F. J. & A. J. LEYDECKER.

CONCRETE MOLD.

APPLICATION FILED JULY 9, 1913.

1,109,433.

Patented Sept. 1, 1914.

Fig. 1.

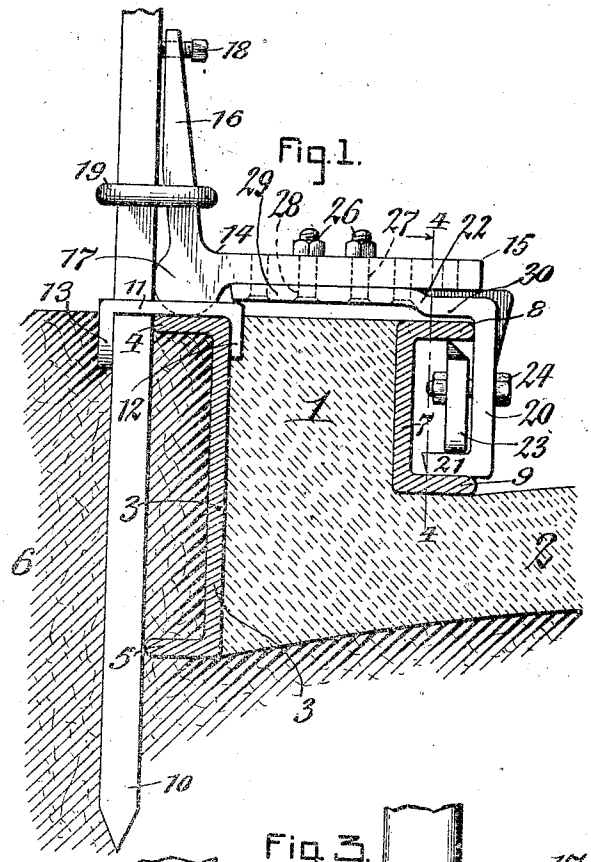


Fig. 2.

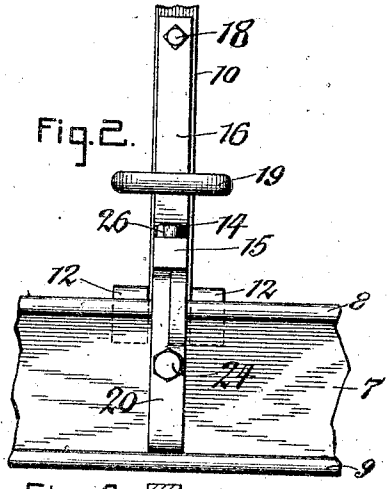


Fig. 4.

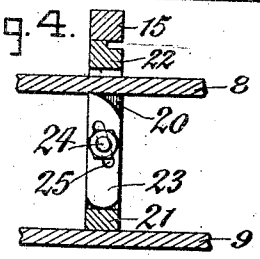


Fig. 3.

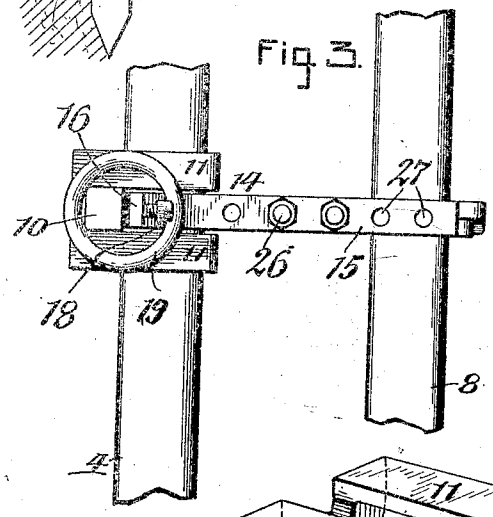


Fig. 5.

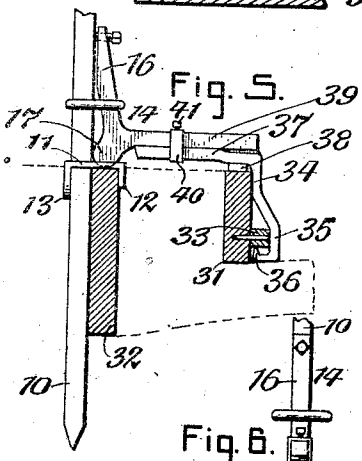


Fig. 6.

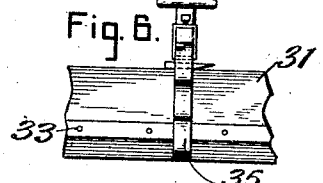
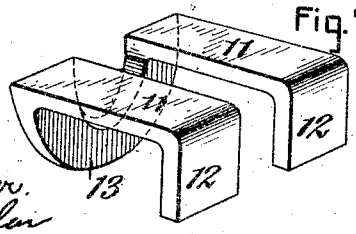


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CONCRETE-MOLD.

1,109,433. Specification of Letters Patent. Patented Sept. 1, 1914.

Application filed July 9, 1913. Serial No. 777,894.

To all whom it may concern:

Be it known that we, FRED J. LEYDECKER and ADOLPH J. LEYDECKER, citizens of the United States, residing at Ebenezer, in the county of Erie and State of New York, have invented new and useful Improvements in Concrete-Molds, of which the following is a specification.

This invention relates to a mold which is more particularly designed for use in making a concrete curb in one piece with the concrete base of a pavement although the same may also be used for other concrete work of a similar character.

It is the object of this invention to provide a mold for this purpose which will permit a concrete curb and base to be made in one piece with ease and at comparatively low cost and also permits of making the curb of different widths as required.

In the accompanying drawings: Figure 1 is a vertical transverse section of our improved concrete mold showing the same arranged for making the curb and base of a pavement in one piece of concrete. Fig. 2 is an elevation thereof viewed from the inner side. Fig. 3 is a top plan view thereof. Fig. 4 is a vertical longitudinal section taken in line 4—4, Fig. 1. Fig. 5 is a fragmentary vertical section of a mold embodying our invention but showing a slightly different form from that represented in Figs. 1–4. Fig. 6 is a side elevation of the construction shown in Fig. 5 and viewed from the inner side of the same. Fig. 7 is a detached perspective view of the preferred form of clip or fastening for connecting the outer wall of the mold with one of the supporting stakes thereof.

Similar characters of reference indicate corresponding parts throughout the several views.

Although our improved mold may be employed for forming concrete to be used for various purposes it is more particularly designed for making an upright concrete curb 1 in one piece with the concrete base 2 of a pavement.

The outer wall of the mold which is intended to form the outer side or base of the concrete curb may be constructed of any suitable material and of any desired form but as shown in Fig. 1 this wall consists of a channel iron which has its web 3 arranged vertically so as to present its flat unflanged side toward the pavement while the flanges 4, 5 at its upper and lower edges project laterally outward toward the berm or adjacent part 6 of the ground. The inner wall of the mold which is designed to form the inner face of the curb above the base may also be constructed of any suitable form and material but, as shown in Figs. 1 and 2, this inner wall is constructed of a channel iron having its web 7 arranged vertically and presenting its vertical flat unflanged face toward the curb while the flanges 8, 9 at its upper and lower edges project laterally inward.

Preparatory to pouring the wet or plastic concrete between the inner and outer mold walls for forming the curb and the adjacent part of the base of the pavement these walls are retained in their proper position by the supporting devices which embody our invention and which are constructed as follows: 10 represents one of a plurality of upright stakes which are preferably constructed of iron and which are driven vertically into the berm of the ground so that the flanges of the outer wall may rest against the same and the upper ends of the stakes project above the ground. The outer wall of the mold is held against each of these stakes so as to prevent the same from becoming displaced during the operation of pouring the concrete into the mold cavity. Various means may be provided for thus holding the outer wall against the stakes but those shown in the drawings are preferred on account of their simplicity, cheapness and convenience of handling and these comprise a plurality of clips each of which consists of two horizontal cross bars 11, 11 which are arranged transversely on opposite sides of one of the stakes and extend over the upper edge of the outer wall, two lugs 12, 12 projecting downwardly from the inner ends of the cross bars and engaging with the inner side of the outer mold wall and a downwardly bent bow or arch 13 connecting the outer ends of the cross bars and engaging with the outer side of the adjacent stake. This clip is comparatively simple and

inexpensive in construction and can be conveniently applied to and removed from the stake and outer wall.

Means are provided for supporting the inner wall of the mold from a place adjacent to the outer wall and above the ground so that the space above the ground adjacent to the inner wall may be left wholly unobstructed and thus permit of making the base of the pavement conveniently in one piece with the curb. The preferred means for accomplishing this purpose which embody our invention are constructed as follows: 14 represents one of a plurality of elbow-shaped supporting levers which are arranged transversely above the inner and outer walls of the mold and each lever being transversely in line with one of the stakes. Each of these supporting levers is provided with a substantially horizontal lower arm 15 which extends over the inner and outer walls and an upper substantially upright arm 16 arranged along the inner side of the companion stake. At the outer corner of this lever between its upper and lower arms the same is provided with a rounded knuckle 17 which rests against the corner formed by the upper edge of the outer wall and the adjacent inner surface of the respective stake whereby a pivotal support or fulcrum is provided for this lever upon which the same may turn or swing in a vertical plane. The inner wall of the mold is mounted upon the lower arm of this lever and the upper arm of the same is adjustably connected with the stake so that upon rocking or turning this lever the inner wall of the mold may be raised or lowered as required for bringing its upper edge horizontally in line with the upper edge of the outer wall for producing an even upper surface on the curb which is formed between these walls. Various means may be provided for adjustably connecting the upper arm of the supporting lever with the stake but those which are shown in the drawings are simple, practical and not liable to get out of order and comprise a horizontal adjusting screw 18 arranged in the upper arm of the supporting lever and engaging with the inner side of the stake and a retaining ring 19 adapted to encircle the stake and upper arm of the lever which normally diverge downwardly relatively to each other. In effecting the adjustment of the supporting lever so as to bring the inner wall to the proper height the screw 18 is turned forwardly or backwardly so that when the same engages the stake the upper edge of the inner wall will be flush with the upper edge of the outer wall and then the retaining ring 19 is slipped over the stake and upper lever arm for holding the lever and stake in this adjusted position relatively to each other.

Although various means may be employed for detachably connecting the inner wall of the mold with the supporting lever and also rendering this wall adjustable horizontally relatively to the outer wall for varying the width of the mold cavity to suit the desired width of curb, those means which are shown in Figs. 1, 2 and 3 of the drawings have been found suitable in practice and are constructed as follows: Associated with the horizontal arm of the supporting lever and the inner wall of the bolt is a hanger which comprises an upright bar 20 arranged vertically along the flanged side of the inner wall, a bearing lug or foot 21 arranged at the lower end of the upright bar and engaging with the upper side of the lower flange of the inner wall and an upper arm 22 projecting laterally outward from the upper end of the upright bar and connected with the lower arm of the supporting lever. 23 represents a vertically swinging clamping dog movably mounted on the inner side of the upright bar 20 and adapted to bear with its lower end against the lug or foot 21 of said bar while its upper edge is tapered, sharpened or pointed and adapted to engage with and embed itself in the underside of the upper flange of the inner wall. The connection between this dog and the hanger is preferably effected by means of a bolt 24 mounted on the upright bar and passing through a slot 25, preferably of inclined or curved form arranged in the central part of the dog. In attaching the hanger to the inner wall the foot at the lower end thereof is engaged with the upper side of a lower flange while the dog is turned into a more or less horizontal position and then the dog is turned so that its lower end engages with the upper side of the foot and its upper pointed or sharpened edge engages with the underside of the upper flange, as shown in Figs. 1 and 4, thereby securely clamping or fastening the hanger to the inner wall. By slotting the dog for receiving the attaching bolt the same is free to shift its position as required for producing the desired clamping effect on the inner wall and hanger.

The hanger may be adjusted horizontally on the lower arm of the supporting lever by a variety of means this being effected in the construction shown in Figs. 1, 2 and 3 by engaging the upper arm of the hanger with the underside of the lower lever arm and connecting the same by bolts 26 passing through corresponding openings 27, 28 in the lower lever arm and the upper hanger arm. The companion lever arm and hanger arm are provided with rows of such openings lengthwise thereof so as to permit the hanger arm to be shifted lengthwise of the lower lever arm, and the clamping bolts to be engaged with different sets of openings of these coöperating arms and thereby enable the inner mold wall to be supported at

different distances from the outer mold wall for varying the thickness of the curb.

The outer portion 29 of the hanger arm which extends over the upper end of the space between the inner and outer mold walls is raised or offset upwardly above the inner part 30 of this arm which is arranged above the upper flange of the inner wall, thereby providing a clearance space between the hanger arm and the upper edges of the mold walls through which a finishing tool may be passed for smoothening off the concrete at the upper edge of the curb flush with the upper edges of the mold walls.

Instead of using channel irons for the walls of the mold the same may be constructed of any other form of metal or any other kind of material. For instance, as shown in Figs. 5 and 6 the inner and outer walls 31, 32 are constructed of wooden planks or boards. In this case the outer wall is secured to the stake by a clip of the same construction as that shown in Figs. 1-3 and 7. In order, however, to permit of economically and conveniently attaching the inner wall 31 to the supporting lever the following means are provided: 33 represents a cleat of wood or other suitable material secured horizontally to the outer side of the inner wall at a distance from the lower edge thereof. The hanger in the construction shown in Figs. 5 and 6 comprises an upright bar having an upper vertical part 34 which engages with the upper part of the outer side of the inner wall 31, an inwardly and upwardly projecting hook 35 extending downwardly along the outer side of the cleat and having its spur or bill 36 engaging with the underside of its cleat, a horizontal upper arm 37 projecting laterally from the upper end of the hanger and a wedge 38 driven between the upper edge of the inner wall and the underside of the hanger arm. The detachable and adjustable connection between the upper arm 37 of this hanger and the lower arm 39 of the supporting lever is effected by arranging the upper arm of this hanger underneath the lower arm of the supporting lever and embracing these arms by a sleeve 40 which is provided with a clamping screw 41 engaging with the lower lever arm, as shown in Fig. 5. By this means the inner wooden wall is reliably supported from the outer wooden wall and the stake in such manner that the inner wall can be adjusted both vertically and horizontally as required and is reliably held in position after adjustment so as to produce a perfect mold together with the other parts in which the concrete curb may be formed.

Our improved concrete mold can be produced at comparatively low cost, the same has no delicate parts which are liable to get out of order by the rough usage and the weather to which they are exposed and owing to the simplicity of their construction the same can be very readily assembled for producing a mold without the necessity of employing highly skilled labor for this purpose.

We claim as our invention:

1. A concrete curb mold comprising a high outer wall, a low inner wall having its upper edge flush with the upper edge of said outer wall, and means for adjusting said walls vertically one relatively to the other comprising a lever pivoted to turn vertically on said outer wall and connected with said inner wall.

2. A concrete mold comprising a stake, an outer wall arranged adjacent to said stake, an inner wall, and a supporting lever having a lower arm connected with said inner wall, an upper arm connected with said stake, and a knuckle engaging with the corner between the upper edge of said outer wall and the adjacent surface of said stake.

3. A concrete mold comprising a stake, an outer wall arranged adjacent to said stake, an inner wall, a supporting lever supported on the outer wall and having a lower arm connected with said inner wall and an upper arm, and means for adjustably connecting said upper arm and said stake.

4. A concrete mold comprising a stake, an outer wall arranged adjacent to said stake, an inner wall, a supporting lever supported on the outer wall and having a lower arm connected with said inner wall and an upper arm, and means for adjustably connecting said upper arm and said stake, comprising an adjusting screw arranged on said upper arm and engaging said stake, and a ring slipped over said stake and upper arm.

5. A concrete curb mold comprising a high outer wall, a low inner wall, a lever resting on the outer wall, and means for connecting said lever and inner wall comprising a hanger having an upright bar arranged on the outer side of the inner wall and connected with the latter, and means for adjustably connecting said lever and hanger.

6. A concrete mold comprising an outer wall, an inner wall, a lever resting on the outer wall, and means for connecting said lever and inner wall comprising a hanger having an upright bar arranged on the outer side of the inner wall and connected with the latter, and means for adjustably connecting said lever and hanger, comprising bolts passing through corresponding rows of openings in said lever and hanger.

7. A concrete mold comprising an outer wall, an inner wall, a lever turning on the outer wall and having a lower arm, and a hanger connected with said inner wall and having an upper arm which is secured to the

underside of said lower arm of the lever and which has an inner part arranged close to the upper edge of said inner wall and an outer part which is elevated above said inner part and extends across the space between said walls.

8. A concrete mold comprising an outer wall, an inner wall having upper and lower flanges, a lever turning on the outer wall and having a lower arm, a hanger connected with said inner wall and having a lower lug engaging with the upper side of the lower flange on the inner wall, and a clamping dog pivotally mounted on said hanger and engaging its lower end with the upper side of said lower lug while its upper end is constructed to engage the underside of the upper flange on said inner wall.

Witness our hands this 3d day of July, 1913.

FRED J. LEYDECKER.
ADOLPH J. LEYDECKER.

Witnesses to signature of Fred J. Leydecker:

FREDERICK HUMMELL,
LILLIAN JONES.

Witnesses to signature of Adolph J. Leydecker:

ANNA HEIGIS,
E. M. GRAHAM.