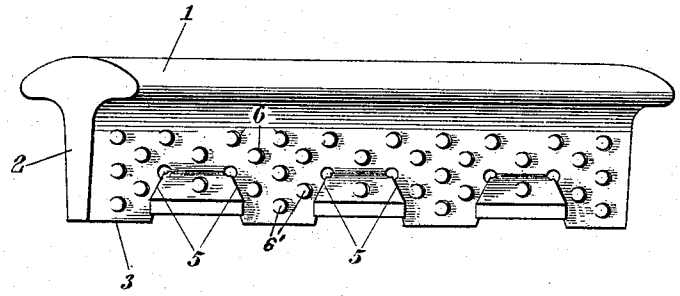
W. E. FICKLEN.

EDGE PROTECTOR FOR ARTIFICIAL STONE.

APPLICATION FILED OCT. 26, 1912. RENEWED JAN. 15, 1916.

1,201,952. Patented Oct. 17, 1916.



Witnesses:
Frank A. Kellar.
James H. Lancaster

William E. Ficklen
Inventor
By his Attorneys William L. Morris

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. FICKLEN, OF NEW YORK, N. Y.

EDGE-PROTECTOR FOR ARTIFICIAL STONE.

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To all whom it may concern:

Be it known that I, WILLIAM E. FICKLEN, a citizen of the United States, residing in the borough of Brooklyn, city of New York, county and State of New York, have invented certain new and useful Improvements in Edge-Protectors for Artificial Stone, of which the following is a specification.

My invention relates to metal nosings, or edgings, for artificial stone.

More particularly, the invention is adapted as an edging for curbs, gutters and other structures, the edges of which are curved or rounded longitudinally. In curbs and gutters, such curves occur at street corners, and may occur at other points, if the streets or roads are not straight. Metal edge-protectors of the general character of the present invention are positioned in the concrete or other material forming the artificial stones or blocks, before the material has set; and, according to the shape of the metal, are more or less securely anchored in the material by the setting or hardening of the latter. For many uses, as for instance when used as a curb or gutter edge, the metal must be of substantial size and strength; and, to have the requisite rigidity and depth of anchorage, is usually provided with a web or rib which lies in a plane transverse to the direction in which the edge extends.

A favorite type of edge protectors has the general shape of a T iron, the cross member of which is the wearing member, and the upright of which is the anchoring member. As shown in the accompanying drawings, the wearing member is of heavy "bull nose" conformation. This form of protector, although admirable so far as its wearing qualities are concerned, is difficult to bend to the shape of corners and other curves. In many instances it is impossible to bend the protector, cold, and at the place of use; and great delay and expense are involved in ordering especially shaped sections from the shops. Obviously, special shapes cannot be kept in stock in any sufficient amount to meet demands. The difficulty in bending is obviously due to the position of the rigid central web, and to the lines on which it must be bent in following the street corners and curves. Some forms of T bars are provided with large spacious openings or cuts at considerable intervals to serve as elements to interlock the concrete with the protector. Where such openings or cuts exist, the bar can be bent, but the difficulty of bending the bar to the true curve is nevertheless increased, because the bar will always bend at the weakest point, and so bends out at the cuts or openings. A bar bent in this latter manner is not only humped and unsightly, but is weak at the curves, where, to receive the impact of heavy trucking and the like, it should be strongest.

The purpose of the present invention is to render the anchoring web pliable so that it can be shaped to any curve, while cold, and at the place where it is to be used; without, however, involving a shortening of the web, or otherwise materially weakening the web, or lessening the depth of anchorage. This purpose is effected in the present invention by perforating the web with numerous closely arranged small openings, or by closely positioned cuts of various kinds. In addition to the perforations, it is desirable to turn out or form anchoring tongues or projectors on the bar. The perforations, of course, by reason of the concrete which enters the same, will in themselves, to a greater or less extent, assist in anchoring the bar; and, according to the nature of the conglomerate, should be considered in this connection. The holes or cuts, lying close together, permit bending of the web, both laterally and vertically, so that, at the curves, the distal edges of the web may be crimped, and the web turned slightly from its position of perpendicularity to the wearing nose to allow for the difference in length of radius of the outer and inner portions of the bar at such points.

An important feature of the invention concerns the manner in which the protector and concrete are bound together. Heretofore, the anchoring of the bar has been effected either by projections from the bar, or by holes in the bar, spaced at considerable intervals apart. When such a bar is subjected to heavy blows, it will work loose from the concrete between the points of anchorage, and presently will have a slight play or spring, so that thereafter each blow on the bar will cause the bar to act as a wedge tending to split the concrete. In many instances the concrete will ultimately split entirely away on one side of the bar. In the present invention, however, by reason of the large number of small anchoring

points provided by the numerous perforations or cuts, there can be no starting point for any looseness of the bar. The bar and concrete are interwoven and interlocked at substantially all points of the bar; and destruction of the curb in the manner above indicated is positively prevented.

The above and other features of the invention will more fully appear upon reference to the accompanying drawings, in which the figure shows a strip or short piece of an edge protector embodying one form of the present invention.

Referring to the figure, the bar is shown of a general T shape, the wearing nose 1 of which is of heavy "bull nose" conformation; and the web 2 of which tapers slightly to its distal edge 3. At close intervals along the web 2, there are tongues or projections 4 turned out laterally. The cuts 5 which define the tongues 4 are made at close intervals so as to weaken the web uniformly throughout the length of the same. The tongues, when turned out, provide effective means for anchoring the bar in the concrete. The bar will readily bend in the general direction of the cuts 5, or on a longitudinal line across the upper ends of the cuts. Bending in both of these directions is wanted if a uniform bend is to be had. In addition to these cuts 5, the web 2 has several vertical and longitudinal rows of perforations 6 formed by punching and bending small pieces 6′ out of the web. By reason of the perforations 6, the web can be readily turned laterally out of its perpendicular position with respect to the nose 1, on the line of the top row, or of any other row, of holes 6; and can also be bent in a transverse direction on the line of any vertical row of the holes 6. In certain instances, either the cuts 5 alone, or the holes 6 alone, will be sufficient for the purposes of this invention. In other instances, both may be desirable. Obviously, when the bar is placed in the unset concrete, the latter will enter the holes 6; and, because of the number of the latter, and also because of the projections 6′, the concrete, when it has set, will be so interlocked with the bar as effectively to assist the tongues 4 in anchoring the bar to the concrete throughout the length of the same.

The invention may take various other forms, within scope of the principles above indicated.

What I claim is:

1. An edge protector for concrete curbs, gutters and the like, comprising a wearing member, and a web, the web having numerous small openings distributed substantially uniformly in vertical and horizontal lines, for interlockment with the concrete, and to permit of equal and uniform bending of the same at any point thereof, as and for the purposes described.

2. An edge protector for concrete curbs, gutters, and the like, having several rows of small holes along the same, arranged in a series of vertical and horizontal lines for interlockment with the concrete, and to permit uniform bending of the same at any point thereof, as and for the purpose described.

3. An edge protector for concrete curbs, gutters, and the like, comprising a wearing member, and a web, said web having extending lengthwise thereof a zone of small holes through the web, which holes are closely stepped both along and across said zone to present a screen-like structure for interweavement of the web with the concrete and to assure flexibility of the web.

4. An edge protector for concrete curbs, gutters, and the like, comprising a wearing member, and a web, said web having extending lengthwise thereof a zone of small holes through the web, which holes are closely stepped both along and across said zone to present a screen-like structure for interweavement of the web with the concrete and to assure flexibility of the web, said holes being formed by turning out small pieces from the web, which pieces remain connected to the web to serve as anchoring means therefor.

Signed by me at New York city, N. Y., October, 1912.

WILLIAM E. FICKLEN.

Witnesses:
U. H. Heckni,
Martha Zitzman.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."