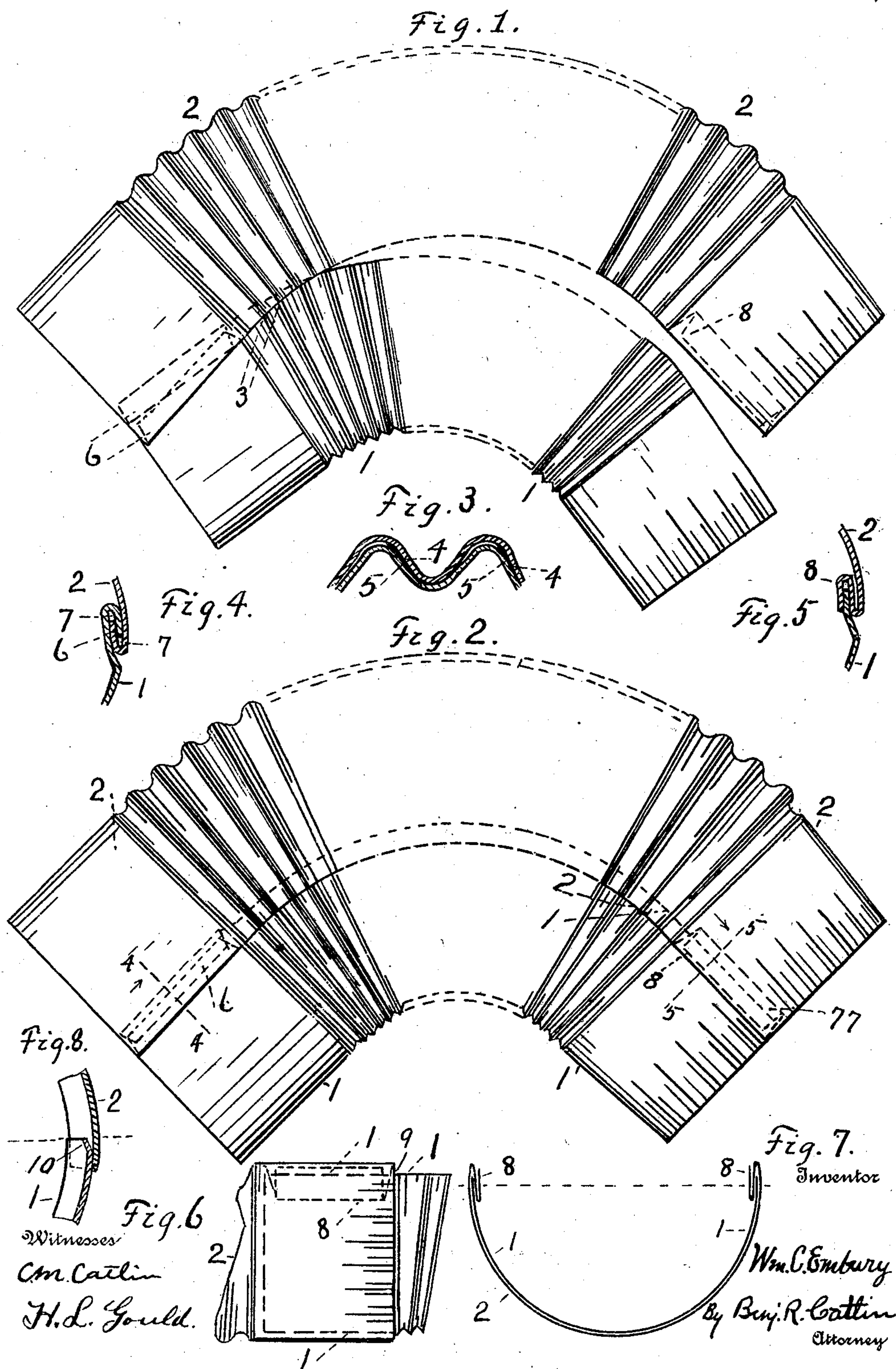


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W. C. EMBURY.
STOVEPIPE ELBOW.
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UNITED STATES PATENT OFFICE.

WILLIAM C. EMBURY, OF ROCHESTER, NEW YORK.

STOVEPIPE-ELBOW.

No. 847,049.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM C. EMBURY, a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Stovepipe-Elbows; 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 pertains to make and use the same.

This invention relates to stovepipe-elbows comprising sections, and has for its object to provide an elbow composed of sections that can be coupled and secured together to form a complete elbow without the use of tools and that will permit nesting of a series of sections in a compact manner, and to provide for economical manufacture and to secure other advantages.

The invention consists in the construction hereinafter described and pointed out.

In the accompanying drawing, which shows the invention and forms a part of this specification, Figure 1 is a side view of the elbow-sections in position for engagement, but not engaged. Fig. 2 is a side view of the same with the sections engaged. Fig. 3 is a section, on an enlarged scale, through a plurality of adjacent corrugations where they overlap. Figs. 4 and 5 are enlarged sections on lines 4 4 and 5 5, respectively, of Fig. 2. Fig. 6 is a partial side view of the section coupled end to end preparatory to nesting. Fig. 7 is a diagrammatic view showing the smaller ends of sections engaged for nesting, the crimping of the ends being omitted; and Fig. 8 is a partial section of a detail.

The elbow comprises two sections transversely corrugated, as indicated in the drawing, and adapted to be engaged and fastened together by entering the corrugated edge of one section within the similar edge of the other. This is effected, preferably, by entering or partially entering a part of the corrugations of the inner or shorter section at one end and on one edge thereof into those of the other edge and then by suitable manipulation of the sections springing the remainder together and into engagement. To enable this to be done, use is made of the elasticity of the corrugated metal.

The inner section, by preference, is formed of a blank approximately half an inch narrower for a five-inch pipe than the blank used for the outer section 2, the result being that the corrugations of the sections when placed

edge to edge do not exactly register, but are situated as indicated most clearly in Fig. 1; but preferably the blank for section 1 forms a body slightly larger than half the pipe.

The departure from a true registry being small, a few opposing corrugations on two contiguous edges can be engaged, as indicated at 3, and the others thereupon can be caused by the compression and springing of the sections to engage. Preferably the edges of the inner section will be sprung into those of the other one, though this is not essential.

When properly assembled, the sections are engaged as indicated in Fig. 2. In such situation the faces 4 of one series of corrugations bear against faces 5 of corresponding corrugations on the opposite section, and their friction and the lock, owing to the wedge shape of the overlapping corrugations, are sufficient to hold the parts together. To separate the sections, the faces 4 can be slid up and over faces 5 in succession, beginning at one end. As a further means of holding said sections together folds 6 on the larger end of the elbow-sections may engage each other, as represented. These are made of such dimensions, respectively, that normally the edge of one fold stops short of entering to the bottom of the space provided by the opposite fold, as indicated at 7, whereby it is provided that the engaged folds do not prevent slightly springing or expanding the elbow end, as may be required, to receive the end of another pipe length.

At the smaller end of the elbow, 8 denotes a double fold on each inner edge of the outer section adapted to receive an edge of the inner section. Normally this latter edge will not extend to the bottom of the double fold (see 77, Fig. 2,) but can be made to do so by compression of the elbow end, if required, to facilitate entering it in another pipe length.

The above-described folds, by preference, extend to or nearly to the transverse corrugations. The construction is such that the elbow-sections can be placed end to end with their concave sides in the same direction (see Figs. 6 and 7) and made to overlap with the folds engaged, as shown at 9 in Fig. 6 and indicated diagrammatically in Fig. 7, thus providing a convenient arrangement for "nesting" the sections and one that economizes space to the extent of the lap. For nesting, section 1 enters between the body of section 2 and its double folds; but in forming a complete elbow it enters the spaces of the

double folds nearest the pipe or elbow axis. It will be obvious that two sections approximately like those shown and described, but having exactly similar corrugations registering throughout their full extent lengthwise the section edges, could not be engaged by entering one series of corrugations within the other by reason of the curvature of the sections and the consequent divergence of corrugations at opposite ends of each section. I have discovered that this obstacle may be overcome by the springing of one section into engagement with the other, said sections being corrugated in the manner herein shown and described.

Either section (1 or 2) may be a little over a semicircle in cross-section, or both sections may each be over a semicircle in cross-section, and either section 1 or section 2 may be wider in cross-section than the other.

To facilitate putting the sections together, the highest points or apices of the corrugations of one section to be entered under corresponding corrugations of the other section can, if desired, be bent down, as indicated at 10 in Fig. 8.

Having thus described the invention, what I claim is—

1. A stovepipe-elbow comprising two transversely-corrugated sections, the corrugations of one section being entered within those of the other at both sides of the elbow and the corrugations thus combined extending entirely around the elbow.

2. A stovepipe-elbow comprising two transversely-corrugated sections, the corrugations of one section being entered within those of the other, said corrugations having similarly-situated coacting faces bearing against each other and opposing separation

of said sections lengthwise the elbow, said corrugations being wider on the outer than on the inner side and the combined corrugations occupying the entire surface of the elbow except the ends.

3. In a stovepipe-elbow, an inner and an outer section, the sections being corrugated transversely except at their ends, the corrugations of the sections being adapted to be engaged about midway between the smaller and larger longitudinal curves of the elbow.

4. In a stovepipe-elbow, an inner section with tapering or wedge-shaped corrugations, an outer section with similar wedge-shaped corrugations, the wider parts of the corrugations on the inner section engaging the narrower parts of the corrugations on the outer section, the sections having end securing means.

5. In a stovepipe-elbow, an inner section with approximately radial corrugations, an outer section with similar corrugations, said corrugations not registering when the edges of the sections are placed side by side, the sections being adapted to yield or spring to bring such corrugations into engagement.

6. A stovepipe-elbow comprising two transversely-corrugated sections, the corrugations of one section being suitable to enter within those of the other, said sections having folded parts at their ends adapted to be assembled endwise to provide for nesting the sections of a plurality of elbows.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM C. EMBURY.

Witnesses:

E. E. EMBURY,
L. A. WALKER.