Oct. 1, 1929. A. C. FISCHER 1,730,067

EXPANSION JOINT

Filed Aug. 21, 1926

Fig. 1

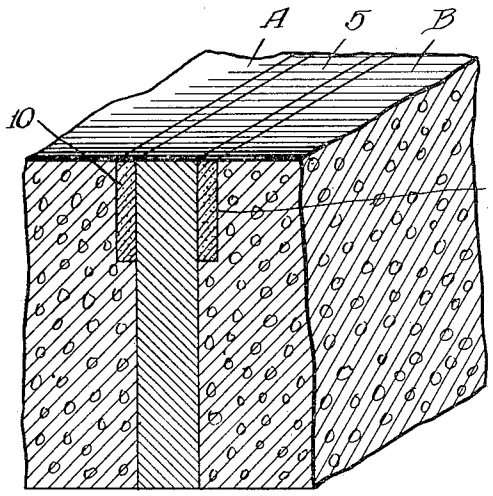


Fig. 2

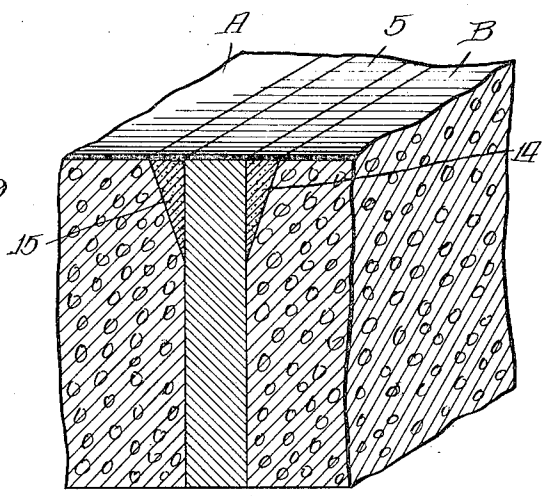


Fig. 3

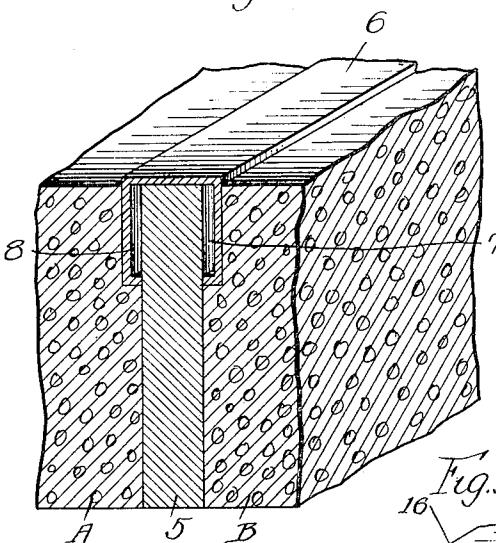


Fig. 4

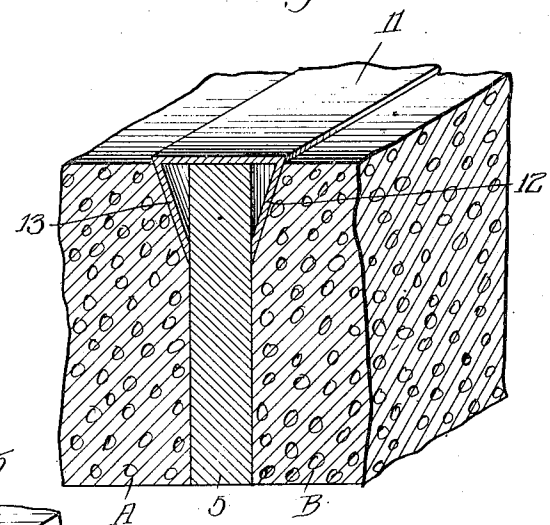
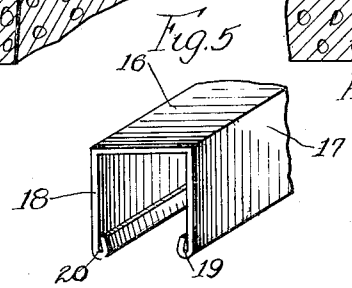


Fig. 5



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Patented Oct. 1, 1929 1,730,067

UNITED STATES PATENT OFFICE

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EXPANSION JOINT

Application filed August 21, 1926. Serial No. 130,684.

My present invention relates in general to expansion joint, and has particular reference to a so-called combined preformed and poured joint, and has for its primary object to provide means whereby a space may be filled in with poured expansion joint material or filled in such a way that it co-operates with a preformed expansion joint material to improve the functioning of the joint and thus develop certain qualities in the joint which will be absent in an installation where a preformed strip is exclusively used.

The accompanying drawing illustrates the salient features of the invention, and in which Figure 1 is a perspective view of portions of two concrete sections, with one form of my improved joint installed therebetween.

Figure 2 is a similar view of a modified form of the joint.

Figure 3 is a perspective view illustrating the application of a form of accessory for accomplishing the results shown in Figure 1.

Figure 4 is a view similar to Figure 3, but showing a different form of accessory, viz, one form that may be used for accomplishing the results shown in Figure 2.

Referring now to the drawing in detail A and B represent portions of two sections of concrete construction, such, for instance, as that in a roadway project and between which expansion joint is installed. The expansion joint installation in the present case comprises a preformed strip 5, made of any material suitable for the purpose, such, for instance, as a composition of matter comprising a bituminous material and fibrous material formed into a rolled, extruded or otherwise fabricated strip of the proper dimensions.

As is customary in installations of this kind, the strip 5 is usually supported on edge, and the concrete poured around the same.

I recommend this same method for installing my present joint, but to accomplish the results now sought, I use a crowning accessory for the strip 5, which may be made in various ways. For instance, as shown in Figure 3, I can employ a metal box-like structure having an open bottom adapted to be slipped over the crown of the preformed strip 5 and engage the same so that spaces 7 and 8 will be left on opposite sides of the strip when the concrete is poured around the same. After the concrete has set this box-like structure is removed and the spaces 7 and 8 may then be filled in by a so-called poured expansion joint filler, as indicated at 9 and 10 in Figure 1.

As a modified form I may select a crowning cap 11 having outwardly projecting walls 12 and 13, as compared to the straight walls of the box-like structure. The cap 11 may be slipped over the strip of expansion joint material the same way that the box-like structure itself is used, and after the concrete has been poured the cap 11 may be pulled off so as to leave triangular shaped spaces to be later filled in as shown in Figure 2 with a so-called expansion joint filler 14 and 15.

As still another modified form I may use a metal crowning device 16 having perpendicular walls 17 and 18 the ends of which terminate in enlargements 19 and 20 formed by turning in the edges of the walls in the form of beads. This form of device will have considerable elasticity or springiness, which will grip the sides of the expansion joint in spite of irregularities that may be found therein as a result of damage in handling. The edge of the joint being of soft material is sometimes struck in handling and slight bulges appear increasing the dimension of the joint. The springiness of the cap after passing the bulge springs back into shape and still grips the sides. The beads 19 and 20 account for the spaces to be left on opposite sides of the joint crown.

Ordinarily expansion joint strips are made in lengths of 5 feet, so that it requires two or more sections to extend across a roadway project, and for this reason the box-like structure of the cap 11, or any other accessory used for the same purpose will be made in lengths to either correspond to the length of the strip 5 or else in longer lengths, so as to join two or more strip sections. In this connection the accessory may be used to advantage for holding the strip in alignment

and with the abutting ends of the sections in alignment as well.

An installation of this character has several advantages, one of which being that a poured filler around the sides of the joint will aid in preventing spalling of the concrete at the joint, and also making a very acceptable filler for the crowned portion of the joint, so as to fill in all spaces and thoroughly waterproof the sides of the joint in the event that the joint is subjected to rather severe pressure as a result of unusual expansion and contraction of the concrete sections.

I claim:

1. A crowning device for preformed expansion joint strips, comprising a channel cap adapted to fit over the crowning edge of the strip and having depending portions formed to extend along opposite sides of the strip and in spaced relation thereto for a substantial part of their depth, the ends of said depending portions being turned inwardly and providing bead-like contacts for embracing the sides of the strip.

2. A crowning device for preformed expansion joints, comprising a channel cap adapted to fit over a crowning edge of the strip and having depending portions formed to extend along opposite sides of the strip and in spaced relation thereto for a substantial part of their depth, the ends of said depending portions having strip engaging projections for embracing the sides of a strip.

Signed at Chicago, Illinois, this 17 day of August, 1926.

ALBERT C. FISCHER.