May 5, 1931. A. C. FISCHER 1,804,215

EXPANSION JOINT INSTALLING DEVICE

Filed Dec. 23, 1926

Fig. 1.

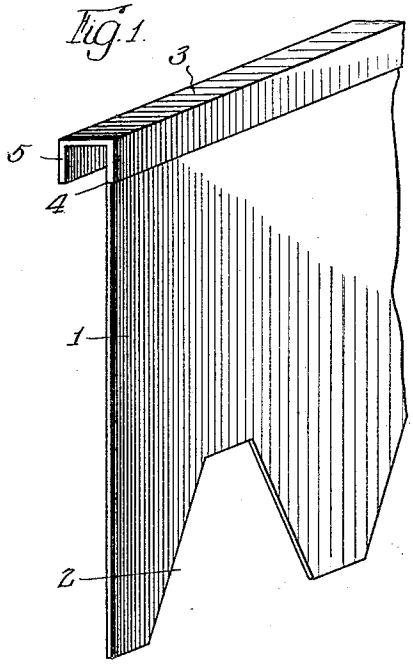


Fig. 2.

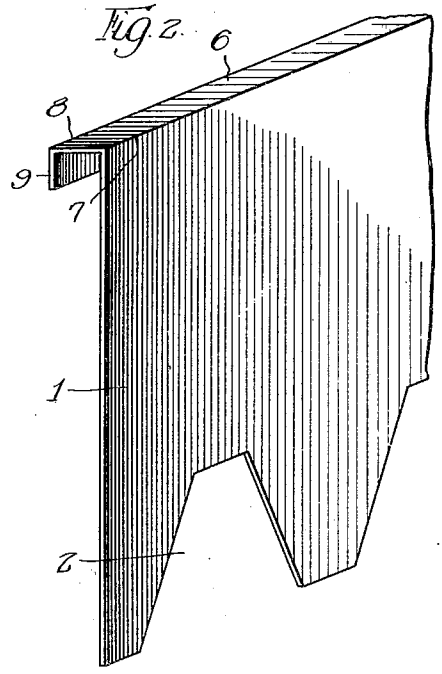


Fig. 3.

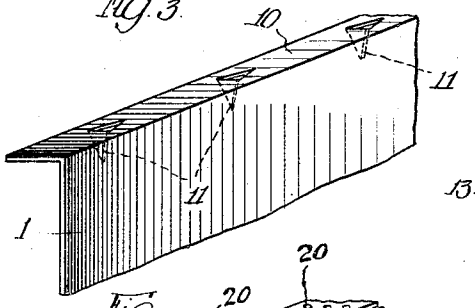


Fig. 4

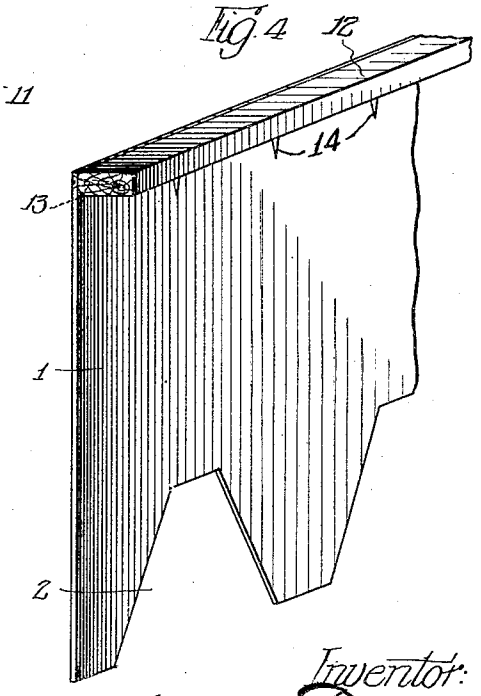


Fig. 5.

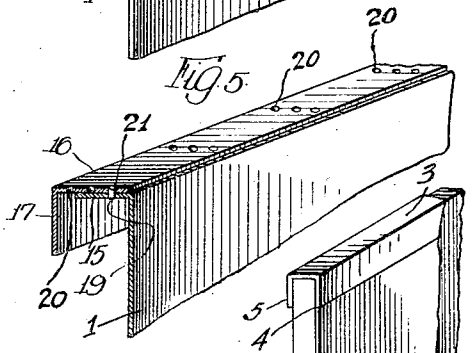
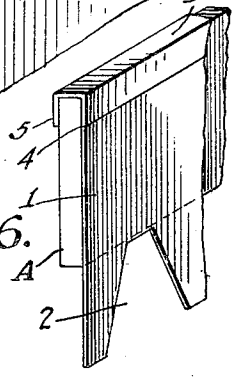


Fig. 6.



Inventor:

Adam C. Fischer

Patented May 5, 1931 1,804,215

UNITED STATES PATENT OFFICE

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EXPANSION JOINT INSTALLING DEVICE

Application filed December 23, 1926. Serial No. 156,698.

My invention relates in general to paving projects and has particular reference to an expansion joint installing device, the salient features of which will be hereinafter particularly pointed out with reference to the accompanying drawings which illustrate several embodiments.

In said drawings Figure 1 is a perspective view of a portion of one form of the installing device.

Figure 2 is a similar view of another form.

Figure 3 is a perspective view of the upper portion of still another form of the device.

Figure 4 is a perspective view of a portion of a further modified form.

Figure 5 is a perspective view of a portion of the upper part of still a further form.

Figure 6 is a perspective view showing an expansion joint strip associated with the installing device.

There are two distinct types of expansion joint installed in concrete pavements, one known as a poured joint in which a space is left between confronting ends of concrete sections and later filled in with poured expansion joint material, and the second form comprises a preformed strip of expansion joint material furnished on the job in various lengths, say for instance about 5 feet long, ¼ to 1¼ inch in thickness and about 4 or 5 inches in depth.

My invention pertains particularly to the installation of these preformed strips, and the object of the same is to provide means for installing the strips perpendicularly and in a straight line, so that the crowning edge of the strip will be installed in a straight line to avoid unsightly crooked streaks in the pavement. Aside from these objections, it is sometimes difficult to prevent floating, so to speak, of the joint in the concrete, because the joint is usually set on edge and the concrete poured around the same. Very often the pouring of the concrete floats the joint up above the pavement so that it is not always possible to retain the same flush with the paving surface. The device which I herein contemplate will prevent this so-called floating of the joint. There are various devices heretofore suggested to facilitate the installation of these preformed strips, some of which are impractical for the reason that they are complicated, expensive to manufacture, inconvenient to handle, easily destructible, involve working parts which become injured and clogged due to contact of poured concrete, and for other reasons there has never been a simple altogether practical device prior to the development of my present invention.

I propose to provide a sheet metal backing board 1, which is preferably made in a length sufficient to extend substantially, if not entirely, along the joint to be made, and of a depth sufficient to accommodate the entire depth of a preformed strip A which is to be installed in a paving structure. In fact the backing board will be slightly deeper than the depth of the strip, in order that the lower edge of the backing board may be driven or forced into the dirt base of the paving to support the device, as well as the strip, perpendicular. Stakes may be necessary to cooperate in this respect, if so, the same may be driven alongside of the backing board for this purpose. The staking edge thus provided in the backing board will furthermore be cut out as at 2, at spaced intervals, so as to make it easier to imbed the edge in the base of the pavement, or rather the subsoil over which the pavement is made, and these cut-outs also expose portions of the side of the joint so that the concrete when poured around the installation may contact with the preformed strip and form a bond therewith, so that in pulling out the installing device the strip will not be dislocated.

This backing board 1 with the cut-out spaces will preferably be provided in all forms of the invention, so that several modifications are concerned, primarily with the crowning edge of the device.

In Figures 3 and 5 the absence of the lower edge of the backing board is prompted in order to leave room for the two figures, and it may be considered that the backing board in these figures is equipped with a lower staking edge, the same as in the other figures.

The crowning edge of the device illustrated in Figure 1 is provided by a channel cap 3, welded as at 4 to the backing board, but the

opposite downwardly depending flange 5 of the channel cap provides a space for receiving the crowning edge of the preformed strip so that the strip may be held flush against the backing board.

In Figure 2 the crowning edge of the device is provided by an internal channel cap 6, formed by bending the upper extremity of the backing board as at 7 to provide a horizontal section at right angles to the backing board, and another bent as at 8 provides the downwardly depending flange 9. The downwardly depending flanges 5 and 9 in Figures 1 and 2 confine the preformed strip and hold the same against the backing board.

In Figure 3 the downwardly depending flange is dispensed with and in lieu thereof the horizontal extension 10 of the board 1 is provided with spurs or the like 11, which are struck from the metal of the device for providing means for impaling the strip so as to hold it in place.

In Figure 4 a wooden strip 12 is fastened by screws or other securing means, as at 13, flush with the edge of the backing board to provide a transverse abutment at the crowning edge of the device for the preformed strip, and this wooden strip 12 is provided with impaling means 14 which operate the same as the spurs 11 in Figure 3.

Now it so happens, and as previously explained, the preformed strips are made in various thicknesses ranging usually between ¼ and 1¼ inches. Frequently, with perhaps the exception of the forms shown in Figures 3 and 4 the crowning edge of the device must be made with the channel cap in different widths to accommodate various thicknesses of the preformed strip. In Figures 3 and 4 the crowning edge of the board will be adaptable more or less to various thicknesses of the preformed strip, except that it will not be well for the preformed strip to be thicker than the width of the strip 12 or the horizontal projection 10, because the concrete being poured around the device may imbed the crowning edge of the preformed strip and thus defeat the proper installation. If the width of the preformed strip is less than the horizontal projection 10 or the wooden strip 12, the crowning edge of the preformed strip would be properly protected.

In most every instance it would be more desirable to protect the crowning edge of the strip as it is being installed, and in order to accommodate strips of various thicknesses I have shown in Figure 5 a channel cap structure which may be adjusted. In this form the board 1 is made with a horizontal projection or flange 15 adapted to cooperate with an angle piece, one leg of which provides a horizontally projecting flange 16 and the other a downwardly projecting flange 17. This angle piece is provided with spaced openings 19 at intervals in the length thereof, which are adapted to adjustably register with openings 20 in the horizontally projecting flange 16. Pegs or pins 21 may then be used to engage the registering openings and by sliding the angle piece relative to the projecting flange 15 the dimension between the downwardly depending flange 17 and the backing may be adjustable as to width and thus adapt it to accommodate the preformed strips in any thickness within a reasonable range.

I claim:

1. Means for installing preformed expansion joint strips in pavements, comprising a backing member, a projection extending from one edge of said member to overlie one edge of an expansion joint strip, and impaling means on the projection for engaging said strip.

2. Means for installing preformed expansion joint strips in pavements, comprising a backing member, a projection extending from one edge of said member to overlie one edge of an expansion joint strip, and impaling means stamped from the projection to engage the strip.

3. Means for installing preformed expansion joint strips in pavements, comprising a backing member, a projection extending from one edge of said member to overlie one edge of an expansion joint strip, impaling means on the projection to engage the strip, and an angle bar attached to the projection to provide a channel cap.

4. Means for installing preformed expansion joint strips in pavements, comprising a backing member, a projection extending from one edge of said member to overlie one edge of an expansion joint strip, impaling means on the projection to engage the strip, and an angle bar adjustably attached to the projection to provide a channel cap.

5. Means for installing preformed expansion joint strips in pavements, comprising a backing member, a projection rigidly attached to and extending from one edge of said member to overlie one edge of an expansion joint strip, and impaling means for engaging said strip.

Signed at Chicago, Illinois, this 21st day of December, 1926.

ALBERT C. FISCHER.