Feb. 11, 1936. F. E. SMITH 2,030,724

CONCRETE TILE MOLD

Filed Dec. 14, 1934

FIG. 1.

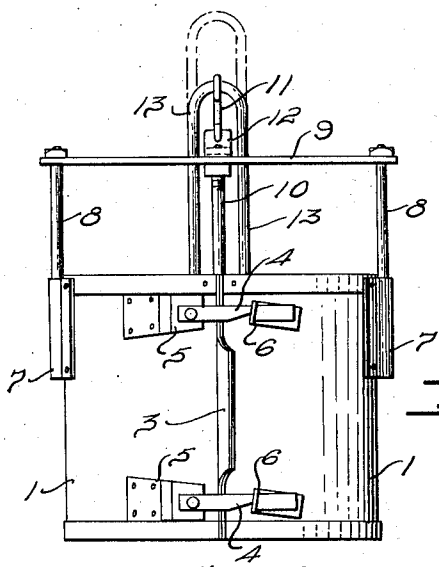


FIG. 2.

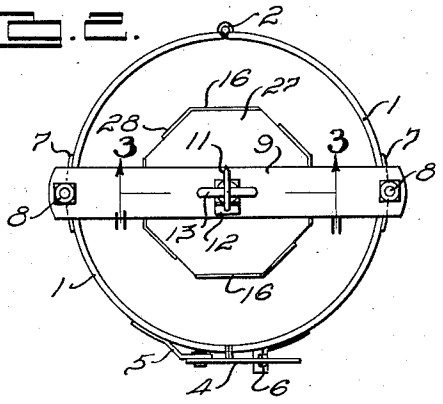


FIG. 3.

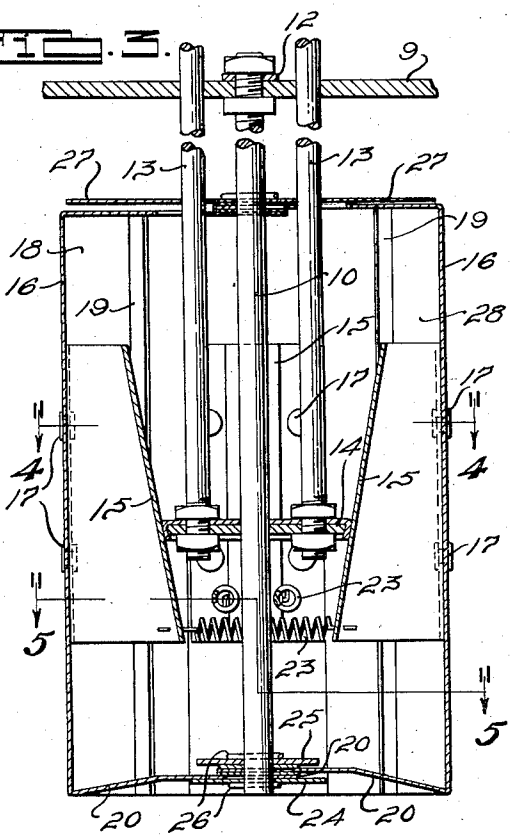


FIG. 4.

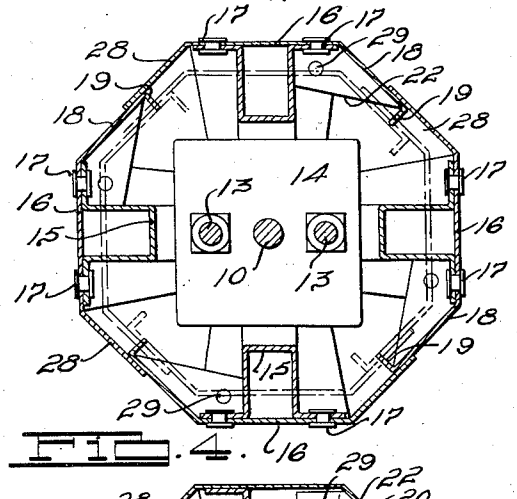
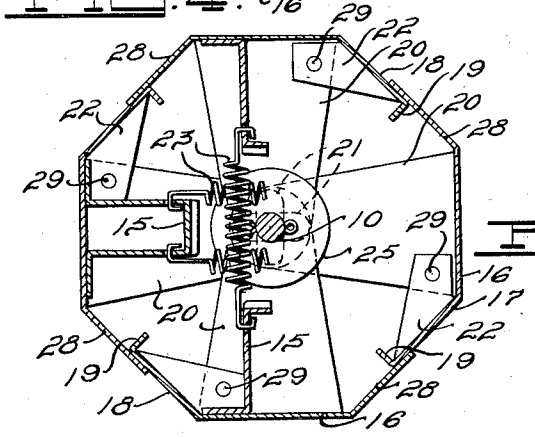


FIG. 5.



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CONCRETE TILE MOLD

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6 Claims. (Cl. 25—128)

This invention relates to concrete tile molds and the object of the invention is to provide a tile mold having an outer housing and an inner expansible and contractible core member in which the core member is supported centrally of the outer housing.

Another object of the invention is to provide a tile mold having a core member of octagonal shape in cross section and provided with overlying sections which move in relation to each other when the core is expanded or contracted.

Another object of the invention is to provide a tile mold having an expansible core in which the sections of the core are provided with angular ribs whereby a member moved longitudinally between the ribs causes the sections of the core to expand.

A further object of the invention is to provide a core for a concrete tile mold in which the sections may be drawn toward each other by springs to contract the sections.

These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of construction by which these objects are attained is shown in the accompanying drawing in which—

Fig. 1 is a side elevation of a concrete tile mold embodying my invention.

Fig. 2 is a plan view thereof.

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2.

Fig. 4 is a section taken on line 4—4 of Fig. 3.

Fig. 5 is a section taken on line 5—5 of Fig. 3.

The device comprises a cylindrical housing 1 which is open at the top and bottom and this cylindrical housing is hinged at 2, as shown in Fig. 2, and is provided with abutting flanges 3 opposite the hinge 2. A pair of latch members 4 are pivotally mounted on one half of the housing on the brackets 5 and these members 4 hook into brackets 6 provided on the other half of the housing. This housing is provided also with brackets 7 on diametrically opposite sides near the top into which the guide rods 8 are adapted to be positioned. These guide rods 8 are supported in the outer ends of a cross bar 9 and a central rod 10 is also secured to the center of the cross bar 9. At the top, a hook 11 is pivotally mounted in a bracket 12 secured to the end of the rod 10 and a U-shaped guide member 13 is slidable vertically through apertures provided therefor in the cross bar 9. As shown in Figs. 3 and 4 the ends of the U-shaped bar 13 are secured in a square member 14 which is slidable vertically on the rod 10 and this member 14 rides in engagement with angular ribs 15 which are secured to sections 16 of the core by the rivets 17, as shown more particularly in Figs. 3 and 4, and these parts may be welded together if desired. Each section of the core comprises a main portion 16 having angularly disposed flanges 28 and 18. Each flange 18 is provided with an inturned flange 19 and the adjacent flange 28 overlaps the flange 18, as shown in Fig. 4. There are four sections thus provided and each section at the top and bottom is provided with an inturned tongue 20 provided with a slot 21 through which the central rod 10 extends. In order to strengthen each section, each section at the bottom is provided with an inturned bracket 22 which is secured to the tongue of the section by the rivet 29 or is welded thereto if desired.

This construction is duplicated at the top and bottom of the core. By providing the inturned tongues 20 with the slots 21, each section is movable inwardly or outwardly on the central rod 10 to collapse or expand the core. It will also be noted that in expanding or contracting the sections that the overlying flanges 28 and 18 remain in contact and these flanges slide over each other as the sections are moved and provide a closed core. In order to draw the sections inwardly toward each other, springs 23 are provided between the ribs 15 of opposite sections, as shown in Figs. 3 and 5. The several tongues are shown in section at the bottom of Fig. 3 where they are assembled on the central rod 10 and a washer 24 is provided below the tongues while a washer 25 is provided above the tongues and a cotter key 26 is provided above and below the washers 24 and 25. The tongues are also shown in section at the top of Fig. 3 but instead of a washer, a disc 27 is provided which is octagonal in form and provides a cover for the core to prevent concrete from being poured into the interior of the core when the mold is being filled.

In operation, the housing 1 is positioned on a flat surface and the core is positioned in the housing with the rods 8 fitting in the brackets 7 as shown in Figs. 1 and 2. At this time, the U-shaped rod 13 is pushed downwardly thus pushing the member 14 downwardly and spreading the ribs 15 apart against the tension of the springs 23. When this rod 13 is pushed downwardly from the position shown in dotted lines in Fig. 3 to that shown in full lines, the hook 11 is engaged over the top of the U-shaped rod to lock it in place.

The mold is then filled with concrete which is

packed into the space between the octagonal mold and the housing 1, as will be understood from Fig. 2. As soon as the concrete is formed in the mold, the hook 11 may be disengaged from the member 13 and the member 13 may be pulled upwardly. This pulls the member 14 upwardly and allows the springs 23 to contract the sections of the core away from the concrete tile so that the core may be removed from the concrete by lifting the cross bar 9 and disengaging the rods 8 from the brackets 7. At this time, the hooks 4 may be disengaged to allow removal of the housing from the exterior of the tile by opening the sections apart on the hinge 2, at which time, the device is ready for use in making another tile. It will be noted that springs 23 are provided only at the bottom of the ribs 15 and as the member 14 is lifted, these springs tend to contract the lower portion of the core first and as the member 14 is moved upwardly the upper sections of the core are drawn inwardly in relation to the concrete tile so that it may be readily lifted out of the tile.

From the foregoing description it becomes evident that the device is very simple and efficient in operation, is composed of few parts, is of consequent low manufacturing cost, is composed mainly of sheet metal and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. In a concrete tile mold, a core member comprising a series of three-sided segments, a tongue extending inwardly from each segment at the top and bottom, each tongue being provided with a slot, a rod extending through the slots of the several tongues and the segments being assembled on the rod in overlapping relation to form an octagon, a plunger movable longitudinally of the rod between the top and bottom of the segments, each segment being provided with a sloping rib extending longitudinally thereof, means for moving the plunger longitudinally of the rod, a series of springs tending to contract the segments and the arrangement being such that as the plunger is moved downwardly in engagement with the sloping ribs the segments are expanded against the tension of the springs and as the plunger is moved upwardly the segments are contracted by the springs and means for locking the plunger from upward movement when in the lowermost position.

2. In a concrete tile mold, a core member comprising a series of three-sided segments, a tongue extending inwardly from each segment at the top and bottom, each tongue being provided with a slot, a rod extending through the slots of the several tongues and the segments being assembled on the rod in overlapping relation to form an octagon, a plunger movable longitudinally of the rod between the top and bottom of the segments, each segment being provided with a sloping rib extending longitudinally thereof, means for moving the plunger longitudinally of the rod, a series of springs tending to contract the segments and the arrangement being such that as the plunger is moved downwardly in engagement with the sloping ribs the segments are expanded against the tension of the springs and as the plunger is moved upwardly the segments are contracted by the springs.

3. In a concrete tile mold, a cylindrical housing, a core member mounted centrally of the cylindrical housing, the core member being formed from a series of flat sided segments assembled in octagonal form, a central guide rod on which the segments are mounted and a plunger movable longitudinally of the central guide rod, each segment being provided with a sloping rib engaging the plunger and a series of springs tending to draw the segments toward each other, the arrangement being such that as the plunger is moved downwardly the segments are expanded by the plunger and as the plunger is moved upwardly the segments are contracted by the springs.

4. In a concrete tile mold, a cylindrical housing, a core member mounted centrally in the cylindrical housing, the core member comprising a series of four three-sided segments assembled in the form of an octagon, a sloping rib secured to and extending longitudinally of each segment on the interior thereof, a series of springs tending to draw the segments together and a plunger movable longitudinally of the core member and provided with flat sides engaging the sloping ribs, the arrangement being such that as the plunger is moved downwardly in the core member the segments are expanded against the tension of the springs and as the plunger is moved upwardly the segments are contracted by the springs.

5. In a concrete tile mold, a cylindrical housing, a core member mounted centrally in the cylindrical housing, the core member comprising a series of segments each provided with a sloping rib, spring means tending to draw the segments together and a plunger movable longitudinally of the core member and provided with flat sides engaging the sloping ribs, the arrangement being such that as the plunger is moved downwardly in the core member the segments are expanded against the tension of the springs and as the plunger is moved upwardly the segments are contracted by the springs.

6. In a concrete tile mold, a cylindrical housing, a core member mounted centrally in the cylindrical housing, the core member comprising a series of overlapping segments, a cam member secured to each segment, means movable into contact with the cam members to expand the segments and spring means urging the cam members into engagement with said movable means.

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