

J. N. HELTZEL.

MOLD.

APPLICATION FILED SEPT. 6, 1910.

1,005,543.

Patented Oct. 10, 1911.

2 SHEETS-SHEET 2.

Fig. 3.

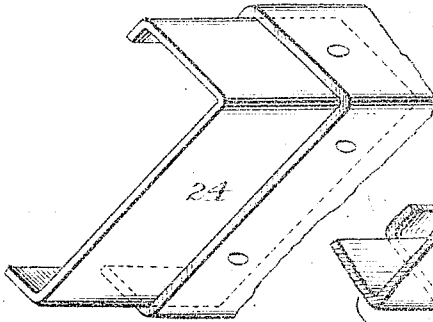


Fig. 4.

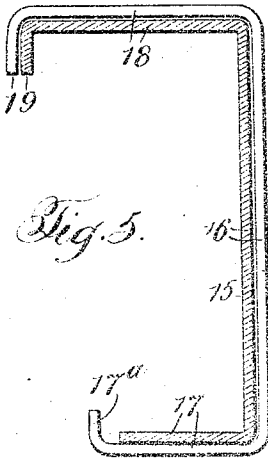
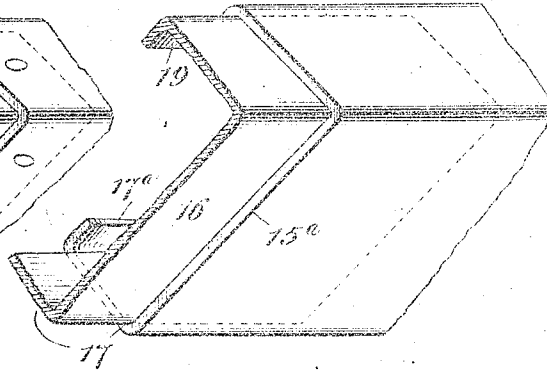


Fig. 7.

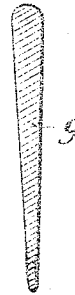


Fig. 6.

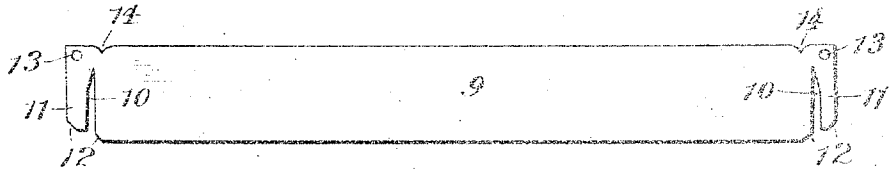
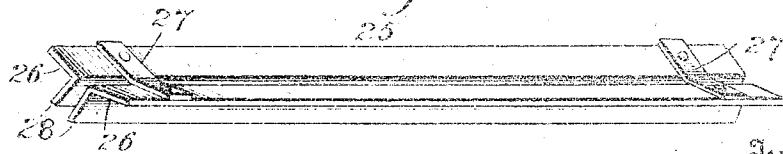


Fig. 8.



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UNITED STATES PATENT OFFICE.

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MOLD.

1,005,543.

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To all whom it may concern:

Be it known that I, JOHN N. HELTZEL, a citizen of the United States, residing at Streator, in the county of LaSalle and State of Illinois, have invented certain new and useful Improvements in Molds, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to molds, for use in making sidewalk and other pavements of concrete or other plastic material, of the type in which side-rails are positioned to mold the side of the pavement and are held in proper relation by division-plates or other suitable connecting members, the rails and connecting members being removable from the portion of the pavement which has set and transferable to position for use in continuing the pavement.

The side-rails provided by the invention are so shaped that they will be of sufficient strength and not liable to be bent out of shape when made of comparatively thin sheet material, whereby the necessity of employing heavy material is avoided.

The mold may be adjusted to the exact length desired by employment of rails shaped as contemplated by this invention which are slidable one over another; and means are also provided by the invention to securely attach abutting ends of rails together. It is necessary to employ clamps in neither form of rails.

The division-plates are detachably connected to the side-rails in such manner that, although easily removed, they are securely held in place; and the position of the division-plates when connected with the side-rails is such that their top edges are flush with the tops of the side-rails, whereby they do not interfere with the operation of tools used in finishing the pavement.

When read in connection with the description herein, the details of construction and arrangement of parts contemplated by this invention will be apparent from the accompanying drawings, forming part hereof, wherein an embodiment of the invention, as applied to molds for forming sidewalks, is shown, for purposes of illustration. It is to be understood, however, that the several instrumentalities of which the invention consists can be variously organized without departing from the nature and spirit of the

invention, and that the invention is not to be necessarily limited in interpretation of the claims hereinafter to the precise delineation herein.

Like reference-characters refer to corresponding parts in the several views of the drawings, of which—

Figure 1 is a perspective view of the mold; Fig. 2 is an enlarged end view of a side-rail; Fig. 3 is a view illustrative of means for connecting abutting ends of side-rails together; Fig. 4 is a view illustrative of a manner of telescopically connecting side-rails to form a mold of exactly the desired length; Fig. 5 is a transverse sectional view of telescoping side-rails; Fig. 6 is a side view of a division-plate; Fig. 7 is a transverse sectional view of a division-plate; and Fig. 8 is a view of the division-plate straightener.

Having more particular reference to the drawings, 9 designates division-plates or connecting members, each of which is tapered from top to bottom, as shown in Fig. 7, to make easy its withdrawal from set plastic material. The division-plates are made with slots 10, one near each end, extending from the bottom edge for a considerable distance toward the top, whereby a leg 11 is formed. The slots are wedged shaped with the greatest width at the bottom—that is, they decrease in width from bottom to top. The plates are beveled, as shown at 12, at the open ends of the slots. Holes 13 are formed in the plates, one near the top of each leg 11; and near each end the plates have niches 14 in their top edges.

The division-plates are used to form expansion-joints in the pavement and to connect and hold in proper relative positions side-rails 15 which constitute the sides of the mold. Each side-rail is made of comparatively thin material, preferably sheet metal which may be as thin as one-sixteenth inch, and it is formed with a web 16 having strengthening-flanges 17 at the bottom and 18 at the top. The flanges lie at, or substantially at, right angles to the web, and they reinforce the rail against bending in a transverse line. To reinforce flange 18, it is formed with a depending flange 19 which extends toward flange 17. Besides strengthening the rail, the flanges perform a function in connecting rails together, as herein-

after described. In the bending of the material of which the rail is made to form the flanges 17, 18, and 19, round corners are formed, and thus sharp edges, which would cause inconvenience to workmen are avoided.

Each side-rail is formed with a slot 20 extending from the top into the web a distance equal to that between the top of the division plates and the ends of the slots 10 thereof, and with a slot 21 continuing from slot 20 into flange 18. Slot 21 is widened intermediate its ends, as shown at 22. The formation of each pair of slots 20 and 21 is such that the leg 11 of a division-plate may be dropped through slot 21 and caused to overlap the web of the side-rail and thereby be connected with the rail. The portion of the plate between its top and the ends of its slot 10 seats then in slot 20 of the rail and holds the plate against turning movement. As the slot 20 is just as long as the distance between the top of the division-plate and the end of its slot 10, when the plate is in connected position its top edge is flush with the top of the rail. The beveled ends 12 of the slots 10 make easy the placing of the plate over the rail, and slot 21, through which the leg 11 passes, forms a guide to direct the rail into slot 20.

The width of slot 10 is made somewhat greater at its bottom end than the thickness of the material of the web of the side-rail, in order that there may be no difficulty in connecting and disconnecting the plate; but, as the slot decreases in width toward the top, its edges are wedged against the web at the top, whereby the plate is held down in position. In order to securely hold the plate at the bottom in seated position, the web is formed, below each pair of slots 20 and 21, with a protuberance 23 sufficiently low on the web to be engaged by the leg 11 first when the plate is almost in seated position and over which the leg is forced as the plate is continued in movement down to seated position. In order to start the plate from its frictional engagement with the protuberance and with the web of the side-rail, when it is desired to raise the plate, the end of a lever is inserted through the widened portion of slot 21 and into hole 13 of the plate and that end moved upwardly. When the plate is thus loosened, it is free to be lifted from the side-rail. When the division-plate is in place and the web of the side rail is enveloped by its engagement in the slot 10 of the plate, the plate serves to reinforce the web against bending in a longitudinal line.

In order to connect together the abutting ends of side-rails, a sleeve 24, of the same shape in cross section as the rail, is riveted or otherwise secured interiorly to one end of a rail and with which the abutting end of the next rail may have sliding engagement

and over which it may be snugly fitted. The flange 19 operates to prevent transverse disconnection of the two rails so joined.

It is frequently necessary to end the sides of a mold for sidewalks or the like at a place which cannot be reached from rails in position by one rail and which would be overreached by two rails. In order to provide for such conditions, and also for use generally in the formation of the sides of molds when desired, some of the rails are made of different size in cross section so that they may snugly slip into or over the others, as shown in Figs. 4 and 5, wherein the larger rails are designated by 15^A. The larger rails are of the same shape as the smaller rails, except that they are provided with an upwardly-extending flange 17^A on the flange 17. The flanges 17^A and 19 prevent lateral relative movement between the rails. The larger and smaller rails may be telescoped in an obvious manner to make the sides of the mold the exact length desired. The material of the side-rail, when made with flanges as contemplated herein, may be so thin that the lapped end of the outer telescoping rail section will make no appreciable inset in the side of the pavement or other thing being molded.

In using division-plates of comparatively thin material in pavement-molds, trouble is sometimes caused by bending of the plates while the pavement material is being tamped down, thus resulting in an irregular seam or expansion-joint. To strengthen the plates during the tamping operation, I provide a strengthener 25, formed of L-shaped elongated angle members 26 held together in parallel relation by straps 27 riveted or otherwise secured thereto in such manner that the lower strips or legs 28 thereof may envelop the top edge of the division-plate and grip the sides of the plate, thus maintaining the plate in a straight position. The angle members are nearly the same length as the distance between the side-rails, and the strips or legs thereof are slightly spread at the bottoms to facilitate the placing of the strengthener over the plate and permit it to be wedged down thereon for the tamping operation. When the tamping is completed, the strengthener may be lifted off, so that it will not interfere with the operation of the finishing-tools. The niches 14 in the top edges of the division-plates are to permit a finishing-trowel to be drawn along the side-rail without being interfered with by the plate.

Having thus described my invention, what I claim as new, and desire to secure by Letters-Patent is—

1. In a mold, the combination of a side-rail having a lateral protuberance, a division-plate having near an end a slot opening from the bottom edge and extending up

wardly in gradually decreasing width from bottom to top, said slot being arranged to receive the side-rail and to have direct wedging engagement therewith and with the protuberance.

2. In a mold, a side-rail comprising a web having a slot extending downwardly thereinto and having a lateral protuberance below the slot, and a flange extending laterally from the web and having a slot opening into the web-slot, and a division-plate having a wedged-shaped slot extending upwardly from its lower edge and a leg formed by said wedge-shaped slot, the plate being arranged to be lowered into the rail-slots and to have the web and its protuberance wedged into the plate-slot, the leg passing through the flange-slot, and the portion of the plate above its slot seating in the web-slot.

3. In a mold, a side-rail comprising a web having a slot extending downwardly thereinto and a flange extending laterally from the web and having a slot opening into the web-slot, and a division-plate having a wedge-shaped slot extending upwardly from its lower edge and a leg formed by said slot, the plate being adapted to be lowered into the rail-slots and to have the web wedged into the plate-slot, the leg passing through the flange-slot, and the portion of the plate above its slot seating in the web-slot.

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

JOHN N. HELTZEL.

Witnesses:

W. C. JONES,
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