J. BLUM.

MOLDING BOX.

APPLICATION FILED MAR. 17, 1913.

1,084,309.

Patented Jan. 13, 1914.

2 SHEETS—SHEET 1.

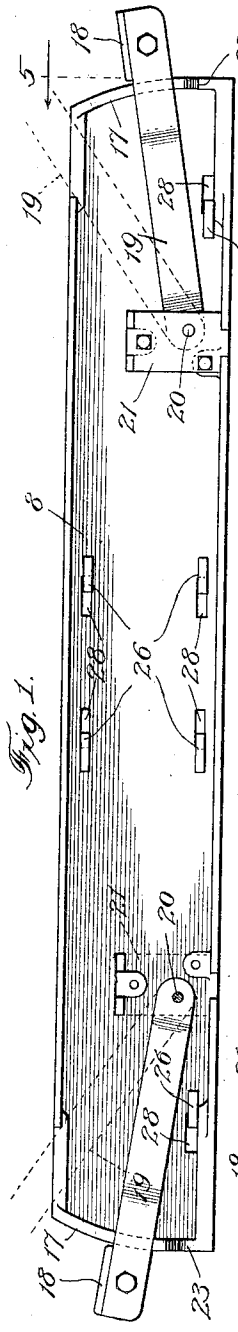


Fig. 1.

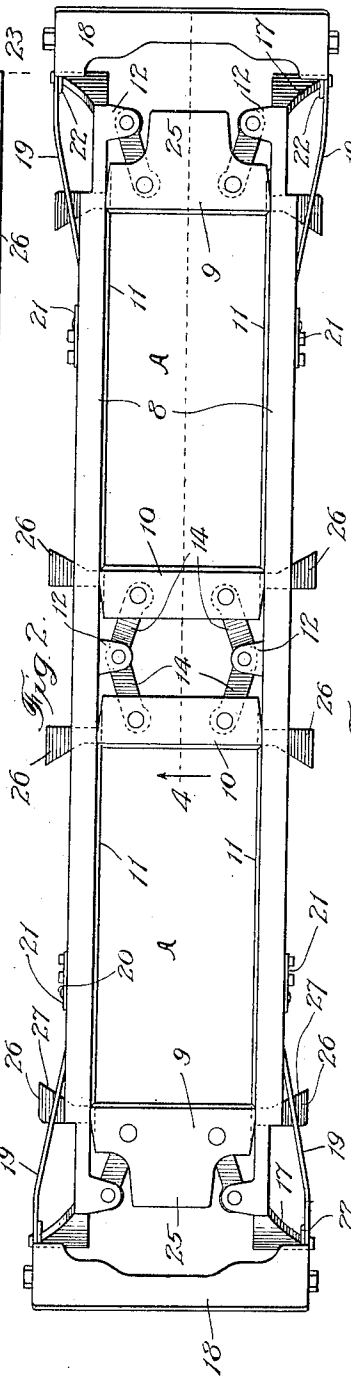


Fig. 2.

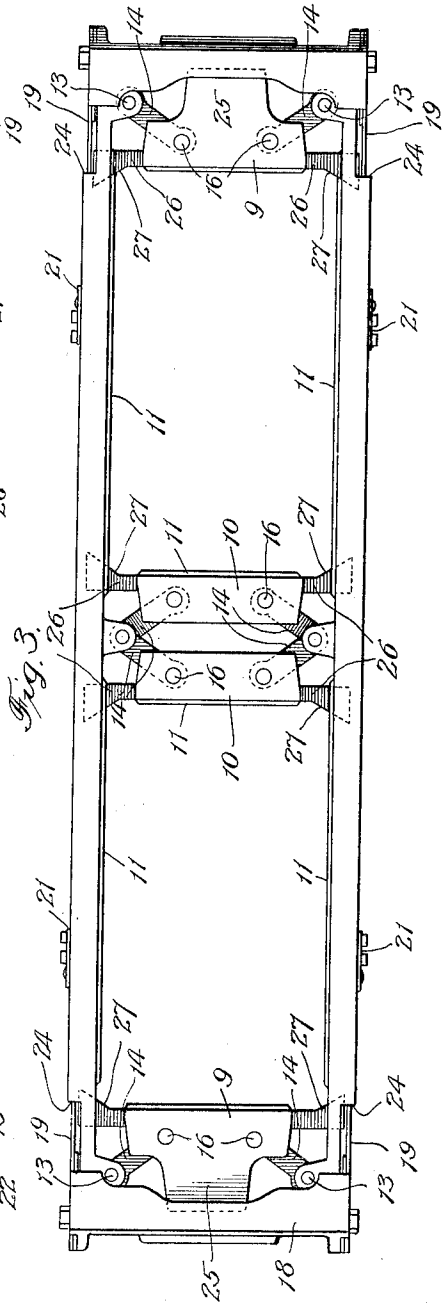


Fig. 3.

Witnesses:
Chas. E. Taylord.
Chas. H. Buell.

Inventor:
Joseph Blum,
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COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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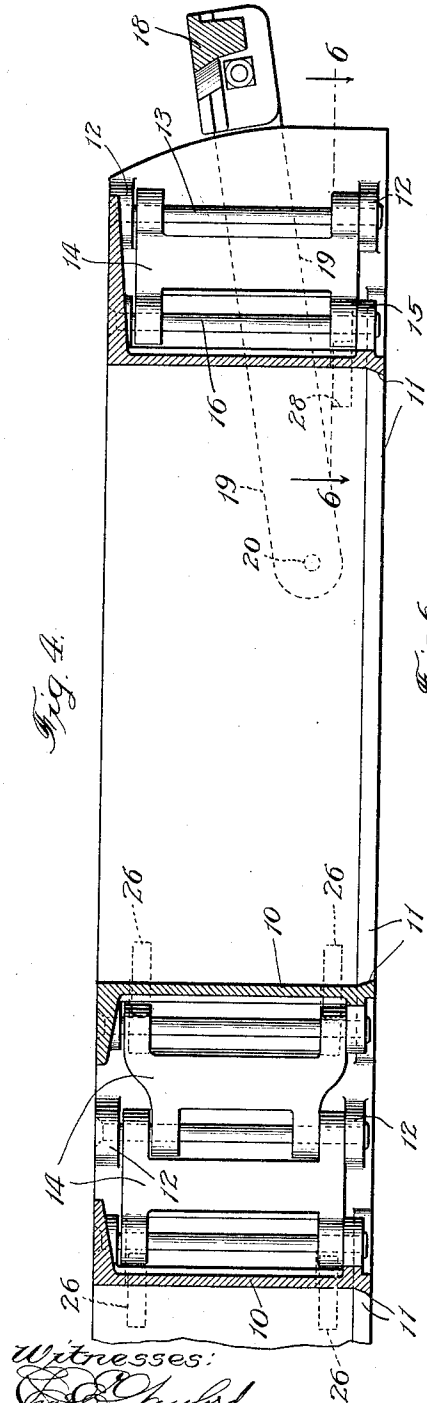


Fig. 4.

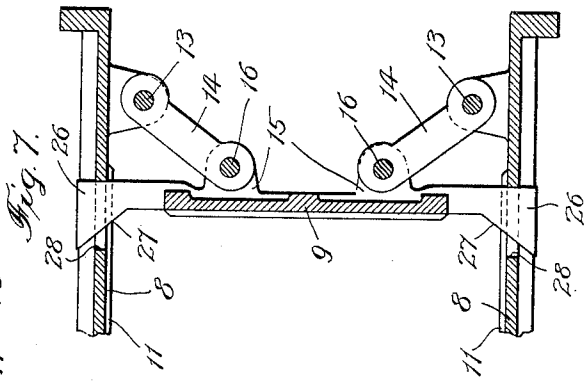


Fig. 7.

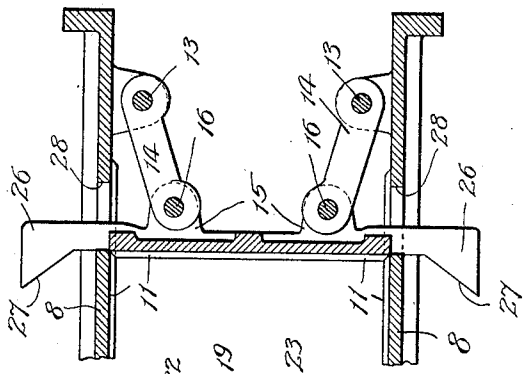


Fig. 6.

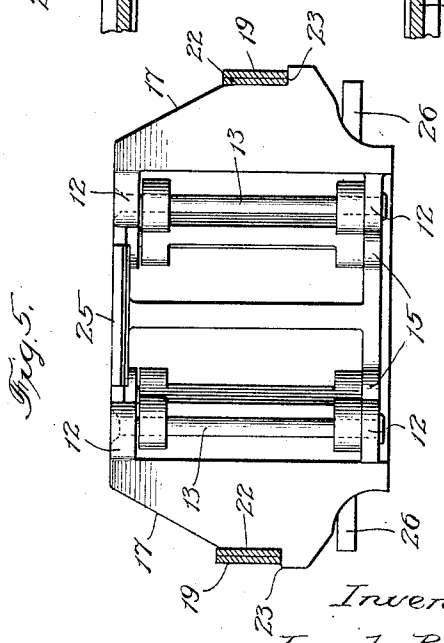


Fig. 5.

Witnesses:

Chas. E. Gaylord,

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Inventor:

Joseph Blum,

By Dyrenforth, Lee, Chrisman and Wiles,

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UNITED STATES PATENT OFFICE.

JOSEPH BLUM, OF WINNETKA, ILLINOIS.

MOLDING-BOX.

1,084,309. Specification of Letters Patent. Patented Jan. 13, 1914.

Application filed March 17, 1913. Serial No. 754,755.

To all whom it may concern:

Be it known that I, JOSEPH BLUM, a citizen of the United States, residing at Winnetka, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Molding-Boxes, of which the following is a specification.

My invention relates to improvement in the construction of expansible molding-boxes for use in molding clay, cement, or concrete bricks, blocks, and the like.

My object is to provide a molding-box of simple, light, strong and durable construction, forming a particularly handy and desirable device for its purpose which may be readily and expeditiously removed from a molded block, or the like, without danger of injury thereto.

In the accompanying drawings which show my improvements applied to a portable molding-box having two molding-compartments for forming two blocks at a time—Figure 1 is a side elevation of the molding-box; Fig. 2, a plan-view of the same contracted into its block-molding dimensions; Fig. 3, a similar view showing the box expanded to release the molded blocks; Fig. 4, an enlarged and broken longitudinal section taken on line 4 in Fig. 2; Fig. 5, an enlarged partly sectional end view taken on line 5 in Fig. 1; Fig. 6, a plan-section taken on line 6 in Fig. 4, showing the walls contracted; and Fig. 7, a view the same as Fig. 6 but showing the walls expanded.

The reference characters, A, A designate the two compartments, 8, 8 vertical side walls of the box, 9, 9, the end walls and 10, 10 a pair of intermediate block-ends forming-walls or partitions which separate the compartments. The molding-box has no base, or bottom plate, but the walls 8, more especially, and also the walls 9 and 10, if desired, are provided at their lower edges with short inwardly projecting lips 11, forming shoulders along the lower edges of the compartments, whereby blocks when molded are prevented from falling out while the box is contracted and is being transported. On the inner surfaces of the side walls, at the upper and lower edges thereof, are inwardly projecting bearing-ears 12 located at the opposite ends and centers of the box, as shown. Each pair of upper and lower bearing-ears 12 forms attachments or bearings for pins 13 with which swinging links 14 are pivotally connected. The walls 9 and 10 are also provided with bearing-ears 15 for vertical pins 16 with which the opposite, or inner ends of the links are pivotally connected. By means of the links the walls 8, 9 and 8, 10, are connected together to move relatively. The side walls 8 are provided on their ends with laterally projecting cam edges or cam faces 17. At opposite end-portions of the box are stirrup levers consisting of the cross-bars 18 and side bars 19. The side-bars 19 are of spring steel pivotally connected at their ends to pins 20 in loop-frames, or housings, 21 on the said side-walls. The spring-bars or arms 19 are reinforced at their ends adjacent to the bars 18 by short strips or stiffening plates 22, which ride upon the cam-projections 17. When the levers are pressed down to the position shown by full lines in Fig. 1, the parts 22 thereof slide down the cam-projections 17 to the stops or shoulders 23 thereon and move the side-walls 8 toward each other, and against the resistance of the spring-arms, to the opposite edges of the walls 9, 10. In this movement of the side-walls they swing the links 14, and move the end-walls 9, 10 of each compartment toward each other to the position indicated in Fig. 2. When the levers are swung upward on their fulcrums 20 to the position indicated by dotted lines in Fig. 1, they slide from the cam-projections 17 into contact with stops or shoulders 24 on the side walls. While the levers slide upward on the cam-projections the spring-arms 19 serve by their resilience to draw the side-walls 8 in opposite directions away from each other and move the end-walls 9, 10 of each compartment away from each other, to the position shown in Fig. 3.

In use the levers are first pressed down to close or contract and lock the molding-compartments, as shown in Fig. 2. The box is then placed upon a platform or table, and the molding-compartments are filled with the concrete or other plastic material to be molded, the latter being tamped in the usual manner. On the upper edges of the end-walls 9 are shelves 25 which serve as handles by means of which the box may be lifted from the molding table onto a pallet or drying-shelf, and in thus transferring the box, the lips 11 serve to hold the molded blocks against falling out. To release the box from the molded blocks, the operator places his thumbs upon the shelves 25 grasping the

bars 18 of the levers with his fingers and raises the levers to cause them to slide upward on the cam-projections 17 and permit the spring-arms 19 of the levers to straighten, and in straightening to expand the walls and thus open the molding compartments to the position shown in Fig. 3. The spring-arms cause the side-walls 8 to move equally away from the molded blocks and to move the walls 9, 10 simultaneously and equally away from the said blocks. To avoid all danger of injury to the green molded blocks in releasing the box therefrom, it is necessary that the side and end walls shall move positively and steadily away therefrom when the levers are raised as described. To insure steadiness of movement of the walls relative to each other, I provide the end-walls of the compartments, with laterally-extending lugs 26, having cam edges or faces 27, which move in guide-openings 28 in the side-walls 8. In the relative movements of the walls the cam edges 27 slide along the ends of the openings 28, thus serving to steady the parts and insure bodily movement of the walls in directions at right angles to each other.

The foregoing description is intended to convey a clear understanding of my improvements in what I now believe to be the best form of their embodiment, and no undue limitation should be understood therefrom. It is my intention to claim all that is novel in my invention, and that the claims shall be construed as broadly as the prior state of the art may warrant.

What I claim as new and desire to secure by Letters Patent is—

1. In an expansible molding box, the combination of relatively movable side walls, end walls connected with the side walls and movable longitudinally thereof, spring expanding-means for said walls, and means for contracting the walls against the resistance of said expanding-means.

2. In an expansible molding box, the combination of side walls and end walls, links connecting said walls and holding them to simultaneous movement in directions at right angles to each other, cam projections on said side walls, stirrup levers connected with said side walls and movable upon said cam projections when swung downward to press the side walls toward each other, the levers having spring arms serving to move the side walls in the outer direction as the levers are raised along said cam projections.

3. A bottomless expansible molding box, having side walls, provided at their lower edges with inwardly projecting shoulders, and end walls, links connecting said side walls and end walls and holding them to simultaneous movement in directions at right angles to each other, spring expanding means for said walls, and means for contracting and locking said walls against the resistance of said expanding means.

4. In a bottomless expansible molding box, the combination of side walls and end walls connected together and relatively movable to expand and contract the box laterally and longitudinally, the sides being provided along their lower edges with inwardly projecting shoulders, means for locking and releasing the side walls and end walls when contracted, and spring-actuated means for automatically moving the side and end walls outward during the releasing operation.

5. In an expansible molding box, the combination of side walls and end walls, links connecting said walls and holding them to simultaneous movement in directions at right angles to each other, guide-lugs on the end-walls working in guide-slots in the side-walls, spring expanding-means for said walls, and means for contracting the walls against the resistance of said expanding-means.

JOSEPH BLUM.

In presence of—
D. C. THORSEN,
O. C. AVISUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."