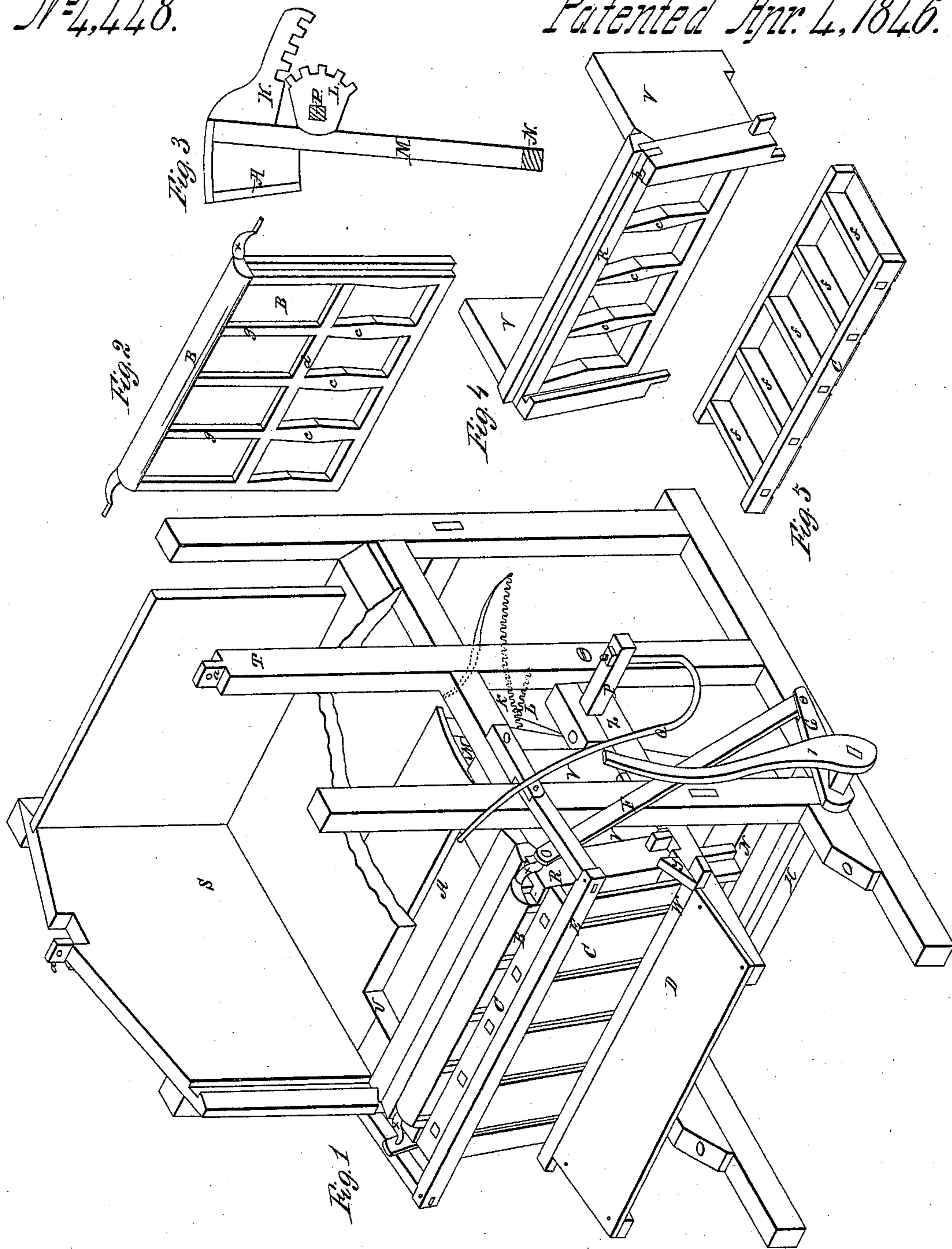


J. L. Ransom,

Brick Machine.

No. 4,448.

Patented Apr. 4, 1846.



UNITED STATES PATENT OFFICE

JOEL L. RANSOM, OF MILLPORT, NEW YORK.

MACHINE FOR MOLDING BRICK OF TEMPERED MORTAR.

Specification of Letters Patent No. 4,448, dated April 4, 1846.

To all whom it may concern:

Be it known that I, JOEL L. RANSOM, of Millport, in the county of Chemung and State of New York, have invented a new and Improved Machine for Molding Brick of Tempered Mortar; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is an isometrical projection of my improved brick molding machine with some portions of it removed. Figs. 2, 3, 4 and 5, are views of different parts detached from the machine showing their form and manner of construction.

I construct the frame of my brick machine of posts and cross pieces, in any well known or usual manner, in the upper part of the frame work, I place a tempering box *s*, constructed as usual. The tenons *a, a*, on the top of the side posts *T*, are for the reception of a cap piece for securing a tempering shaft which may be constructed in the usual manner, placed in the center of the tempering box, and operated by a sweep or any other manner. At the front of the tempering box there is an opening *U*, in the bottom of the same, communicating with a mortar box *V*, immediately under it. The mortar box *V*, has a grating *R*, fastened to its front side in an inclining position, its upper side projecting forward a little. The openings in the grating correspond with the size of the molds in which the brick are formed. On each side of the grating *R*, there are projections with grooves *b, b*, in them in which the vibrating grating and panel frame *B*, Fig. 2 is fitted. The bars *c, c*, between the apertures of the grating *R*, and also between the apertures in the vibrating frame *B*, swell out at their centers, and diminish in size at each end, making the apertures of the grating narrower in the middle than at the ends. The apertures in the grating *R*, and also in the vibrating frame *B*, diminish in size from their rear to their front sides. The rear side of the apertures in the vibrating frame, exactly correspond in size with the apertures on the front side of the grating *R*, so that when they are brought opposite each other by the elevation of the vibrating frame, the sides of the apertures in each are in a straight line with each other tapering outward. The mold *C*, (see Fig. 5) in which the brick are

formed, is made fast in front of the vibrating frame *B*, as follows: Its lower side passes into a recess in the rear of the joint *W*, on the shelf *D*, its upper side is secured and pressed against the vibrating frame by the clamp *E*, hinged to the front corner posts.

Y, is a guide on the end of the shelf *D*, for regulating the position of the mold *C*, when the right hand end of the mold presses against the guide *Y*, the recesses in the same for the forming of brick are exactly opposite the apertures in the vibrating frame when it is in an elevated position, opposite the stationary grating in front of the mortar box *V*.

The vibrating frame *B* is moved up and down in the following manner: *H*, is a shaft passing crosswise the machine, the journals of which are secured in boxes made fast to the sills of the same; on the ends of this shaft which project beyond the machine, there are levers *G*, of suitable length; the ends of these vibrating levers are connected to the arms *x, x*, projecting from the upper corners of the vibrating frame, by the connecting pieces *F, F*. On the right hand of the shaft *H*, there is made fast an upright hand lever *I* by drawing this forward the vibrating frame is elevated so as to bring the apertures in the same opposite those in the grating in front of the mortar box *V*. The rear side of the mortar box *V*, is closed by the platen *A*, for pressing the brick into the mold. The platen *A* is supported and operates as follows: The shaft *N*, passes crosswise the machine, under the mortar box, and has its journals secured in boxes made fast to the sills of the machine. The posts *M*, which support the platen at each end, are let into and secured to the shaft *N*. To the rear of each end of the platen, there are made fast segments of a circular rack *K*. Immediately below the racks *K*, there crosses the machine a shaft *P*, the journals of which are secured in boxes made fast to the side pieces *Z*, of the frame; at each end of the shaft *P*, there are segment pinions *L*, the teeth of which work into the teeth in the racks *K*. On the projecting end of the shaft *P*, is made fast a bent lever *Q*, by drawing this forward the platen is forced forward by the action of the pinion *L* and rack *K*. There should be sufficient backward inclination given to the posts *M*, that support the platen, to enable the platen to

fall back of itself, when the power is removed from the lever Q. Operation: When the mold C, is secured as herein described, the vibrating frame elevated, and the mortar
 5 box filled with mortar, the lever Q, is drawn forward, which causes the platen to force the mortar through the stationary and vibrating gratings into the mold; the lever I, is then pushed back, thereby forcing down
 10 the vibrating frame which carries with it the mortar, in the apertures of its grating, and gives a smooth surface to the face of the brick in the mold, by the action of the sharp corner of the cross piece *d*, forming
 15 the upper end of the apertures. The panels which close the apertures in the upper part of the vibrating frame, are placed a sufficient distance back from the front edge of the cross piece *d*, and divisions *g, g*, to prevent any friction from the panels upon the
 20 face of the brick; the only friction being between the divisions *g, g*, of the vibrating frame, and the divisions *f, f*, of the mold. After forcing down the vibrating frame B,
 25 the clamp E, is raised and the mold C, is turned down upon the shelf D, and removed; another mold C, is immediately placed in the machine, the lever I, is then drawn forward raising the vibrating frame
 30 B, and depositing the mortar carried down in its grating in the recesses in the mold C, the lever Q, is then drawn forward which

forces the mortar through the gratings in the vibrating and stationary gratings and thoroughly fills the recesses in the mold C. 35
 On removing the power from the lever Q, the platen A falls back; the vibrating frame is then forced down, and the mold is removed, and its place supplied by another.

My object in making the apertures in the 40
 grating R, and vibrating frame B, the form herein described, viz. narrower at their centers than at the ends is for the purpose of forcing the mortar more perfectly into the corners of the recesses in the mold, and 45
 making a more uniform and perfect brick; which I accomplish by this form of opening in the stationary and vibrating grating. The opening in the grating being narrowest 50
 at the center, causes the platen to act with greater power at that point, and forces the mortar out into the corners of the recesses in the mold.

What I claim as my invention and desire to secure by Letters Patent is— 55

The vibrating grating and panel frame B, and combining the same with the stationary grating R, and brick mold C, substantially in the manner and for the purpose set forth.

JOEL L. RANSOM.

Witnesses:

Z. C. ROBBINS,
 T. C. DONN.