June 2, 1953 G. J. SAFFERT 2,640,248

APPARATUS FOR PRODUCING VENTILATED STAVES OR BLOCKS

Filed Dec. 30, 1950

Fig. 1

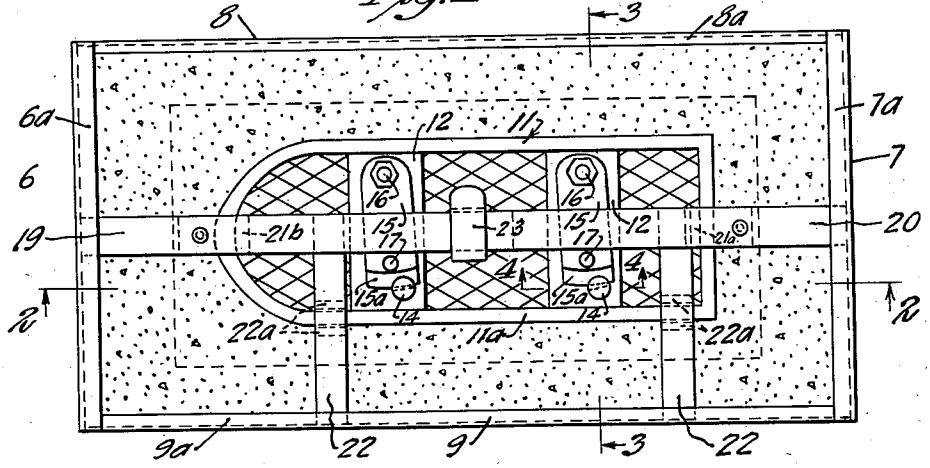


Fig. 2

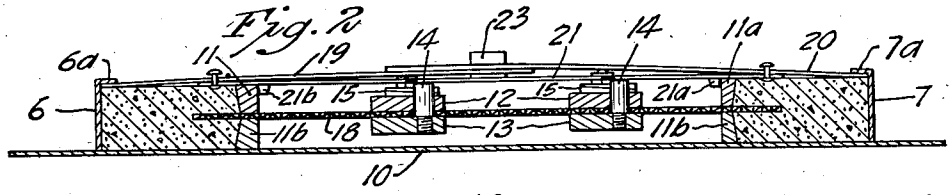


Fig. 3

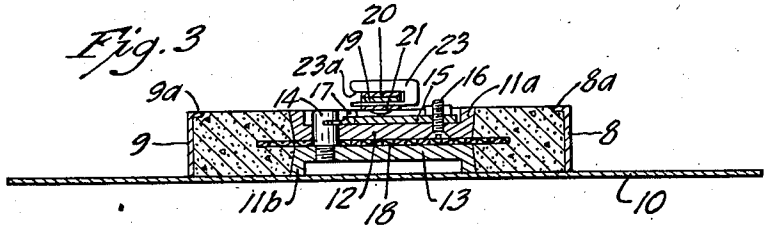
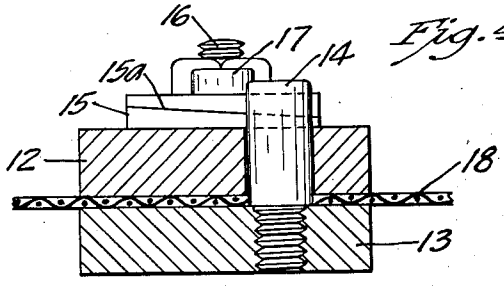


Fig. 4



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APPARATUS FOR PRODUCING VENTILATED STAVES OR BLOCKS

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3 Claims. (Cl. 25—121)

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This invention relates to an apparatus for producing a ventilated stave or block particularly adapted for constructing a fenestrated building such as a corn-crib, or the like.

It is an object of my invention to provide a mold for casting building blocks and the like, and more particularly to a mold structure which is extremely easily and quickly assembled.

More specifically, it is an object to provide a mold structure for casting a fenestrated building block adapted to securely hold a ventilating screen in a precisely predetermined position across the block fenestration, while forming said fenestration during the pouring and setting of the block material.

These and other objects and advantages will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to the same or similar parts throughout the several views and in which:

Fig. 1 is a top plan view of my mold structure with the block material poured therein.

Fig. 2 is a longitudinal vertical sectional view taken substantially along the line 2—2 of Fig. 1.

Fig. 3 is a transverse vertical section view taken substantially along the line 3—3 of Fig. 1; and

Fig. 4 is an enlarged fragmentary sectional view taken substantially along the line 4—4 of Fig. 1.

As illustrated in the accompanying drawings, I provide an outer mold structure having the ends 6 and 7 and the sides 8 and 9 all mounted in fixed relation on an imperforate base plate 10. The two ends 6 and 7 and the two sides 8 and 9 all have a peripheral overlying flange formed at the top thereof and respectively designated by the numeral 6*a*, 7*a*, 8*a*, and 9*a*. A central fenestration forming split mold designated as an entirety by the numeral 11 and having the two cooperating sections 11*a* and 11*b*. As best shown in Figs. 2 and 3, the outer peripheral walls of 11*b* each taper inwardly toward the center to permit easy separation thereof from the block structure. The section 11*a* has a pair of transversely disposed mounting bars 12 fixed thereto in spaced parallel relation, and the member 11*b* has a pair of similarly spaced mounting bars 13 disposed in underlying opposed relationship to the respective bars 12. Each of the bars 13 has an upstanding clamping post 14 securely fixed thereto as by being screwed thereon in upwardly extending relation to the top surface of the respective bars. The posts 14 are of sufficient length to extend upwardly through cooperating apertures respectively formed in the bars 12 and extend above said bars 12 with a wedge receiving slot transversely formed on the inner side thereof. A pair of pivoted clamping wedges 15 are swingably mounted on the pivot pins 16 extending into, but not below, the respective bars 12. Each of these clamping wedges 15 has an arcuately curved, gradually thickening wedged surface 15*a* at the marginal free end portion thereof for clamping engagement in the notch formed in the respective clamping pins 14. Each of the wedges has an actuating knob 17 fixed in upstanding relation thereon to permit tight engagement of the wedge surface 15*a* in the respective slots. Any suitable screening material, such as the expanded metal 18 may be tightly clamped between the two inner mold sections 11*a* and 11*b*, and is of such a size as to extend outwardly a substantial distance around the entire periphery of said inner mold 11, as best shown by the dotted line of Fig. 1.

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After being initially clamped to the screen 18, the entire inner mold structure 11 may be tightly clamped in predetermined position within the outer mold structure, as by the longitudinally disposed clamping levers 19 and 20, which are pivotally mounted on the interconnection bar 21. A pair of transversely disposed spacer members 22, having the depending projections 22*a* fixed on the underside thereof, are connected in fixed relation to the interconnection bar 21, and extend outwardly at right angles thereto to underlie the flange 9*a* of the side 9, and abut against the side 9. A pair of stops 21*a* and 21*b* are respectively fixed to the underside of the connector bar 31, and respectively engage the end portions of section 11*a* of the inner mold structure 11. The pivoted levers 19 and 21 are adapted to be engaged under the flanges 6*a* and 7*a* of the ends 7 to securely clamp the center mold structure 11 by downwardly directed pressure thereon, and to hold the same against shifting movement during the pouring and vibrating of the block material, such as cement mortar, generally used for constructing such blocks. It should be noted that the center mold structure is of somewhat deeper construction, as viewed in cross section in Fig. 2 than are the ends 6 and 7, so as to produce a downwardly exerted clamping pressure on said center mold structure. A fixed latch clip 23 is connected at the central portion of the connector bar 21, and has a latch slot 23*a* formed therein to receive the overlapped end portions of the pivoted levers 19 and 20, when in clamping position.

The method of constructing a building block with a screened fenestration formed therein embodies the following steps:

Initially clamping the fenestration screening material 18 between a pair of split fenestration forming mold structures 11*a* and 11*b*, clamping said fenestration forming mold structure 11 with the screen 18 clamped therein by the positioning and clamping mechanism consisting in the levers 19 and 20 and the spacer bars 22, pouring plastic material such as cement mortar into the space between the central mold structure and the peripheral mold structure to imbed the marginal peripheral portion of the screen material in said mortar, vibrating the entire mass to compact the mortar, and removing at least the levers 19 and 20 and spacer bars 22 before the mortar has completely hardened.

The last step is necessary to prevent the end portions of the levers 19 and 20 and spacer bars 22 from being held against shifting movement by the hardened cement. It will be seen that I have provided an extremely ingenious, highly efficient apparatus and method for producing a building block having a screen fenestration formed therein, and particularly adapted for use in building corn-cribs and the like.

It will of course be understood that various changes may be made in the form, details, arrangements, and proportions of the parts without departing from the scope of my invention.

What I claim is:

1. A mold structure for casting a ventilated silo stave or the like, comprising an upstanding outer peripheral wall, an imperforate bottom panel mounted under said outer wall and underlying the area enclosed thereby, a split central mold structure divided by a plane disposed in upwardly spaced parallel relation to said imperforate bottom panel into two cooperating sections adapted to be securely clamped against opposite surfaces of the medial portion of a screen whereby the outer marginal portions of the screen extend outwardly therearound, means for interconnecting the outer peripheral wall and the central mold structure to maintain a predetermined spaced relation therebetween.

2. A mold for casting a ventilated silo stave, comprising an imperforate bottom panel, an upstanding outer peripheral wall structure mounted on said bottom panel and provided with anchoring means at certain portions of the top thereof, a central mold structure extending upwardly from the bottom a substantially similar distance to the outer peripheral wall and being split longitudinally into two sections by a plane disposed in parallel spaced relation above the bottom panel, means for securely clamping said two sections together against opposite surfaces of an intermediate portion of a screen with the marginal portions of said screen extending outwardly beyond the central mold structure into the area between said central mold structure and the outer peripheral wall, a plurality of spacer elements interconnecting the center mold structure with the anchoring portions of the outer peripheral wall to maintain the central mold structure and the screen clamped thereby in predetermined relation within said outer wall.

3. A mold for casting a ventilated silo stave, comprising an imperforate bottom panel, an upstanding outer peripheral wall structure mounted in fixed relation on said bottom panel and forming the peripheral edge portion of the stave being cast, an inwardly extending flange formed at the top of said peripheral wall, a split central mold structure divided by a plane disposed in upwardly spaced parallel relation to said bottom panel into two cooperating sections, means for securely clamping said sections together against opposite surfaces of an intermediate portion of a screen with the marginal portions of said screen extending outwardly beyond the central mold structure around the entire periphery thereof, the upper edge of said central mold structure extending upwardly a slight distance above the elevation of said peripheral flange, an elongated relatively stiff strap having a pair of clamping levers pivoted to the end portions thereof and adapted to underlie the end peripheral flanges and to overlie in clamping relation the central mold structure to securely clamp the same against the imperforate bottom panel, means for holding said lever elements in clamping position, and a pair of downwardly extending projections fixed to the bottom of said strap to engage the end walls of said central mold structure to prevent longitudinal shifting movement thereof, and a pair of laterally extending spacer elements having projections fixed on the bottom thereof for engagement against the sides of said central mold structure to prevent lateral shifting thereof and permit the entire mold structure to be vibrated during the setting of the casting maerial.

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