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SECTIONAL CURB FOR PARKING LOTS AND THE LIKE

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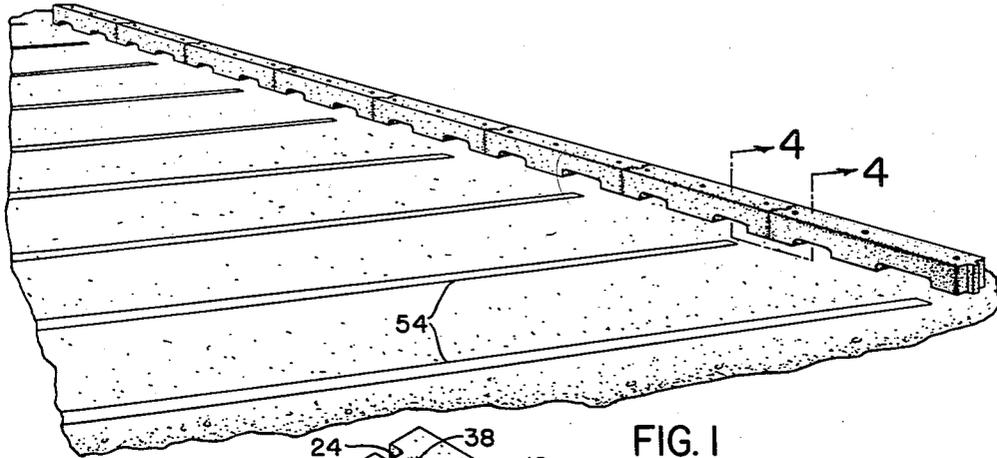


FIG. 1

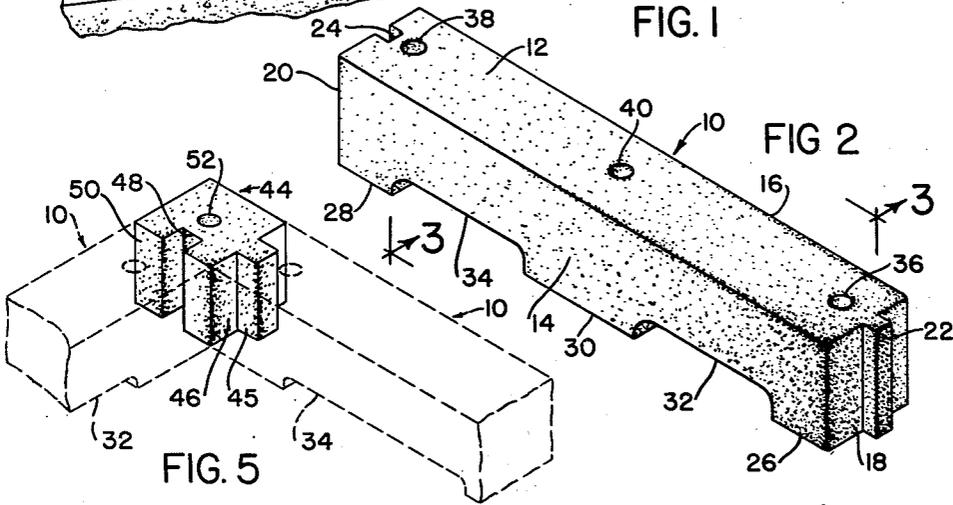


FIG. 5



FIG. 3

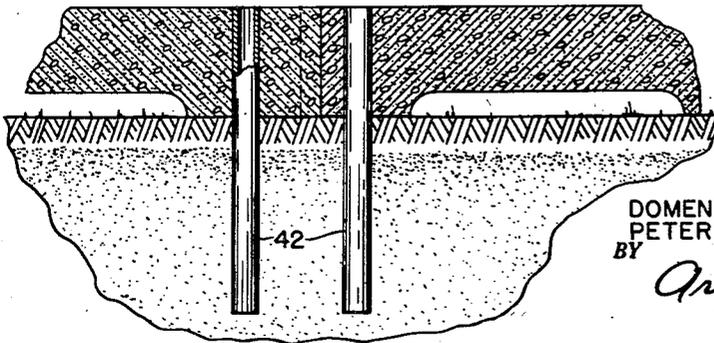


FIG. 4

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SECTIONAL CURB FOR PARKING LOTS AND THE LIKE

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5 Claims. (Cl. 94—31)

The present invention relates generally to curbing and more particularly to prefabricated bumper or curbing units for bordering and/or subdividing automobile parking lots and the like.

An object of the present invention is to provide a novel bumper or curbing unit which can be easily and inexpensively prefabricated from concrete or the like, and which can be quickly assembled into a strong and durable continuous border or divider for an automobile parking lot, or like enclosure, capable of acting as an effective barrier or stop and, at the same time, providing adequate drainage for the enclosure.

Other objects and advantages of the present invention are apparent in the following detailed description, appended claims and accompanying drawings.

It is customary for large markets, shopping centers, theatres and the like to provide their patrons with parking lots. In many cases, it would be prohibitively expensive to construct the lot of poured concrete and, instead, an asphalt top on a cinder base is employed. A still cheaper way is to apply an asphaltic oil onto a graded dirt area to give the dirt a somewhat hardened and compacted surface from which water will, for the most part, run off instead of forming mud and ruts.

It is essential to provide such parking lots and similar enclosures with borders, as well as subdividers, capable of acting as bumpers to stop the progress of the automobile wheels. Consistent with the idea of a minimum-cost parking area, these borders should cost little, and be easy to install, and, at the same time, must be sturdy and long-lasting, and must provide for drainage of surface water from the enclosure.

According to the present invention, there has been developed such a novel bumper or curbing unit which is easily and inexpensively prefabricated, from poured concrete or the like, and which can be quickly and easily installed to provide a continuous wall or border (made up of a series of individual units arranged in interconnected end-to-end relationship, each securely anchored to the ground) which acts as a sturdy and dependable stop to prevent progress of automobile wheels and the like, and which aids in the formation of lane and stall marker lines, and which provides adequate drainage from the surface of the parking area by having each individual prefabricated bumper unit formed with a pair of drainage arches along its bottom, the arches extending from a center pier or foot portion to somewhat smaller end piers or foot portions.

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form thereof which is presently preferred and which has been found in practice to give satisfactory results; it being understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown.

Referring to the accompanying drawings in which like reference characters indicate like parts throughout:

Figure 1 is a perspective view showing a series of our

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bumper units assembled to form a continuous wall of a parking lot.

Figure 2 is an enlarged perspective view of a single unit.

Figure 3 is a vertical cross-sectional view taken along the line 3—3 of Fig. 2.

Figure 4 is a fragmentary vertical cross-sectional view taken along the line 4—4 of Fig. 1, showing how two adjoining units are interconnected and anchored to the ground.

Figure 5 is a perspective view of a corner block used for interconnecting two end units in right-angular relationship.

In Figs. 2 and 3, there is shown a bumper or curb unit 10 constituting one embodiment of the present invention.

The bumper unit 10 is of prefabricated unitary construction and, preferably, is formed of concrete, poured and hardened in an appropriately shaped form or mold, in a manner well known in the art.

The unit 10 is an elongated member of generally rectangular transverse cross-section, with a horizontal top wall 12, vertical front and back walls 14 and 16, and end walls 18 and 20.

A protruding tongue 22 extends vertically along the center of the end wall 18, while a corresponding vertical groove 24 is formed along the center of the opposite end wall 20. Thus, when two units are placed in abutting end-to-end relationship, the tongue 22 of one unit fits within the groove 24 of the other unit, so as to interconnect the two units in co-axial, properly aligned relationship, as indicated in Figs. 1 and 4.

The bottom of the unit 10 is provided with supporting piers or feet 26 and 28 at the ends thereof adjoining the end walls 18 and 20 respectively. At the center of the bottom, there is formed another supporting pier or foot 30. We prefer to form the central pier 30 so that it has twice the longitudinal dimension of each end pier. Thus, when a series of units are assembled in the manner shown in Fig. 1, the combined longitudinal dimension of the juxtaposed end piers of adjoining units equals the longitudinal dimension of the center pier, so that the wall or curb has, in effect, a series of spaced supporting surfaces of uniform longitudinal dimension.

A drainage arch 32 is formed at the bottom of each unit 10 and extends longitudinally from the center pier 30 to the end pier 26, while a similar drainage arch 34 extends oppositely from the center pier 30 to the end pier 28.

Vertical holes 36 and 38 extend upward through the unit 10 from the bottom ground-contacting walls of the piers 26 and 28 respectively, while a similar vertical hole 40 is formed generally centrally of the center pier 30. The holes 36, 38 and 40 enable the unit 10 to be anchored securely to the ground by means of lengths of pipe 42 (or any other suitable fastening spike or the like), which are driven into the ground until their upper ends are substantially flush with the top wall 12, while their lower ends extend into the ground a distance appreciably greater than the height of the unit. Preferably, the lengths of pipe should be about two-thirds buried to support the unit against displacement (as for example by the pressure of an automobile wheel driven against the unit during the parking operation).

We prefer to employ uniform-diameter pipes 42 or other headless fastening elements and we also prefer to construct the tongue 22 and groove 24 so that they are vertical uniform. In this way, a single cracked or otherwise damaged unit 10 can be removed by simply lifting it straight up (without disturbing the adjoining units) and a replacement unit put back in its place, in a matter of a minute or two, and without removing the pipes from the ground.

In order to form corners, we may also provide a gen-

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erally cubical corner unit 44 having a vertical protruding tongue 45 formed along the center of one of its vertical walls 46, and having a corresponding central vertical groove 48 formed on an adjoining vertical wall 50, the walls 46 and 50 being generally at right angles to each other. A center anchoring hole 52 extends vertically through the corner unit to receive a pipe 42.

The corner unit is used in the manner shown in Fig. 5, with the tongue 45 fitting into the groove 24 of one unit 10 and the groove 48 receiving the tongue 22 of another unit 10 to form a right-angle corner.

It is apparent that, by turning the corner block 44 over (so that the top wall in Fig. 5 becomes the bottom wall), the corner can be made to turn in the opposite direction.

By varying the shape of the corner unit so that the vertical sides containing the tongue and groove are at some angle other than a right angle, adjoining units 10 can be interconnected in any desired angular relationship.

We have found that, by employing the novel bumper units of this invention, it is possible to erect a boundary wall or a divider wall in a parking lot in a fraction of the time, and at a fraction of the cost, required in forming a continuous wall by pouring concrete into forms built on the spot.

Also, as pointed out above, repairs can be effected simply by replacing individual damaged units, as compared to the much more involved procedure for patching up a damaged portion of a continuous poured in-situ wall.

The drainage arches 32 and 34 afford adequate space for removal of surface water, even in heavy storms. Additionally, the arches lower the weight and the cost of the units 10.

The abutting ends of adjoining units 10 serve as markers to simplify the task of painting stall-defining strips 54 on the surface of the parking area. Thus, for example, if the units 10 are eight feet long and it is desired to rule off eight foot wide stalls, the worker need only run each stripe up to the end of a unit 10. If the units are six feet long and it is desired to mark off stalls nine feet wide, the worker runs one stripe to the meeting point of one pair of units and runs the next stripe to the midpoint of the next adjoining unit (i. e., a unit and a half for each stall).

Illustrative dimensions are: length 6 feet, height 8 inches, width 7 inches, longitudinal dimension of each end pier 8 inches and of the center pier 16 inches and of each arch 20 inches. Each arch may have a height of 2 inches. The vertical holes 36, 38 and 40 may have a diameter of slightly more than one inch to accommodate 1 inch pipe. The tongue 22 and the groove 24 may have square cross-sectional configuration, 1 inch on a side, although this may be changed to a rounded or an undercut or any other suitable configuration. However, it is again emphasized that these dimensions and proportions are merely illustrative and not restrictive.

The height of the bumper units 10 should, of course, be sufficient to serve as an effective check against the tendency of an automobile wheel to climb over the unit if rolling at excessive speed. We have found that a 6 inch height is about the minimum for safety in this respect and we prefer the 8 inch height mentioned above. The length of each unit should not be too small, since this requires the use of an excessive number of anchoring pipes. On the other hand, units which are too long are excessively heavy (preferably, a unit should preferably not be so heavy that it cannot be lifted and carried by two men) and are too susceptible to accidental breakage during transportation or installation. When the bumper units are constructed of concrete, their length should be about four to eight feet, and preferably about six feet.

Where a lighter material, as for example, cinder block,

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is used, the bumper units can be made somewhat longer if desired.

In order to reduce cost, it is possible to eliminate the tongue and the groove and to assemble the units by simply placing the flush end walls in abutting relationship.

The present invention may be embodied in other specific forms and, therefore, the foregoing embodiment is to be considered in all respects merely as illustrative and not restrictive, reference being made to the appended claims as indicating the scope of this invention.

Having thus described our invention, we claim as new and desire to protect by Letters Patent the following:

1. A sectional curb for a parking lot or the like comprising a plurality of bumper units each prefabricated of concrete or the like, each bumper unit being constructed and arranged to be mounted entirely above ground and being elongated and of generally rectangular cross-sectional configuration with a horizontal top wall and vertical front and back walls and end walls, the bottom of each bumper unit having a pair of ground-contacting supporting piers at its ends and having a ground-contacting center supporting pier and having a pair of drainage arches extending longitudinally intermediate the center pier and the respective end piers and extending upward substantially above the ground, each bumper unit having an anchorage hole extending vertically therethrough generally at the center of each supporting pier, said bumper units being assembled in abutting end-to-end relationship and elongated anchorage elements disposed in non-protruding relationship within the vertical holes and driven into the ground a distance somewhat greater than the height of the units, the arches providing a series of spaced openings permitting surface water to drain from the lot surface through the curb, said anchorage elements being vertically generally uniform throughout, whereby individual bumper units can be removed and replaced by vertical raising and lowering without the need for disturbing adjoining bumper units or for removing the anchorage elements.

2. A construction according to claim 1 wherein each bumper unit has a vertical tongue formed on one end wall and a corresponding vertical groove formed on the other end wall, the tongue of each unit fitting with the groove of the next adjoining unit to maintain the units in properly aligned relationship, said tongue and groove elements being vertically uniform throughout.

3. A construction according to claim 2 wherein a generally cubical corner unit is provided to connect two of the bumper units in generally rectangular relationship, said corner unit having a vertical tongue which is vertically generally uniform throughout formed on one of its vertical walls and having a corresponding groove formed on an adjoining vertical wall to connect with the corresponding elements of the adjoining bumper units, said corner unit also having a hole extending vertically therethrough with an elongated vertically uniform anchorage element disposed in non-protruding relationship within the hole and driven into the ground a distance somewhat greater than the height of the corner unit.

4. A construction according to claim 1 wherein the longitudinal dimension of each center pier is about twice that of each end pier so that, in the assembled curb, the alternating center piers and adjoining pairs of end piers of successive bumper units have about the same overall longitudinal dimension.

5. A sectional curb for a parking lot or the like comprising a plurality of bumper units each prefabricated of concrete or the like, each bumper unit being constructed and arranged to be mounted entirely above ground and being elongated and of generally rectangular cross-sectional configuration with a horizontal top wall and vertical front and back walls and end walls, the bottom of each bumper unit having a pair of ground-contacting supporting piers at its ends and having a ground-contacting center supporting pier and having a pair of

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drainage arches extending longitudinally intermediate the center pier and the respective end piers and extending upward substantially above the ground, said bumper units being assembled in abutting end-to-end relationship, each bumper unit having an anchorage hole extending vertically upward from the ground contacting surface of each end pier, elongated anchorage elements having upper portions fitting within the anchorage holes in non-protruding relationship with the top wall of the bumper unit and having lower portions which are driven into the ground a distance somewhat greater than the height of the bumper units, whereby individual bumper units can be removed and replaced by vertical raising and lowering without the need for disturbing adjoining bumper units, or for removing the anchorage elements, the arches providing a

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series of spaced openings permitting surface water to drain from the lot surface through the curb.

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