June 5, 1934. M. P. KLICK 1,961,227

CURBING ARMOR

Filed Oct. 5, 1932

FIG. 1.

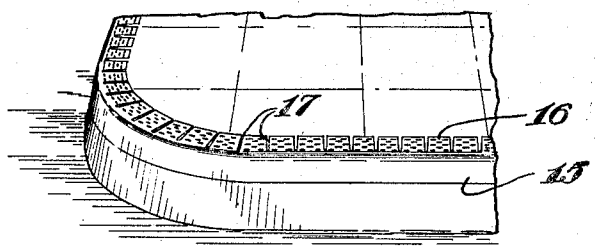


FIG. 2.

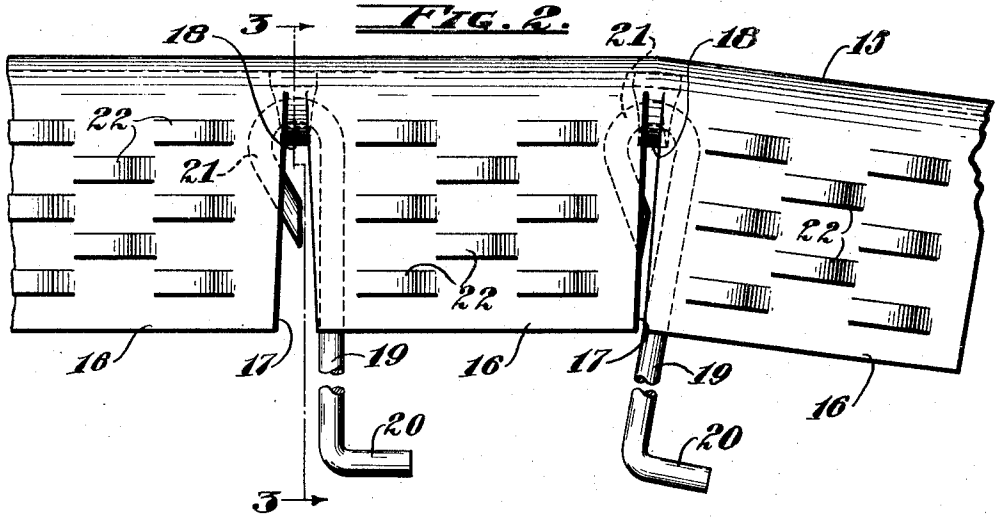


FIG. 3.

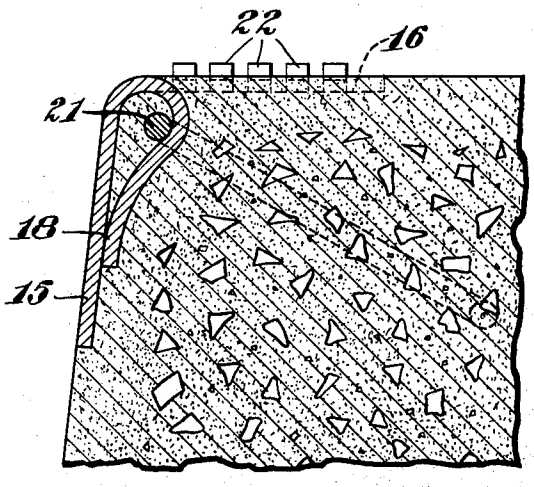
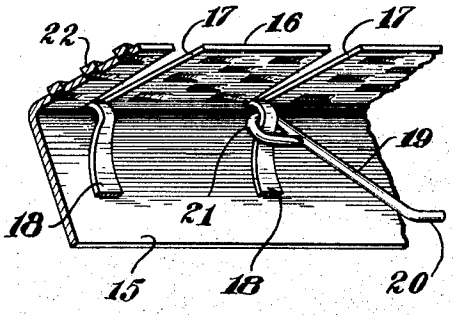


FIG. 4.



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CURBING ARMOR

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2 Claims. (Cl. 94—31)

My invention has reference to curbing armor for pavements constructed of concrete and the like to protect the concrete against being chipped and broken away by the wheels of vehicles.

It is a purpose of my invention to provide a curbing armor formed of bendable metal and so constructed as to permit of its being readily bent to accurately conform to the curvature of a curbing at a corner.

It is a further purpose of my invention to provide a curbing armor which, while capable of being bent in conformity with any curbing curvature, in its association with a concrete pavement is anchored or bonded to the concrete with such security as to withstand the rough usage to which a corner curbing is subjected by vehicles, without rupturing the bond between the armor and concrete.

Another purpose of my invention is the provision of an armor which is structurally and functionally characterized by displacing portions of the metal of which the armor is formed to permit bending of the armor to any prescribed curvature of curbing, and utilizing those displaced metal portions to form elements for anchoring the armor to the concrete.

Still another purpose of my invention is the provision of an armor which forms the side face of a curbing and the top surface thereof, that portion of the armor constituting the top surface having upstruck protuberances which present a surface upon which pedestrians in walking cannot slip, and which protuberances are so formed as to provide shouldered pockets in which concrete is received to form an additional bond between the concrete curbing and the armor.

I will describe only one form of curbing armor embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawing:

Fig. 1 is a perspective view of a section of concrete pavement having applied to the curbing thereof one form of armor embodying my invention.

Fig. 2 is an enlarged plan view showing a section of the armor embodying my invention.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2, but with the armor applied to a concrete curbing as in Fig. 1.

Fig. 4 is a view showing a section of the armor in perspective.

In carrying out my invention, I provide a body or member formed of any material suitable for the purpose, such as steel. The body is in the form of an angle bar as it consists of two parts, legs, or plates 15 and 16 arranged substantially at right angles to each other. In manufacture, the angle bars are made in suitable lengths, and the precise angle of the plates is in keeping with the angular relation of the side face and top surface of the particular curbing to which the armor is applied.

As shown in Figs. 2 and 4, the plate 16 which forms the top surface of the curbing is cut transversely along two converging lines and at intervals along its length to permit displacement of those portions of the metal between adjacent cuts for the dual purpose of forming wedge shaped gaps 17 in the plate to permit bending of the bar as a whole, and legs 18 which are subsequently bent to provide anchor members. Thus it will be manifest that in the manufacture of the armor, all metal of which the bar is formed is conserved and utilized for some useful purpose in the adaptation of the armor to a curbing.

In forming the plate 16 with the gaps 17, the bar as a whole can be bent to the radius required for its conformation to a curbing of any curvature, it being understood that the plate 15 can be bent readily once the legs are displaced to form the gaps. The frequency of the gaps is of course determined by the degree of curvature of the curbing.

The legs 18 are converted into anchor members by bending each of them downward or inward between the plates 15 and 16 so as to form an attenuated loop which is closed by bringing the free end of the leg into contact with the inner side of the plate 15, as best shown in Fig. 3. It will be understood, however, that the legs can be bent to any form desired so long as they function as anchor members when applied to a body of concrete for bonding the armor to the concrete.

As an additional anchoring means for the armor, rods 19 are provided, one for each of the anchor members 18. Each rod 19 is bent at one end to form an angular extension 20, while the other end is bent to form an eye 21 by which the rod is attached to the corresponding anchor member 18. To apply the rod, the eye 21 is left open a distance slightly greater than the metal thickness of the anchor member so that by positioning the eye to receive the anchor member edgewise in the gap, the eye of the rod can be extended through the loop of the anchor member. Now by moving the rod to the angular position which it finally assumes as applied to a curbing, the rod is locked to the anchor member.

For the dual purpose of presenting to the upper

side of the plate 16 a surface upon which pedestrians cannot slip in walking, and providing a bond between the plate and the concrete therebeneath, the plate 16 is formed with staggered protuberances 22. These are formed by cutting the metal lengthwise along parallel lines and for relatively short distances and then punching the portions between companion cuts. The outstriking of these portions is such that they assume a convex form on the outer sides and concave form on the inner sides. In consequence of the construction, pockets having angular shoulders are formed in the underside of the plate in which concrete is received to bond the plate to the concrete curbing.

With the armor applied to a concrete curbing, as illustrated in Figs. 1 and 3, the plate 15 forms a protecting covering for the side face of the curbing, while the plate 16 constitutes a covering for the upper surface of the curbing. The plate 16 lies flush with the surface of the pavement, as shown in Fig. 3, and the protuberances 22 present a surface upon which pedestrians cannot slip.

In the adaptation of the armor to the corner or curb part of the curbing, the bar is bent on a radius corresponding to that of the curbing, so that as applied the bar forms a continuous and contiguous protecting armor for the curbing.

The armor as a whole is securely bonded to the curbing concrete by the anchor members 18 which are embedded in and completely surrounded by the concrete in the manner illustrated in Fig. 3. The anchor rods 19 are likewise embedded in the concrete and positioned diagonally of the curbing, and being attached to the anchor members 18 supplement the bonding action of the member to maintain the armor in fixed position upon the curbing.

Although I have herein shown and described only one form of curbing armor embodying my invention, it is to be understood that various changes and modifications may be made herein without departing from the spirit of my invention and the spirit and scope of the appended claims.

I claim:

1. An armor for curbings comprising; a member angular in cross section having one part to form the face of a curbing and another part to form the top surface of the curbing, the second mentioned part having transverse gaps therein to allow bending of the member to conform to the longitudinal curvature of the curbing; anchor elements secured to the member between said parts; and anchor rods one for each of the anchor elements, each of the rods having a looped end formed with a gap which permits the loop to be extended around the element only when in one position so that by moving it to another position after application, the rod is secured to the element against displacement.

2. An armor for curbings, comprising; a member angular in cross section having one part to form the face of a curbing and another part to form the top surface of the curbing, the top surface-forming part having transverse slits therein in pairs at intervals along the length of the part, the portions of said part between the slits of each pair extending between the two parts to form substantially closed loop anchor elements; and anchor rods one for each of the anchor elements, each of the anchor rods having a looped end extending around the corresponding anchor element.

MAURICE P. KLICK.