No. 679,232. Patented July 23, 1901.

S. M. KIMBLE.

MOLD FOR BRICK OR ARTIFICIAL STONE.

(Application filed Dec. 10, 1900.)

(No Model.) 2 Sheets—Sheet 1.

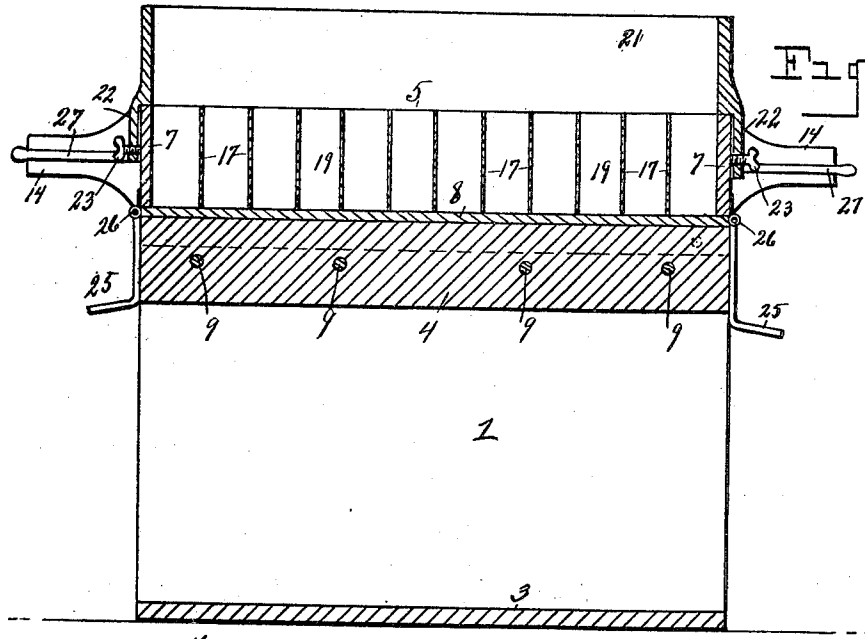


Fig. 1.

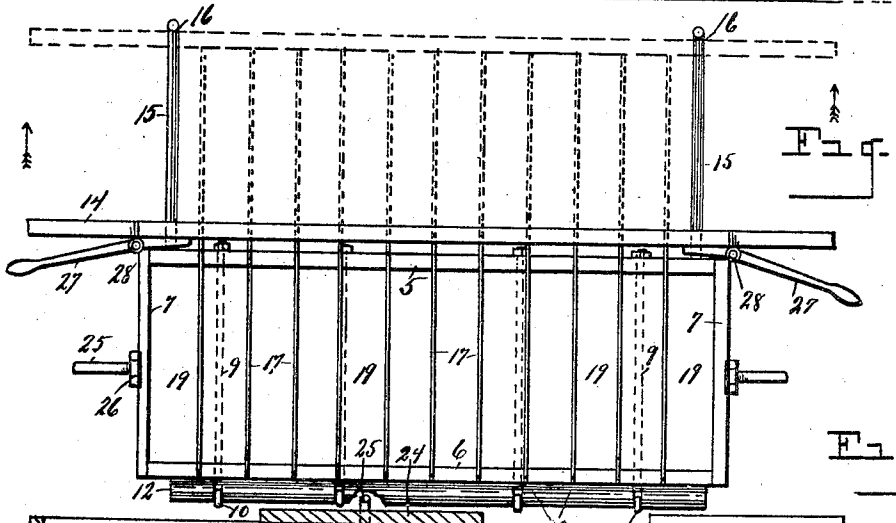


Fig. 2.

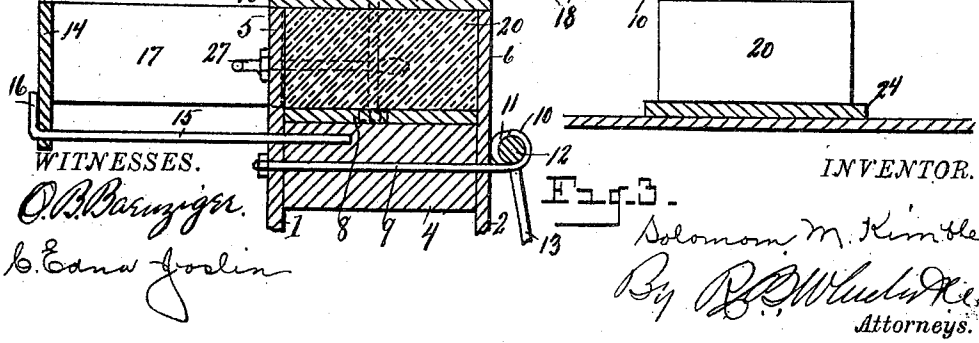


Fig. 4.

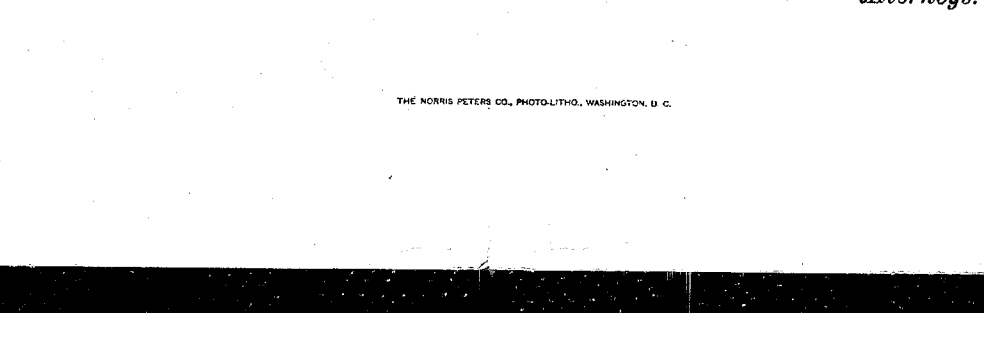


Fig. 3.

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No. 679,232. Patented July 23, 1901.

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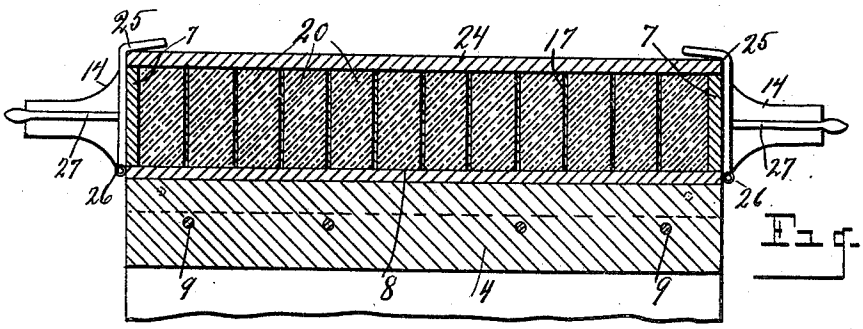


Fig. 5.

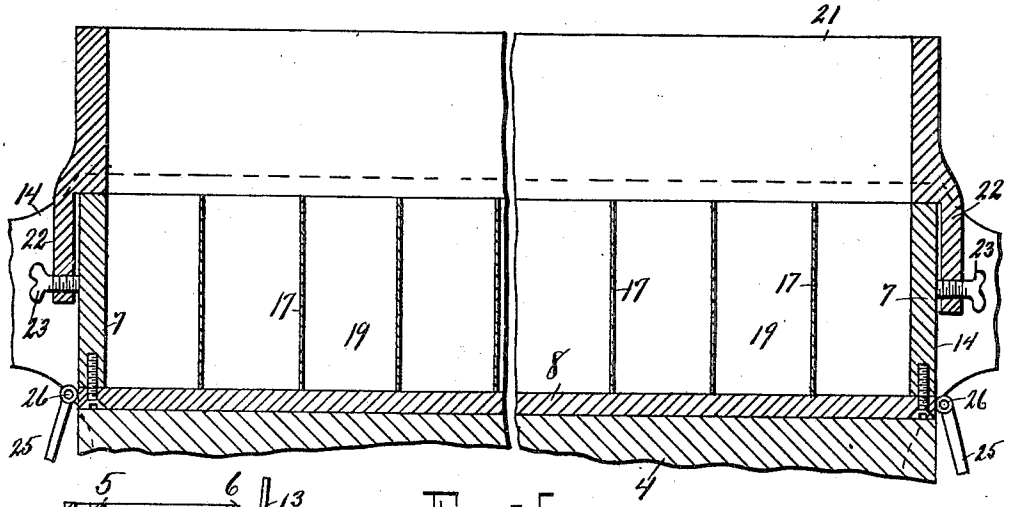


Fig. 6.

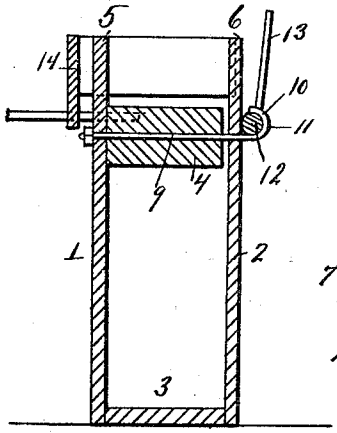


Fig. 7.

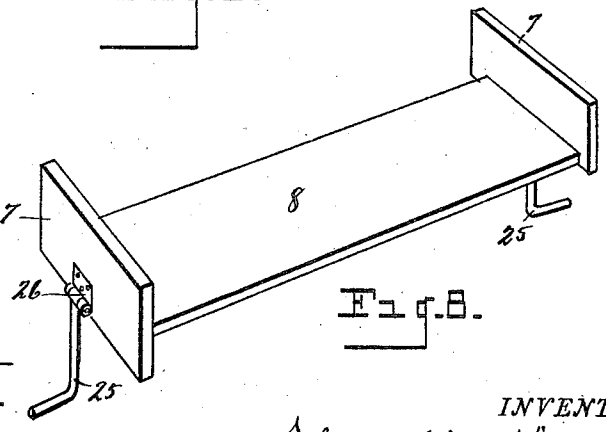


Fig. 8.

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UNITED STATES PATENT OFFICE.

SOLOMAN M. KIMBLE, OF CORUNNA, MICHIGAN, ASSIGNOR TO GEORGE SETZER AND ADAM SERR, OF SAME PLACE.

MOLD FOR BRICK OR ARTIFICIAL STONE.

SPECIFICATION forming part of Letters Patent No. 679,232, dated July 23, 1901.

Application filed December 10, 1900. Serial No. 39,263. (No model.)

To all whom it may concern:

Be it known that I, SOLOMAN M. KIMBLE, a citizen of the United States, residing at Corunna, in the county of Shiawassee, State of Michigan, have invented certain new and useful Improvements in Molds for Brick or Artificial Stone; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a machine for making brick or artificial stone; and it consists in the construction hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for forming and pressing brick made of sand and cement or other materials in such manner as to render the brick firm and compact and allow them to be removed from the press without injury, the arrangement being such as to enable the bricks to be rapidly and cheaply made.

The above object is attained by the device illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section through the brick-forming press or mold and the base upon which it is mounted. Fig. 2 is a plan view of the mold in which the bricks are formed, showing by dotted lines the movement of the horizontally-retractable dividing-plates, which are adapted to separate the mold into a series of divisions adapted to contain the bricks. Fig. 3 is a transverse section showing the position of parts when the material is confined within the mold and the dividing slides or partitions are withdrawn to separate the material into a series of independent bricks. Fig. 4 is an elevation of the bricks upon the drying-board after being molded in the press. Fig. 5 is a longitudinal section through the press, showing the material therein separated into bricks by the dividing-plates. Fig. 6 is a central vertical section through the mold or press with the hopper in position thereon. Fig. 7 is a vertical transverse section through the mold, showing the bottom removed and the clamp of the mold released. Fig. 8 is a perspective view of the follow-board and ends of the mold or press.

The base comprises the upright parallel sides 1 and 2, united at their lower ends by the base-piece 3. Interposed between said sides near their upper end is a block 4, which is rigidly attached to the side 1 and is thereby maintained in position. Said block forms the bottom of the mold in which the bricks are formed. The sides of the mold are formed by the upper ends 5 and 6, respectively, of the sides 1 and 2, which continue above said block. The ends of the mold are formed by the end pieces 7 of the follow-board 8, which is adapted to lie upon the block 4 between the sides of the mold and support said end pieces, so as to close the ends of the mold, as clearly shown in Figs. 1, 5, and 6. The side 2, whose upper end 6 forms one of the sides of the mold, is free from the block 4, as will be seen upon referring to Fig. 7. Passing transversely through said block are the rods 9, whose outer ends pass freely through the side 2 and are provided with a hooked portion 10. The hooked ends of said rods lie in eccentric ways 11, formed circumferentially in the annular bar 12, which crosses the face of the side 2 and lies contiguous thereto, being supported in position by the hooked ends of the rods 9. Projecting from the bar 12 is an operative handle or lever 13, by means of which said bar may be rotated. When said bar is turned so that the hooks 10 lie in the eccentric ways 11 thereof, the side 2 is released and allowed to spring outward, as shown in Fig. 7. By throwing the handle downward so as to rotate said bar to cause the hooks 10 to ride out of said ways, said bar is carried forcibly against the side 2, whereby said bar is clamped against the end of the block 4 and held rigidly in position, as shown in Fig. 3.

A cross-piece 14 is mounted to slide hori-

zontally upon the supporting-rods 15, which are secured in the block 4 and project laterally from the side 1, their outer ends being turned upwardly, as shown at 16, to arrest said cross-piece in its outward movement. Attached to said movable cross-piece is a series of horizontally-extending approximately parallel dividing blades or patitions 17, which pass through openings in the side 5 of the mold and extend transversely across the chamber of the mold, their rear ends entering slots 18 in the side 6, whereby said dividing-blades are held firmly in position when shoved into place across the chamber of the mold and serve to divide said mold-chamber into a series of parallel spaces 19, in which the bricks are formed, as indicated at 20. After forming the bricks the cross-piece 14 is drawn outwardly upon the supporting-rods 15, so as to withdraw the dividing blades or partitions from the bricks in the mold, whereby the bricks are separated in a manner to enable them to be discharged therefrom and placed for drying without contact, as hereinafter explained.

A rectangular hopper 21 is adapted to be placed upon the mold to facilitate the placing of the material therein. Said hopper rests upon the upper edge of the mold and is provided with cleats 22, which embrace the ends of the mold and carry thumb-screws 23, adapted to be screwed against the ends 7 to maintain the hopper securely in position.

In the operation of this device the follow-board 8, which forms the bottom of the mold, is first placed upon the base-block 4 between the sides 5 and 6, so that the ends 7, carried by said board, will close the mold and form the end pieces thereof. The lever 13 is then thrown downward, so as to clamp the side 6 of the mold in place, and the cross-piece 14 is moved up to the side 5 to cause the dividing-plates to extend across the mold and divide it into brick-forming spaces. The hopper is then placed in position and the sand and cement in proper proportion or other materials from which the bricks are to be formed are placed in the hopper so as to fill the space in the mold between the dividing-blades 17. The materials are then tamped down into said dividing-spaces, so as to compact said materials between said partitions, after which the hopper is removed and the materials made smooth and level with the top of the mold. A drying-board 24 is then placed upon the top of the mold and secured by the hooks 25, which are hinged at 26 to the ends 7. These hooks engage the opposite ends of the drying-board in a manner to maintain it firmly in place upon the top of the mold. The dividing-plates are then withdrawn from between the bricks in the mold by drawing outward the cross-piece 14. The bricks are then released from pressure by throwing upward the lever 13, thereby unclamping the side 6, when the follow-board, with the bricks thereon, may be lifted from the mold. After removing the bricks from the mold they are turned over, so as to rest upon the drying-board 24, as shown in Fig. 4. The follow-board is then removed by disengaging the hooks 25, thereby leaving the bricks 20 perfect and intact upon the drying-board to dry. After the formed bricks have been deposited upon the drying-board the follow-board is again placed in the mold and the operation repeated. In this manner brick or artificial stone may be formed of sand and cement, which when dry are superior for building purposes and may be very quickly and cheaply made. After the mixture from which the bricks are formed has been tamped firmly into the divisions of the molds the pressure upon the dividing-plates renders it difficult to start the cross-piece 14 when desiring to withdraw the plates from the mold. To enable said cross-piece to be moved easily at the start, levers 27 are pivoted or hinged at 28 to the mold so that their short ends extend inwardly between the side of the mold and the cross-piece 14, in which position a movement of the outer end of said levers toward the ends of the mold will force said cross-piece outwardly and draw upon the dividing-blades 17, as will be readily understood.

If desired, an artificial stone the entire size of the mold may be formed by leaving the dividing-plates out of the mold-space when the materials are placed therein. By changing the size of the mold artificial stone of any desired size may be made.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for the purpose set forth, the combination of the compressible mold having a follow-board forming the bottom and ends thereof, movable partitions crossing the mold-chamber between the ends thereof and means for moving said partitions.

2. In a device for the purpose set forth, the combination of a compressible mold having openings in the side thereof, a series of approximately parallel partitions adapted to enter said openings and extend across the mold-chamber the dividing of the chamber into independent sections, and a movable cross-piece attached to said partitions, whereby they may be actuated in unison.

3. In a device for the purpose set forth, the combination of a mold having a movable side, retractable partitions dividing the mold-chamber and movable through the side of the mold, and a clamp for confining the movable side of the mold.

4. In a device for the purpose set forth, the combination of a compressible mold having a movable side, means for locking and releasing said side, a follow-board forming the bot-

tom and ends of the mold and a movable cross-piece carrying a series of parallel partitions adapted to divide the mold-chamber.

5. In a device for the purpose set forth, the combination of a mold having a movable side, an eccentrically-mounted bar crossing said side and lying contiguous thereto, a follow-board forming the bottom and ends of the mold and a series of retractable partitions dividing the mold-chamber.

In testimony whereof I sign this specification in the presence of two witnesses.

SOLOMAN M. KIMBLE.

Witnesses:

MILDRED MANN,

A. L. CHANDLER.