

F. DIECKMANN.

Improvement in Stove Pipe Elbows.

No. 121,341.

Fig. 1.

Patented Nov. 28, 1871.

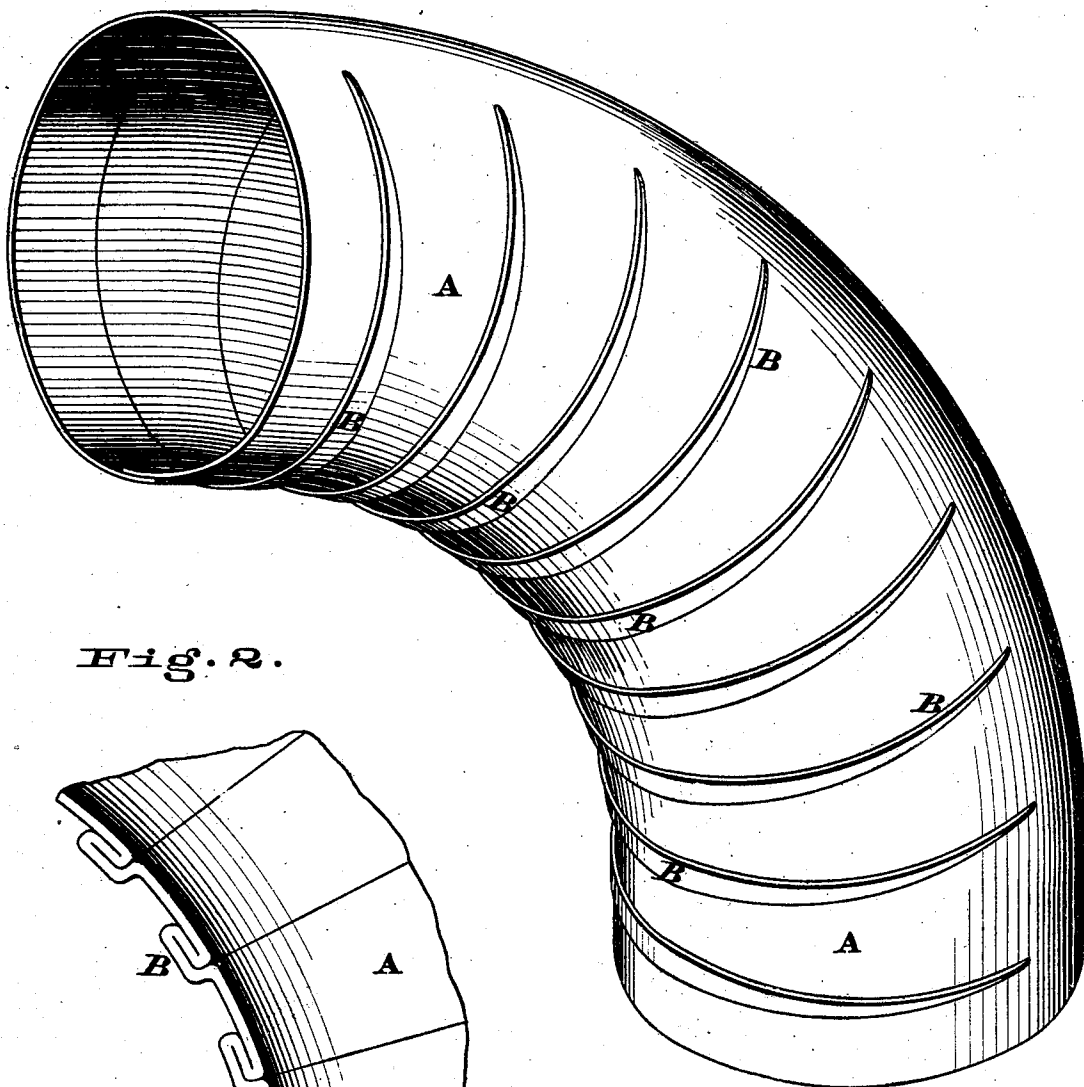


Fig. 2.

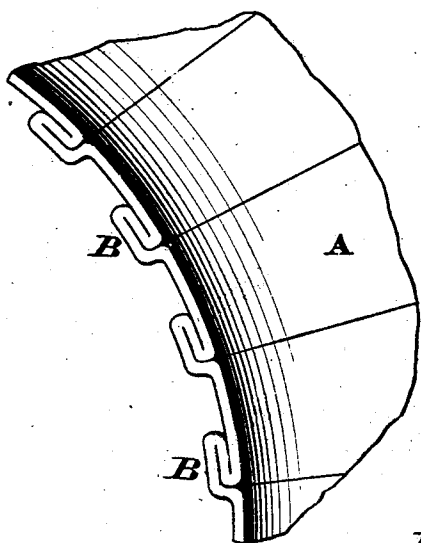
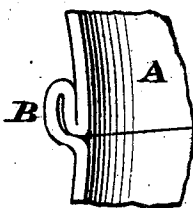


Fig. 3.



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FERDINAND DIECKMANN, OF CINCINNATI, OHIO.

IMPROVEMENT IN STOVE-PIPE ELBOWS.

Specification forming part of Letters Patent No. 121,341, dated November 28, 1871.

To all whom it may concern:

Be it known that I, FERDINAND DIECKMANN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Pipe-Elbows, of which the following is a specification:

This is an improvement in the class of stove-pipe elbows which, having been first bent out of a single sheet into a cylindrical form, are afterward curved longitudinally into the form of a quadrant or other circular arc by imparting to the pipe a succession of crimps or folds; and my invention consists in constructing the crimps in the form of seams lying flat down upon the body or surface of the elbow. I thus produce an elbow of much greater strength and durability, and prevent the possibility of the seams opening under changes of temperature. It has also a better and more finished appearance, with less liability to catch dust, and with greater facility of cleaning than is possessed by elbows whose crimps project rectangularly from the surface.

In the accompanying drawing, Figure 1 is a perspective view of a stove-pipe elbow embodying my invention. Fig. 2 is a longitudinal section through a portion of the elbow on its concave side. Fig. 3 is a section showing a modification of my crimp.

A is the stove-pipe elbow, of sheet-iron or other sheet metal. B are the crimps on the inner curve thereof, and which, collectively, go to form the said curve. The said crimps are deepest at the middle of the inner curve, and thence decrease, as shown in Fig. 1, so as to embrace somewhat more than the semi-circumference of the elbow. Each crimp, instead of projecting at right angles, is, by means of suitable machinery, (which I desire to make the subject of a separate patent,) lapped and folded down flatly upon the surface of the elbow, as shown in the drawing.

This crimp is obviously much stiffer and more unyielding in a longitudinal direction than one which merely projects rectangularly from the

pipe surface. The latter is liable to become opened out by any considerable strain upon the elbow, and gradually opens spontaneously each time it becomes hot, by reason of the inner surface heating more rapidly.

The crimp in my elbow is simply lapped, without projecting at right angles at any stage of the operation, and I thus avoid the severe stretching and straining of the metal which occur in forming vertical crimps. My invention also admits of considerable variation in the number and width of the crimps. This variation is impracticable in making the vertically-crimped elbows referred to, because, on the one hand, the depth of the crimps is limited by the extent to which the iron can be stretched, and, on the other hand, the number and consequent nearness of the crimps are limited by the necessity of leaving room for the crimping-tool to work between them. My invention is also superior in that it is not limited in its application to the best and most costly qualities of sheet-iron, but may be applied to any sheet-iron which is commonly used in the manufacture of pipes and elbows. This results from the fact that the crimps, in course of formation under my process, are not at any stage projected vertically from the surface of the elbow, but are seamed by forcing the edge of one annular crimping-tool beneath another, so as to slip and fold the body of the iron upon itself, as shown. If desired, a convex form may be given to the crimp, as in Fig. 3, or the crimp may be hollowed inward, or may be lapped equally in both directions, or even internally instead of externally.

I claim as my invention—

A pipe-elbow, produced by means of a succession of flat crimps or seams, B, in the form and manner herein represented and described.

FERDINAND DIECKMANN.

Witnesses:

OCTAVIUS KNIGHT,
WALTER ALLEN.

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