

Jan. 29, 1952

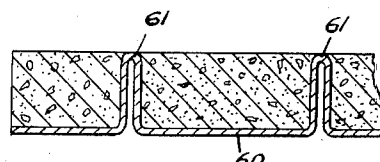
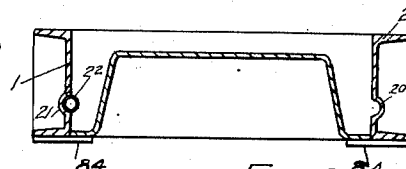
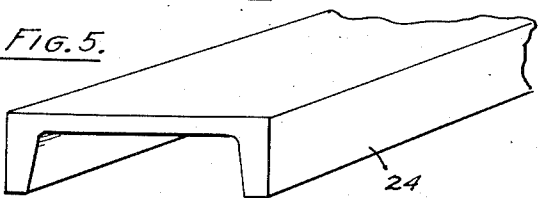
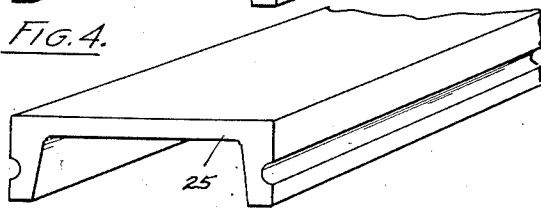
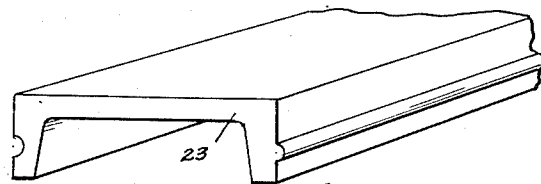
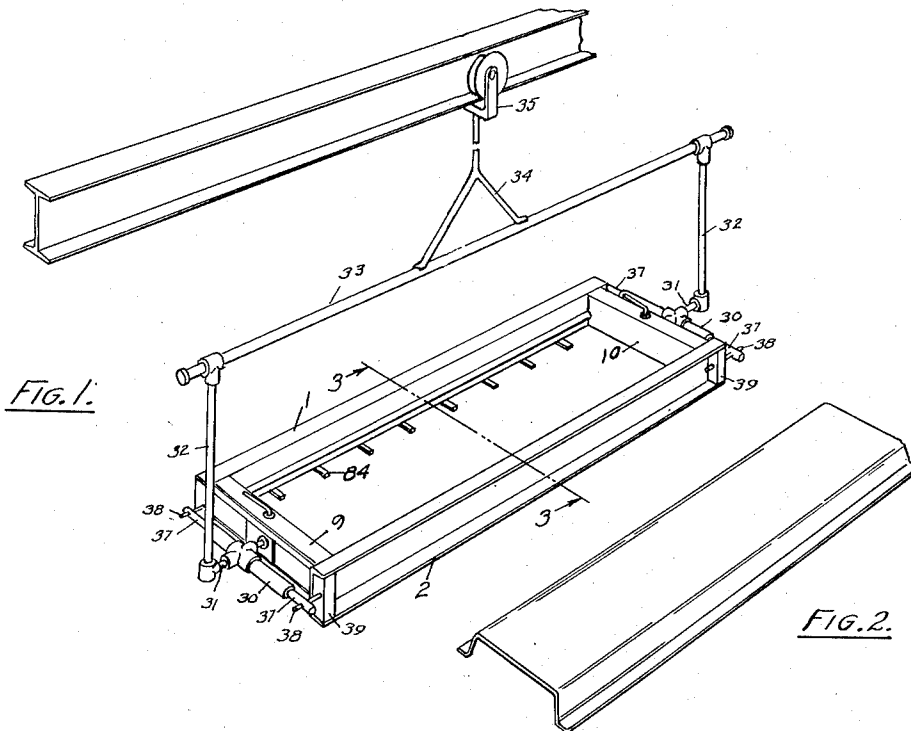
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2,583,626

MOLD

Filed May 2, 1947

3 Sheets-Sheet 1



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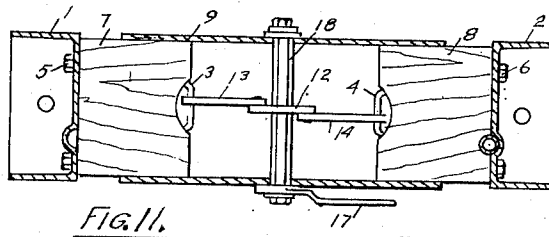
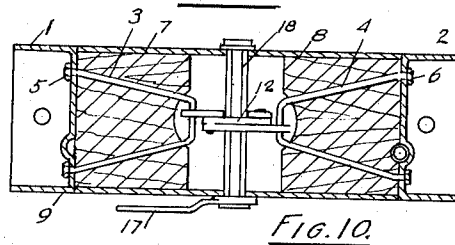
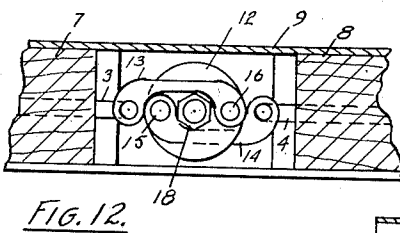
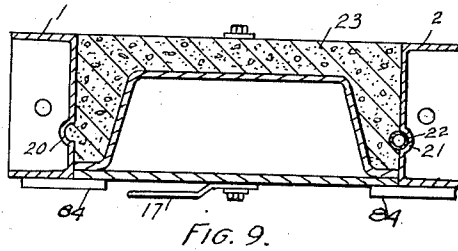
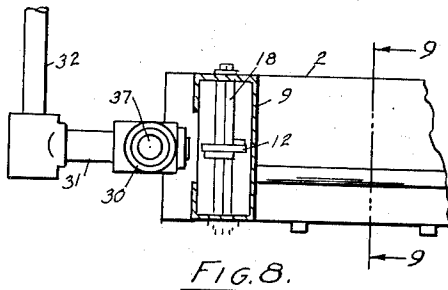
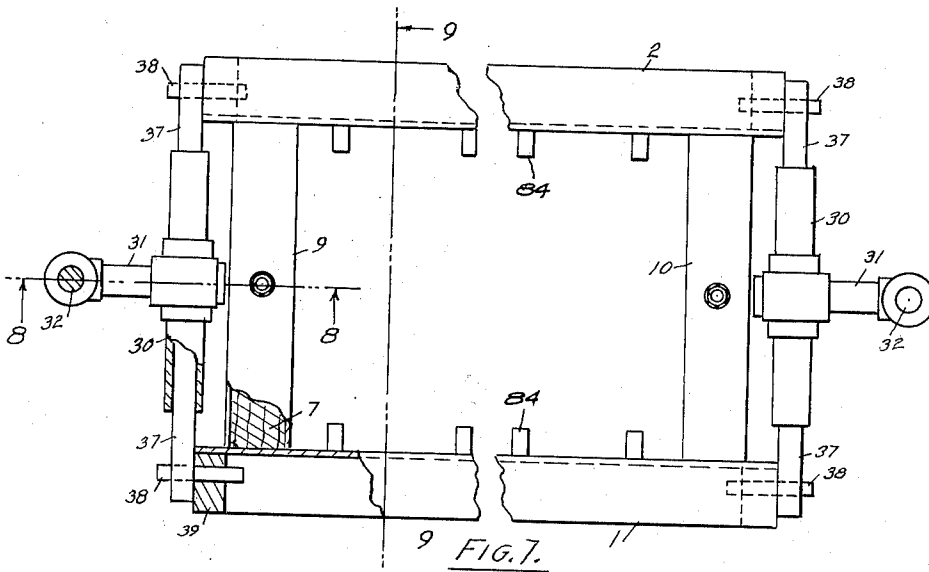
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MOLD

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3 Sheets-Sheet 2



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MOLD

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3 Sheets-Sheet 3

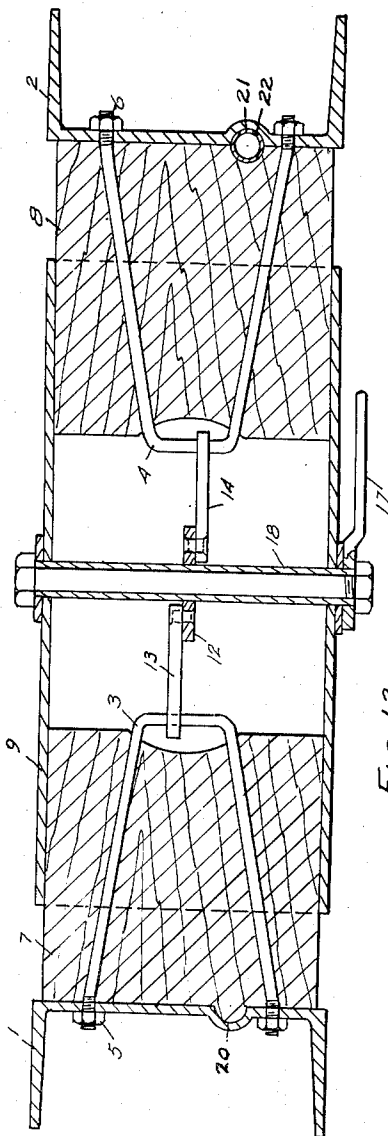


FIG. 13.

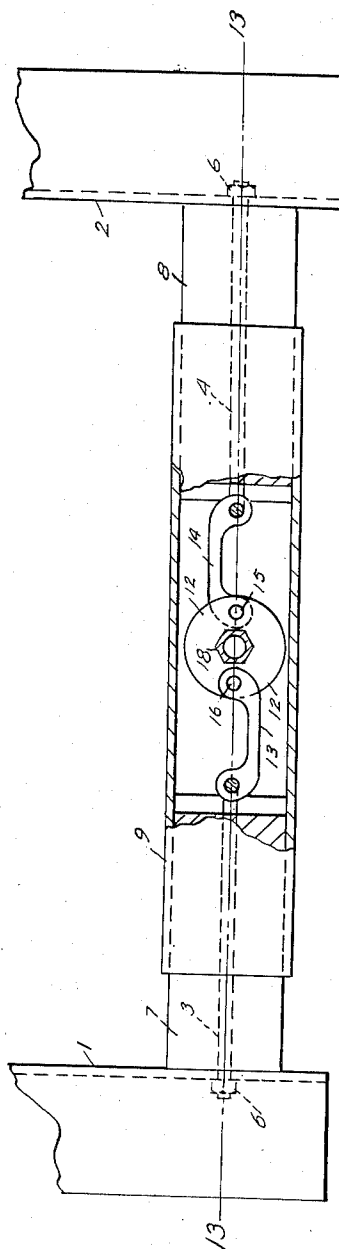


FIG. 14.

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UNITED STATES PATENT OFFICE

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MOLD

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2 Claims. (Cl. 25—121)

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This invention relates generally to molds and more particularly to concrete molds.

All devices of this character, made according to the teachings of the prior art, and with which I am familiar, have been costly to construct and are not adaptable to easily remove the form, block or slab after setting of the concrete. Prior molds are not adaptable for quantity production and they are not adaptable for piling one upon the other. None of these devices have simple means for turning them over, nor have they provided simple means for removing the formed block or slab. None of these prior devices have provided selective means for forming tongues and grooves longitudinally on the sides of the slabs. Furthermore, these prior molds have not been adaptable for molding different types of block in that they have been especially designed for one particular type of concrete block or slab.

It is, accordingly, an object of my invention to overcome the above and other defects in present molds, and it is more particularly an object of my invention to provide a universal concrete mold which is light in weight, durable in construction, true to form, economical in manufacture, efficient in operation, and economical in cost.

Another object of my invention is to provide a concrete mold especially adaptable to line production; wherein the mold may be stored in piles, turned over, and transported from one position to another with a minimum of effort and in a minimum of time.

Another object of my invention is to provide a concrete mold which provides simple means for removing the slabs or blocks from the molds.

Another object of my invention is to provide a concrete mold which takes up a minimum of space and which may be piled one upon the other.

Another object of my invention is to provide a concrete mold with a minimum of protruding parts, and with protruding parts externally of the mold under protective cover.

Another object of my invention is to provide novel forms or patterns for my novel concrete mold.

Other objects of my invention will become evident from the following detailed description, taken in conjunction with the accompanying drawings, in which

Fig. 1 is a perspective view of my novel concrete mold;

Fig. 2 is a perspective view of the pattern for use in my concrete mold shown in Fig. 1;

Fig. 3 is a view taken on the line 3—3 of Fig. 1 with the pattern in Fig. 2 assembled therein;

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Fig. 4 is a fragmentary perspective view of a concrete slab formed in the mold shown in Fig. 1 with a tongue and groove formed thereon;

Fig. 5 is a fragmentary perspective view of a concrete slab formed in the mold shown in Fig. 1 with two lateral grooves;

Fig. 6 is a fragmentary perspective view of a concrete slab formed in the mold shown in Fig. 1 without tongues or grooves;

Fig. 7 is a plan view with parts broken away of my novel mold;

Fig. 8 is a fragmentary view taken on the line 8—8 of Fig. 7;

Fig. 9 is a view taken on the line 9—9 of Fig. 7;

Fig. 10 is an end elevational view of my novel mold in a closed position;

Fig. 11 is an end elevational view of my novel mold with the mold in an open position;

Fig. 12 is a fragmentary plan view particularly showing the closing toggle member in the ends of my novel mold;

Fig. 13 is a view taken on the line 13—13 of Fig. 14;

Fig. 14 is a fragmentary top plan view with parts broken away of the ends of my novel mold; and

Fig. 15 is a fragmentary sectional view of a modified form of mold pattern for use in my novel mold.

Referring now to the drawings, I show in Figs. 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, and 14, a concrete or cement mold comprising parallel channel shaped members 1 and 2 having spaced projecting lugs 84 extending laterally outwardly from the bottom side thereof. The outer ends of the side members 1 and 2 are secured by U-shaped anchor bolts 3 and 4 with nuts 5 and 6 threadably engaged therewith, the anchor bolts 3 and 4 being anchored in slidable wooden members 7 and 8 disposed in channel members 9 and 10 on each end of the movable members 1 and 2. The anchor bolts 3 and 4 are connected at their inner end to a rotatable toggle plate 12 by arcuate shaped links 13 and 14, the pins 15 and 16 on the plate 12 to which the links 13 and 14 are secured being movable over the horizontal center line of the toggle plate 12 as shown in Fig. 12 to lock the pins and links 13 and 14 in a locked position as shown in Fig. 12. The toggle plate 12 is rotated by a vertically extending shaft 18 which is journaled in the cross members 9 and 10 and which has a handle 17 externally thereof for rotation thereof. The side frame members 1 and 2 are shown with semi-cylindrical longitudinally extending grooved portions 20 and 21 for forming tongues in the sides of a concrete slab.

A pipe or tubular members 22 may be secured in the grooved portions 20 or 21 to provide a tongue and groove in the sides of a concrete slab 23 as shown in Figs. 4 and 9. Half round pipes may be disposed in the grooved portions 20 and 21 to provide a straight-sided slab 24 as shown in Fig. 6. Two grooves may be provided on the sides of a slab 25 shown in Fig. 5 by disposing pipes in both grooves 20 and 21. It will thus be evident that a tongue and a groove may be provided on the slab, two tongues may be provided on the slab, two grooves may be provided on a slab, or the slab may be straight-sided, as desired. Furthermore, grooves may be square or any other form other than cylindrical without departing from my invention. Although I have shown an arched pattern for disposal on the lugs 84, it will be evident that a flat plate or any other form of pattern may be disposed on the lugs 84 to form concrete building blocks, slabs, or any other form of concrete member either crosswise of the mold or lengthwise of the mold. A pattern such as shown in Fig. 15 is particularly adaptable for use with concrete blocks wherein one metal sheet 60 is folded upon itself at spaced intervals 61 to provide crosswise extending molds for concrete blocks. When this mold is removed the pattern quickly loosens the sides thereof from the formed block, thereby permitting easy removal of the blocks from the pattern 60.

Although any suitable overhead carrying device may be provided, I have shown for illustrative purposes a carrying device which permits rotation of the mold and which comprises rotatable transversely extending carrying members 30 rotatably mounted on a shaft 31 secured to vertically extending supporting rods 32 secured to a carrying bar 33 which in turn is suitably connected to a supporting bracket 34 connected to an overhead conveying member 35. A suitable hoist (not shown) is preferably provided between the supporting bracket 34 and the transporting member 35. The rotatable members 30 have flexible outwardly extending members 37 having transverse pins 38 mounted in the ends thereof for disposal in apertured blocks 39 secured to the outer ends of side frame members 1 and 2.

In operation, a pattern of suitable shape is disposed on the lugs 84 of the side members 1 and 2 in a closed position as shown in Figs. 9 and 10. Tubular members 22 are then disposed in the grooves 20 and 21 in the side members 1 and 2 as desired although the mold is ordinarily set up for a tongue and groove arrangement as shown in Fig. 3. Cement, concrete or the like is then poured into the mold as shown in Fig. 9 and then leveled or screed to the top of the side frame members 1 and 2. The mold is then pick up by extending the pins 38 in the members 30 in the apertured members 39 in the opposite ends of the side members 1 and 2 and the mold is transported to the curing room. When the poured concrete has set a sufficient length of time, the handles 17 are rotated, thereby rotating the toggle

plates 12 and moving the links 13 and 14 outwardly, thereby moving the side frame members 1 and 2 outwardly to a position shown in Fig. 11. The pattern may then be removed past the lugs 3 and 4. The mold may be rotated by means of the rotatable members 30, the pattern removed, and the blocks piled in suitable piles for curing.

It will thus be seen that I have provided very simple and durable concrete mold which is particularly adaptable for high production, which is adaptable to form any type of concrete slab or block, which has very simple and efficient locking means, and which may easily be transported from one position to another with a minimum of time and effort.

Various changes may be made in the specific embodiment of my invention without departing from the spirit thereof, or from the scope of the appended claims.

What I claim is:

1. A mold comprising spaced, channel shaped, parallel side frame members, opposed, inwardly projecting, longitudinally spaced lugs on the lower inner sides of said side frame members adapted to carry a pattern, open-sided, box-shaped end members, rectangular shaped, slidable members having the outer ends thereof connected to the inner sides of said side frame members guided and being slidable transversely in said end frame members, over-center links connected to the inner ends of said slidable members, a toggle plate connected to said over-center links, a vertically extending shaft disposed centrally of said end frame members mounting said toggle plates, and a handle on the upper ends of said shafts for rotating said toggle plates to move said slidable members and parallel side frame members outwardly and inwardly in parallel relationship, said side frame members being movable outwardly a sufficient distance to move a pattern past said lugs.

2. A mold as set forth in claim 1 wherein apertured members are disposed on the ends of said side frame members for receiving spaced pins on a rotatable shaft for conveying and rotating said mold.

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