May 7, 1929. A. C. FISCHER 1,711,934

EXPANSION JOINT

Original Filed Jan. 3, 1922

Fig. 1

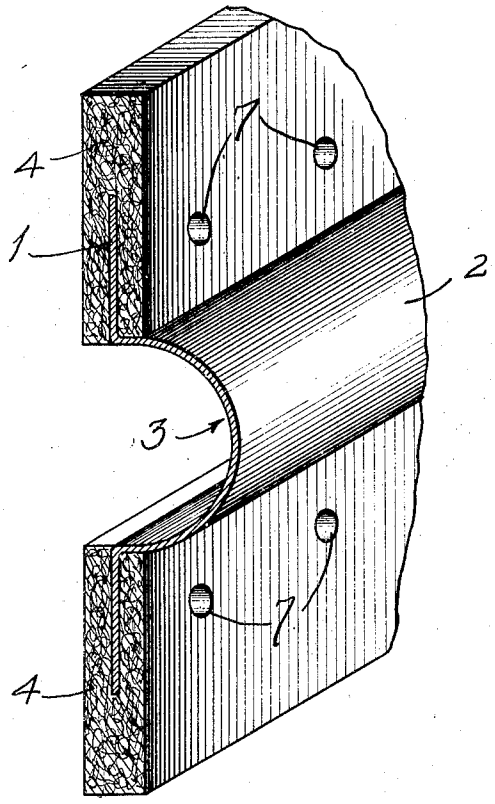
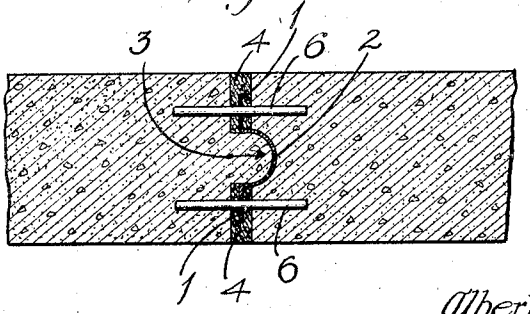


Fig. 2



Inventor:
Albert C. Fischer,
By [signature] Atty

Patented May 7, 1929. 1,711,934

UNITED STATES PATENT OFFICE.

ALBERT C. FISCHER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PHILIP CAREY MANUFACTURING COMPANY, A CORPORATION OF OHIO.

EXPANSION JOINT.

Original application filed January 3, 1922, Serial No. 526,742. Divided and this application filed April 14, 1926. Serial No. 101,944.

This application is a division of my application Serial No. 526,742, filed January 3, 1922 and which matured into Patent No. 1,655,835, January 10, 1928 for expansion contraction joint, and relates particularly to the subject matter shown in Figure 10 of the drawing of said application.

The object of this invention is to provide expansion joint for use between concrete sections to compensate for expansion and contraction of the concrete sections between which it is used as a separating strip. The preferred embodiment of the invention is illustrated in the accompanying drawing, in which Figure 1 is a perspective view of a portion of a separating strip, made in accordance with one embodiment of my invention, and Figure 2 is a cross section of a roadway or other concrete structure, illustrating the application of the invention as a separating strip between the sections thereof.

Referring now to the drawing in details —1— represents a sheet metal strip which is cut to the proper dimension and formed with the intermediate projecting portion —2— forming a tongue on one side of the strip and a groove —3— on the opposite side. The material of the strip at the top and bottom of this tongue and groove structure is preferably formed of upper and lower flat portions made to receive a covering of compressible bituminous or other suitable material to provide a compressible crown —4— at the top and bottom of the strip.

These separating strips as shown in Figure 2 are set between concrete sections so as to compensate for the expansion and contraction of the concrete, and it should be noted that the tongue is imbedded in the concrete on one side of the strip, and the groove on the opposite side of the strip provides an interlocking opening which the concrete will fill up. With this tongue and groove construction, not only is the strip firmly anchored between the concrete sections, but the sections themselves are interlocked so to speak, so that they cannot buckle, due to the pressure of expansion.

To further guard against this buckling of the sections, due to expansion, I provide additional reinforcing means, such as the rods —6—, which are passed thru openings —7— in the separating strip, with their opposite ends imbedded in the concrete sections. These reinforcing members may be steel bars, metal pins, rods or the like, and will aid the tongue and groove structure in joining the concrete sections together. The mastic crown —4— need not necessarily be applied to the lower end of the strip in every case, since the upper crown will more than likely serve the desired purpose.

From the above it will be noted that the combination of the tongue and groove, and the reinforcing bars —6—, form an unusually strong positive reinforcing structure for the concrete sections, so as to avoid any possibility of the same buckling due to expansion, as explained. The openings —7— may be arranged at properly spaced intervals in the length of the strip to accommodate the required number of reinforcing rods.

I claim:

1. A preformed expansion joint, comprising a boardlike body, having a tongue on one side, a corresponding groove on the other side, and a flat portion arranged to one side of said tongue and groove, said joint embodying in its construction a thickness of plastic bituminous material reinforced by sheet material of lesser thickness and having openings for the reception of transverse reinforcing members.

2. A preformed expansion joint, comprising a boardlike body, having a lateral projection on one side and a corresponding depression on the other side, and a flat portion arranged to one side of said lateral projection and depression, said joint embodying in its construction a thickness of plastic bituminous material reinforced by sheet metal and having openings for the reception of transverse reinforcing members.

Signed at Chicago, Illinois, this 30th day of March, 1926.

ALBERT C. FISCHER.