Jan. 26, 1926.

1,570,970

J. J. MILAR

EXPANSION JOINT

Filed June 1, 1922

Fig. 1.

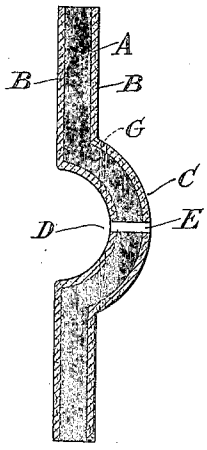


Fig. 2.

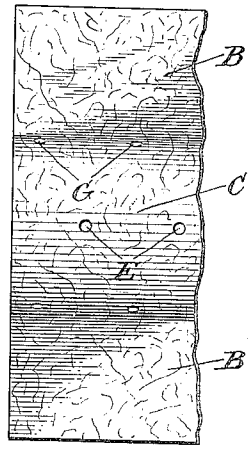


Fig. 3.

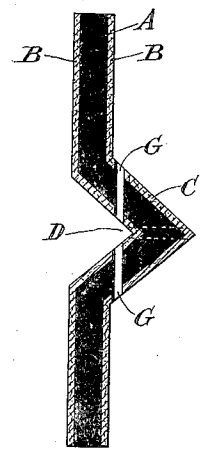
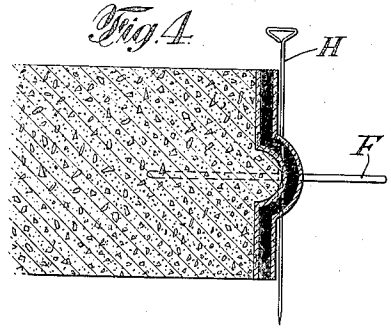


Fig. 4.



INVENTOR

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his ATTORNEY

Patented Jan. 26, 1926. 1,570,970

UNITED STATES PATENT OFFICE.

JAMES J. MILAR, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PHILIP CAREY MANUFACTURING COMPANY, A CORPORATION OF OHIO.

EXPANSION JOINT.

Application filed June 1, 1922. Serial No. 565,104.

To all whom it may concern:

Be it known that I, JAMES J. MILAR, a citizen of the United States, and a resident of Chicago, in the county of Cook, State of Illinois, whose post-office address is 3611 Loomis Place, Chicago, Ill., have invented new and useful Improvements in Expansion Joints, of which the following is a specification.

My invention relates to expansion or contraction joints. It is addressed to providing a joint material or filler which can be placed between adjacent sections of a roadway, pavement, or construction, where it is desired not only to have adjacent sections independent of each other, but to lock them in alignment and prevent one from rising, or riding up, above or over the other, while at the same time providing means to permit of expansion or contraction of either or both of the adjacent sections.

In the preferred form of my invention, shown in the drawings, I provide an elastic form of expansion or contraction joint which when placed between adjacent sections of a construction not only maintains the independence of the sections but affords a filler between them whether the space is, because of the expansion of the sections, at its minimum, or whether it is, because of the contraction of the sections, at its maximum. This results in preventing foreign matter from entering between the sections to disrupt the construction or otherwise cause damage thereto.

My improved expansion or contraction joint when used in concrete work may be placed in position to form a wall of the mold, into which the concrete is poured to form a section, and it will also as the concrete is poured and sets form on one section a tongue and on the adjacent section a groove into which the tongue projects, and with which it registers, thereby locking the sections together while providing a cushion between.

I also provide means passing from one section to the next adjacent section through the joint for locking adjacent sections together.

In the drawings:

Fig. 1 is a vertical cross section of my expansion or contraction joint:

Fig. 2 is a side view of same;

Fig. 3 is a vertical cross section of a modification of Fig. 1.

Fig. 4 shows one method of installing my joint in building a concrete roadway.

In the drawings A is a body of bituminous material either with or without a filler, B, B, are plies of flexible elastic bituminous saturated material, such as felt saturated with asphalt, which serve as reinforcements for the asphalt, as a means to hold it in form, and also to enable joints to be packed for shipment. The joint is formed so as, preferably, to have a tongue like C projection on one side and a corresponding groove or recess D on the other side. I form the tongue and groove so that a portion of the groove is beyond the vertical line of the exterior vertical portion of tongue side of the joint.

Passing through the joint, preferably in the vertical center of the tongue I arrange horizontal openings E through which a rod, bar, pin or dowel F may be passed to lock the blocks on the opposite sides of the joint against vertical movement independent of each other.

To enable the joint to be readily installed and to hold it in desired vertical position, I provide vertical openings G, G, through which a pin H may be passed and driven into the ground.

The tongue and groove can be made of any desired form in addition to the two illustrated in the drawings. I prefer however to always form my joint so that it will have two vertical members one above and one below the tongue and groove as shown in my drawings. I also prefer to form my joint so that it will be divided into three equal vertical portions, that is, the portion occupied by the projecting part forming the tongue and groove will be the same as either of the vertical portions above or below as shown in the drawings.

I claim—

1. An expansion joint consisting of a body of plastic material arranged between flexible elastic compressible non-deteriorating members, the whole so arranged as to form members in substantially the same plane on opposite sides of a member integral with said last mentioned members but in a different plane.

2. An expansion joint consisting of a

body of bituminous material having a flexible elastic compressible reinforcement therefor the whole arranged to form a joint having along the longitudinal center outwardly extending portions on one side and corresponding inwardly extending portions on the opposite side.

3. In a preformed expansion joint a board like plastic body having a tongue on one side, a corresponding groove on the opposite side, and a flat portion arranged to one side of said tongue and groove.

4. In a preformed expansion joint a board like plastic body having a tongue on one side, a corresponding groove on the opposite side, and a flexible waterproofed reinforcement.

5. In a pavement formed of sections, the end of one section being provided with tongue and the adjacent end of next section provided with a corresponding groove, a preformed expansion joint located within the space between said sections formed of a bituminous material having a tongue to register with the groove of said section, and a groove to register with the tongue of said section, and means passing through said joint and into adjacent sections of pavement.

6. An expansion joint composed of an elongated body of bituminous material having a longitudinal tongue on one side and a groove corresponding with said tongue on the opposite side, and means in said joint arranged to engage supports for holding said joint in place before the adjacent sections of construction are in place.

7. An expansion joint composed of a body of bituminous material, flexible elastic compressible reinforcement therefor, formed into a board like structure, having two longitudinally extending flat portions arranged on opposite sides of a longitudinally extending portion one face of which bulges outward and the other face of which extends into and registers with the bulging portion, and openings in said bulging portions arranged laterally of said joint.

8. In a concrete roadway, a channel shaped strip adapted to be embedded therein for the purpose of forming a contraction joint, said strip being formed with vertically aligned holes in the walls of said channel for receiving supporting stakes to hold said strip in position until embedded.

9. In a contraction joint, a channel shaped strip, vertically aligned holes in the walls of said channel for receiving supporting stakes to hold said strip in position while being installed.

In testimony whereof, I have signed my name to this specification.

JAMES J. MILAR.