(No Model.) 3 Sheets—Sheet 1.

I. L. LANDIS.

METALLIC CURBING.

No. 457,886. Patented Aug. 18, 1891.

Fig. 1.

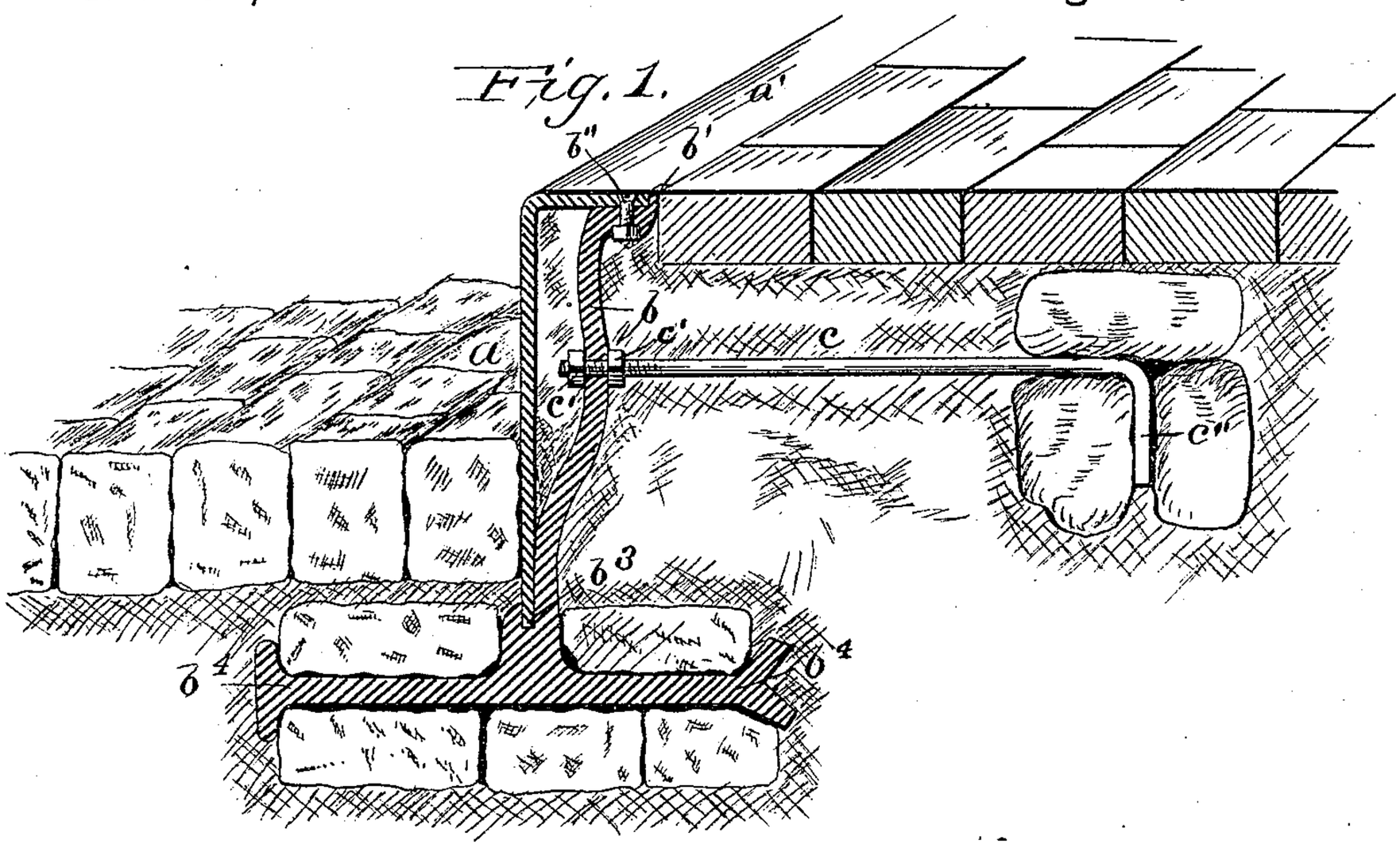

Fig. 2.

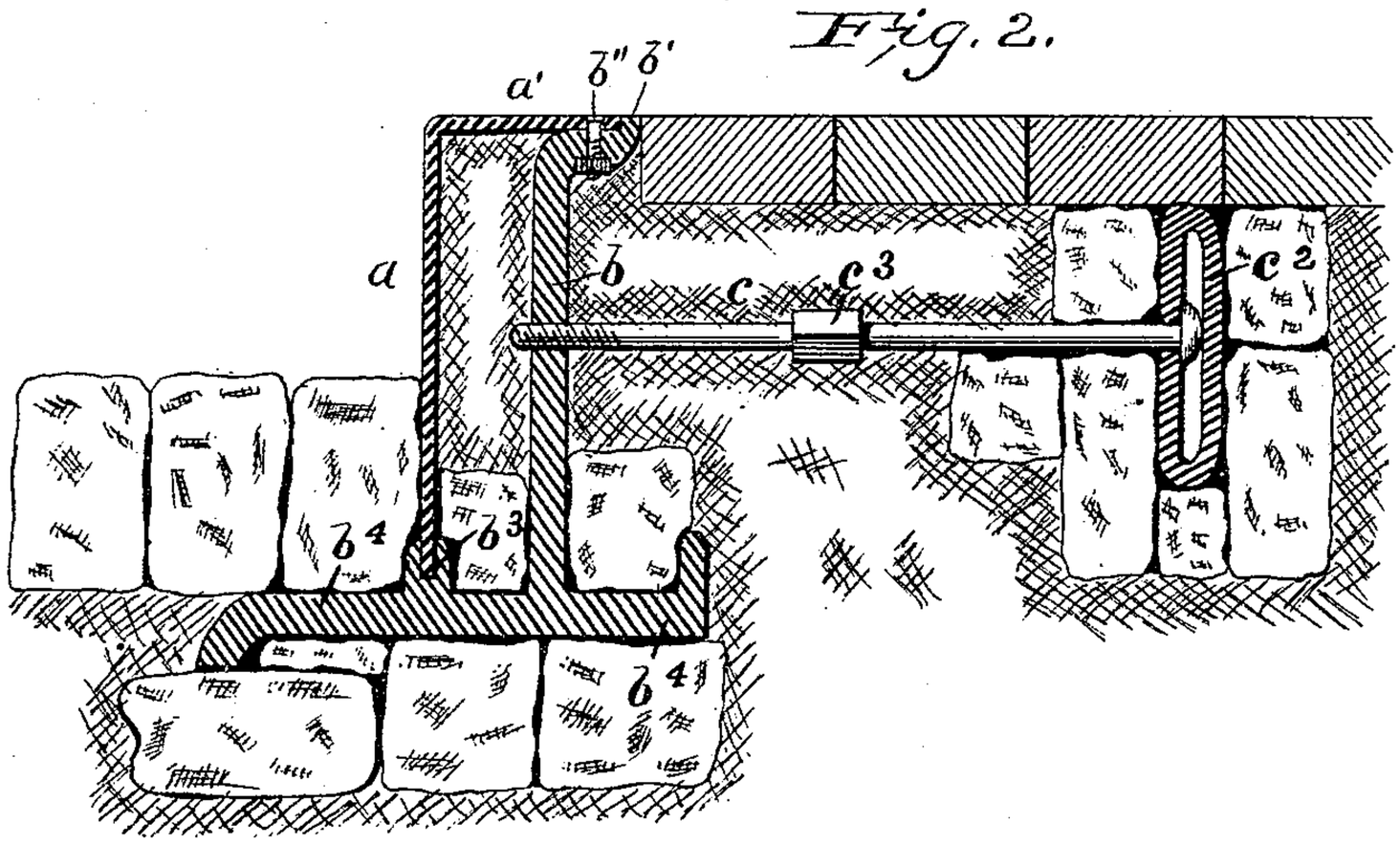

Fig. 3.

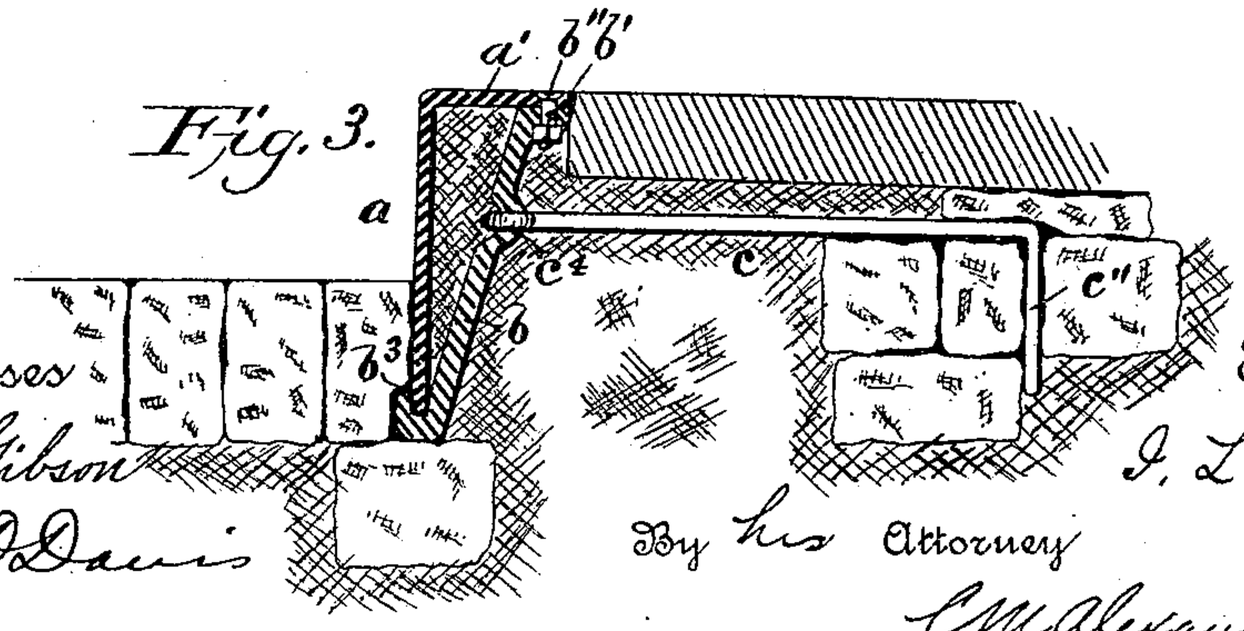

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Fig. 4.

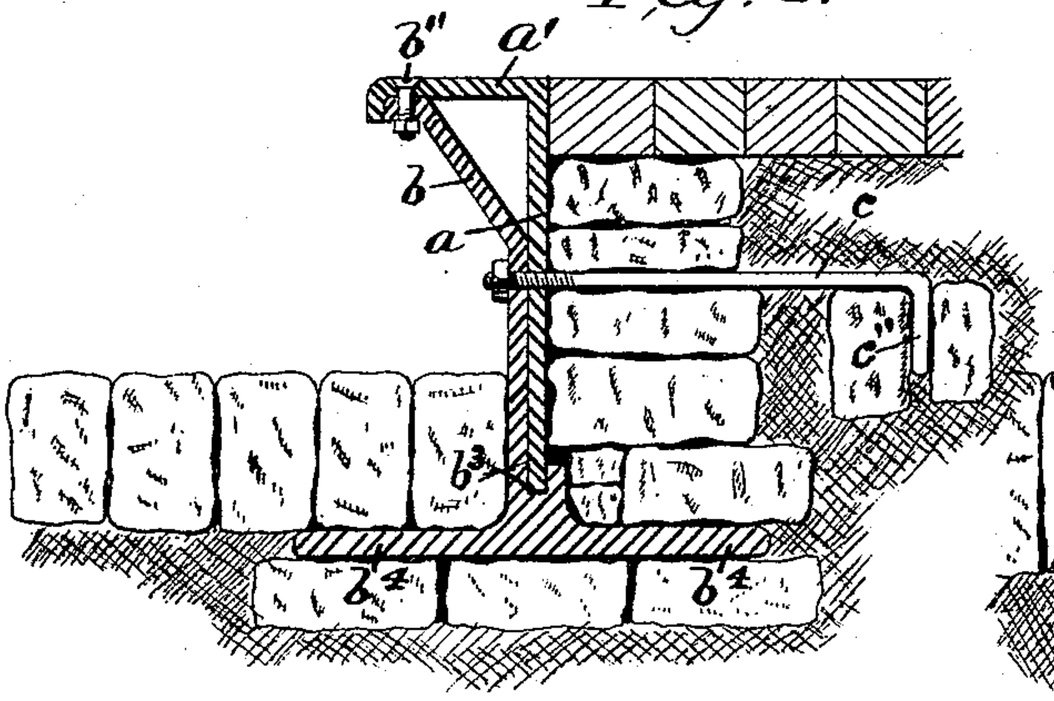


Fig. 5.

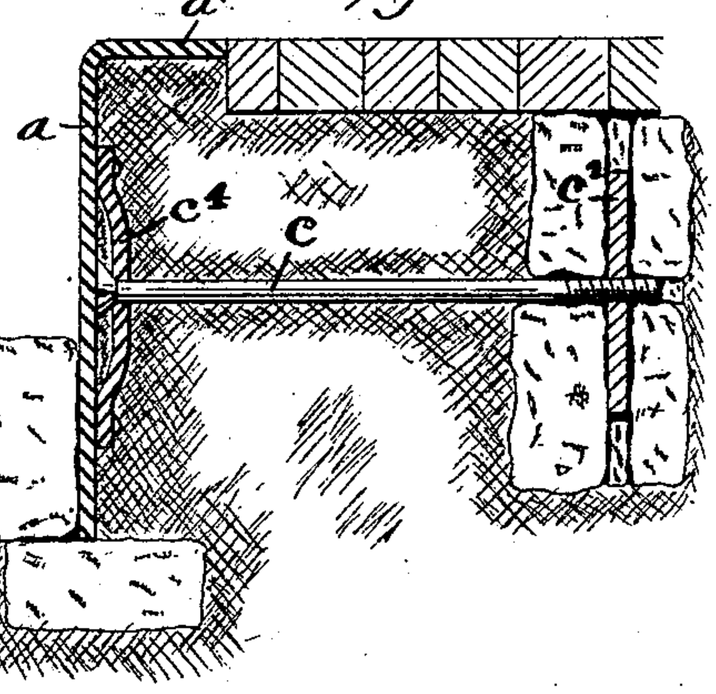


Fig. 6.

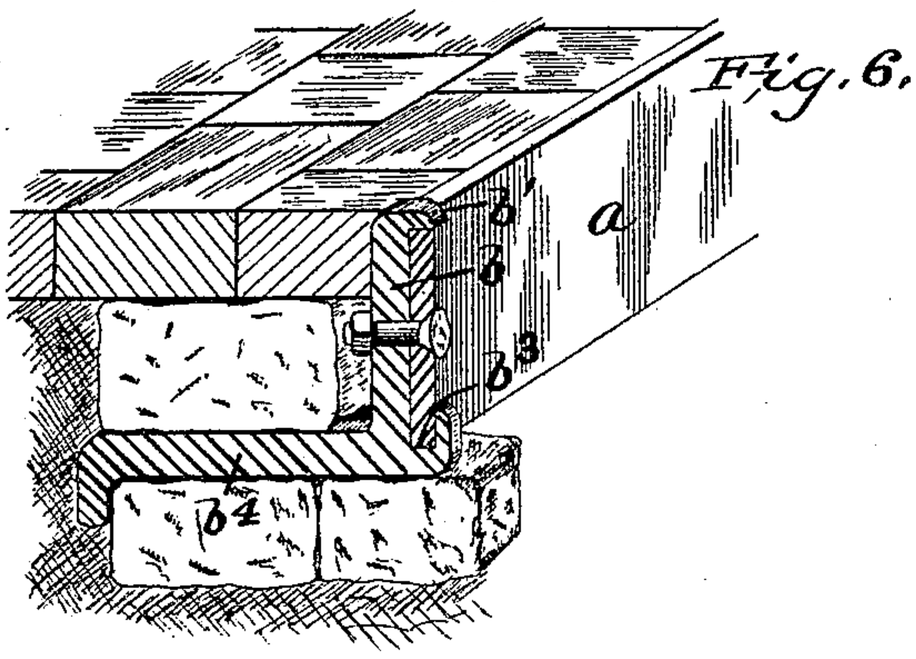


Fig. 7.

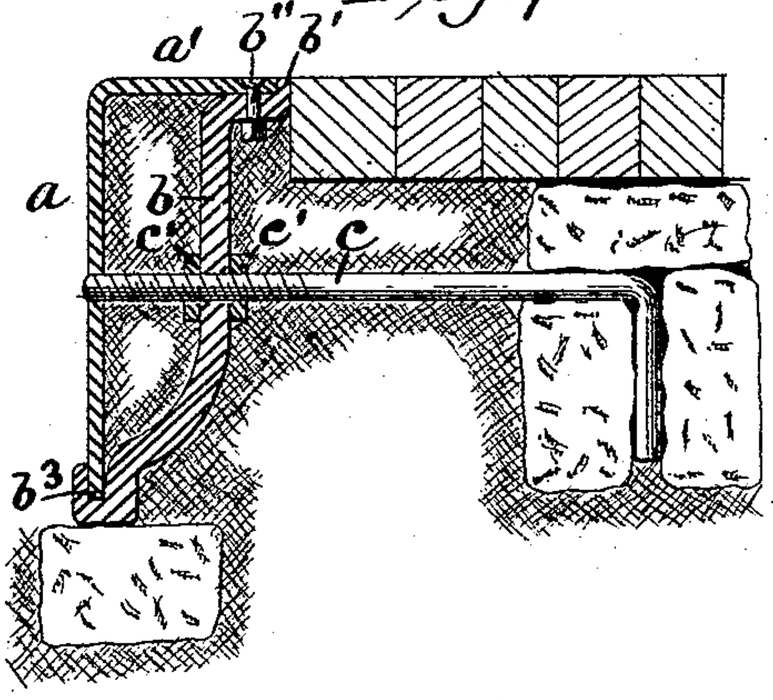


Fig. 8.

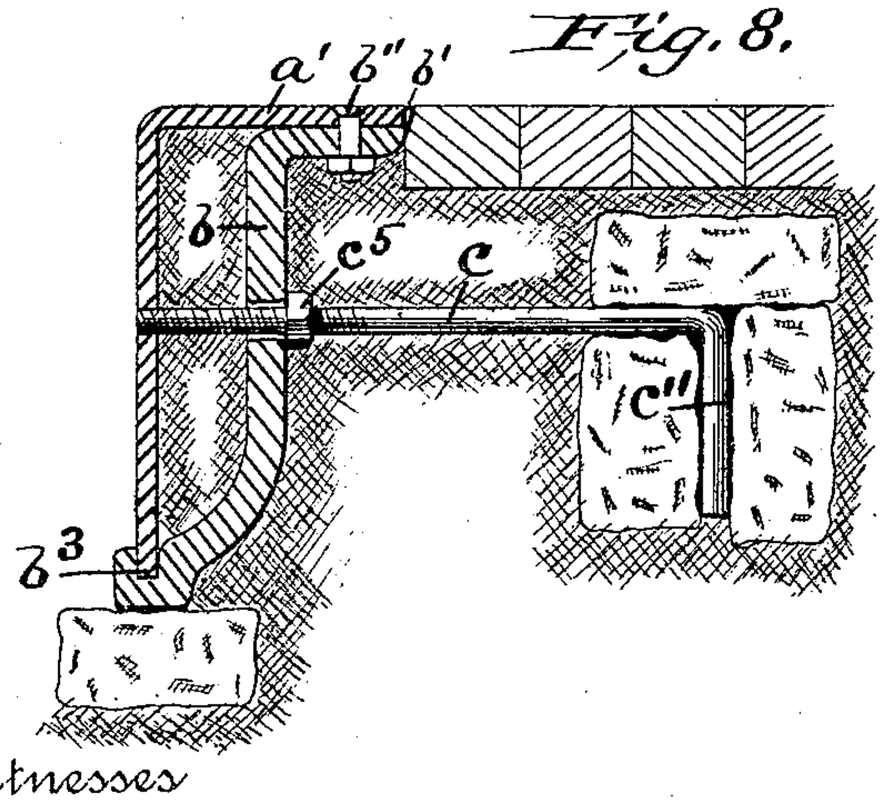
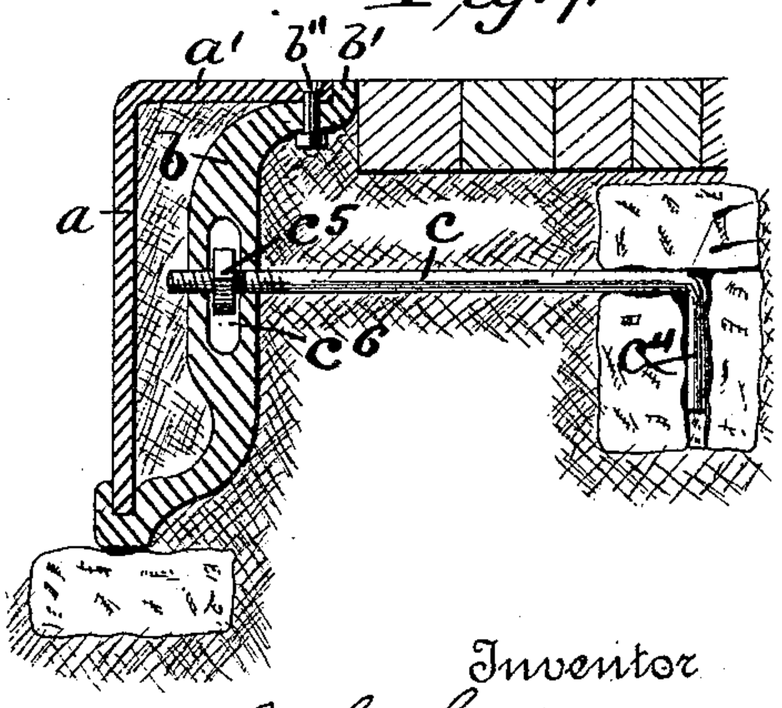


Fig. 9.



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(No Model.) 3 Sheets—Sheet 3.

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Fig. 10.

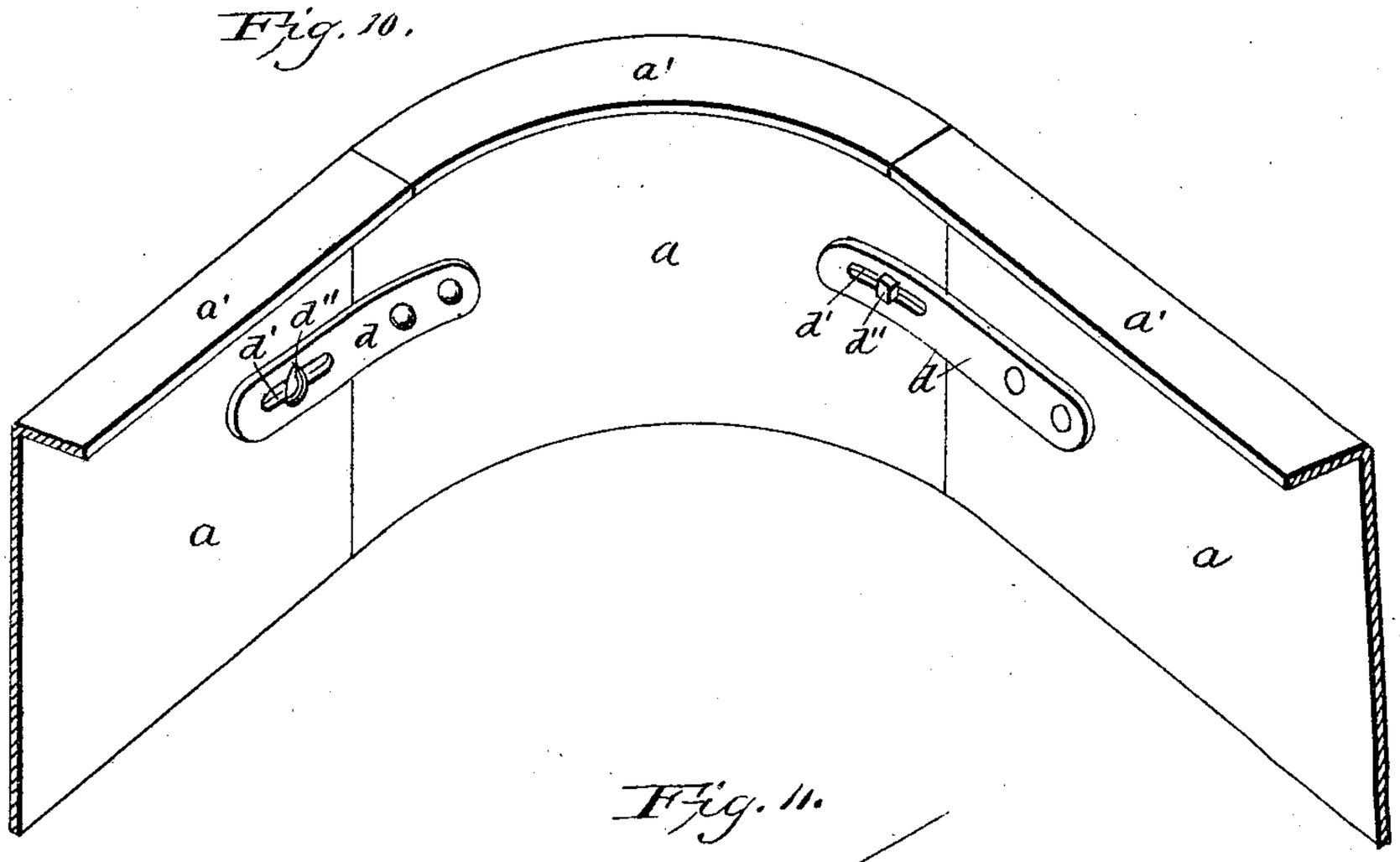
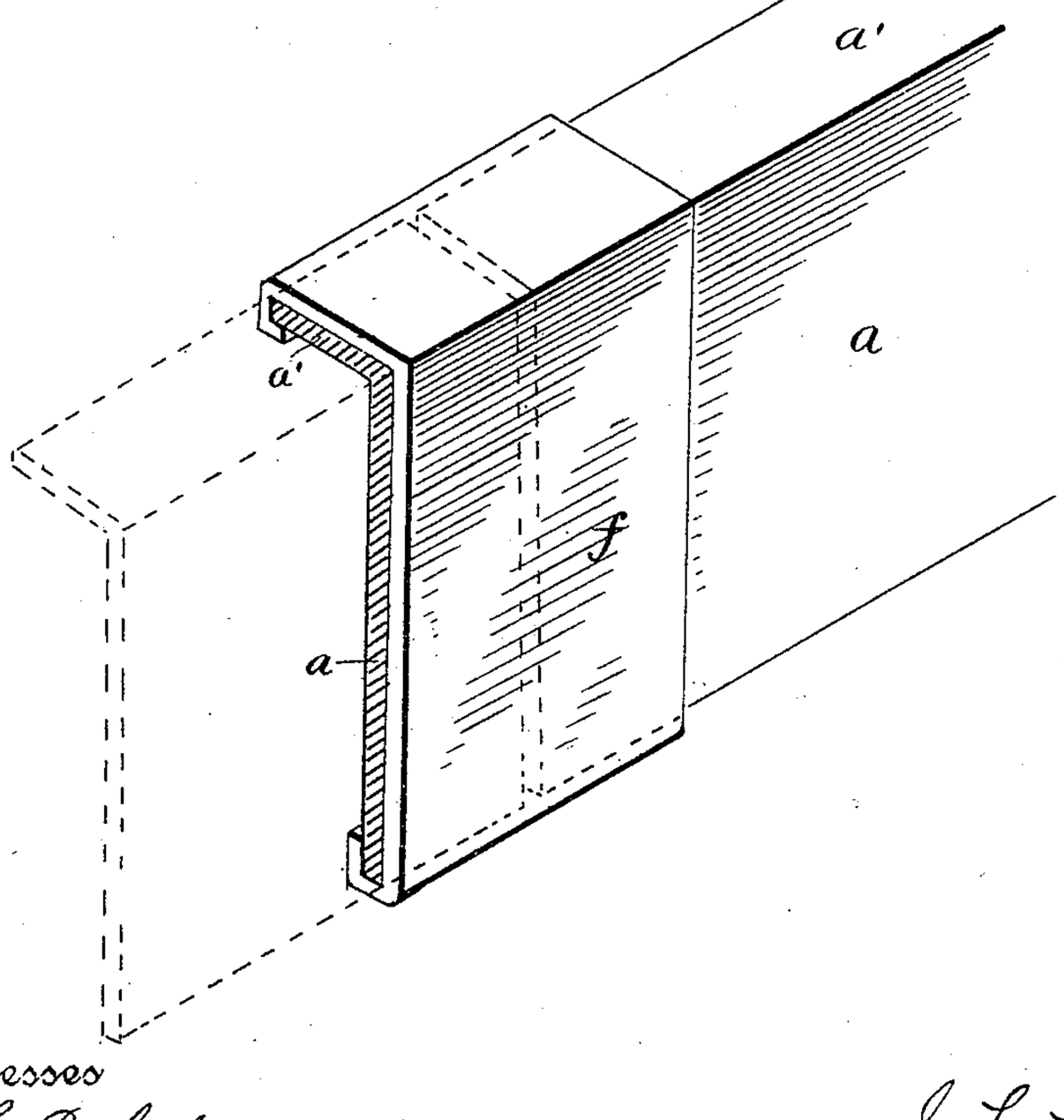


Fig. 11.



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UNITED STATES PATENT OFFICE.

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METALLIC CURBING.

SPECIFICATION forming part of Letters Patent No. 457,886, dated August 18, 1891.

Application filed November 13, 1890. Serial No. 371,307. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL L. LANDIS, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Curbing, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a transverse sectional view of my improved metallic curbing, showing portions of the adjoining road-bed and sidewalk; Figs. 2, 3, 4, 5, 6, 7, 8, and 9, similar views of modified forms thereof; Fig. 10, a perspective view showing the manner of connecting the straight curbing to the corner sections, and Fig. 11 a detail perspective view of another form of connecting the adjoining ends of the sections.

The invention has for its object the production of improved and simple means for supporting and adjusting metallic curbing; and it consists in certain novel features and combinations that will be fully hereinafter described, and particularly pointed out in the claims appended.

In the drawings annexed, *a* designates the sheet-metal curbing, which may be either rolled or cast, and which is preferably made in long sections suitably secured together at their adjoining ends. The lower edge of the curbing extends below the surface of the road-bed a suitable distance, and its upper edge *a'* is bent at right angles and turned inwardly toward the sidewalk.

Secured to the back of the curbing at suitable points throughout its length are supporting arms or brackets *b*, the upper ends of which are bent horizontally, so as to fit against the under side of the angle portion or flange *a'* of the curbing. The upper ends of these arms *b* are provided with upwardly-extending lugs *b'*, which extend up behind the inner edge of the flange *a'* and preferably rest in notches in the same. Bolts *b''* pass down through the flange *a'* and through the upper horizontal portions of the brackets *b*, and serve to securely bind the parts together, the nuts of the bolts resting between suitable lugs upon the under sides of the arms *b*, so as to prevent their turning. The lower ends of the supports *b* are provided with sockets b^3 for the reception of the lower edge of the curbing, thereby preventing the latter from tilting independently of the brackets. The lower ends of the brackets are provided with oppositely-projecting arms b^4 b^4, which are buried in the ground between suitable stones, and thereby serve to anchor the curbing. The ends of these arms may be bifurcated or provided with lugs to further secure them against movement. An anchoring-rod *c* is adjustably connected to the bracket *b* by means of two nuts *c'* *c'*, tapped upon it and bearing upon opposite sides of the same, the rod passing through an opening in the bracket. This rod extends back under the pavement and has its inner hooked end *c''* firmly embedded and anchored between suitable stones laid in the earth. The brackets serve to steadily and firmly support the curbing and prevent it being displaced or tilted one way or the other, and also prevent sinking, thereby preventing the curbing-sections from getting out of alignment with each other. By means of the adjusting anchoring-rods the sections may be adjusted inward or outward, as the exigencies may require, thereby enabling them to be readily set in alignment with each other when erected.

In Fig. 2 the bracket is substantially the same in form as that shown in Fig. 1; but the adjusting anchoring-rod is slightly different. In this form the outer end of the rod is tapped in the bracket and its inner headed end is swiveled in a plate c^2, firmly anchored in the earth under the sidewalk. By turning the rod by means of wrench applied to an enlargement or nut c^3 on the same the curbing may be adjusted inward or outward, as may be required.

In the form shown in Fig. 3 the bracket is substantially the same, except that it is not provided with any lateral anchoring-arms, but has its lower end provided with the socket b^3 and rests upon suitable stones set in the earth. The anchoring-rod in this view is not adjustable, it being connected to the arm by means of a hook or eye, as shown.

In the form shown in Fig. 4 the curbing is reversed, so that its horizontal flange *a'* projects outwardly and overhangs the gutter, and the outer edge of this horizontal flange is preferably provided with a longitudinal

depending flange for the purpose of strengthening it. The upper end of the bracket fits up under the flange a' and is bolted thereto, while the lower portion of the bracket or arm lies close against the outer face of the curbing and is bolted thereto by the outer threaded end of the anchoring-rod c, the outer end of this rod passing through the curbing and the bracket and being provided with a nut, as shown.

In the form shown in Fig. 5 the outer end of the anchoring-rod is swivelly connected to the curbing by a plate c^4, riveted or bolted thereto, and its inner end is tapped in a plate c^2, anchored in the earth, whereby by simply turning the rod by means of a pipe tongs or wrench the curbing may be readily adjusted in or out. In this form the bracket is entirely done away with.

In the form shown in Fig. 6 the curbing is not flanged, but consists simply of a flat plate embraced by the anchoring-brackets and bolted thereto. The brackets are provided with only one foot b^4, and no anchoring-rods are employed.

In the form shown in Fig. 7 the bracket is constructed substantially as the one in Fig. 1, except that it is not provided with the lateral anchoring-arms b^4. The anchoring-rod is secured into threaded holes in the bracket and curbing, thereby securely clamping the same together and increasing the firmness of the curbing.

In the form shown in Fig. 8 the construction is the same as that shown in Fig. 7, except that the adjusting-rod is differently connected to the curbing. In this instance the outer threaded end is passed loosely through an aperture in the bracket and tapped into a threaded opening in the curbing, and is provided with a clamping-nut c^5, which bears against the rear side of the bracket and serves to securely clamp the same to the curbing.

In the form shown in Fig. 9 the bracket is provided with a vertical slot c^6 for the reception of a nut c^5, which is tapped on the threaded anchoring-rod. The rod passes through threaded holes in the bracket, and the nut serves to bind and hold the parts in their adjusted positions.

In Fig. 10 one manner of connecting the curb-sections together is shown. In this view plates d are riveted or bolted to one section and extend across the joint and lap over the adjoining section, the overlapping ends being provided with horizontal longitudinal slots d', through which bolts d'' are passed to connect the plates to the adjoining sections. The plates d are malleable, so as to be readily bent to suit or conform to the angle formed by the adjoining plates or curbings. In this way the curb-sections may be readily connected together, no matter what may be their angles with respect to each other. In Fig. 10 the curb-sections are shown connected to a curved corner-section.

In Fig. 11 the adjoining ends of the curb-sections are shown connected by means of a plate f, bent to conform to the front and top of the curbing and having its edges turned so as to embrace the upper and lower edges of the curbing. This sleeve covers the joints and keeps the sections in alignment and permits them to expand and contract freely.

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

1. The combination of a metallic curbing having its upper edge turned inwardly to form a horizontal flange, a bracket secured to the inner side of the curbing and having its upper end bolted to the under side of the flange of the curbing and its lower end formed into a socket for the reception of the lower edge of the same, and an anchoring-rod attached to this bracket and extending back under the sidewalk, substantially as described.

2. The combination of a metallic curbing provided with a horizontal flange along its upper edge, a metallic bracket secured to the curbing, the upper end of this bracket being bent horizontally and bolted to the flange of the curbing and its lower end formed into a socket adapted to embrace the lower edge of the same, and anchoring-arms extending into the adjacent earth, substantially as and for the purposes described.

3. The combination of a metallic curbing flanged at its upper edge, a cast bracket secured to the curbing and having its upper edge embracing and bolted to the flange of the same and its lower end formed into a socket for the reception of the lower edge of the curbing, this bracket being provided with anchoring-arms at its lower ends, adapted to enter the adjacent earth, and an anchoring-rod adjustably connected to the bracket, substantially as described.

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

ISRAEL L. LANDIS.

Witnesses:
CHAS. D. DAVIS,
ALEX. J. STEUART.