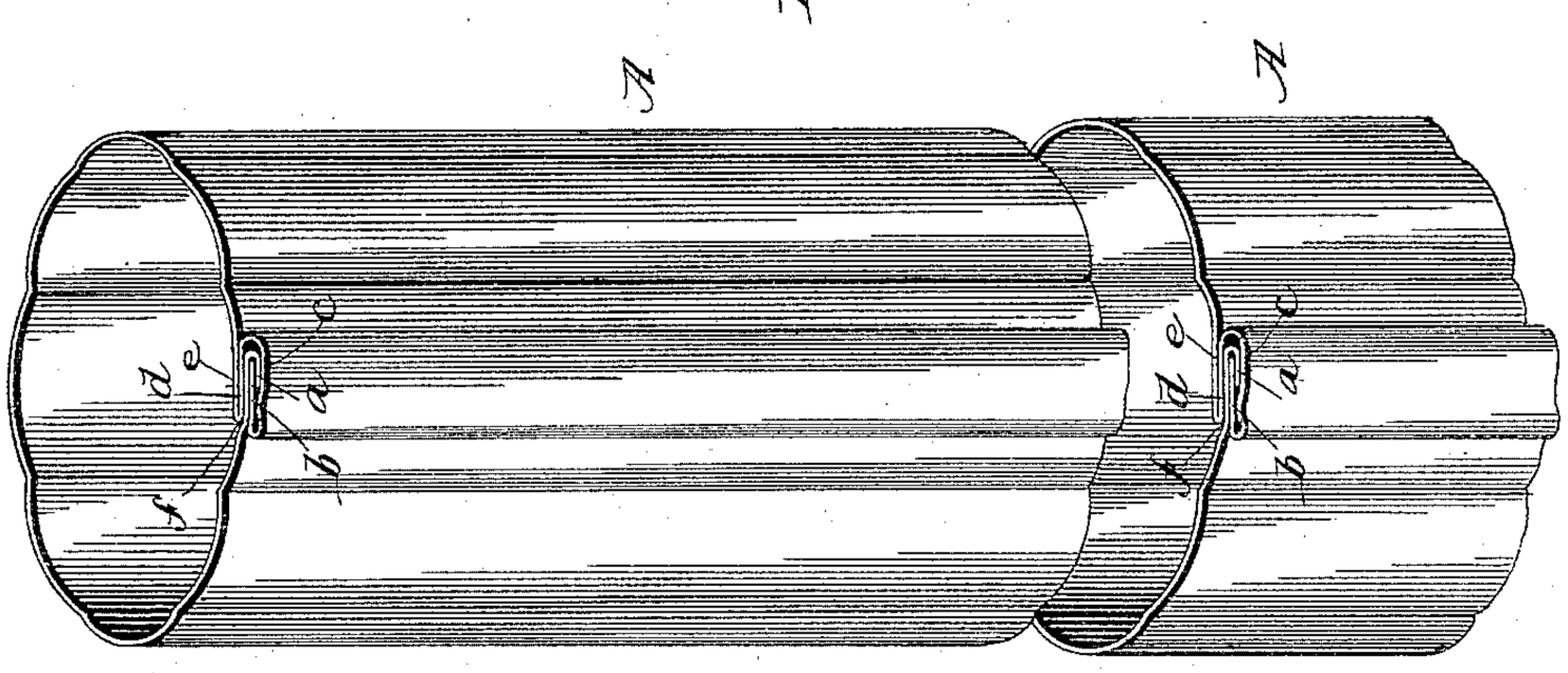

Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN WILLIAM ABRAHAMS, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN T. BEALOR, OF SAME PLACE.

JOINT FOR SHEET-METAL TUBING.

SPECIFICATION forming part of Letters Patent No. 430,458, dated June 17, 1890.

Application filed November 26, 1889. Serial No. 331,608. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM ABRAHAMS, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Joints for Sheet-Metal Tubing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sheet-metal tubing, and has for its object certain improvements in the joint therefor, which will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a perspective of my improved joint, and Fig. 2 a cross-section of a section of tubing provided with my joint.

Reference being had to the drawings and the letters thereon, A indicates a section of sheet-metal tubing, which may be corrugated, as shown, or of any preferred form, and is made from a sheet of metal of any desired length and width to suit the style, length, and diameter of the tubing to be made. On one edge of the sheet is formed a short fold *a*, and on the opposite edge is formed a double fold, consisting of the part *b*, which interlocks the fold *a*, the part *c*, which is bent back over *a* and *b*, the part *d*, which is bent under the parts *a* and *b*, and the part *e*, which is bent back in the opposite direction from *d*, thus forming a double-folded joint. The outer fold *c* covers and protects the joint on the outside and affords a convenient means for applying a support if it is desired to suspend the pipe vertically, and the folds *d* and *e* form an expansible seam at the point *f*, which allows for expansion and contraction of the tubing, and at the same time forms a lap joint or fold on the inside of the pipe which protects the main joint.

By the construction shown the edges of the sheet forming the tubing are so interlocked that they cannot be accidentally disengaged in transportation or while being handled in putting them together, while adequate means are provided for expansion of the tubing without interfering with the joint.

It is obvious that sheet-metal tubing constructed with joints of the character shown and described may be used for various purposes, and I do not therefore limit my invention to tubing for any special purpose.

Having thus fully described my invention, what I claim is—

1. A joint for sheet-metal tubing having the edges of the sheet interlocked and a fold on the outside and inside of the tubing opposite to the interlocked parts, substantially as described.

2. A joint for sheet-metal tubing having the edges of the sheet interlocked, a fold on both sides of the tubing opposite the interlocked parts, and one of said folds being expansible, substantially as and for the purpose described.

3. A joint for sheet-metal tubing having interlocked folds consisting of the parts *a*, *b*, *c*, *d*, and *e*, which provide means for attaching a support on the outside, and an expansible seam on the inside of the tubing, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN WILLIAM ABRAHAMS.

Witnesses:

S. J. BRAUFF,

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