

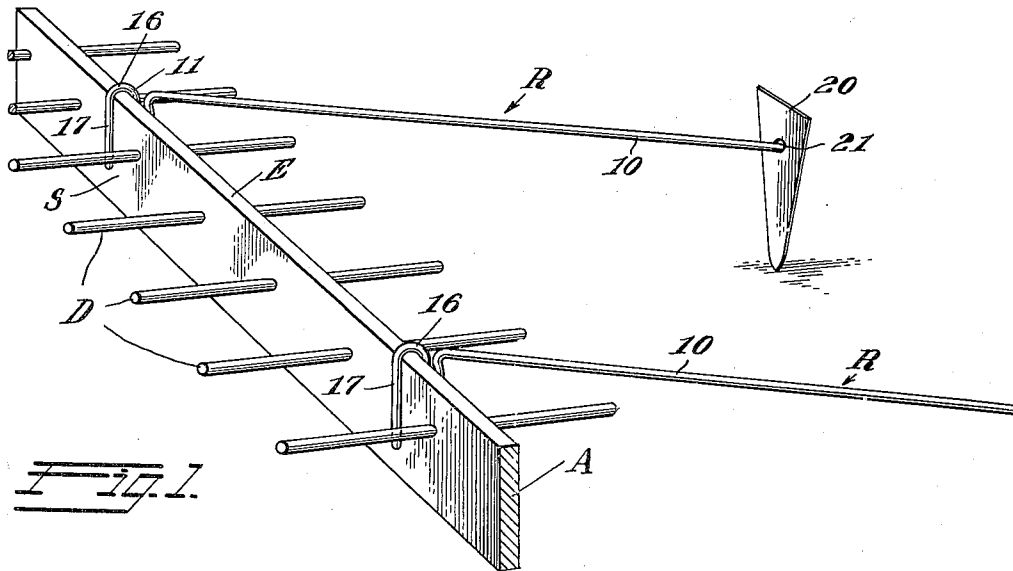
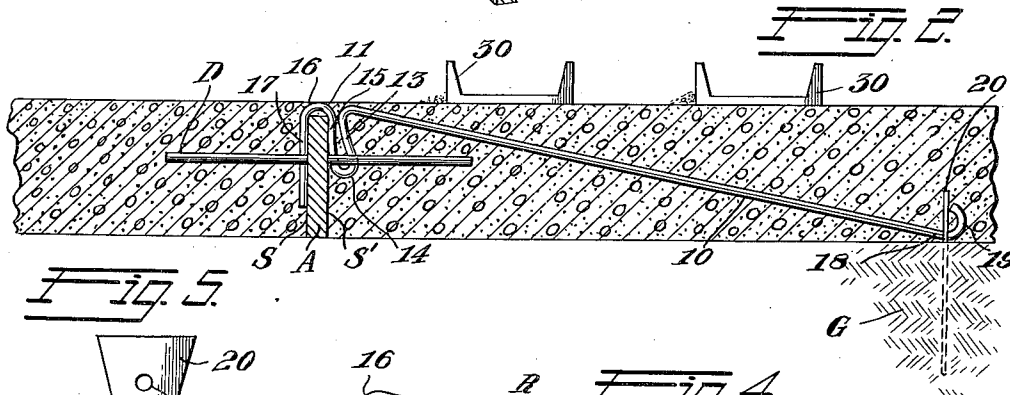
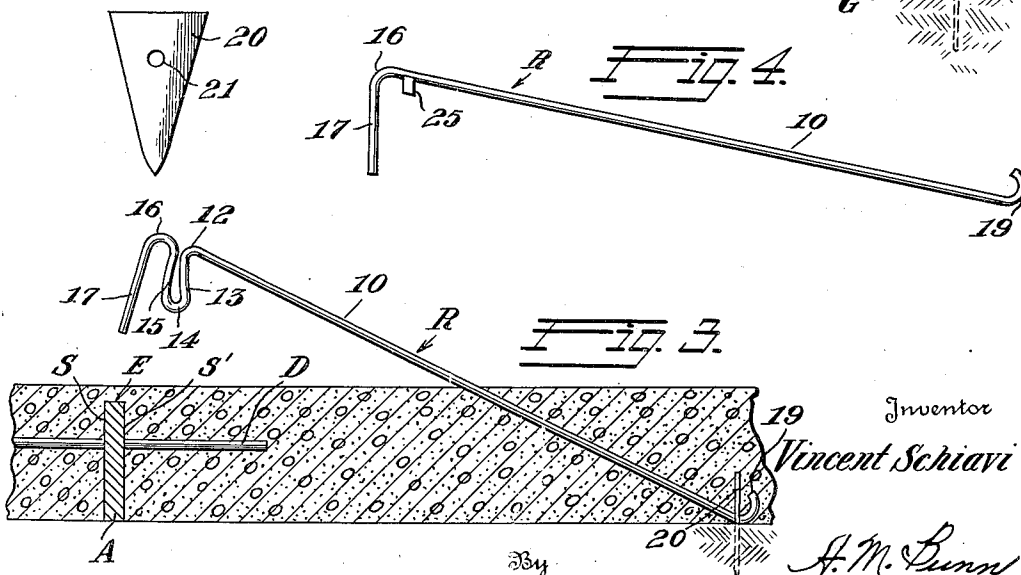
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RETAINER FOR EXPANSION JOINT STRIPS

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RETAINER FOR EXPANSION JOINT STRIPS

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7 Claims. (Cl. 94—51)

My invention relates to an improved retainer for retaining the expansion joint strips customarily laid between sections of concrete pavement.

5 In the laying of pavement, and particularly concrete pavements, the specifications require the interposition at predetermined intervals of transverse expansion joints which are customarily formed by the insertion of an expansion strip 10 of any suitable material. These strips are set up and retained in place between sections of the pavement.

It is obviously desirable that a practical and economic means be devised whereby these joint 15 strips may be accurately positioned and positively held down and retained in place during the laying of the pavement and that the retainer means should be such as not to interfere with the free passage thereover of the machine or hand drawn 20 drag plate or screed to spread the concrete, and that the retainer should be easily withdrawn from the pavement after it has been placed on each side of the expansion joint, leaving the joint strip held positively in place by reason of its bond 25 with the pavement on each side of it.

While it has been suggested heretofore to accomplish the foregoing objects by the construction and use of a removable joint strip retainer, yet these prior constructions have been found to 30 be expensive to manufacture and difficult to use.

One of the objects of the present invention, therefore, is the construction of a retainer for expansion joint strips which will be easy to set up and easy to remove; cheap in initial cost and of 35 light construction; which will give rigidity to the expansion joint during the laying of the concrete; which can be made in various desired lengths, shapes, widths or thickness; which can be left 40 in place if desired and which will add to the strength of the material with which it is used; which will not interfere with the placing of any dowel pins or tie rods and which guarantees that the expansion joint strip will remain in place and 45 in a perpendicular plane.

The above and other objects will be apparent from the detailed description hereinafter appearing when taken in conjunction with the appended drawing forming a part hereof to which reference 50 is now made and in which:—

Fig. 1 is a perspective view of an expansion joint strip showing a pair of the novel expansion joint strip retainers operatively associated therewith 55 but prior to anchoring in the sub-soil or the road

bed; the anchor end of one of the retainers being broken away.

Fig. 2 is a cross sectional view transversely through the expansion joint strip and showing the retainer in operative position and anchored 5 in the ground on which the concrete is poured, and also showing screeds leveling the surface of the concrete without disturbing the expansion joints.

Fig. 3 is a view similar to Fig. 2, showing how 10 the novel retainer may be removed after the concrete has been laid and leveled.

Fig. 4 is a side elevational view of a modified form of the anchor rod forming part of the novel expansion joint strip retainer. 15

Fig. 5 is a front elevational view of a wedge-shaped anchor forming part of the novel expansion joint strip retainer, and adapted to be used with either the preferred form of anchor rod 20 shown in Figs. 1 to 3 inclusive, or the modified form of rod shown in Fig. 4.

Referring now to Figs. 1 to 3 inclusive, the reference character A designates an expansion joint strip having a plurality of spaced transversely extending dowel pins D. A plurality of such expansion joint strips, as is well known, are placed at uniform intervals on a road bed prior to the pouring of the concrete thereover. These strips are for the purpose of compensating for the expansion and contraction of the concrete pavement 30 sections intermediate the strips brought about by climatic conditions. It is of the utmost importance that the strips be held normal to the road bed prior to the laying of the concrete, and that the upright position of each strip be not disturbed during the pouring of the concrete thereover, and when the surface of the concrete is leveled by means of either a hand or power driven screed. 35

The foregoing objects are attained with the novel device forming the subject matter of the instant invention, which device is generally designated on the drawing as R. It comprises an anchor rod 10 of a predetermined length made of metal or other suitable material. One end 11 45 of the rod 10 is adapted to hook over the upper edge E of the expansion joint strip A, as will be apparent from Figs. 1 and 2 of the drawing. The rod 10, at the end 11 thereof, is bent downwardly as at 12 to form a short arm 13, then transversely forming the bend 14, then upwardly forming the short arm 15 slightly converging toward the arm 13, then transversely, forming a bend 16 substantially in the same plane as the rod 10, and then 55

downwardly to form the rod extension arm 17. The latter is of greater length than either the arms 13 or 15. The opposite end 18 of the rod 10 is bent upwardly to form an open hook member 19. Positioned adjacent the hook member 19 is a wedge-shaped metallic anchor plate 20, provided with an aperture 21 of greater diameter than the rod 10 which projects through the aperture 21 of the plate 20 for loosely holding the plate in operative position in abutting relationship against the hook member or portion 19. In operative position, the bend 16 hooks over the upper edge E of the expansion joint strip A with the long extension arm 17 contacting one side face S of the strip A and the short arm 15 contacting the opposite side face S' of the expansion joint strip. The anchor plate 20 is then hammered into the position shown in Fig. 2 of the drawing wherein the major portion of the plate projects into the subsoil G of the road bed.

Screeds 30, normally employed to level off the top face of the concrete will not dislodge or change the angular position of the strip A as they are moved over the surface of the concrete. After the leveling operation, the strip retainer R may be removed by merely lifting one end of the same, as illustrated in Fig. 3 of the drawing. It will also be apparent that, if desired, the retainer device may be permitted to remain in the concrete as a permanent anchoring member.

In Fig. 4 of the drawing there is shown a slightly modified form of rod 10, said rod being provided with a projecting portion 25 to contact the face S' of the strip in lieu of the corresponding bends and arms 12, 13, 14 and 15 in the form of the invention shown in Figs. 1 to 3 inclusive. It might be mentioned that the anchoring rods 10 can be made of any desired length and the size of the anchoring plates 20 varied, depending upon the character of the sub-soil G of the road bed.

From the above description, it will be seen that there has been disclosed a device well adapted for its intended functions, as will be obvious to those skilled in the art. Various other changes and modifications may be made to embody the spirit and purpose of the invention and it is contemplated to cover such variations and to be limited in this respect only as may be necessary by the scope of the appended claims.

Having thus set forth the invention what I claim as new and desire to secure by Letters Patent is:

1. A retainer for an expansion joint strip com-

prising an anchoring rod, means at one end of the rod for attachment to the strip, and an apertured anchoring member loosely carried at the other end of the rod, whereby said rod may be angularly adjusted relative to said member.

2. A retainer for an expansion joint strip comprising an elongated anchoring member, means carried by one end of the member for attachment to the strip, and an apertured anchoring plate loosely carried by the other end of said member, whereby said rod may be angularly adjusted relative to said member.

3. A retainer for an expansion joint strip comprising an anchoring rod, means carried by the rod at one end thereof adapted to be positioned over the upper edge of the strip, and an apertured anchoring plate loosely carried by the opposite end of the rod, whereby said rod may be angularly adjusted relative to said member.

4. A retainer for an expansion joint strip comprising an anchoring rod, means carried by one end of the rod adapted to contact the opposite faces of the strip, and an apertured anchoring member loosely carried by the opposite end of the rod, whereby said rod may be angularly adjusted relative to said member.

5. A retainer for an expansion joint strip comprising an anchoring rod, a pair of spaced arms at one end of the rod for cooperation with the opposite side faces of the strip, means connecting said arms extending over the upper edge of the strip, and an apertured anchoring wedge plate loosely carried by the opposite end of the rod, whereby said rod may be angularly adjusted relative to said member.

6. A retainer for an expansion joint strip comprising an anchoring rod, a pair of spaced arms at one end of the rod, means connecting said arms, said rod, arms and connecting means being structurally integral, and an apertured anchoring member loosely carried by the opposite end of the rod, whereby said rod may be angularly adjusted relative to said member.

7. A retainer for an expansion joint strip comprising an anchoring rod, a pair of spaced arms at one end of the rod, means connecting said arms, said rod, arms and connecting means being structurally integral, the opposite end of the rod terminating in a stop, an apertured anchoring plate, said rod passing through and loosely fitting in the aperture in said plate with the latter adapted to abut said stop.

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