

(No Model.)

F. L. FRY & W. J. FISHER.
ARTIFICIAL STONE PAVEMENT.

No. 530,988.

Patented Dec. 18, 1894.

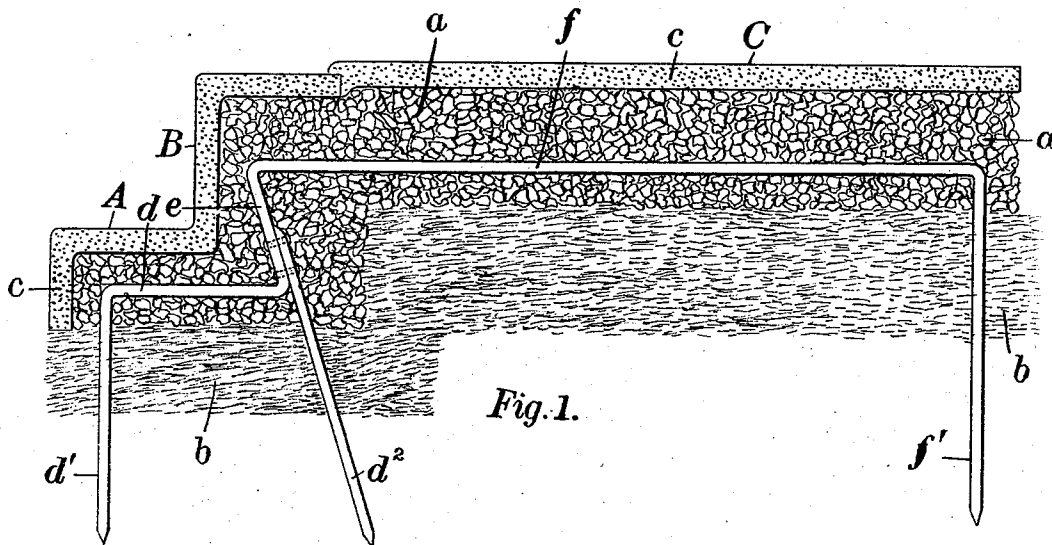


Fig. 1.

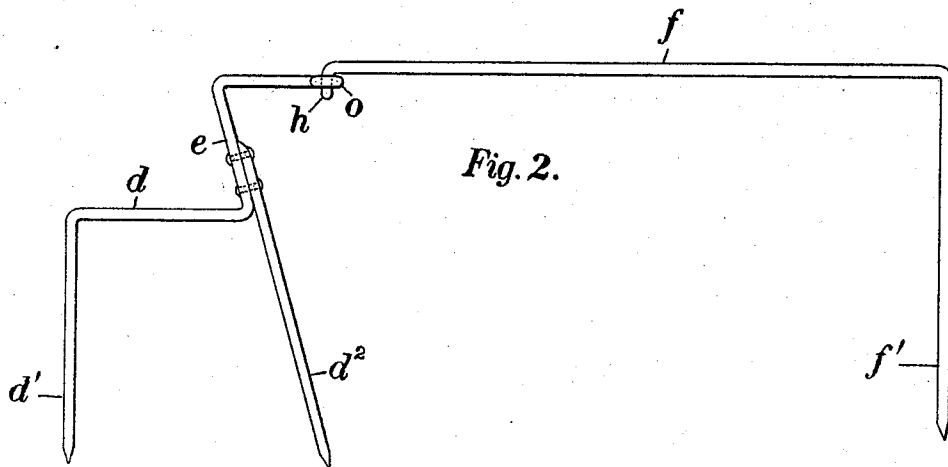


Fig. 2.

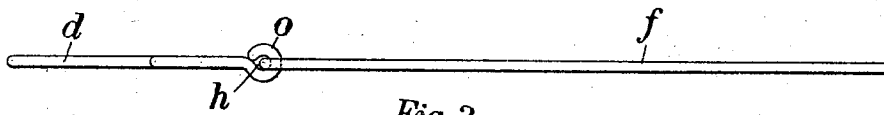


Fig. 3.

Attest:

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UNITED STATES PATENT OFFICE.

FRANK LEWIS FRY AND WILLIAM JAMES FISHER, OF TACONY, PENN-
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ARTIFICIAL-STONE PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 530,988, dated December 18, 1894.

Application filed October 8, 1894. Serial No. 525,197. (No model.)

To all whom it may concern:

Be it known that we, FRANK LEWIS FRY and WILLIAM JAMES FISHER, citizens of the United States, residing at Tacony, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Artificial-Stone Pavements, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to furnish a simple and effective means of binding together the several portions of a combined gutter-plate, curb and sidewalk of artificial stone, to prevent the rupture of the structure from any cause and to securely anchor the same from dislodgment in case the same becomes partially undermined by the flow of surface water adjacent to the same from leader pipes of buildings or other sources. Heretofore it has been proposed to strengthen such class of structures by embedding therein L-shaped frames formed of iron bars suitably bent and tied together at intervals; but no means were provided thereby for preventing the fracture of the curb and gutter-plate from the sidewalk, nor was a suitable anchorage provided in such construction.

The present invention is designed to remedy these defects; and it consists, primarily, in the combination, with a single structure of artificial stone, constituting the gutter-plate, curb and sidewalk, of a Z-shaped brace of which the upper and lower members extend beneath the gutter plate and the sidewalk for substantially their entire width, and provided with downwardly projecting prongs at the extremities of such members. It also consists in certain details of such construction.

In the annexed drawings, Figure 1 represents a cross-section of the artificial stone structure with the brace embedded therein, the upper side of the latter conforming substantially with the smooth outer face of the structure. Fig. 2 is an elevation, and Fig. 3 a plan of a brace similarly formed but constructed in two detachable parts.

The artificial stone structure consists of the body *a* of concrete superposed upon the bed *b* of cinders or ashes on the bottom of the trench made to receive the same; together

constituting what we shall term herein the foundation. The smooth cement facing *c* consists of a thin coating applied to the exterior of the concrete body *a* which has previously been made to conform upon its exterior with the external shape of the finished structure.

Within the foundation, while in a still plastic state is embedded the brace which is constructed of iron bars of any suitable form of cross-section, and bent into the shape of the letter "Z."

As shown in Fig. 1, the Z-shaped body of the brace is formed of a single bar of iron, the lower member *d* being provided at its outer end with the anchoring prong *d'* bent downwardly at right angles thereto, and at its opposite end with the downwardly inclined anchoring prong *d²* which consists of a separate bar secured to the upright member *e* of the brace. The upper member *f* of the brace terminates in the anchoring prong *f'* bent downwardly at right angles thereto, similarly to the prong *d'* upon the member *d*.

The horizontal members of the brace extend from points adjacent to the curb *B* to points nearly beneath the extremities of the gutter-plate *A* and the sidewalk *C*, respectively; whereby each of such portions of the stone structure is braced and supported practically throughout its width.

The prongs *d'*, *d²* and *f'*, being embedded in the earth below the bed *b*, not only contribute to the support of the stone structure but prevent any tendency to dislodgment or separation of the several portions by cracking of the stone from any cause. It will be observed that the inclination of the anchoring prong *d²* adds materially to its effectiveness in resisting the stress due to the weight of the superposed structure which is imposed thereon, as it receives such vertical stress laterally instead of longitudinally only as in the case of the vertical prongs; and this feature is specially desirable at such point, where the inner ends of both horizontal members of the brace and the greater proportion of the weight of the stone structure are sustained.

In Figs. 2 and 3, the upper member of the brace is formed in two portions, that adjacent to the upright member being comparatively

short and the length of the other portion being equal nearly to the width of the sidewalk. In this form of the invention, one of such portions is provided with an eye *o* at its outer end, and the adjacent end of the other portion is formed with the hook *h*; but it is obviously immaterial which portion is formed with the hook and which with the eye, except that in reversing their relative positions the hook would be upturned in order to still support the adjacent end of the outer portion of the member *f*.

It will be evident that the construction of the brace of two detachable parts greatly facilitates the handling of the same, especially where the sidewalk is excessively wide and the length of the outer portion of the member *f* must be correspondingly great; exceeding the proportions capable of convenient handling in the form illustrated in Fig. 1.

In practice, such braces would be spaced one or two feet apart and may be connected by suitable tie-rods or not, as preferred.

Having thus set forth the nature of the invention, what we claim herein, and desire to secure by Letters Patent, is—

1. The combined gutter - plate, curb and sidewalk of artificial stone comprising a suitable foundation provided with a smooth facing of cement, and an upright iron brace embedded therein having the **Z**-shaped body formed of iron rods with its upper and lower members extended beneath the gutter-plate and the sidewalk substantially for their entire width, and provided with anchoring

prongs beneath the extremities of the gutter plate and sidewalk, as and for the purpose set forth.

2. The combined gutter - plate, curb and sidewalk of artificial stone comprising a suitable foundation provided with a smooth facing of cement, and an upright iron brace embedded therein constructed of iron bars in two parts of which one is **Z**-shaped with prongs projected downwardly from the extremities of the lower member and with means at the outer end of that portion of the upper member adjacent to the upright member for securing the same detachably to one end of the other portion which consists of a straight bar with a downwardly projecting prong at the opposite end, as and for the purpose set forth.

3. A brace for the purpose described consisting of the **Z**-shaped portion with lower member *d* formed with the prong *d'*, the upright member *e* with downwardly inclined prong *d''* secured thereto, and upper member formed with eye *o*, and the separate portion *f* formed with hook *h* and prong *f'*, as herein shown and described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

FRANK LEWIS FRY.
WILLIAM JAMES FISHER.

Witnesses:

WM. SOWERBY,
BENJ. W. SNYDER.