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M. NIGRO

2,167,423

PAVEMENT JOINT

Filed June 23, 1937

FIG. 1.

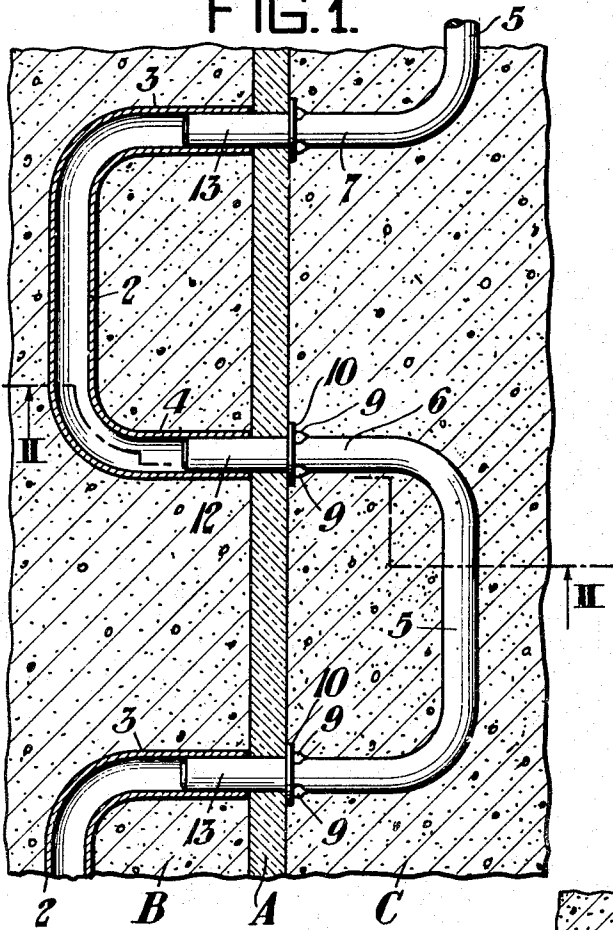


FIG. 3.

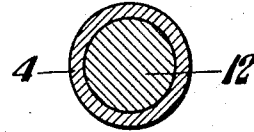


FIG.4.

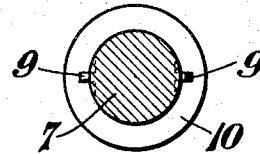
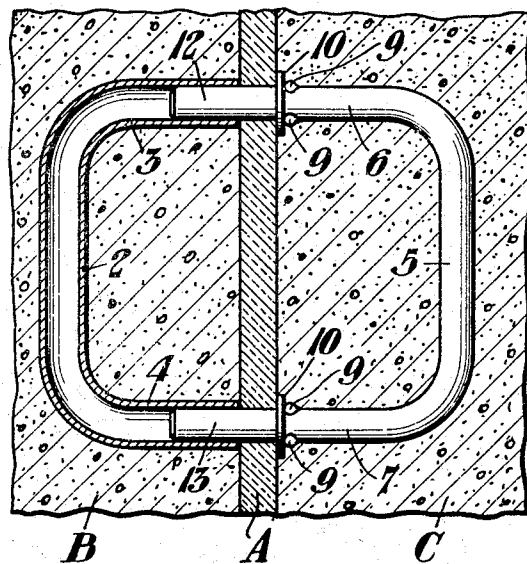
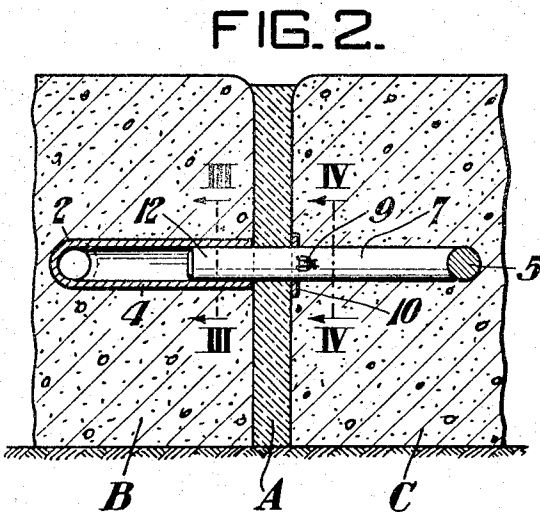


FIG. 5.



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UNITED STATES PATENT OFFICE

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PAVEMENT JOINT

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5 Claims. (Cl. 94—18)

This invention relates to joints, and more particularly to expansion and contraction joints such as are used in concrete pavement construction.

5 In the construction of concrete pavements it has been found desirable, under certain conditions, to make them in sections with joints therebetween for accommodating expansion and contraction. It has also been found desirable to prevent the heaving or elevation of the sections one with respect to the other by the use of doweling.

10 It is one of the objects of the present invention to provide a simple and inexpensive expansion and contraction joint for concrete pavements which will effectually transfer the load from one section of the pavement to another.

The foregoing and other objects will become apparent after referring to the drawing, "in which:

20 Figure 1 is a horizontal section of the device of the invention as applied to a pair of abutting sections of a concrete pavement.

Figure 2 is a sectional elevation on the line II—II of Figure 1.

25 Figure 3 is a sectional view on the line III—III of Figure 2.

Figure 4 is a sectional view on the line IV—IV of Figure 2.

30 Figure 5 is a view similar to Figure 1 but disclosing a modification.

Referring more particularly to the drawing, the numeral 2 designates a tubular element having a pair of ends 3 and 4 which are bent in the same direction at right angles thereto, thereby providing a hollow U-shaped member.

35 The numeral 5 designates a solid or hollow element of slightly smaller diameter than the tubular member 2 having end portions 6 and 7 which are bent in the same direction at right angles thereto, thereby providing a second U-shaped member. The right-angularly bent ends 6 and 7 of the element 5 are provided at their mid-portions with lugs 9 which are formed in any convenient manner (such as upsetting, for example) to provide suitable seats for exteriorly disposed washers 10, which are inserted over their ends. Each of the right-angularly bent ends 6 and 7 of the element 5 is provided with an extension as shown at 12 and 13, respectively, for a purpose to be later described.

50 A series of tubular elements 2 is disposed to extend laterally, and in the same horizontal plane, across the side of the concrete pavement with their ends 3 and 4 opening onto the joint to be formed therein. The proximate ends of ad-

jacent tubular elements 2 are connected together by means of the elements 5. That is to say, the extension 12 of one of the elements 5 is disposed to extend into the right-angularly bent end 4 of one of the tubular elements 2, while the extension 13 on said element 5 is disposed to extend into the right-angularly bent end 3 of the next adjacent tubular element 2, as shown in Figure 1 of the drawing.

10 Prior to the telescoping of the cooperating elements 2 and 5, the extensions 12 and 13 on the right-angularly bent ends 6 and 7, respectively, of the elements 5 are inserted through suitable apertures in the filler of the expansion joint which is formed of any of a number of conventional compressible materials now commonly used for this purpose and indicated at A in the drawing.

15 The lugs 9 on the right-angularly bent ends 6 and 7 of the elements 5 and outwardly disposed washers 10 are maintained in spaced relationship with respect to the ends 3 and 4 of the tubular elements 2 to accommodate the expansion joint compressible filler material A. This expansion joint compressible filler material A holds the elements 2 and 5 in position while the abutting members B and C of the concrete pavement are formed.

20 Referring to Figure 5, there is disclosed a modification which comprises the full connection of each of the elements 2 with one of the elements 5, whereby adjacent members of the same form are disconnected.

30 While I have shown and described several embodiments of my invention, it will be understood that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of my invention, as defined by the following claims.

I claim:

1. In a pavement or the like embodying the combination of a pair of adjacent sections and an intermediately disposed compressible filler, a U-shaped element having an opening in at least one of its ends, said U-shaped element being carried by one of said sections and having its ends flush with the end of the section by which it is carried, a U-shaped element carried by the other of the adjacent sections, one of the ends of said second-named U-shaped element being extended through said compressible filler and into the opening in the end of said first-named U-shaped element, and retainer means carried by said second-named U-shaped element for limiting the

movement of the latter through said compressible filler.

2. In a pavement or the like embodying the combination of a pair of adjacent sections and an intermediately disposed compressible filler, a U-shaped element having an opening in at least one of its ends, said U-shaped element being carried by one of said sections and having its ends flush with the end of the section by which it is carried, a U-shaped element carried by the other of the adjacent sections, one of the ends of said second-named U-shaped element being extended through said compressible filler and into the opening in the end of said first-named U-shaped element, the other end of said second-named U-shaped element being likewise extended through said compressible filler but being remotely disposed with respect to said first-named U-shaped element.
3. In a pavement or the like embodying the combination of a pair of adjacent sections and an intermediately disposed compressible filler, a U-shaped element having an opening in each of its ends, said U-shaped element being carried by one of said sections and having its ends flush with the end of the section by which it is carried, a U-shaped element carried by the other of the adjacent sections, the ends of said second-named U-shaped element being extended through said compressible filler and into the openings in the ends of said first-named U-shaped element, and retainer means carried by said second-named U-shaped element for limiting the movement of the latter through said compressible filler.
4. In a pavement or the like embodying the combination of a pair of adjacent sections and an intermediately disposed compressible filler, a U-shaped element having an opening in at least one of its ends, said U-shaped element being car-

ried by one of said sections with its ends extending toward the end of the latter and occupying a plane which is substantially horizontal, a U-shaped element carried by the other of the adjacent sections with its ends extending toward the end of the latter and occupying a plane which is substantially horizontal, one of the ends of said second-named U-shaped element being extended through said compressible filler and into the opening in the end of said first-named U-shaped element, each of said U-shaped elements having legs of substantially equal length and occupying the same relative positions with respect to the end of the concrete section by which it is carried.

5. In a pavement or the like embodying the combination of a pair of adjacent sections and an intermediately disposed compressible filler, a U-shaped element having an opening in at least one of its ends, said U-shaped element being carried by one of said sections with its ends extending toward the end of the latter and occupying a plane which is substantially horizontal, a U-shaped element carried by the other of the adjacent sections with its ends extending toward the latter and occupying a plane which is substantially horizontal, one of the ends of said second-named U-shaped element being extended through said compressible filler and into the opening in the end of said first-named U-shaped element, each of said U-shaped elements having legs of substantially equal length and occupying the same relative positions with respect to the end of the concrete section by which it is carried, and retainer means carried by said second-named U-shaped element for limiting the movement of the latter through said compressible filler.

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