F. H. FORBIS.

MOLD.

APPLICATION FILED MAY 16, 1911.

1,067,420.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

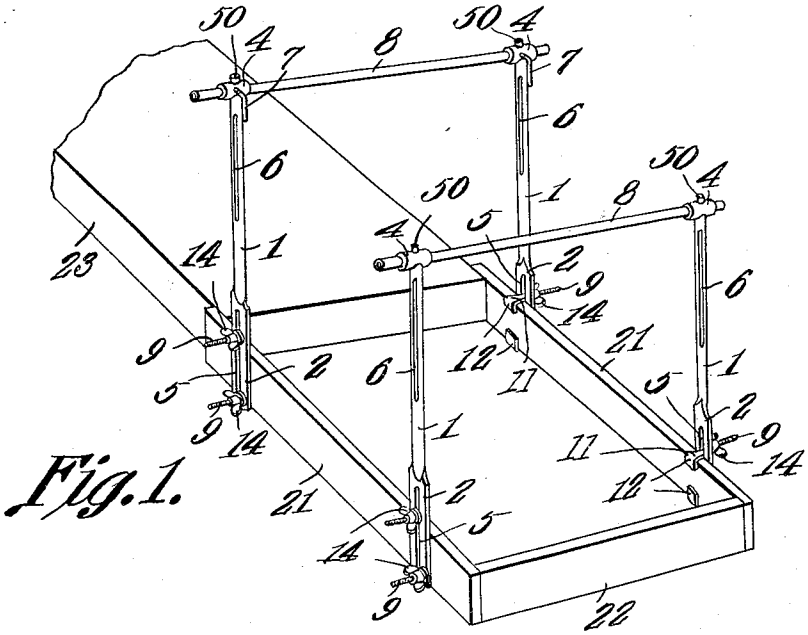


Fig. 1.

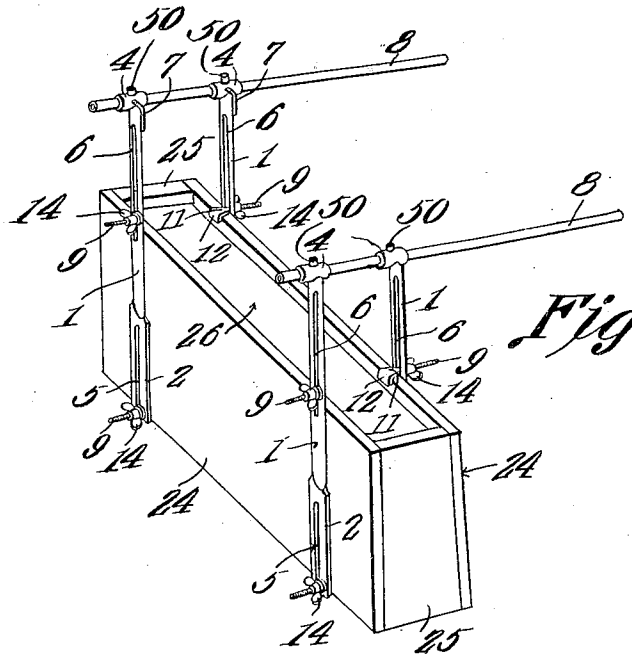


Fig. 2.

Witnesses

J. R. Somers

L. H. Wilson.

F. H. Forbis,

Inventor

by C. A. Snow & Co.

Attorneys

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2 SHEETS—SHEET 2.

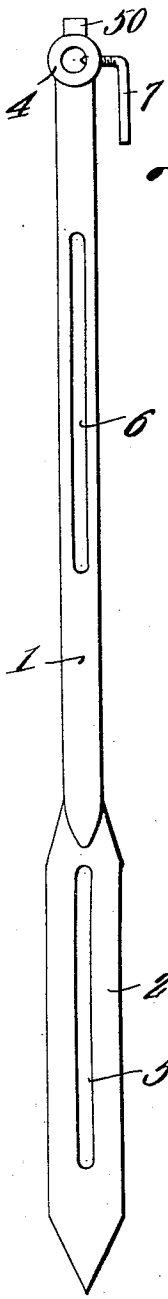


Fig. 3.

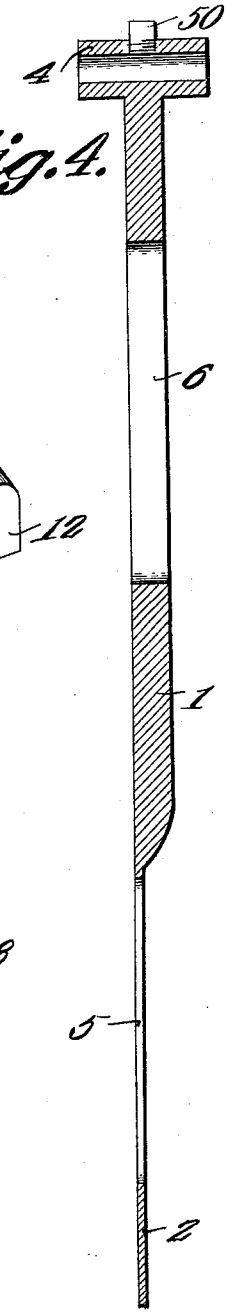
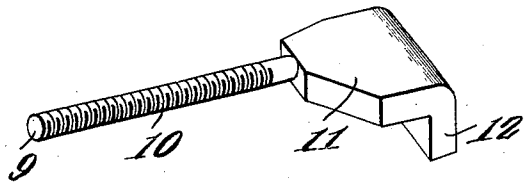


Fig. 4.

Fig. 5.



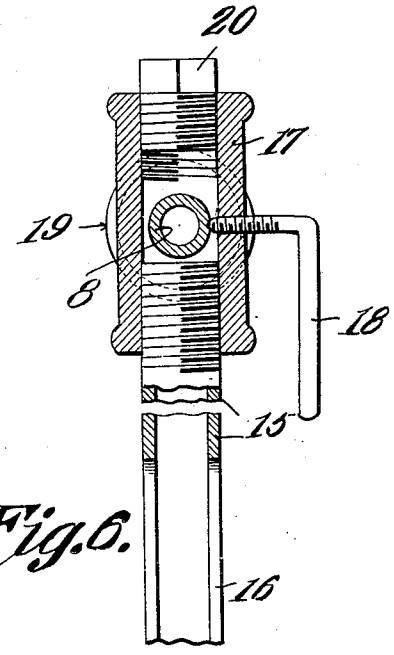


Fig. 6.

Witnesses

J. P. Lowell

L. H. Wilson.

F. H. Forbis,

Inventor

by C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

FRANK H. FORBIS, OF AUSTIN, TEXAS.

MOLD.

1,067,420. Specification of Letters Patent. Patented July 15, 1913.

Application filed May 16, 1911. Serial No. 627,436.

To all whom it may concern:

Be it known that I, FRANK H. FORBIS, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented a new and useful Mold, of which the following is a specification.

It is the object of the present invention to provide a novel form of mold, adapted for the formation of side-walks, curbs and the like, the construction being such that the mold may readily be expanded and contracted, to fashion structures of different dimensions.

A further object of the invention is to provide, as an article of manufacture, a novel form of stake adapted for insertion into the ground, to form a part of a mold in which a monolithic structure is fashioned.

A further object of the invention is to provide a novel method for the fashioning of monolithic structures.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 shows the invention in perspective, the parts thereof being placed to form a side-walk or like structure having relatively small height; Fig. 2 is a perspective, showing the parts of the invention in the positions which they will assume when the device is employed for the fashioning of a curb, or other structure, having a considerable height; Fig. 3 is a side elevation of one of the stakes which enter into the construction of the mold; Fig. 4 is a longitudinal section of the stake depicted in Fig. 3; Fig. 5 is a perspective of one of the arms which are assembled with the stake shown in Fig. 3, for the purpose of holding the side boards of the mold upon the stakes; and Fig. 6 is a longitudinal section showing a slightly modified form of stake.

In carrying out the invention, a plurality of stakes are provided, the stakes being denoted generally by the numeral 1. These stakes 1 may be fashioned from any desired material, metal being ordinarily employed. The stakes 1 may be fashioned in any desired lengths, depending upon the height of the structure which is to be formed in the mold of which the stakes 1 constitute constituent parts. The stakes 1 are fashioned at their lower ends, with flat blades 2, pointed as denoted by the numeral 3 in Fig. 3, the flat pointed blades obviously facilitating the insertion of the stakes 1 into the earth. At their upper ends, the stakes 1 are provided with tubular, transverse heads 4, which, if desired, may be fashioned integrally with the stakes. In the blades 2 there are longitudinally extended slots 5, there being in the body portions of the stakes, above the blades 2, other longitudinally extended slots 6. Mounted in heads 4, are clamping elements, the same preferably taking the form of set screws 7. A cross bar 8, of any desired length, is slidable in the tubular heads 4 of each pair of stakes 1, the cross bar 8 being held in place upon the stakes 1, by means of the set screws 7.

The invention further includes a plurality of arms, denoted generally by the numeral 9 in Fig. 5, these arms 9 being adapted to be assembled with the stakes 1, for the purpose of holding the side boards of the mold upon the stakes. These arms consist of a threaded shank 10, merging into a flat head 11, disposed in substantially the same plane with the shank 10, the head 11 terminating at its outer edge, in an angularly disposed flange 12. The shanks 10 of the arms 9 are inserted into the slots 5, or into the slots 6, wing nuts 14 being applied to the shanks 10, the wing nuts 14 engaging the stakes 1.

In Fig. 6, a slight modification of the invention is shown. Referring, then to Fig. 6, the stake is denoted generally by the numeral 15, the stake being slotted, as before, as shown at 16. The stake 15 is equipped at its upper end with a transverse head, the same, in the present instance, taking that form of a pipe coupling which is known as a cross, the cross being denoted by the numeral 17. Into the side of the cross 17, a set screw 18 is inserted, the same being adapted to engage the cross bar 8, as will be readily understood, the cross bar 8 being inserted into one of the lateral branches 19 of the cross. The upper end of the cross may be closed by means of a plug 20. Fig. 6 is introduced into the drawings, for the purpose of showing that the device may be fashioned from common structural pipe elements; although, when the structure is made

commercially, the stakes and the transverse heads which are upon the upper ends thereof, will ordinarily be cast in one piece, as shown in Fig. 4.

Passing now to a description of the operation of the device, Fig. 1 may be examined with profit. When it is desired to form a side-walk 23, or other relatively low structure, the stakes 1 are driven into the ground in pairs, each pair of the stakes 1 being connected by a cross bar 8. The side-boards 21 of the mold are engaged with the arms 9, the arms 9 being, in the present instance, mounted in the slots 5 which are located in blades 2. The flat heads 11 of the arms 9 extend across the upper and lower edges of the side-boards 21, the flanges 12 engaging the inner faces of the side boards, as clearly appearing in Fig. 1. Obviously, by rotating the wing nuts 14, the side boards 21 will be bound firmly against the flat blades 2 of the stakes 1. At this point it may be noted that the blades 2 not only constitute a means whereby the stakes may be readily inserted into the ground, but, at the same time, the blades afford flat surfaces, against which the side boards 21 may be bound and be held firmly. The end board 22 is, as will be understood, held in place between the side boards 21.

The operation above described is carried out in connection with the formation of a curb or the like, as shown in Fig. 2, saving that one set of the arms 9 are mounted in the slots 6. In Fig. 2, the sides of the mold are denoted by the numeral 24, the ends of the mold by the numeral 25, and the curb proper which is formed in the mold, by the numeral 26. In fashioning the curb 26, the plastic material is placed in the mold to the desired height, the plastic material, however, being terminated short of the top of the mold, as clearly shown in Fig. 2. After the material has taken an initial set, one of the side boards 24 is slacked away, this result being accomplished by loosening the set screws 7 and permitting the cross bars 8 to slide in the transverse heads 4 of the stakes 1. By this operation, one of the side boards 24 is spaced slightly from the monolithic structure 26. A grout of neat cement, or of a mixture relatively rich in cement, is then prepared, and this grout is poured between the side board 24 and the lateral face of the monolithic structure 26, the grout likewise covering the top of the structure 26. The side board 24 which has been slacked away, to permit the insertion of the grout, is then restored to its normal place, and the added material is permitted to set. When the mold is finally knocked down, the completed structure will have a smooth exterior finish, such exterior finish being produced without a final troweling.

Owing to the fact that the arms 9 are vertically adjustable in the stakes 1, the upper edges of the side boards of the mold may be adjusted at different heights, permitting the workman to bring the upper edges of the side boards of the mold, to a proper grade. It is to be noted that no nails or other securing elements are employed in the structure, and therefore, the side boards of the mold may readily be adjusted to grade, and the entire structure may be taken down and set up, as many times as may be desired, without injuring the elements of the device.

It is to be noted that the cross bars 8 may be employed for seating the stakes 1 in the ground, and likewise, in removing the stakes from the ground, the cross bars 8 may be employed as levers, to rotate the stakes 1 slightly, thereby loosening their hold upon the ground, so that they may be removed readily.

If desired, the heads 4 may be provided with upstanding lugs 50, which lugs are adapted to receive the blows of the maul wherewith the stakes 1 are driven into the earth.

Having thus described the invention, what is claimed is:—

In a device of the class described, a stake having a flat blade at its lower end and provided with an enlarged head at its upper end adapted to receive the blows of a tool to drive the blade into the ground, the stake, between the head and blade, being thicker than the blade to prevent a buckling of the stake under the blows of a driving tool, there being a clamping device in the head whereby the head may be connected with a bar to unite one stake with another, and to facilitate the rotation of the stake to break the hold of the blade upon the ground, the stake having longitudinal slots, one of which is in the thicker portion of the stake, and another in the blade, the slots being terminally spaced to prevent a weakening of the stake, the slot which is located in the blade serving to facilitate the grip of the blade upon the ground; holding devices adjustable in the slots; and a mold forming member engaged by the holding devices.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK H. FORBIS

Witnesses:
ED. ANDERSON,
J. BOULDIN RECTOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."