(No Model.) 2 Sheets—Sheet 1.

I. L. LANDIS.

CURBING AND GUTTER.

No. 442,060. Patented Dec. 2, 1890.

Fig. 1.

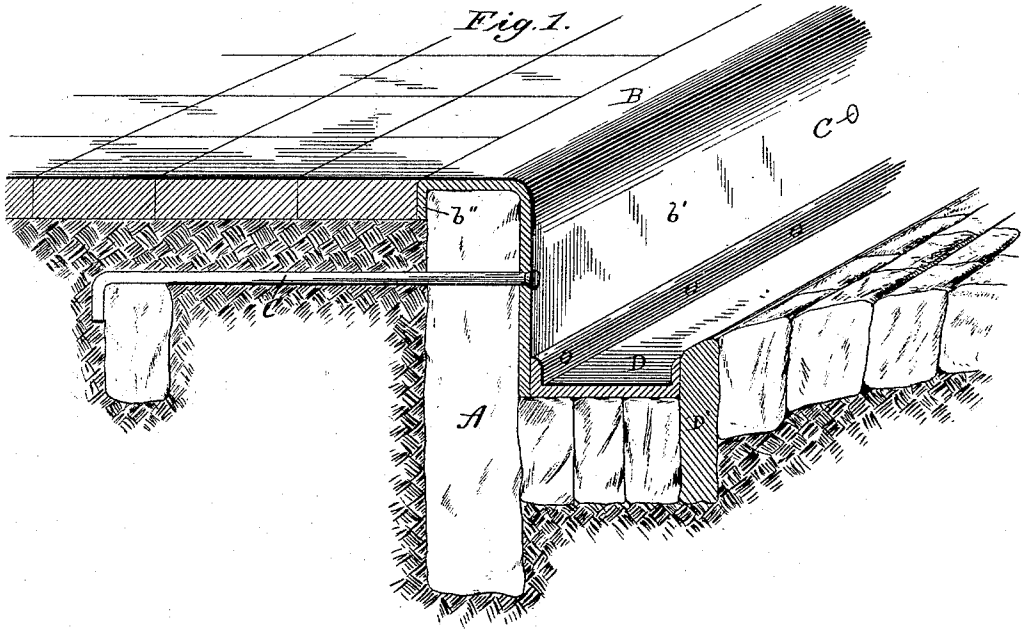


Fig. 2.

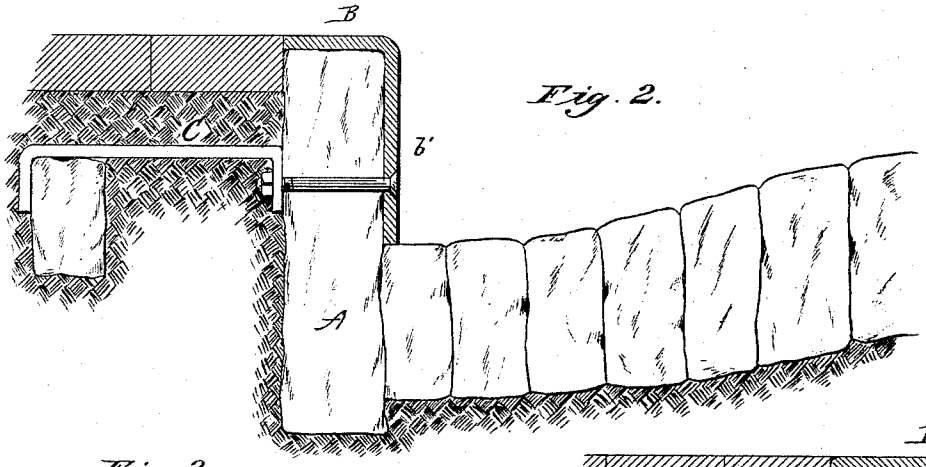


Fig. 3.

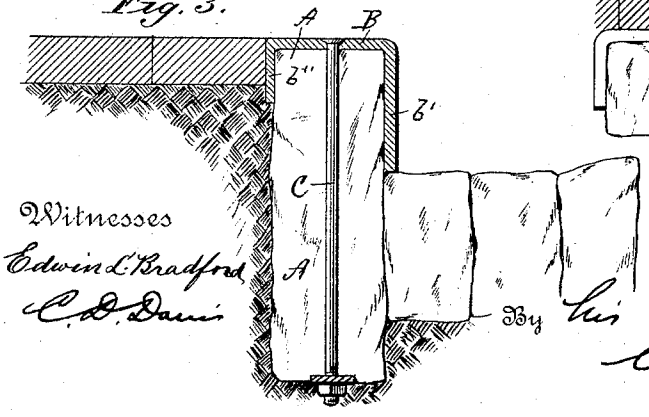
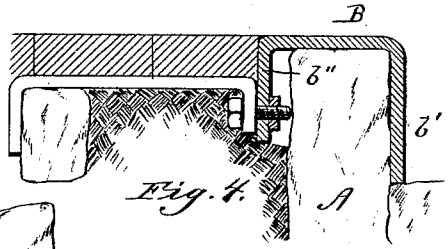


Fig. 4.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

I. L. LANDIS.

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Fig. 5.

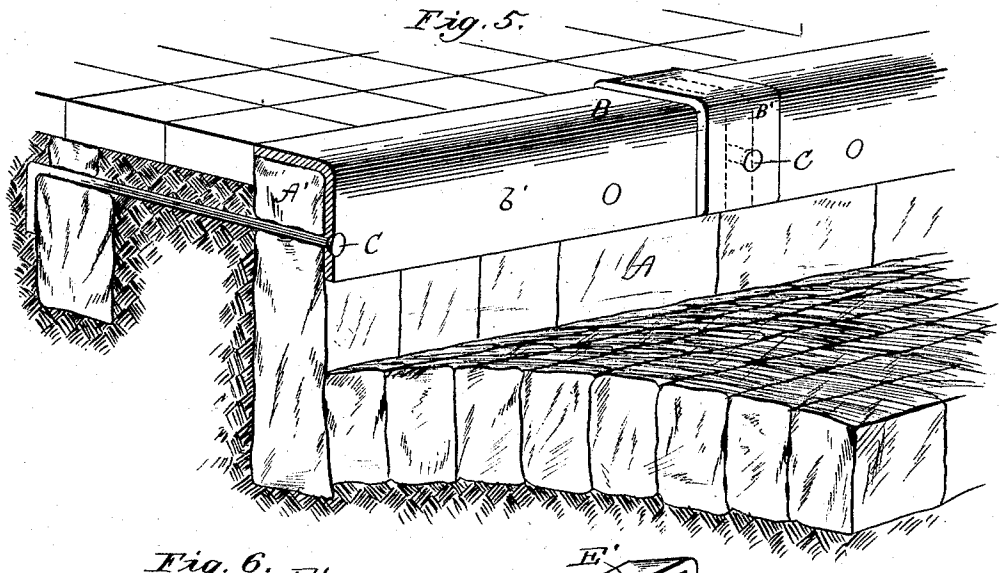


Fig. 6.

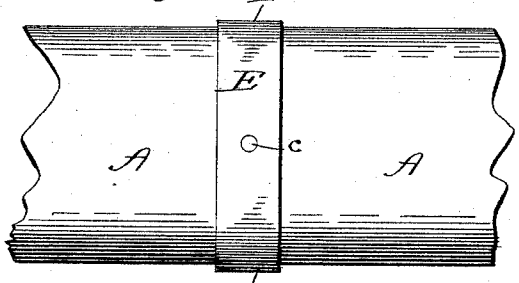


Fig. 10.

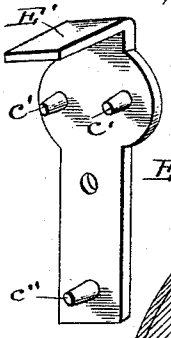


Fig. 9.

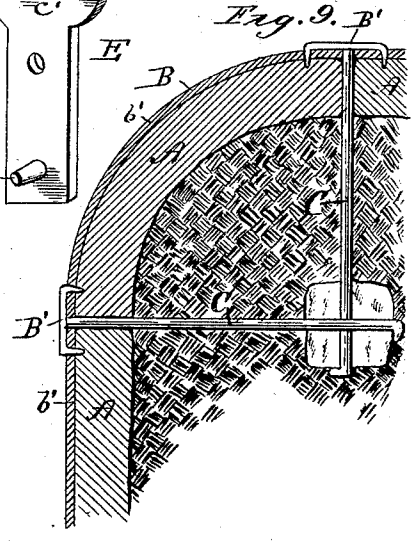


Fig. 7

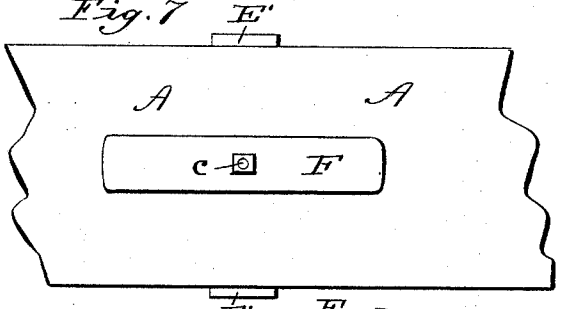
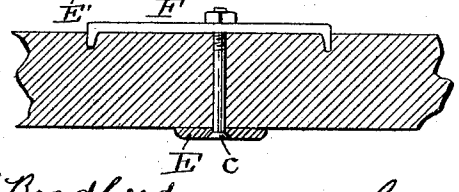


Fig. 8.



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UNITED STATES PATENT OFFICE.

ISRAEL L. LANDIS, OF LANCASTER, PENNSYLVANIA.

CURBING AND GUTTER.

SPECIFICATION forming part of Letters Patent No. 442,060, dated December 2, 1890.

Application filed June 5, 1890. Serial No. 354,345. (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 Curbing and Gutters; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 represents a perspective and sectional view of my improved curbing and gutter; Fig. 2, a sectional view of a modified form with the gutter omitted; Figs. 3 and 4, sectional views showing additional features; Fig. 5, a perspective and sectional view showing principally the manner of connecting the adjacent metallic sections; Figs. 6, 7, and 8, detail views of the device for holding the ends of the curbstones in alignment; Fig. 9, a horizontal sectional view showing the manner of connecting the corners of the curbs, and Fig. 10 a detail perspective view of another form of the device for connecting the adjacent ends of the stones.

The object of the invention, mainly, is to provide curbstones with metallic caps or copings, whereby they are kept from tilting one way or the other, and a neat, durable facing and wearing-plate presented, as will more fully hereinafter appear.

The invention has other minor objects in view, which will appear in the course of this specification.

In the annexed drawings, A designates the sections of the ordinary curbstones, which are set in the usual manner, and form abutments for the stones of the road-bed and sidewalk. Over the upper edges of the curbstones is placed a strip or plate of sheet or angle iron B, the front depending flange *b'* extending down, preferably, to the stones of the gutter and covering the entire front face of the curbstones. The inner edge of the strip may be provided with a depending longitudinal flange *b''*, which comes between the curbing and the adjacent blocks of the sidewalk, as shown in Figs. 1, 3, and 4. These strips or copings extend the full length of the curbing and are held in place by anchoring rods or bolts C, which pass in between the sections of the same and are suitably anchored under the sidewalk. The adjacent ends of the metallic strips are preferably clamped to the face of the stones by an overlapping plate B', (shown in Fig. 5,) which is secured in place over the joint by one of the anchoring-rods, which latter passes in between the strips B and stones A, under the sidewalk. Sufficient space is left between the ends of the copings to permit them to expand and contract freely, as shown in dotted lines in Fig. 5. A gutter D, made of channel-iron, may be riveted to the lower longitudinal edge of the front portion *b'*, and have its outer upturned edge or flange bearing against a block D' of the road-bed. The outer flange of the gutter may be omitted and stones D' utilized as the outer wall of the gutter, as is evident.

As shown in Fig. 2, the anchor-rods C may be connected to short bolts passed between the sections of curbing and through the portion *b'* of the coping. Instead of passing the securing rods or bolts C from the front inward under the sidewalk, they may be passed down vertically between the curbing-sections, as shown in Fig. 3.

As shown in Fig. 4, set screws or bolts may be tapped into the inner depending flange *b''*, so as to bear against the inner face of the curbstones, and thereby clamp and hold the same in place and prevent tilting or sinking. This feature is also important in that it will permit of narrower curbs being used in connection with the coping. The anchoring-rods C may be connected to these set-screws, if desired, as shown in this figure.

Should it be desired to construct high curbing of vertical blocks or stones, the outer flange *b'* may not be extended down to the gutter, as in the other views. At the corners of the streets where the curbing is curved the metal curbing is curved to conform to the curvature of the same, as shown in Fig. 9, the adjoining ends of the metal sections being clamped in place by the clamps B', connected to suitable anchoring-rods, and provided with lugs that enter recesses in the faces of the metallic copings and stones.

In addition to or in lieu of the metallic cop-

ing B may be employed a plate E to overlap the adjacent ends of the curbstones, as shown in Figs. 6, 7, and 8, this plate being provided with flanges E′ at its upper and lower ends to extend, respectively, over and under the curbs. This plate is held in place by a bolt *c*, passing between the stones and through a bar F on the back of the curbs, this bolt having tapped upon its inner end a nut that serves to clamp the bar upon the back of the stones and hold all the parts together and in place. As shown in Fig. 10, this plate E may be employed without its lower flange E′, and may be provided with inwardly-extending lugs *c′ c″*, to enter recesses in the face of the stones to prevent the adjoining ends thereof from sinking below each other or tilting independently of each other, the stones being thereby held in alignment.

An objection heretofore to the introduction of metallic curbing is that it did not afford a substantial abutment for the stones of the road-bed; but this objection is overcome by retaining the old stone curbing, which affords an abutment for the stones of the road-bed and a support for the metallic curbing. This metallic coping is advantageous in that it presents a smooth and unbroken surface the full length of the curbing, the sections being made as long as desirable and the connecting-clamp being a thin plate, which may have its edges rounded.

The appearance of the metallic coping will be neat and substantial, and it will not be affected by the tilting or sinking of any of the sections of the stone curbing. A further advantage is that the curbstones employed, inasmuch as they are covered and hidden by the metallic curbing, need not be dressed off or trimmed as accurately or smoothly as when no metallic covering is used.

The stones A′ (shown in Fig. 5) are loosely set in on top of the curbstones proper to support the metallic coping when it is desired to raise the level of an old curbing without removing it.

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

1. The combination, with the curbstones, of a metallic curbing fitted over the top, front, and rear of the same, and means for holding said metallic curbing in place, substantially as described.

2. The combination, with the curbstones, of a metallic curbing fitted over the top, front, and rear of the curbstones, and anchoring-rods connected to the metallic curbing and passing between the stones in under the sidewalk, substantially as described.

3. The combination, with the curbstones, of a metallic curbing fitted over the top, front, and rear side of the said stones, and set-screws tapped into the rear depending portion of the metallic curbing and bearing against the stones, substantially as and for the purpose described.

4. The combination of the stones A, the sections of metallic curbing B, fitted over the top and front of the stones, the clamps B′, fitted over the joints between the sections of metallic curbing B, and the anchoring-rods connected to the clamps and extending inward between the metallic and stone sections, as and for the purpose described.

5. The combination of two adjoining curbstone-sections, a plate fitted over the top and front thereof, this plate being provided with lugs adapted to enter recesses in the curbstones, and means for securing this plate in place, substantially as described.

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

ISRAEL L. LANDIS.

Witnesses:
C. D. DAVIS,
C. M. ALEXANDER.