Dec. 15, 1953 J. C. WOLLARD ET AL 2,662,262

EXPANSIBLE MOLD FOR CASTING CONCRETE FENCE POSTS

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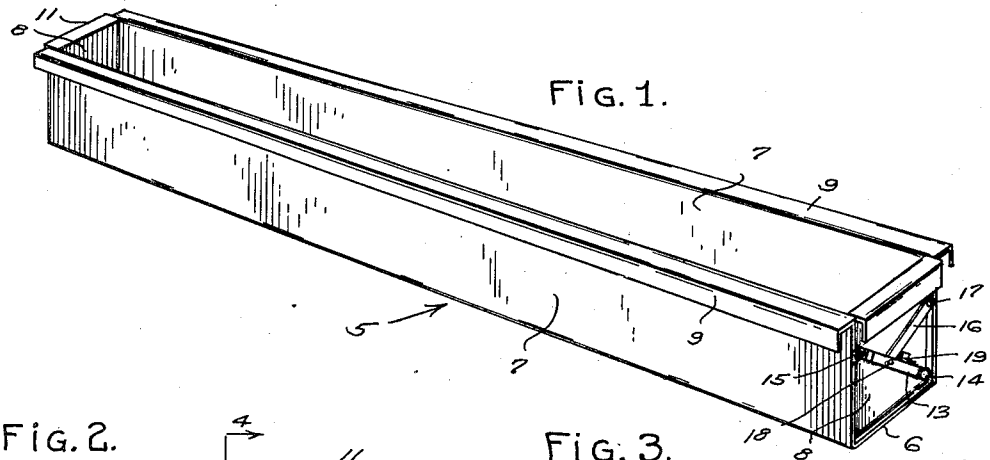


Fig. 1.

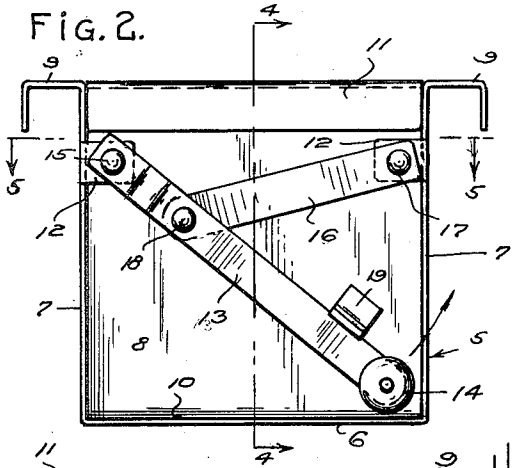


Fig. 2.

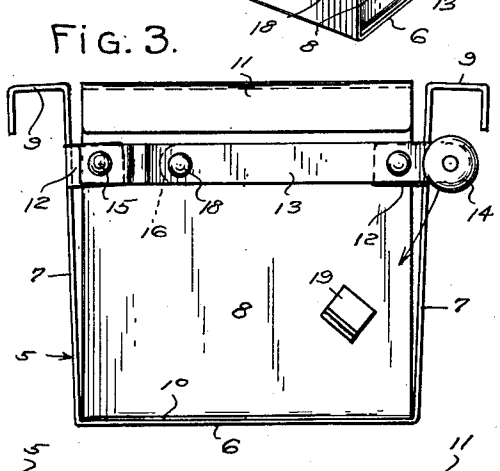


Fig. 3.

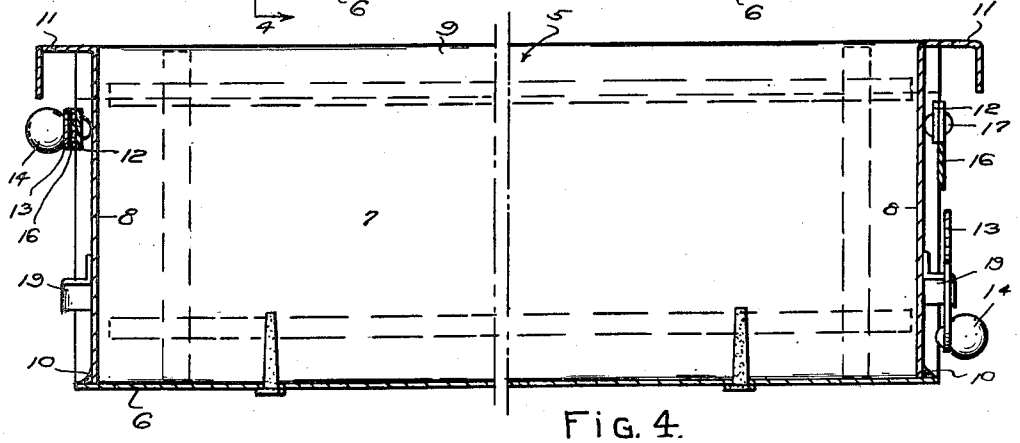


Fig. 4.

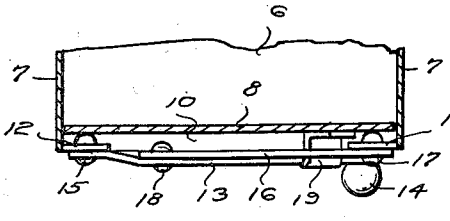


Fig. 5.

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EXPANSIBLE MOLD FOR CASTING CONCRETE FENCE POSTS

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3 Claims. (Cl. 25—121)

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This invention relates to improvements in concrete forms or molds for the rapid and economical casting of reinforced concrete fence posts.

The invention has for its prime object a novel form of mold that permits the casting of a concrete fence post and the simple removal of the post from the mold after a reasonable curing of the concrete to thereby increase the productive capacity of the mold.

The device embodies means for forcibly expanding the longitudinal walls of the mold to facilitate the removal of the cast post when the mold is inverted, such means also serving to securely lock the walls of the mold against expansion during the casting process.

The mold further embodies novel channel trackways that facilitate the transfer of the loaded mold to and from a vibrating table, the channel trackways traversing a roller conveyor with the rollers engaging the channels.

Novel features of construction and operation will be more readily apparent during the course of the following description, reference being had to the accompanying drawings, wherein has been illustrated a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout.

In the drawings:

Figure 1 is a perspective view of a mold constructed in accordance with the invention,

Figure 2 is an enlarged end view thereof, with the parts in the position for casting the fence post,

Figure 3 is an end view showing the device expanded to facilitate the removal of the cast fence post,

Figure 4 is a central vertical longitudinal section through the mold, showing opposite ends in their two positions of adjustment, and

Figure 5 is a horizontal section on line 5—5 of Figure 2.

Referring specifically to the drawings, the numeral 5 designates a mold as a whole, embodying a bottom wall 6, identical side walls 7 and end walls 8. The bottom and side walls are preferably formed of a single sheet of suitable metal, with the bottom and sides having an identical cross-section width. Each of the side walls terminate along their upper marginal edges in outwardly directed and downwardly opening channel trackways 9, extending for the full length of the sides 7. The channel trackways are open at their opposite ends. The channels 9 are preferably integral with their respective side walls and the channels are of such a width that they

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will freely receive and traverse a conventional roller conveyor, not shown.

Each of the ends 8 is preferably formed separate from the bottom and side walls 6 and 7, primarily for purposes of economy of material. The end walls 8 are at a right angle to the side and bottom walls and have been set inwardly from the ends of the side and bottom walls and securely connected to the bottom wall 6 only, by welding or the like 10. The upper edge of the ends 8 is outwardly bent and then shaped to provide downwardly opening channels 11, having a cross-sectional configuration substantially identical to that of the channels 9. Both the channels 9 and 11 serve to prevent flexing of the walls when in use.

The bottom wall 6 is apertured centrally at predetermined points for the reception of tapered removable rubber plugs employed to preform spaced openings in the cast post for the reception of a special fence securing nail as embodied in a separate application for patent. Reinforcing will be embedded in the post as is customary and a special reinforcing element, such as that illustrated in dotted lines in Figure 4 and also embodied in a separate application for patent, will be employed.

Means are employed to securely maintain the side walls 7 against outward flexing under the expansive influence of the concrete mass being molded, such means embodying a pair of inwardly directed ears 12, welded to or formed integral with the opposite ends of the side walls. Pivotally connected to one of the ears 12 at each end of the mold, is an offset arm 13, carrying a knob 14, for convenience in controlling the arm. The arm 13 is pivoted at 15 to its respective ear 12. A link 16 is pivotally connected at 17 and 18 with the opposite ear 12 and the arm 13 respectively. An L-shaped keeper 19, preferably welded to the outer face of the end walls 8, provides a means for securing latching the arm 13 in a position of angularity that effectively pulls the opposite side walls 7 into snug engagement with the end walls 8 through the medium of the link 16. The arm 13 and link 16 thus form a very desirable and simple form of toggle to control the expansive movement of the side walls 7. It should be clear, that this novel form of toggle is essentially employed at both ends of the mold. To release the side walls and permit them to spring outwardly or, more correctly to be forced outwardly to facilitate the removal of the cast fence post, the arm 13 is sprung outwardly sufficient to disengage the keeper, after which the arm is swung upward to

the position shown in Figure 3, at which point the arm 13 and link 16 are in parallel alignment and forcing the side walls 7 outwardly as in Figure 3 to simultaneously release the cast post throughout its length. The ends 8 will, upon the release of the side walls, have sufficient flexibility that they will readily release the cast post when the mold is inverted. It will be apparent, that the inner surfaces of the mold will at all times be completely oiled to prevent the cement from adhering thereto.

In the use of the device, the mold having been previously prepared by oiling, locking the opposite ends through the medium of the toggle arms and links, inserting the rubber plugs and reinforcing element, the mold is placed in a convenient position to be filled from a suitable concrete mixing device, after which the filled mold is conveyed to a conventional vibrator table. After being vibrated for a predetermined time, the mold channels 9 are engaged with any well known roller conveyor and conveyed to a point of curing. After curing for a predetermined length of time, the operator trips the arms 13 at either end of the mold upwardly, forcing the side walls outwardly to release the cast post. The mold and its cast post are then inverted by a suitable mechanism to dump the post from the mold for subsequent and final curing. The mold pulls the rubber plugs away from the post, leaving the preformed tapered openings. The operator may then swing the arms 13 downwardly to again engage the keepers 19 to lock the side walls in molding position, after which the mold is conveyed back to the point of starting. The device is thus very simple in construction and extremely simple and effective for a quick and convenient release of the cast post. The channels 9, aside from imparting rigidity to the side walls 7, provide a very desirable track for engaging the roller conveyors. The end channels 11, while also imparting rigidity to the end walls 8, serve to protect to a large degree, the toggle arms and links 13 and 16.

While a preferred form of the device has been illustrated, it should be understood, that various structural changes are contemplated as readily fall within the spirit of the invention or the scope of the subjoined claims.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A sheet metal mold of elongated form for casting concrete fence posts, comprising a trough-like receptacle having a bottom wall and integral upstanding side walls at right angle thereto, end walls connected with the bottom wall inwardly of the ends of the bottom wall and having a width and height equal to the bottom and side walls, the upper edges of the side and end walls being outwardly bent and shaped to provide outwardly disposed and downwardly opening channels, the channels of the side walls providing a trackway for conveyor rollers, toggle links pivotally connected to the side walls at their opposite ends, the toggle links when in one position maintaining the side walls in snug engagement with the end walls, the toggle links when in another position causing the side walls to be angled outwardly from the bottom wall, a keeper carried by each of the end walls for maintaining engagement with the end walls.

2. An elongated sheet metal mold device for casting reinforced concrete fence posts, the mold embodying a bottom and integral upstanding side walls that each have identical dimensions to the bottom wall, the upper free edges of the side walls bent outwardly and downwardly to form downwardly opening channel trackways for the full length of the side walls, end walls connected with the bottom walls adjacent each end inwardly of the terminal ends of the bottom and side walls, the end walls being dimensioned as to width of the bottom and height of the side walls, the upper edge of the end walls being outwardly and downwardly bent to form downwardly opening channels, an arm pivotally connected to one side wall at the opposite ends of the mold, the arms and links being pivotally connected together, a knob carried by the free end of each arm for swinging the arms upon their pivots, a keeper rigidly connected to the outer face of each of the end walls and lying in the path of swinging movement of the arms, the keeper locking the arm and its associated link in one position of swinging movement to maintain the side walls in snug engagement with the end walls, the arms and their associated links when swung to an opposite direction forcing the side walls outwardly to be angularly disposed from the bottom wall to release a concrete fence post that has been cast in the form.

3. An elongated mold for casting reinforced concrete fence posts that comprises a trough-like receptacle open at the top and having a bottom and integral upstanding flexible side walls, roller trackways formed upon the upper edges of the side walls for their full length, end walls connected with the bottom walls inwardly of the opposite ends of the bottom and the side walls, ears carried by the side walls at opposite ends that extend inwardly at a right angle to the side walls to lie in parallel spaced relation to the end walls, an arm pivotally connected to one ear at each end of the mold, a link pivotally connected to the opposite ear at each end of the mold, each of the links and each of the arms being pivotally connected together, a knob carried by each of the arms to facilitate swinging movement thereof, each of the arms and their pivotally attached links swingable in a vertical plane upwardly to simultaneously shift the side walls outwardly to be angularly disposed with respect to the bottom wall, the arms and their pivotally connected links being swingable in a vertical plane downwardly for simultaneously shifting the side walls inwardly to engage the end walls, a keeper for each arm that is rigidly connected to the outer face of each end wall and lying in the path of downward swinging movement of the arms.

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