

L. W. McINTYRE.
 TOOL FOR MARKING CEMENT PAVEMENTS.
 APPLICATION FILED AUG. 8, 1911.

1,041,320.

Patented Oct. 15, 1912.

Fig. 1.

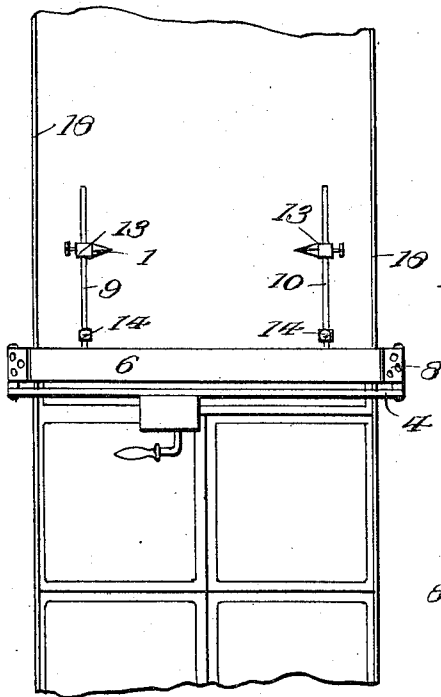


Fig. 2.

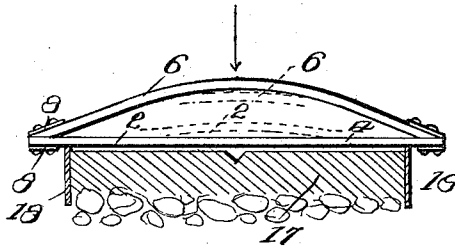


Fig. 3.

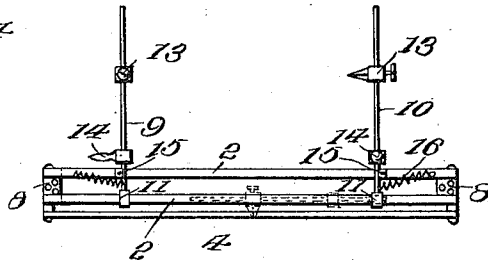


Fig. 4.

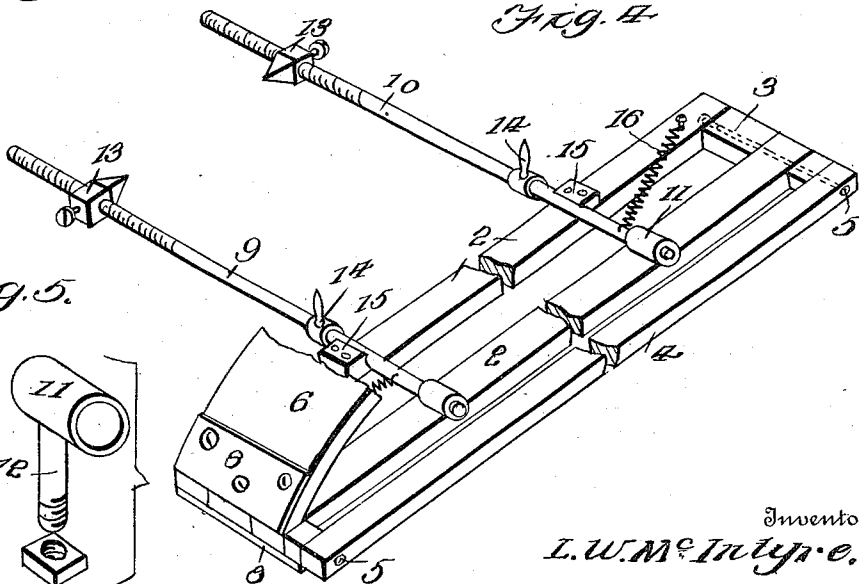
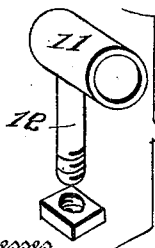


Fig. 5.



Witnesses

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TOOL FOR MARKING CEMENT PAVEMENTS.

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To all whom it may concern:

Be it known that I, LOREN W. MCINTYRE, citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Tools for Marking Cement Pavements, of which the following is a specification.

My invention relates to devices used in forming pavements of artificial stone or like structures, and particularly means whereby the relatively soft artificial stone is marked to indicate or imitate a joint. This operation is known as jointing.

In the present method of forming concrete sidewalks or pavements a form is used on each side of the mass of concrete between which form the concrete is placed. After the pavement has been laid and while it is yet fresh and relatively soft, a supporting board is laid across the walk either immediately on the concrete or resting at its ends on parallel boards of the form. The workman crouches on this board, draws a trowel across the surface of the concrete, using the board as a straight edge for the purpose, and marks the surface of the concrete so as to give the appearance of a joint at this place. The weight of the workman depresses the middle of the board even when the board is supported at its ends upon the forms, and this defaces the surface of the concrete and renders necessary retroweling and refinishing. With this method it is also necessary to previously mark the work so as to indicate the size of the imitation blocks which are to form the pavements, and the workman must be careful to set this board in conformity with these marks.

The primary object of my invention is to provide a support for the workman, so constructed that the weight of the workman on the support will tend to raise the middle portion of the board above the face of the fresh concrete rather than depress the board at its middle.

A further object is to provide a jointing board of this character with gages so constructed that they may easily turn out of or into operative position, these gages permitting the workman to set the board at any desired point with reference to a predetermined size of block, thus doing away with the necessity of previously marking the pavement to indicate where the board is to

be set. By the use of my invention I do away with the necessity of retroweling or refinishing the pavement and thus eliminate a large amount of unnecessary work and reduce the cost of the pavement.

An embodiment of my invention is illustrated in the accompanying drawings wherein:

Figure 1 is a plan view of a section of concrete pavement showing my invention applied thereto and supported upon the side forms of the pavement. Fig. 2 is a cross section of the pavement and the side forms thereof with my invention applied thereto. Fig. 3 is a plan view of my invention, the arched support being entirely removed to show the base and the gage rods. Fig. 4 is a perspective view of my invention, the bowed or arched support being partly broken away. Fig. 5 is a perspective detail view of the pivotal support for the gage rods.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

My improved support comprises a base formed preferably of parallel strips and preferably comprising the parallel strips 2 which are spaced from each other by intermediate blocks 3 and a marking strip 4 which is attached to one edge of the base. Preferably the marking strip is connected to the strips 2 and 2 by means of transversely extending bolts 5 which extend through the marking strip, through the strips 2 and through the blocks 3. I of course do not wish to limit myself to this as any desired means of connecting these strips may be used. The marking strip is preferably spaced slightly from the adjacent strip 2.

Supported upon the ends of the strips 2 is the arched board 6. The ends of this board 6 engage the extremities of the strips 2 and 2 but the intermediate portion of the arched board 6 is entirely disconnected from the strips 2 and 2. As a consequence, any weight upon the arched board 6 will be carried to the ends of the strips 2 and 2, and if these strips 2 and 2 are supported intermediate of their lengths, the pressure at the ends will tend to arch the strips 2 upward at their middles. While I do not wish to be limited to any particular means of connecting the arched board 6 to the strips 2, I

have shown for this purpose the oppositely disposed metal caps 8 which embrace the ends of the base formed by the strips 2 and 2 and the adjacent ends of the board 6. These strips connect the base with the arched board 6 but permit a necessary relative movement between the strips 2 and the board 6. The boards 18 which form the side forms for the pavement are usually spaced about six feet apart and the strips 2 are 6' 6" long. Therefore it will be seen that the base will project 3" on each side over the side forms and that hence any weight placed upon the arched board 6 will be carried down to the extremities of the base strips 2 beyond their points of contact with the form boards and that hence this pressure applied upon the ends of the strips 2 will tend to arch the strips upward at their middles so that the strips will not contact with the surface of the concrete, (see Fig. 2).

For the purpose of gaging the jointing, I provide the gages 9 and 10. These gages each consist of a rod of any desired length pivotally connected at one end to the strips 2, preferably the strip 2 next to the marking strip 4, and free to move at the other end.

Preferably the pivot for each of the rods 9 and 10 consists of a sleeve 11 having a pivot bolt 12 which passes down through one of the transverse bars or strips 2. This permits the rods 9 and 10 to rotate upon the pivot 12 as a center, and also permits them to rotate axially within the sleeves 11.

Each rod 9 or 10 carries at its end an adjustable marker 13 which is longitudinally shiftable upon the rod, this rod being preferably graduated so as to indicate the proper position of the marker for any desired size of block. Each rod is also preferably provided with a handle 14 which is also adjustable along the rod, the handle being for the purpose of permitting the rod 9 to be easily turned into or out of operative position.

Oppositely disposed shoulders 15 are provided on the outermost strip 2 which is farthest away from the marking strip 4, these shoulders 15 being disposed immediately opposite the pivotal points of the rods 9 and 10 so that when the rods are turned outward in the position shown in Fig. 1 they will bear against these shoulders and extend at right angles to the marking strip 4. For the purpose of holding the gage rods in either their operative or inoperative positions, I attach to each of the rods the coiled contractile springs 16. Each of these springs is connected at its outer end in any suitable manner to the base, and preferably to the extremity of the outermost bar 2, and its inner end is connected to the corresponding gaging rod between the pivotal point of the

rod and the free end thereof but preferably adjacent to the pivotal point of the rod. It will be seen that when these gaging rods 9 and 10 are turned out to their projected position, the springs will hold the rods against the shoulders 15. These gage rods do away with the necessity of previously marking the work to indicate the situation of the joints. It is only necessary to set the gages to the size blocks desired and then operate the handle 14 of the gage. This will mark the pavement so that the board may afterward be set in conformity with this mark.

It will be observed that the springs 16 yieldingly prevent any axial rotation of the rods 9 and 10 and tend to hold these rods in the position shown in Fig. 4, that is, with the markers 13 disposed in a horizontal position. The handles 14, however, permit either one of the rods 9 and 10 to be turned axially so as to depress the marker into contact with the soft concrete of the pavement. Upon the release of the handles 14, however, the springs 16 will cause the markers to axially rotate back to the position shown in Fig. 4.

While my improved jointer may be made of any desired size, I have found it convenient in practice to make the base 6' 6" long. For larger work, however, it is necessary to make the board about 16' 6" long. This long support, however, is too heavy for one man to conveniently handle.

While I do not wish to limit myself to the use of wood as a material for making the strips 2—2, I have found in practice that the wood is sufficiently resilient to permit the middle of each strip to rise when the extremities of the strip are depressed. Further than this, the wood is very light and the device may be easily constructed and repaired.

Fig. 2 shows the operation of my invention. In this figure, 17 designates the concrete and 18 the side boards which make the form between which the concrete is poured. It will be seen that the base formed by the strips 2—2 and the marker strip 4 is longer than the distance between the forming boards 18, and that it projects over on each side thereof. It will also be seen that any weight upon the arched board 6 will tend to depress the ends of the base and thus elevate the middle of the base.

I do not wish to be limited to the details of my construction as it is obvious that many modifications might be made without departing from the spirit of the invention.

What I claim is:

1. A support for jointing concrete pavements comprising a longitudinally extended resilient base, adapted to rest at a point intermediate its ends upon the side forms of a

concrete sidewalk, and a bowed member supported on and engaging at its ends with the ends of the base, the intermediate portion of the bowed member being disconnected from the base.

2. A support for jointing concrete pavements comprising a longitudinally extended resilient base, adapted to rest at a point intermediate its ends upon the side forms of a concrete sidewalk, formed of parallel strips, and a bowed member supported on said base and engaging at its ends with the extremities of the base, the intermediate portion of the bowed member being disconnected from the base.

3. A support for jointing concrete pavements comprising a longitudinally extended base formed of parallel strips of wood spaced from each other at their ends, adapted to rest at a point intermediate its ends upon the side forms of a concrete sidewalk, and a bowed member comprising an arched board engaging at its ends with the ends of the base, the intermediate portion of the said bowed member being disconnected from the base.

4. A support for jointing concrete pavements comprising a longitudinally extended base composed of parallel wooden strips, adapted to rest at a point intermediate its ends upon the side forms of a concrete sidewalk, spacing members disposed between said strips, bolts passing between the strips and the spacing members, a bowed member contacting at its ends with the extremities of the strips, and caps holding the extremities of the bowed member to the strips, the intermediate portion of the bowed member being disconnected from the base.

5. A support for jointing concrete pavements comprising parallel resilient strips spaced from each other to form a base, a jointing strip attached at its ends to the base and extending parallel thereto, and a bowed member engaging at its ends with the extremities of the base.

6. A device for jointing concrete pavements including a longitudinally extended support, horizontally disposed gage rods pivoted to said support and movable in a horizontal plane into and out of a position

at right angles to the support, and pointing members adjustable upon said rods.

7. A device for jointing concrete pavements comprising a longitudinally extended support, a horizontally disposed gage rod pivoted to said support and movable in a horizontal plane into and out of position at right angles to the support, a shoulder on the support against which the gage rod bears when in operative position, and a spring holding the gage rod against the shoulder.

8. A device for jointing concrete pavements comprising a base composed of longitudinally extending, parallel, resilient strips, a jointing strip attached at its ends to the base strips, a bowed supporting member disposed over the base strips and engaged at its ends with the extremities of said strips, gage rods pivoted each at one end to one of the base strips and movable into or out of a position at right angles to the base strips, shoulders mounted on the base strips against which the gage rods bear when in their operative position, and retractile springs connected to said gage rods between the free ends thereof and the pivotal centers thereof.

9. A device for jointing concrete pavements comprising a longitudinally extending support, gage rods pivotally mounted on said support, each of said gage rods being axially rotatable, and means for holding the gage rods in a projected position and for yieldingly holding the gage rods in a predetermined axially rotatable position.

10. A device for jointing concrete pavements comprising a longitudinally extending support, sleeves pivotally mounted upon the support, shoulders on the support opposite the sleeves, gage rods rotatably mounted in said sleeves, markers adjustably mounted upon the gage rods, and springs yieldingly holding the gage rods in position against said shoulders and yieldingly preventing any rotation of the gage rods.

In testimony whereof, I affix my signature in presence of two witnesses.

LOREN W. McINTYRE. [L. S.]

Witnesses:

CHAS. C. AGNEW,
JESSE KLINE.