March 27, 1928. 1,664,037

W. H. KNAPP

PAVEMENT FELT HOLDER

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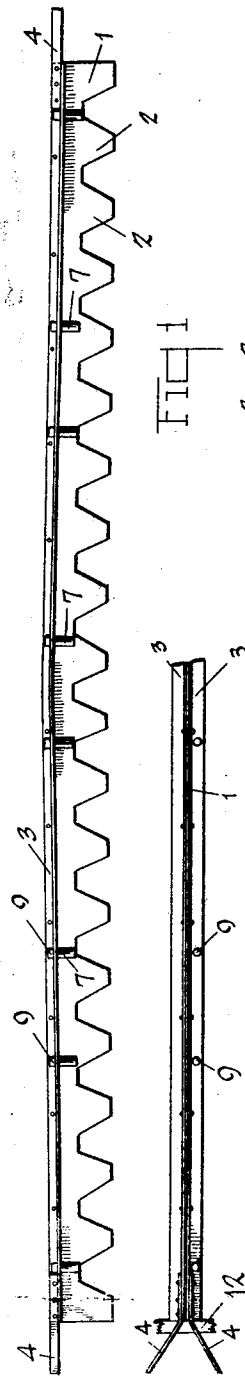

Fig 1

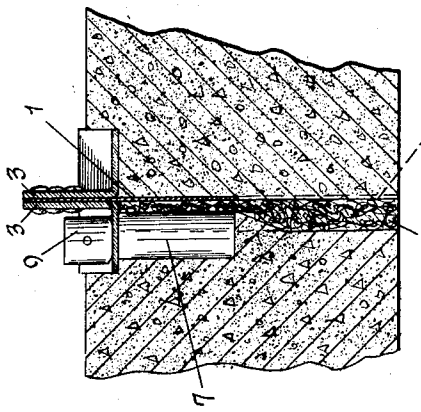

Fig 3

Fig 2

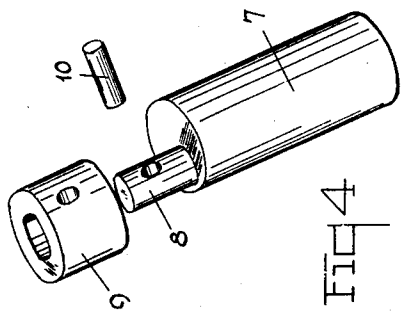

Fig 4

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UNITED STATES PATENT OFFICE.

WALTER H. KNAPP, OF MONROE, MICHIGAN, ASSIGNOR TO THE WILDER-STRONG IMPLEMENT COMPANY, OF MONROE, MICHIGAN, A CORPORATION OF MICHIGAN.

PAVEMENT FELT HOLDER.

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My invention has for its object to provide a section tool for dividing plastics used for building purposes into sections, particularly those portions that extend at an angle to the vertical, such as, road beds, pavements, side walks of considerable width, floors of buildings, etc., which are commonly divided into sections to allow for expansion due to temperature changes. The invention particularly has for its object to provide a means for temporarily holding the section dividing felt strip of the type commonly used, and formed of fibrous material that is ordinarily saturated with water-proof material such as tar, oil, etc. Such felt strips are difficult to place and also to maintain in position, while the pavement is being formed, owing to their flexibility, and, owing to the fact that a plurality of such strips have to be placed in a section where the pavement has a considerable width, such as, in the case of the pavement of a road, the strips become frequently submerged in the cement composition, or are knocked from their position by the tools or apparatus that are used, or are disaligned with reference to the parts of the strips of any particular section, and also with reference to the edges of the pavement of the road or flooring or walk, in connection with which the dividing strips are used, with the result that such felt strips, while theoretically constituting an excellent section separating means for pavements and flooring of different kinds, yet, ordinarily, they are useless because of their awkwardness and the difficulty met with in endeavoring to manipulate them and hold them in place so that they will be properly located when the construction or any part of the construction is completed.

By my invention means is provided for not only dividing the pavement or flooring into sections, but also for holding the divisional felt strips in position while the pavement or flooring is being formed.

The invention may be contained in structures and devices of different forms and to illustrate a practical application of the invention, I have selected a structure containing the invention and shall describe it hereinafter. The structure selected for purposes of illustration is shown in the accompanying drawing.

Fig. 1 illustrates a side view of one section dividing and felt holding tool embodying my invention. Fig. 2 illustrates a top view of a part of the tool illustrated in Fig. 1. Fig. 3 illustrates a view of a section of a tool. Fig. 4 illustrates a perspective view of parts of a clamp for securing the felt to the tool.

In the form of construction shown in the drawing, a metal strip 1 has portions cut away from its lower edge, leaving, preferably, protruding portions that will extend well into the pavement, that have edges that slope at an angle to the edges of the strip and so as to form projecting teeth whereby the section tool may be readily forced into the concrete and drawn therefrom if desired, and also provides a means whereby the concrete on opposite sides of the tool may frictionally engage the lower edge portions of a divisional felt strip placed through the recesses in the metal strip along the lower edge of the metal strip and thus retain the felt strips when the tool is withdrawn.

In order to reinforce the strip 1, particularly where it is of considerable length, L-shaped irons or strips 3 are bolted to and along the upper edge of the metal strip 1. Also, supporting lugs or arms 4 are secured at the ends of the strip 1 and, preferably, at the upper corners of the strip 1, whereby the tool may be supported on boundary strips 12, usually formed of wood or steel, and for the purpose of forming the side edges of the pavement. Any form of support may be used which is located so that when the lugs or arms 4 may rest thereon and the tool be supported so that the lower sides of the L-strips or irons 3 are located in the proper relation with reference to the finished surface of the pavement or the flooring. The arms or lugs 4 are, preferably, made of such a length that they may be used as handles in manipulating the pavement tool. Also, the arms or handles are so formed that they will support the tool at the desired angle with reference to the horizontal. Thus the arms or handles operate to stabilize the tool when placed in position. In the form of construction shown, the arms or handles of each end of the strip extend at an angle to each other so that when they are placed on a support, they will hold the section dividing strip 1 in the proper position. The stability of the dividing strip is particularly desirable since in the building of roadways, and of other pavement of considerable

width, the surface of the pavements invariably slope either to one side or to both sides. The latter is commonly the case in road pavement to produce the desired crown in the pavement for drainage purposes. Consequently, the strip 1 is so shaped that its central portion is raised a material amount above the ends of the strips 1, and the arms or handles 4 operate to maintain the strip 1 in its upright position.

In order to secure the soft, flexible, fibrous felt in position during the process of road construction, the felt strip is removably connected to the metal strip 1, and so that upon drawing the metal strip 1 from the pavement, as the sections are formed, the flexible felt strips will be left in position to fill the spaces between the sections, which allow for the expansion of the sections of the pavement and at the same time prevents seepage of water, and, consequently, the cracking of the pavement on freezing. The felt strip 5 and the metal strip 1 have a width so as to imbed the felt strip at the desired depth in the pavement. The width of the felt strip, preferably, is substantially the width of that portion of the metal strip located below the angle irons or strips 3, and means is provided for securing the felt strip along one side of the metal strip and below one of the angle irons 3.

Any suitable means may be used for temporarily securing the felt strips in position. In the form of construction shown, a cam member, or exaxially supported cylinder 7, is rotatably connected to a laterally extending flange of one of the L-members or strips 3. The clamping member 7 has a projection 8 that is located eccentrically with respect to the end of the cylinder member 7, and a head 9 is connected by means of a pin 10 to the projection 8. In assembling the cam members which are distributed along the strip 1, the projections 8 are inserted through openings formed in a laterally extending flange of one of the L-members or strips 3, and the heads 9 are then secured to the projections 8 by the pins 10 and so as to locate the head 9 on the upper side of the laterally extending flange of the L-member 3 to which it is connected. The body of the cam member 7 projects downward from the flange and in position to grip the upper edge portion of the felt strip when the head 9 is rotated. This causes the cylinder portion 7 of the cam member to press portions of the felt strip 5 against the side of the metal strip 1. The felt strip ordinarily is divided into relatively short lengths of 5 feet or thereabout, and the cam members 7 are distributed along the strip 1 so as to engage each of the sections of the felt strips at, preferably, two points and thus temporarily secure the felt strips 5 to the metal strip 1.

The tool is then placed in position and as the material is applied to the road in the formation of a pavement, it will settle about the felt strip 5 and the metal strip 1 and engage on both sides of the felt strips 5 at those portions of the felt strip between the teeth 2. Thus the teeth 2 form a means for permitting the material of the pavement to secure and retain the felt strip in the position in which it is temporarily held by the metal strip 1. When, therefore, the edge portions of juxtaposed sections of a pavement have been completed, the cams may be rotated so as to release the felt from the strip 1 and the tool may then be drawn. Another felt strip may then be temporarily secured in position on the strip 1 and the tool again placed in position for forming a desired division between other sections. A plurality of such tools may be used, if desired, according to the manner in which the work on a pavement is conducted.

I claim:

1. In a tool for locating a fibrous strip to form a flexible joint for pavements and the like, a thin metallic strip, means for supporting the ends of the metallic strip, a pair of L-irons clamped against opposite sides of the metallic strip and located along one edge thereof, a plurality of cams for removably connecting the strip of fibrous material to the metallic strip and rotatably supported in one of the L-irons.

2. In a tool for locating a fibrous strip to form a flexible joint for pavements and the like, a thin metallic strip, means for supporting the ends of the metallic strip, a pair of L-irons clamped against opposite sides of the metallic strip and located along one edge thereof, the lateral extending flanges located below the level of the top of the completed pavement for forming a channel in the pavement and extending across the pavement, a plurality of cams for removably connecting the strip of fibrous material to the metallic strip, and rotatably supported in one of the L-irons.

In witness whereof I have hereunto signed my name to this specification.

WALTER H. KNAPP.