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MOLD FOR SWITCH PANELS

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Fig. 1.

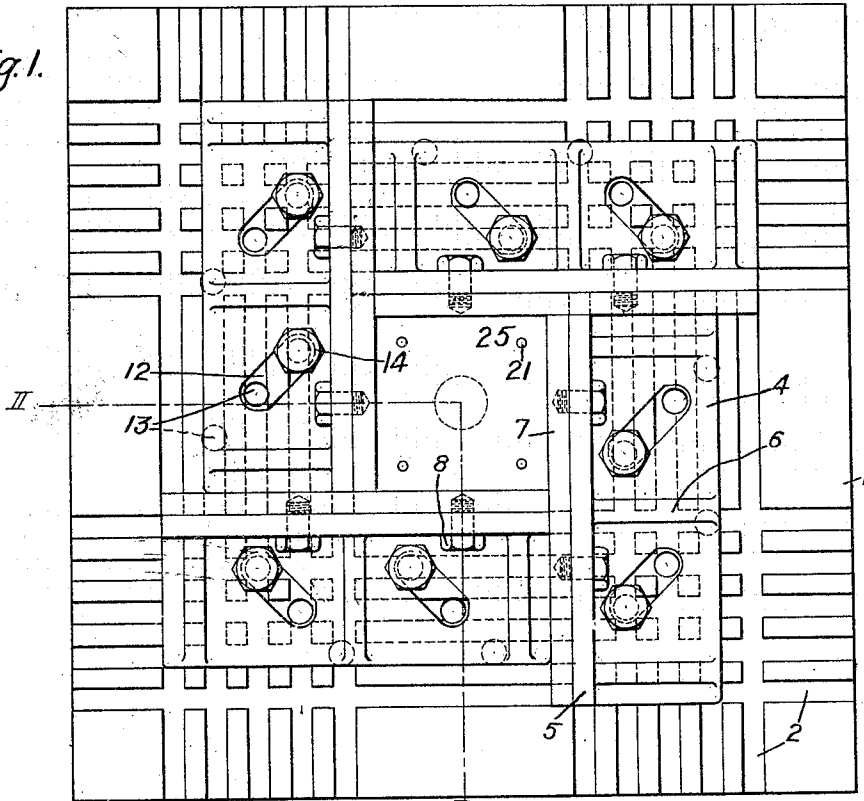


Fig. 2.

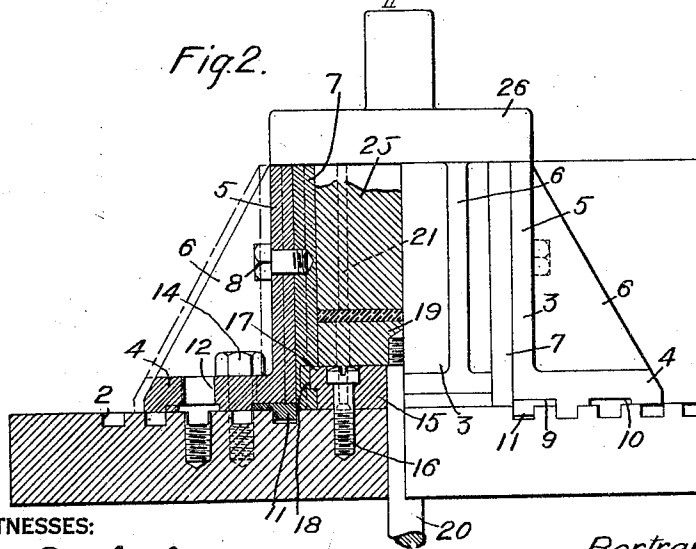
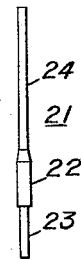


Fig. 3.



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MOLD FOR SWITCH PANELS.

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To all whom it may concern:

Be it known that I, BERTRAND P. ROWE, a citizen of the United States, and a resident of Wilkesburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Molds for Switch Panels, of which the following is a specification.

My invention relates to molds and more particularly to molds for forming switch panels and it has, for its object, the provision of a mold which may be readily adjusted to mold panels of various sizes and with variously arranged openings.

Heretofore, to the best of my knowledge, molds for forming switch panels have never been adjustable, with the result that a large number of molds were required as each particular size of panel and arrangement of openings therein necessitated its individual mold. By my present invention, I provide a mold capable of forming rectangular panels of widely varying sizes and proportions. Furthermore, I so construct the mold that the adjustments, to adapt it to the molding of different panels, may be quickly and easily accomplished.

In this connection, another object of my invention consists in providing a plurality of interchangeable press blocks having variously arranged pins and pin receiving openings so that any desired arrangement of openings in the finished panel may be provided for.

With these and other objects in view, my invention will be more fully described, illustrated in the drawings, in the several views of which corresponding numerals indicate like parts, and then particularly pointed out in the claims.

In the drawings, Fig. 1 is a plan of my mold; Fig. 2 is an elevation, partly in section, upon the line II—II of Fig. 1, and Fig. 3 is an elevation of one of the core elements or pins employed with my mold.

As best shown in Figs. 1 and 2 of the drawing, I provide a base or table 1 which may be formed of any suitable material, preferably steel and the upper, plane surface of which may be provided with a plurality of parallel, uniformly-spaced, square-shouldered channels or grooves 2. The channels

are arranged in groups, each group being disposed parallel to one edge of the table as shown in Fig. 1.

Co-operating with the channeled table are side wall members 3, each of which is of L-shape in cross-section including a base portion 4 resting upon the surface of the table and a vertical wall portion 5, the portions being braced at suitable intervals as shown at 6. Each wall member is provided with a replaceable liner 7 which may be secured to the wall by bolts 8.

The relative arrangement of the wall members may best be understood by referring to Fig. 1, each wall member being disposed with one end engaging against the liner of an adjacent wall member, whereby the wall members may inclose rectangular spaces of varying sizes and proportions according as they are moved toward and away from each other. Because of this, it will be apparent that mold chambers of varying sizes and proportions may be provided by suitable adjustments of the wall members.

As a means for holding the wall members in adjusted position, the base portion of each wall member is formed with spaced, square-shouldered channels 9 and 10 in its lower face, of approximately double the width of the channels in the table, one of the channels opening through the inner face of the wall portion 5. Co-operating with each wall member and the base is a key 11, of L-shape in cross-section, one arm of which is proportioned to fit snugly within one of the channels of the base 4 and the other arm of which is adapted to correspondingly fit into one of the channels 2 of the table.

Assuming, for example, that the channels of the table are formed at intervals of an inch and that the key of any particular wall is disposed in the inner channel of the base thereof, as shown in full lines at the left in Fig. 2, it will be apparent that by engaging the key in any selected one of the base channels, at that side of the table, the wall may be adjusted inch by inch toward or away from the center of the table. The other channel base 4 of the wall member is so formed, however, relative to the first channel, that if the key is employed therein, the wall member may be secured midway be-

tween the stations which it will occupy when the key is in the channel as first described. It is, therefore, possible to obtain half-inch adjustments of each wall relative to the table so that by proper adjustment of the several walls, rectangular molding chambers of any desired proportions in half-inch sizes may be provided.

While the keys will thus secure the side wall members against lateral movement upon the table, I may also provide any suitable means for securing them against lifting movement during the molding operations. For example, I may provide the base portion of each wall member with two or more diagonally disposed slots 12 and the table with two or more series of diagonally spaced bolt receiving openings 13 so that bolts 14 may be extended through the slots and screwed into certain of the openings in any adjusted position of the wall members to hold them in place.

Associated with the above described mold structure are certain press blocks and related elements for pressing and shaping a panel in the mold chamber, a plurality of such members of assorted sizes and proportions being provided for the different adjustments of the wall members. For example, I may provide a set of base plates, one of which is shown at 15, of different sizes and proportions, each adapted to seat upon the table and to close the lower end of the mold chamber and counter-sunk bolts 16 may be extended through the base plate in use and screwed into the table to hold the base plate in place.

As very high pressures are employed in molding panels, there is considerable lateral pressure exerted against the wall members of the mold, and, for this reason, I preferably provide the base plate about its upper portion with a marginal flange 17 adapted to sit snugly in channels 18 formed in the liners of the side wall members. Obviously, downward pressure against the base plate 15 will cause its flanges to press against the lower faces of the channels of the liners to hold the liners from tilting outwardly.

A series of lower press blocks, one of which is shown at 19 in Fig. 2, corresponding to the series of base plates 15, may be provided and each may be adapted for detachable connection with an ejector plunger 20 extending downwardly through the table and adapted in raised position to bring the upper face of the lower press block 19 flush with, or slightly above the top of the wall members so that a mold panel supported upon it may be readily removed.

Each base plate 15 carries a plurality of core elements 21, one of which is clearly shown in Figs. 2 and 3 of the drawing. The core elements are provided as a means for forming openings in the panel being

molded, at any desired position, and they may be permanently secured to the base plate or they may detachably engage it.

While these core elements may vary in construction, the form shown is well adapted for the purpose and comprises a body portion 22 having a reduced terminal 23 which seats in the opening formed in the base plate 15 and which may have its end upset to secure the core element in place. The body portion 22 immediately above the upper surface of the base plate may be slightly tapered, as shown at 24, in which case the remaining portion of the body is of reduced diameter. The body should be of such length as to extend to, or nearly to, the level of the upper end of the side walls. It will, of course, be appreciated that the lower press block 19 is, in each instance, formed with suitably arranged openings for the passage of the unreduced portions of the pins or core elements.

A series of upper press blocks 25 corresponding in size and proportions to the lower press blocks and formed throughout their height with core-element receiving openings, similarly arranged, is provided.

When a panel of any selected dimensions is to be molded by employment of my mold, a base plate 15 of the proper dimensions is secured to the central portion of the table 1, the side wall members are moved to engage each other and the sides of the base plate 15 and the bolts 14 are applied to secure the parts in adjusted position. A lower press block 19 of proper size is then positioned within the mold chamber, thus provided, and connected to the ejector plunger 20, when the mold is ready for use.

A suitable quantity of the moldable composition to be employed, this quantity being preferably determined by weight, is disposed within the mold chamber, the upper press block 25 is placed upon the composition, and a press plunger 26 is forced downwardly against the upper press block until its upper end is flush with the side walls, when the composition is compressed to the proper extent. This provides a ready means for positively determining the thickness of the finished product.

After the panel has thus been formed, the plunger 26 may be raised and the ejector plunger 20 may be actuated (by any suitable means not shown) to lift the press blocks and the interposed panel until the latter is above the level of the top of the mold walls. The upper press block may then be removed and the panel may be lifted from the core elements 21 and later subjected to the usual or any preferred curing treatment.

From the foregoing description, taken in connection with the drawings, it will be apparent that I have provided a simple form of panel mold in which certain parts are

relatively adjustable to adapt the mold for use in forming panels of different dimensions. Because of this, only a few and relatively inexpensive mold elements need be provided of different dimensions. My adjustable mold with its various sets of base plates and press blocks is, therefore, far cheaper in construction than a series of complete non-adjustable molds capable of forming the same panels.

Although I have illustrated and described my invention in considerable detail, it will be appreciated that various changes may be made without, in any way, departing from the spirit of my invention. For this reason, no limitations are to be imposed upon my invention other than those indicated in the claims.

I claim as my invention:—

1. In a mold for switch panels, a table formed with a plurality of spaced channels, a plurality of wall members upon the table and movable relative to each other, one end of each engaging the inner face of an adjacent wall member and the lower faces of the wall members being formed with spaced channels, and keys engageable in selected channels of the table and wall members to

secure the wall members against lateral movement.

2. A mold for switch panels comprising a table, a plurality of wall members, means for securing the wall members in adjusted position to provide with the table a molding chamber, a base plate adapted to seat in the lower end of the molding chamber and having flange and channel engagement with the walls, and press blocks insertible in the molding chamber.

3. A mold for switch panels comprising a table, a plurality of wall members, means for securing the wall members in adjusted position to provide with the table a molding chamber, a base plate adapted to seat in the lower end of the molding chamber and having flange and channel engagement with the walls, press blocks insertible in the molding chamber, the press blocks being formed with a plurality of alined openings, and a plurality of core elements carried by the base plate and adapted to extend through the openings in the press blocks.

In testimony whereof, I have hereunto subscribed my name this 27th day of June, 1919.

BERTRAND P. ROWE.