J. L. DURROUGH.
Brick-Mold.

No. 210,507. Patented Dec. 3, 1878.

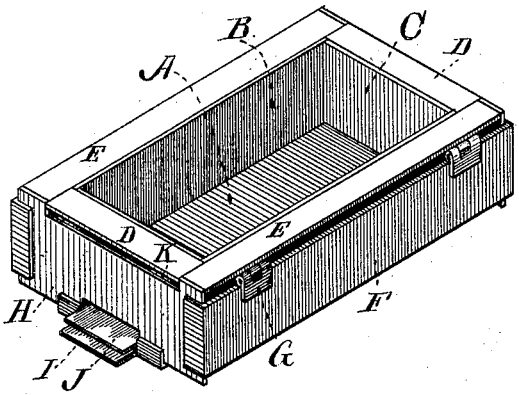

FIG 1

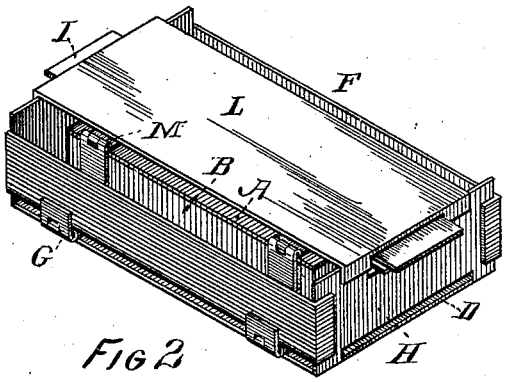

FIG 2

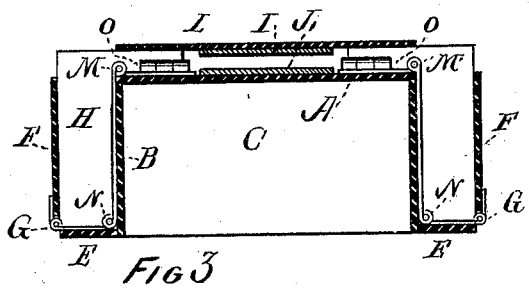

FIG 3

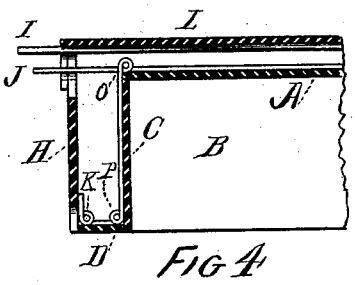

FIG 4

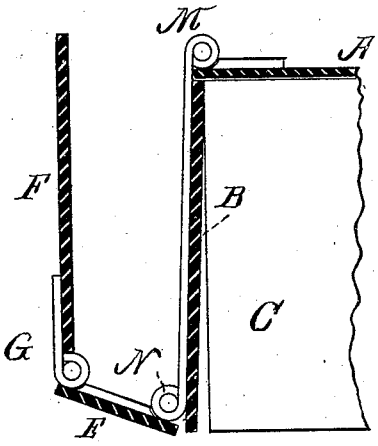

FIG 5.

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IMPROVEMENT IN BRICK-MOLDS.

Specification forming part of Letters Patent No. **210,507**, dated December 3, 1878; application filed May 28, 1878.

To all whom it may concern:

Be it known that I, JAMES L. DURROUGH, of Hamilton, Butler county, State of Ohio, have invented a new and useful Improvement in Brick-Molds, of which the following is a specification:

This invention belongs to that class of brick-molds which receive the plastic clay either from the hand of the operative or the delivery-port of a brick-making machine, and give their form to the unburned bricks.

It is obvious that if a mold whose sides are parallel be filled with any plastic substance, and the mold then be turned over in order to let the molded article drop out, the molded article must, in order to allow it to leave the mold, be made smaller by shaking, or the mold must in some way be enlarged. If the substance is tacky, sticky, or cohesive, one of the plans is unavoidable, and in brick-making it is found that the proper clay possesses just those properties which make it the most difficult to remove from the mold, and in order to effect that removal it is customary to make the molds somewhat tapering or smaller at the bottom.

It will be readily understood that, even with the tapering mold, looseness does not exist until the brick has actually started from its place, and it should also be understood that looseness is most desirable just when the brick starts from the mold, and that the absence of looseness at that time endangers the corners of the brick at the very commencement of the process of removal.

Many of the modern brick-machines are completely successful so far as success relates to getting the bricks into the molds, but are failures when they attempt to remove the brick from the mold. The peculiar character of my improved mold fits it, to a remarkable degree, for usefulness in connection with these defective machines.

My invention consists of a brick-mold whose sides and ends are hinged to the bottom in such manner that after the mold is filled the sides and ends open and leave the newly-formed brick free to be removed without damage to corners, avoiding all necessity of tapering the mold.

My improved molds may be constructed in nests of three or more, as usual, or they may be used singly; or they may, by proper adaptation, be applied to many existing forms of brick-machines.

In the accompanying drawings, Figure 1 is a perspective top view of my improved mold; Fig. 2, a perspective bottom view; Fig. 3, a vertical transverse section; Fig. 4, a part in vertical longitudinal section, and Fig. 5 a part in vertical transverse section.

The views all pertain to a mold of the single type—that is, capable of molding but one brick at a time.

A is the bottom of the mold. B and C are the sides and ends, respectively. The sides and ends are joined to the bottom by means of the hinges O and M. Were these pieces all of the mold, it is evident that after the brick is molded the sides and ends could be opened out so as to entirely free the brick from their surfaces; but it is also evident that with only the mentioned pieces in use, the whole affair would spread open when filled, and so make it useless, and, furthermore, the folding and unfolding of these parts would consume too much time. For these reasons I add to the mold proper devices for automatically closing and retaining the folding parts, and for automatically opening them when the mold is to be removed from the brick.

I surround the mold proper by a case composed of the side pieces, F, and ends H. Between this case and the mold proper a space of about an inch intervenes, and, considering the open face of the mold as its top, I cover the top of the intervening space with the strips D and E. The strips are attached to the outer case by means of the hinges G and K, and to the sides and ends of the mold by the hinges N and P.

By examining Fig. 3 it will be seen that the bottom of the mold, sides of the mold, top strips, E, and case sides F form an articulated system, of which only the two case sides F are rigid with reference to each other.

The outer case has a bottom, L, and end extensions I of this bottom form handles by which the case may be lifted. The bottom of the mold has similar extensions J, which project through the ends of the outer case and lie close to the case-handles I. The mold-han-

dles J are somewhat shorter than the case-handles I, so that when the whole affair is bottom up either pair of handles may be caught independent of the other pair.

The outside case is somewhat deeper than the mold, so that when the mold lies top side upward upon any flat surface the bottom of the mold will not touch that surface, the whole of the mold proper being supported by the case.

By referring to Fig. 3 it will be understood that if the case-handles I be grasped and the case thereby lifted, the inner mold, instead of being lifted with it, will tend to drop and turn inside out. This dropping tendency is limited by the mold-handles J coming in contact with the edge of the case ends, as shown plainly in Fig. 4.

It will also be understood that any dropping whatever on the part of the mold will cause its sides and ends to swing open, as shown in Fig. 5, and that as a consequence the entire mold becomes larger than the brick which filled it when closed. If the mold be turned face uppermost, it will, by dropping, tend to close up and take its normal shape.

The mechanism having been described, it is now thought that the mode of use and operation will be comprehended.

The device is placed face uppermost, and, of course, the mold is closed up in proper shape. It is now filled with clay, and struck as usual. It is now turned over, and grasped by the mold-handles J, and in this manner the whole mold and its contained brick may be lifted and carried at will, the brick showing no tendency to fall out, any self-opening tendency on the part of the mold being resisted by the weight of the outer case acting togglewise through the medium of the hinged strips F and D, it being understood that the load is being supported by the mold-handles J, and not by the case-handles I.

If the arrangement be deposited upon any surface and then lifted by the case-handles I, the mold will drop somewhat, and open, and allow the brick to remain and the mold to be removed without damaging or tearing the brick. Brick may thus be made parallel on the edges, and may even be paneled on the edges, which is obviously impossible with solid molds.

In the drawing the outer case is shown as being scant or somewhat skeleton-like in structure. This is done in order to more clearly exhibit the parts; but, in practice, I make all joints perfectly close and neat, as shown, where the sides and bottom of the mold are joined. These molds may be of wood or metal, and when nested three or more in one there need be but one real outer case, and the mold-bottoms are to be so connected that a single pair of mold-handles will operate all the molds.

It is not thought necessary to show the molds in nests, as most any mechanic will readily see how they are to be arranged; nor is it thought necessary to show how the mold may be adapted to machines, as the machines in use vary so much in form that a special adaptation will be called for in each case.

I claim as my invention—

1. A brick-machine mold whose sides B and ends C are hinged to its bottom A, substantially as specified.

2. The brick-mold consisting of the sides B and ends C, hinged to the bottom A, combined with the outer case, F H, the mold and case being connected by hinges N, G, P, and K, substantially as specified.

3. The hinged mold A B C, outer case, F H, hinges N, G, P, and K, and handles I and J, all combined substantially as specified.

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Witnesses:

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