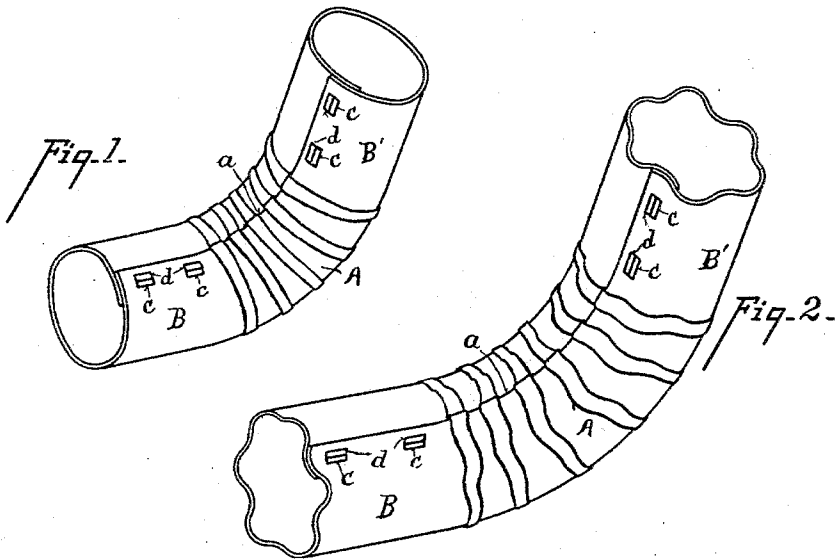
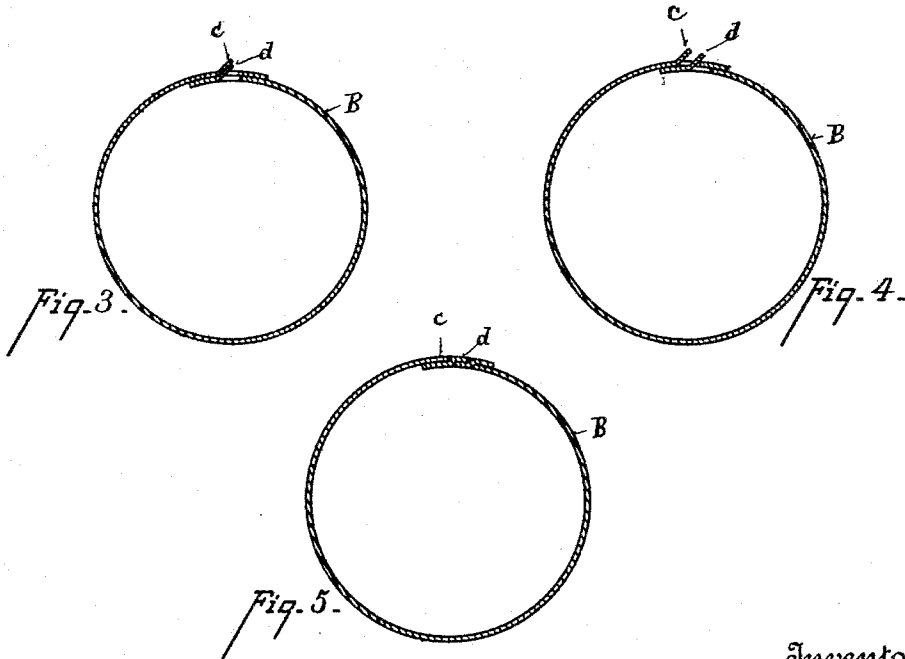


(No Model.)

F. DIECKMANN.
SHEET METAL ELBOW.

No. 597,056.

Patented Jan. 11, 1898.



Witnesses

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UNITED STATES PATENT OFFICE.

FERDINAND DIECKMANN, OF CINCINNATI, OHIO.

SHEET-METAL ELBOW.

SPECIFICATION forming part of Letters Patent No. 597,056, dated January 11, 1898.

Application filed January 21, 1897. Serial No. 620,161. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND DIECKMANN, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Sheet-Metal Elbows, of which the following is a specification.

My invention relates to improvements in sheet-metal elbows, its object being primarily to provide a more perfect joint for the end portions of the lap or seam where the elbow telescopes with the pipe-sections, and, secondly, to provide a more economical joint and one better adapted to withstand the subsequent treatment required to complete the elbow.

The features of my invention will be more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a plain round elbow embodying my improvement. Fig. 2 is a similar view of a corrugated elbow. Figs. 3, 4, and 5 are sectional views through one end of the elbow, showing successive steps in the formation of the seam-joint.

It has been the practice heretofore in making elbows of this character to bind the overlapping edges of the seam into the crimps, so as to lock them together through the crimped or curved portion of the elbow, leaving the seam-joint at the end sections open, to be subsequently closed by means of rivets or solder. As the circumference of these end sections has to be accurately gaged and the joint made smooth in order that one of them may telescope over and the other into the abutting pipe-sections to make a tight joint both of these processes are objectionable, the rivet on account of the projecting head, the time required to form it, and the tendency of the sheet metal to gap apart between the rivets. The soldered joint is objectionable on account of the time required to form it and the rough nodules of solder left upon the joint. Where the elbow is to be subsequently corrugated, as shown in Fig. 2, these processes are further objectionable, as the rivet is in the way of the corrugating-tools, and the act of corrugating tends to open the seam between the rivets. With the solder-joint the corru-

gating usually breaks open the seam. All of these objections are obviated in my improved joint, which is formed in the following manner:

A represents the crimped portion of the elbow, in which the seam-joint *a* is formed by locking the two edges in the crimps. The overlapping edges of the seam in the end sections *B B'* are then secured together by pressing the end sections over a form of slightly less diameter than that required for the finished elbow. The tongues *c d* are then struck up, as shown in Fig. 3. The parts when released naturally assume the position Fig. 4, or may be easily made to assume it when the lugs *c d* are pressed down into position Fig. 5.

In Fig. 2 I have shown an elbow formed in the same manner as Fig. 1, and subsequently passed through a machine to corrugate it. It will be noted that with my joint nothing is left projecting in the way of the corrugating-tools, as in a rivet-joint, and that the joint cannot be broken apart during the process of corrugation, as with a solder-joint. It will be further noted that the diameter of the end sections can be quickly and accurately formed to the desired gage; that there is no strain as in a rivet-joint, causing the overlapping sections to gap apart, either before or after corrugation, and that a smooth joint adapted to readily telescope with the pipe-sections is formed.

Having described my invention, what I claim is—

A sheet-metal elbow formed of a single piece of sheet metal having end sections adapted to telescope with the pipe-sections, of a seam-joint in said end sections consisting of tongues struck up from both the overlapping edges of said sections, the tongues of the inner section projecting through the corresponding apertures of the outer section and bent down upon the outer section, and the tongues of the outer section bent down upon the inner section in rear of the tongues of the latter, substantially as described.

In testimony whereof I have hereunto set my hand.

FERDINAND DIECKMANN.

Witnesses:

LOUISA DIECKMANN,
GEO. J. LINDEMANN.