J. A. Hamer,

Brick Mold,

No. 34,282, Patented Jan. 28, 1862.

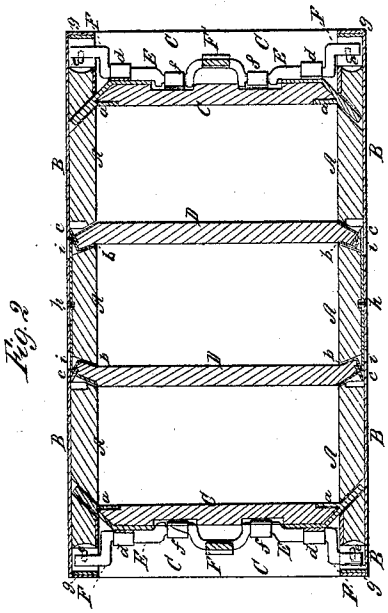


Fig. 2



Fig. 4



Fig. 5

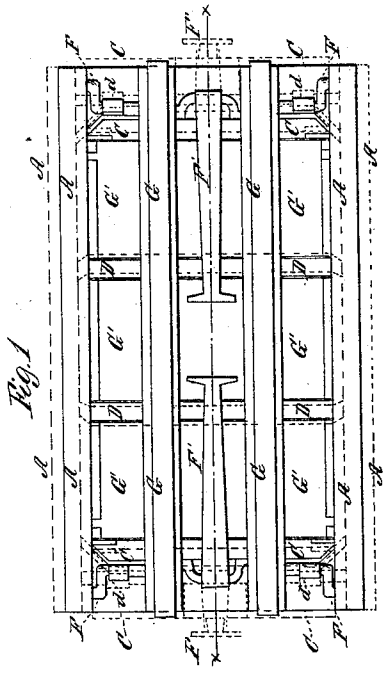


Fig. 1

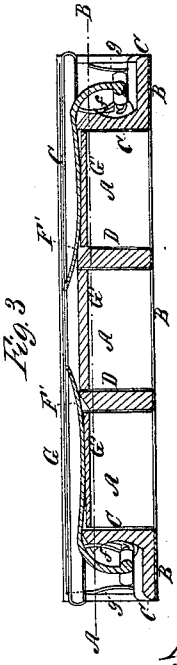


Fig. 3

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UNITED STATES PATENT OFFICE.

JAMES A. HAMER, OF WEST VINCENT, ASSIGNOR TO WILLIAM L. PAXSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BRICK-MOLDS.

Specification forming part of Letters Patent No. **34,282**, dated January 28, 1862.

To all whom it may concern:

Be it known that I, JAMES A. HAMER, of West Vincent, Chester county, in the State of Pennsylvania, have invented certain new and useful Improvements in Brick-Molds; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and in which—

Figure 1 represents, in black lines, a top or plan view of a mold suitable for molding three bricks at a time. Fig. 2 represents a section through the top of the mold, as seen in black lines, Fig. 1, on line A B, Fig. 3. Fig. 3 is a longitudinal section on *x x*, Fig. 1. Fig. 4 represents an edge or side view of the removable top used in the molding of ordinary brick, and Fig. 5 the top used when the brick are to be pressed.

In the drawings, A A represent the wooden sides of this mold covered on its outer sides by a thin metallic casing B. Spaces in which to mold the brick are formed by the cross-pieces C C and D D. These cross-pieces are provided with angular projections on their ends, as indicated in Fig. 2, the projections *a a* of the cross-pieces C C being entirely of metal, while those of D D are partly formed of wood of the cross-pieces themselves, having only a metallic casing *b*, as fully indicated in Fig. 2. These angular projections work in similar grooves or recesses in the side pieces A A, as indicated in the drawings.

To the outer side of each end or cross-piece C is connected a double crank-shaft E, which turns in bearings *d d*, fastened to the piece C. The outer ends of each shaft are provided with the cranks F F, while to the center of each is rigidly attached an arm F′. On each side of the arms F′ is a lifter-piece *f*, which is loose or hinged on a small crank on shaft E at its lower end, while its upper end passes up through a guide or loop fastened to the piece C. The outer ends of cranks F are provided with cheek-pins *e*, and the angular projections on the ends of the cross-pieces D D with similar pins *c*.

The operation is as follows: The operator places the top or cover-piece (shown in Fig. 4) on over the top of the mold, so that the cross-pieces G′, which are rigidly fastened to the longitudinal pieces G, will just fit in between the pieces C, D D, and C, as indicated in Figs. 1 and 3, and to effect which it will be necessary to elevate or turn up the arms F′ somewhat from the position in which they are shown in Fig. 3. After the top pieces have been thus put in, the arms F′ are turned down upon said top piece, as seen in black lines, Figs. 1 and 3, and by which operation the outer ends of the cranks F come in contact with springs *g*, fastened to the metal covering B, the wooden sides A being cut or recessed out to admit of the proper play of the cranks F, whereby the pieces C are forced toward each other, thus causing their angular projections *a a* to draw the sides A A closer together, and which operation of the latter causes D D to approach each other until the parts are all drawn and held compactly together, as indicated in Figs. 1, 2, and 3. The operator now turns the mold over and fills the spaces between the cross-pieces C, D D, and C with clay in the usual manner, when the mold is removed to the place of deposit and turned over and put down with the exposed side of the clay next to the ground or to whatever the newly-molded bricks are to be left on to dry. The operator now takes hold of the arms F′ F′ and raises them up into a vertical position, thus causing the shafts E E to revolve back, whereby the cranks F are thrown against the ends of the side pieces A A and the cross-pieces C C drawn out, thus forcing the side pieces A A away from the ends of the newly-molded brick, by reason of the spreading effect of the angular projections *a a* on the sides A A. The angular recesses in the sides A A act in turn on the cross-pieces D D to throw them apart, while the lifter-pieces *f f* are thrown up against the ends of the pieces G G, thus raising the top or cover pieces G′ G′, attached thereto. By this operation the mold is very perfectly detached from the newly-molded brick, and can be easily raised without injury thereto. The position of the sides and ends of the mold when thus expanded is illustrated in red lines, Fig. 1.

When the bricks are to be pressed after having been properly dried, the top piece shown in Fig. 5 is used. The pieces G′ not descending so low down into the mold leaves the

brick thicker before they are pressed, thus enabling the same mold to be used in both cases.

The catches or pins *e e* and *c c* on the cranks F F and D D come in contact with proper projections or guards on or connected with the sides A A, so as to prevent the sides and cross-pieces from becoming detached or disconnected when in operation. To enable the grooves or angular recesses in the sides of A A to be easily washed or cleaned out, hinged valves may be used—such, for instance, as that shown at *h*, Fig. 2. This valve is hinged in the center to the metal casing B, so as to swing freely in a recess in the side A, and so that when in a horizontal position its ends will project by and cover the holes *i i* in the casing B. When it is desired to wash out the grooves, valve *h* is vibrated so as to leave a free exit from the grooves out through the valve-holes *i*, and then the operator dips the mold into the water, and by working the arms F′ F′ up and down a few times the water is caused to flow in and out of the joints or grooves with great rapidity, thus clearing them effectually of all clay or other clogging matter. The valves *h* can be worked from the outside by allowing a little projection or pin on the valve to pass through one of the holes *i*. The springs *g* render the action of the crank-shafts E very easy, while by their pressure on its cranks F F the arms F′ F′ are kept firmly down when in the position shown in Figs. 1 and 3, thus enabling the molds to be handled and turned both before and after they are filled with clay without danger of the cover or top dropping off or the sides spreading.

Having described my improved brick-mold, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the side pieces A A, with their angular grooves, with the cross-pieces C D, double crank-shafts E E, and lifting-pieces *f f f f*, constructed and operating in relation to each other substantially as described.

2. The combination of the vibrating valves *h* with the sides A A and cross-pieces, substantially as and for the purposes set forth.

In testimony whereof I hereunto set my hand this 9th day of December, 1861.

JAMES A. HAMER.

Witnesses:

BENJ. HALLMAN,

EMELINE GURNEY.