J. F. MAKOWSKI.

MOLD FOR HOLLOW PARTITION BLOCKS.

APPLICATION FILED MAY 28, 1909.

977,025.

Patented Nov. 29, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

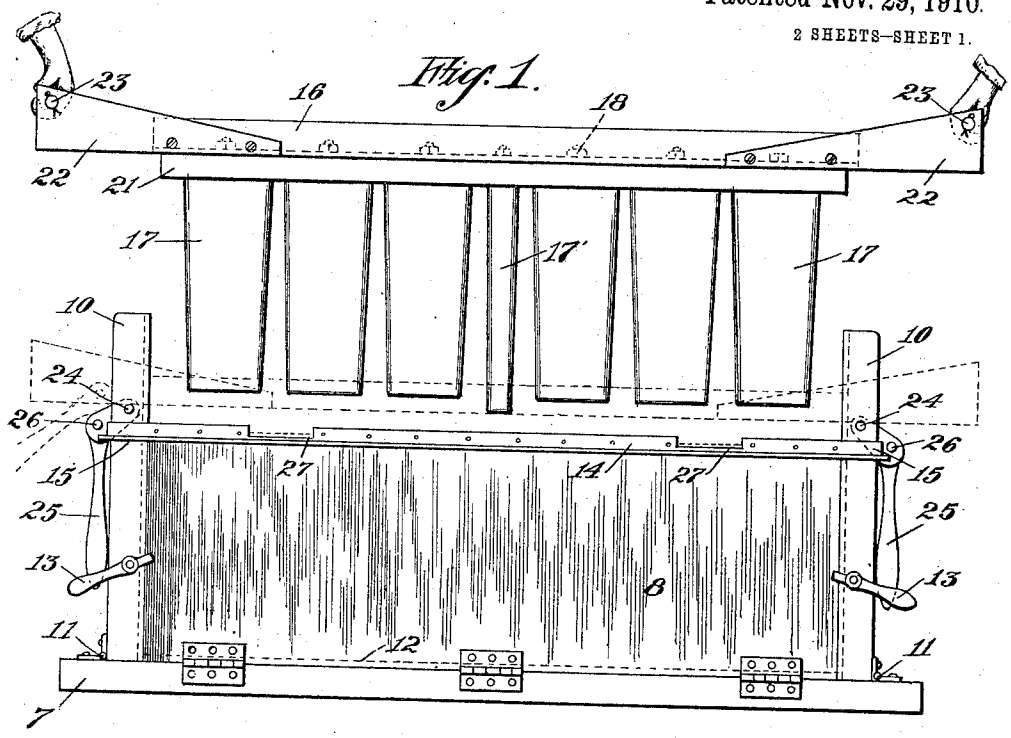


Fig. 2.

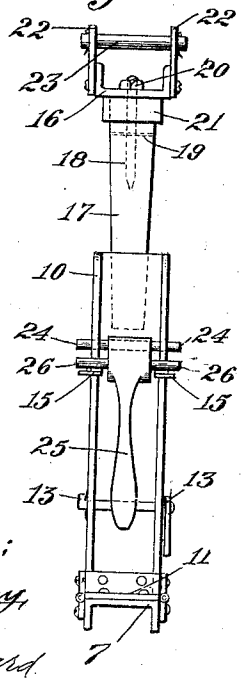
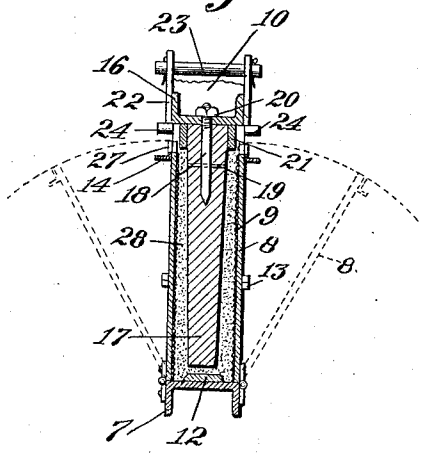


Fig. 3.



Witnesses;

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2 SHEETS—SHEET 2.

Fig. 4.

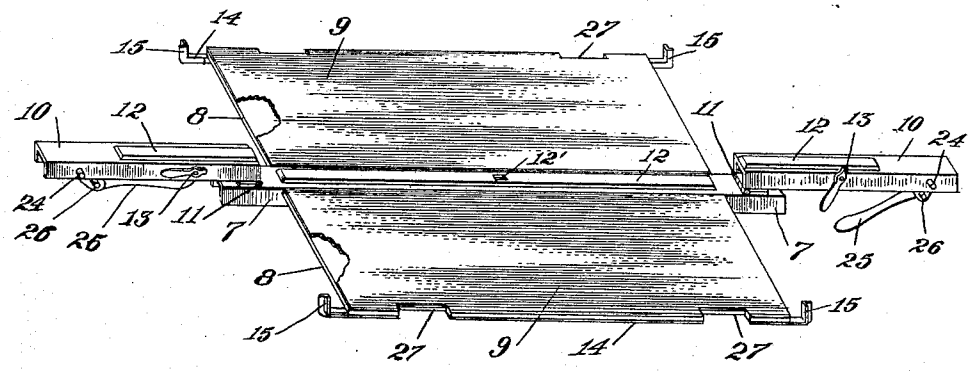
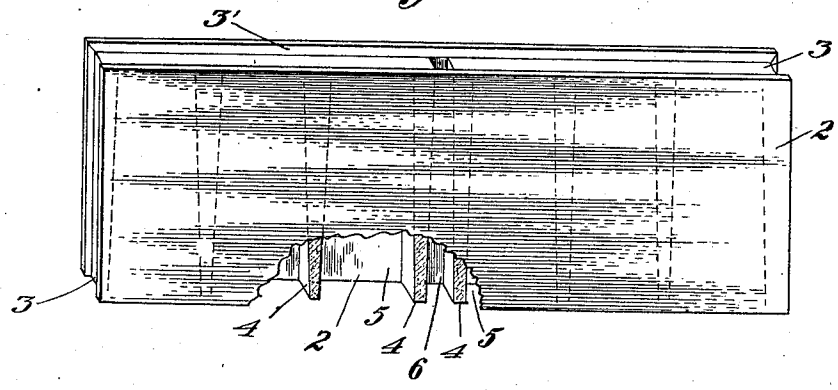


Fig. 5.



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JOHN F. MAKOWSKI, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO PLASTER BLOCK COMPANY, OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF CALIFORNIA.

MOLD FOR HOLLOW PARTITION-BLOCKS.

977,025. Specification of Letters Patent. Patented Nov. 29, 1910.

Application filed May 28, 1909. Serial No. 499,037.

To all whom it may concern:

Be it known that I, JOHN F. MAKOWSKI, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Molds for Hollow Partition-Blocks, of which the following is a specification.

This invention relates to molds such as are used in the manufacture of hollow partition blocks.

It is the object of this invention to provide a mold that will simplify the manufacture of hollow partition blocks, and which can be operated with comparative ease and rapidity.

A further object is to provide a mold whereby hollow partition blocks can be quickly made with almost no waste of material, and from which the block can be removed without the usual danger of its being fractured or injured.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the invention, showing the core removed from the mold-box. Fig. 2 is an end elevation of Fig. 1. Fig. 3 is a section on the line *x*—*x* of Fig. 1, showing the core in position. Fig. 4 is a perspective view of the mold-box in its open position. Fig. 5 is a perspective view of a hollow block.

In the present embodiment of my invention, I employ several coöperative and movable elements of such design, size, and arrangement, that I am able to produce hollow partition blocks, such as represented in Fig. 5, at a minimum expense for labor, and with a large increase in the percentage of perfect blocks.

The block, as shown in Fig. 5, for which the present mold is particularly designed, comprises two parallel side walls 2 connected at one side and at the two ends by a continuous web 3 slightly set back from the edges of the block, thereby forming a channel 3′ around three sides of the block. The space or chamber inclosed by the sides or walls 2 and web 3, is open on one side, and is divided by partitions 4 into a number of chambers or hollow spaces 5, the web 3 forming the back wall of the chambers. At the center of the block, intermediate of chambers 5 is a channel or passage-way 6, inclosed by the sides 2 and partitions 4, and extending clear through the block, with both ends open to receive a suitable rod or like reinforcing or brace member when the blocks are being used in the erection of partition walls. These blocks are used for hollow partitions in fire-proof buildings, and therefore they must be very thin, but must also be strong and capable of being set up into a thin rigid partition structure. In actual practice, these blocks as I make them, and by my mold, are about 12″x36″, and do not exceed 4″ (inches) in thickness. To produce a hollow block of this general character, I employ the mold herein shown, and which consists of a form-box with hinged sides, and a removable core, clearly shown in Fig. 4, in which 7 is the base plate or bar, forming the bottom of the mold, and here shown as constructed of inverted channel iron.

Hinged to each side of the base 7 are the panels 8 which form the side portions of the mold-box. These panels are lined on their inner surface with suitable material like corrugated sheet rubber or glass 9; the purpose of which is to mold like corrugations on the sides of the partition blocks so that they will take plaster. The ends 10 of the mold-box, are constructed of channel iron, and are hinged at 11 to the upper flat face of the base 7. Chamfered core strips 12, shown in Fig. 4, are secured to the inner face of the end pieces 10, and also to the inner face of the base 7, in such manner as to form the channels 3′ around three sides of the block. Latches 13 (Fig. 1) are pivoted on the ends 10, with which the side panels 8 are held in their closed position while molding. An angle iron 14 is secured to the outer edge of each panel 8 and projects beyond the ends 10, and is turned to form a hook as at 15; these hooks 15 serving as stops to hold the ends 10 upright, and also form stops to act in opposition to the clamps 13, thus keeping the sides 8, and ends 10 in close contact and in a true vertical position, when closed.

The foregoing parts constitute the form-box.

The movable core is constructed as follows: 16 is a channel iron corresponding approximately in length to the inside length of the form-box. Wooden or glass cores 17

are secured to the channel iron 16 by suitable means as the bolts 18. These bolts are driven into the cores and retained therein by pins 19, as shown in Fig. 3, the thread portion extending through the channel iron 16 and being retained by nuts 20. These cores 17 are slightly tapered toward their lower ends on all sides so as to permit of their being withdrawn readily from the cast.

The central core 17′ is smaller, and is sufficiently longer than the other cores so as to fit a mortise 12′ on the face of the channel-forming strip 12 on base 7. The thickness of core 17′ does not exceed the distance between the walls 3 of the finished block. Strips 21 are attached to the core carrier 16 at the base of the cores to form the bottom edges of the block, as seen in Fig. 3; it being understood that the block is cast in an inverted position. Plates 22 are secured at each end on both sides of the channel iron 16, and have a short rod at their outer extremities to form a handle 23 by which the cores are handled. When the cores are in position in the form box, the plates 22 rest upon projecting pins 24, in the ends 10. In order to facilitate the lifting of the cores from the box after casting a block I employ the following means: The pins 24 form pivots on which are mounted the hand levers 25, constructed in the form of a bell crank, and having laterally projecting lugs 26 which are adapted to bear against the under side of the plates 22, as the handle 25 is raised, and so lift the carrier.

In operation the form box is set in the position shown in Fig. 1, and the desired material of which the blocks are to be made, is poured into the receptacle formed by the plate 7, panels 8 and ends 10. The cores 17 are then placed in the form box, after previously dipping them in a suitable composition to prevent the adherence of the plastic block material to the cores. As the cores are lowered into the form box, this material is forced up around the cores. Any overflow that may occur will escape through the slots 27 formed in the top of the panels 8.

It will be seen that as the capacity of the mold is fixed, the operator can measure the quantity of material so that no more than will be required to make a block need be poured into the form box, thus eliminating needless waste.

When the filling 28 in the mold has sufficiently set, the hand levers 25 are raised so that the lugs 26 bear against the under side of the plates 22, thus lifting the channel iron 16, and starting the cores 17—17′ out of the hardening mass of material in the box.

This starting of the cores is important, as the suction of the filling 28 is so great that it would be difficult to lift the cores directly without some form of leverage. The cores once loosened can easily be lifted out by the handles 23. The clamps 13 are then released which allows the sides 8 and ends 10 to swing down on their hinges, as shown in Fig. 4, leaving the cast standing on the bottom plate 7, from which it is readily removed when sufficiently hardened.

The corrugated rubber or glass facing 9 on the sides of the side panels is important, because by this simple means I give the finished block a roughened or corrugated surface, which gives a good hold for the plaster or other finish to the partition in which the blocks are used. As far as I know it has never been possible heretofore practically to cast very thin partition blocks such as here shown.

It is preferred to make the back plate and end panels of channel iron as here shown, with their flat faces adjacent and turned inwardly, because the channels give the necessary degree of rigidity, and the necessary uniformity and perfection in all the blocks.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A mold having inclosing sides, bottom and ends, a core carrier having tapered cores, said carrier having horizontal projections at its ends extending beyond the ends of the mold, levers pivoted to the ends of the mold, and lugs on the levers adapted to engage beneath the projecting portions of the core carrier and adapted to lift the core carrier out of the hardening mass of material in the box when said levers are operated.

2. A mold having inclosing sides, bottom and ends hingedly connected together, a core carrier movable out of the space inclosed by said mold, said carrier having tapered cores, plates secured to and projecting from the ends of the core carrier, and provided with hand levers, and levers fulcrumed to the ends of the material having projecting lugs engaged beneath said plates when the levers are raised whereby the core carrier is lifted out of the hardening mass of material.

3. A mold having inclosing sides, bottom and ends hingedly connected together, and tapered cores mounted on a core carrier movable out of the space inclosed by said mold, said cores having one of its members longer than the others, and adapted to extend clear through the molded block, and means carried by the ends of the mold for removing the cores from the cast, said means including plates secured to and projecting from the ends of the core carrier and provided with hand levers.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN F. MAKOWSKI.

Witnesses:
H. J. Wheeler,
N. E. Kinney.