

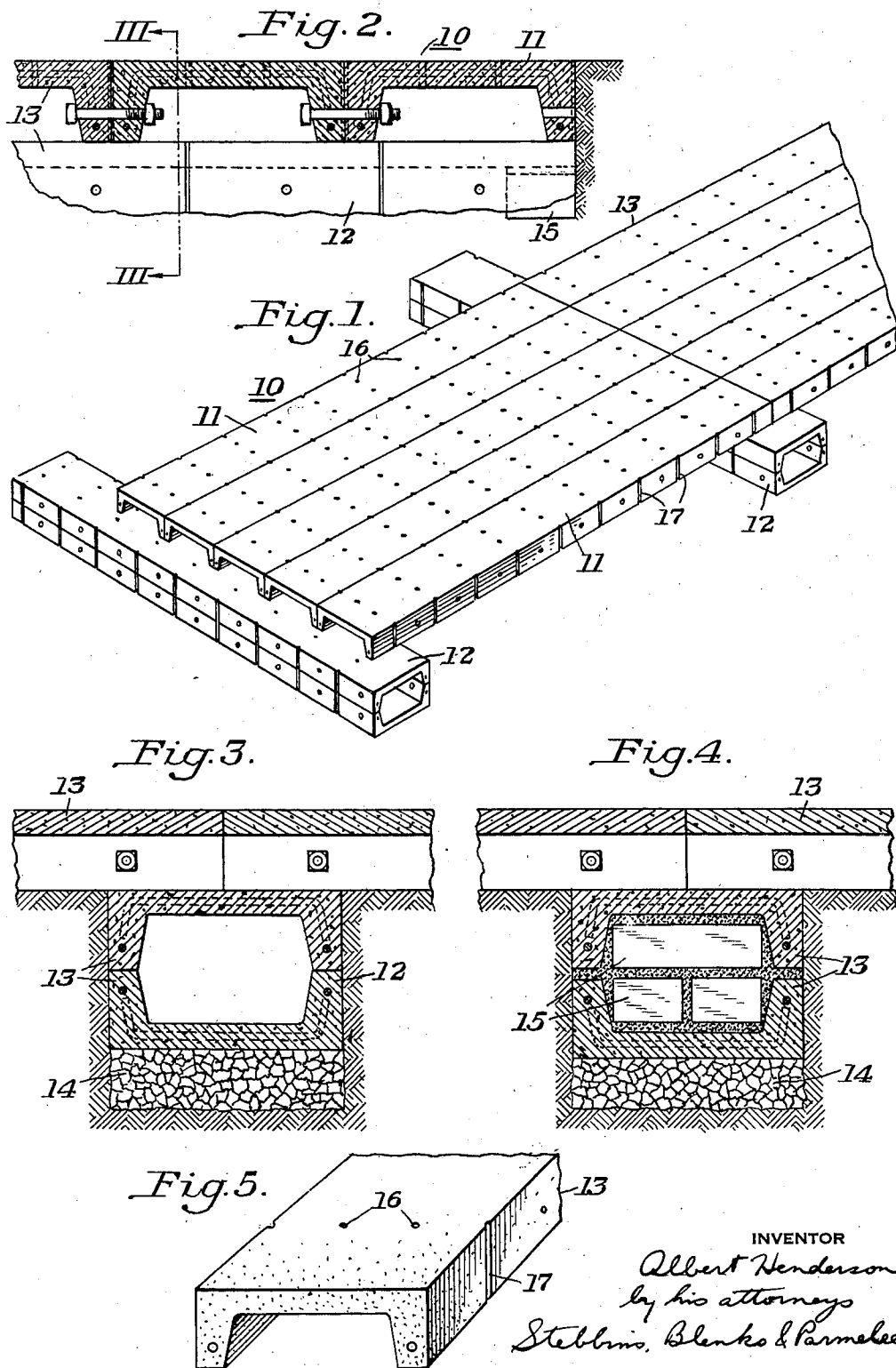
Sept. 26, 1939.

A. HENDERSON

2,174,035

SIDEWALK, FLOOR OR ROADWAY CONSTRUCTION

Filed July 1, 1936



UNITED STATES PATENT OFFICE

2,174,035

SIDEWALK, FLOOR, OR ROADWAY
CONSTRUCTIONAlbert Henderson, Edgewood, Pa., assignor to
William P. Witherow, Pittsburgh, Pa.

Application July 1, 1936, Serial No. 88,372

2 Claims. (Cl. 94—2)

This invention relates to a sidewalk, floor or roadway construction and, in particular, to a construction of this class capable of being assembled in the field from standard, preformed units of a single type. The invention will be described as applied to the construction of sidewalks, although other applications thereof will be obvious.

Sidewalks and other similar out-door paved surfaces as now installed by pouring in monolithic masses, are subject to settling and cracking resulting from the action of frost on faulty foundations. This causes puddles to form on the surface in wet weather, and icy patches during the winter. Even where such surface does not crack, irregularities in the surface are bound to occur during the smoothing or finishing thereof, and such irregularities collect and hold rain water. Another frequent cause of cracking of monolithic pavement is the spreading of tree roots thereunder.

I have invented a form of paving particularly adapted for out-door installations whereby the aforementioned objections to the present practice are overcome. In accordance with my invention, I employ preformed units of substantially channel shape in section, and from them build up the foundations and surface of a pavement. The foundations are formed by disposing two of the units with their channeled sides face to face, and these foundations are disposed on a bed of crushed rock. Similar units are disposed side by side to span the distance between adjacent foundations, with their channeled sides down, thus forming the surface of the pavement. The units have drainage perforations, and may be made of any suitable material. While I prefer to make them of reinforced concrete, other materials may be employed as well. In case of settling of the foundations, the upper of the two units comprising them may be raised and blocked up on the lower.

For a complete understanding of the invention, reference should be made to the accompanying drawing illustrating a present preferred embodiment. In the drawing,

Fig. 1 is a perspective view of a pavement in accordance with my invention;

Fig. 2 is a partial transverse section thereof;

Fig. 3 is a sectional view taken along the line III—III of Fig. 2;

Fig. 4 is a similar section showing the upper unit of one foundation blocked up on the lower one to compensate for settling; and

Fig. 5 is a partial perspective view of one of the units.

Referring now in detail to the drawing, a sidewalk, roadway or other pavement of like nature, is indicated at 10 and comprises a surface 11 resting on spaced foundations 12. The surface and foundations are both composed of a plurality of similar units 13 arranged as best indicated in Fig. 1. As shown, these units are of channel shape in section or may be considered as flanged slabs. I prefer to form them of reinforced concrete, although I may use other materials instead. The units are preferably preformed, as in a plant suitable for their manufacture, and are transported to the job, and there assembled in the manner indicated.

In constructing a pavement in accordance with the invention, it is best, first, to excavate trenches for receiving the foundations 12, as shown in Figs. 3 and 4, preferably after laying therein beds of broken stone 14. Each foundation 12 comprises a pair of units 13 laid flat with their flanges in abutment.

When the foundations have been placed, the surface 11 may be laid by depositing units 13 with flanges down, spanning the distance between adjacent foundations. The units forming the surface of the pavement are placed side by side, and may be bolted together as shown in Fig. 2, or may be merely laid on the foundations with mortar therebetween, if desired, although this is not necessary. By the aid of my construction, it is relatively simple to lay a pavement which is perfectly level. It will be apparent that the backs of the channel-shaped units 13 will approach a true plane much more nearly than the surface of a monolithic block cast in place. Even if the pavement should become unlevel after installation, because of settling or for other reasons, it is a simple matter to block up the upper unit of any foundation which may have settled, as indicated at Fig. 4. The upper unit is jacked up, using the lower as a footing for the jack. After jacking up the upper unit, it may be blocked up in any convenient manner, as by laying bricks 15 in a mortar bed between the units adjacent one end of the foundation as shown in Fig. 2.

The preformed units are provided with drainage holes 16 intermediate their edges and grooves 17 along their edges. Cooperating grooves of abutting units form additional drainage holes. Thorough drainage of both the surface and foundation of the pavement is assured, preventing collection of any substantial amount of water

on either. The channel shape of the units leaves considerable space below the surface of the pavement and below the upper unit of the foundations for the collection of any water passing through the drainage holes.

The units are preferably made one foot wide, as most sidewalks are made an even number of feet in width. The units may be made of any length and of the units chosen for the foundation will, obviously, depend on the desired width of the pavement. It is not necessary, furthermore, that the length of the foundation units precisely equal the width of the paved surface, as indicated in Fig. 1.

To aid further in draining the pavement surface and foundations, I may form the units of porous concrete.

Numerous advantages of the invention will be immediately apparent. In the first place, settling of the pavement does not involve cracking or breaking of units, but merely opening up of the joints therebetween. This can readily be cured, furthermore, by jacking up the upper foundation member and blocking it up on the lower one. Since the surface and foundations are well drained, there is no collection of rain water or formation of icy patches in winter. By forming the units at a central point, the only field operations necessary are excavation and assembling, contributing greatly to an economic construction. A further advantage is that the units may be salvaged one hundred per cent, if it is desired to

change the location of the installation. The use of the same type of units for foundations and surface introduces a further reduction in cost.

Although I have illustrated and described herein but a preferred embodiment of the invention, it will be understood that changes therein may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A foundation for pavement slabs comprising identical top and bottom channel-shaped members, the bottom member being disposed with its channeled side up and said top member being disposed with its channeled side down and with its edges lying along those of said bottom member, the foundation being disposed transversely beneath pavement slabs resting on the top member, and means disposed in the hollow space between said members to space them slightly apart and level said pavement slabs.

2. A pavement construction comprising a tread slab, there being openings for draining the top of the slab, and spaced foundations on which said slab is supported, each of said foundations having an open-ended hollow space therein and having perforations extending through the walls thereof, said hollow space being adapted to serve as a well to collect drainage from said slab and hold it temporarily until it seeps into the surrounding earth.

ALBERT HENDERSON.

CERTIFICATE OF CORRECTION.

Patent No. 2,174,035.

September 26, 1939.

ALBERT HENDERSON.

It is hereby certified that error appears in the above numbered patent requiring correction as follows: In the grant, line 12, name of assignee, for "William P. Withrow" read William P. Witherow; as shown by the record of assignments in this office; page 2, first column, line 9, after the word "and" insert the words the length; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of October, A. D. 1939.

(Seal)

Henry Van Arsdale,
Acting Commissioner of Patents.