No. 839,668. PATENTED DEC. 25, 1906

A. J. STOESER.

MACHINE FOR MOLDING WALLS, &c.

APPLICATION FILED MAR. 6, 1905.

6 SHEETS—SHEET 1.

Fig. 1.

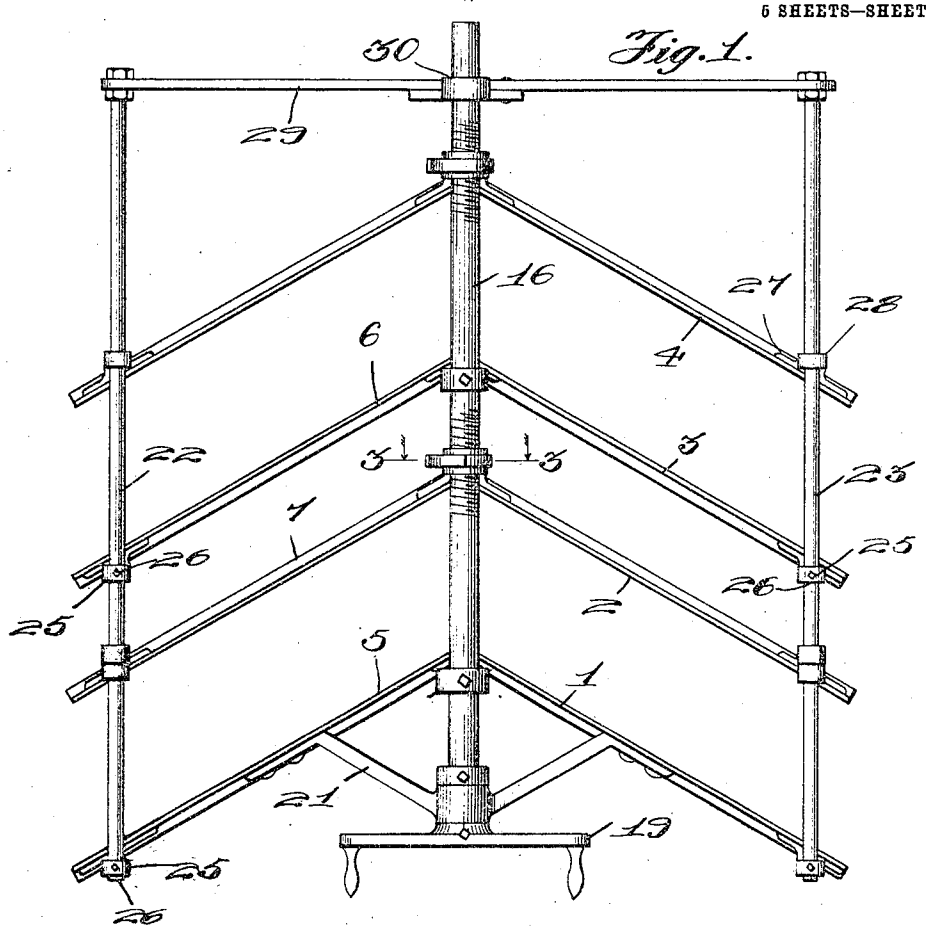


Fig. 2.

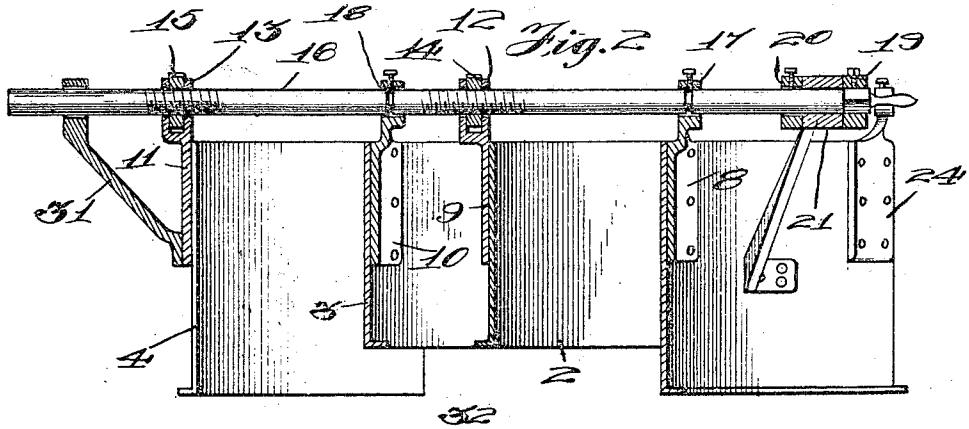
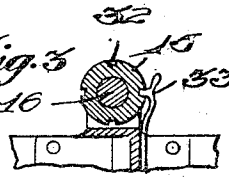


Fig. 3.



Witnesses:

Inventor:

A. J. Stoeser.

by Francis A. Hopkins
Attn.

No. 839,668. PATENTED DEC. 25, 1906.

A. J. STOESER.

MACHINE FOR MOLDING WALLS, &c.

APPLICATION FILED MAR. 6, 1905.

5 SHEETS—SHEET 2.

Fig. 4.

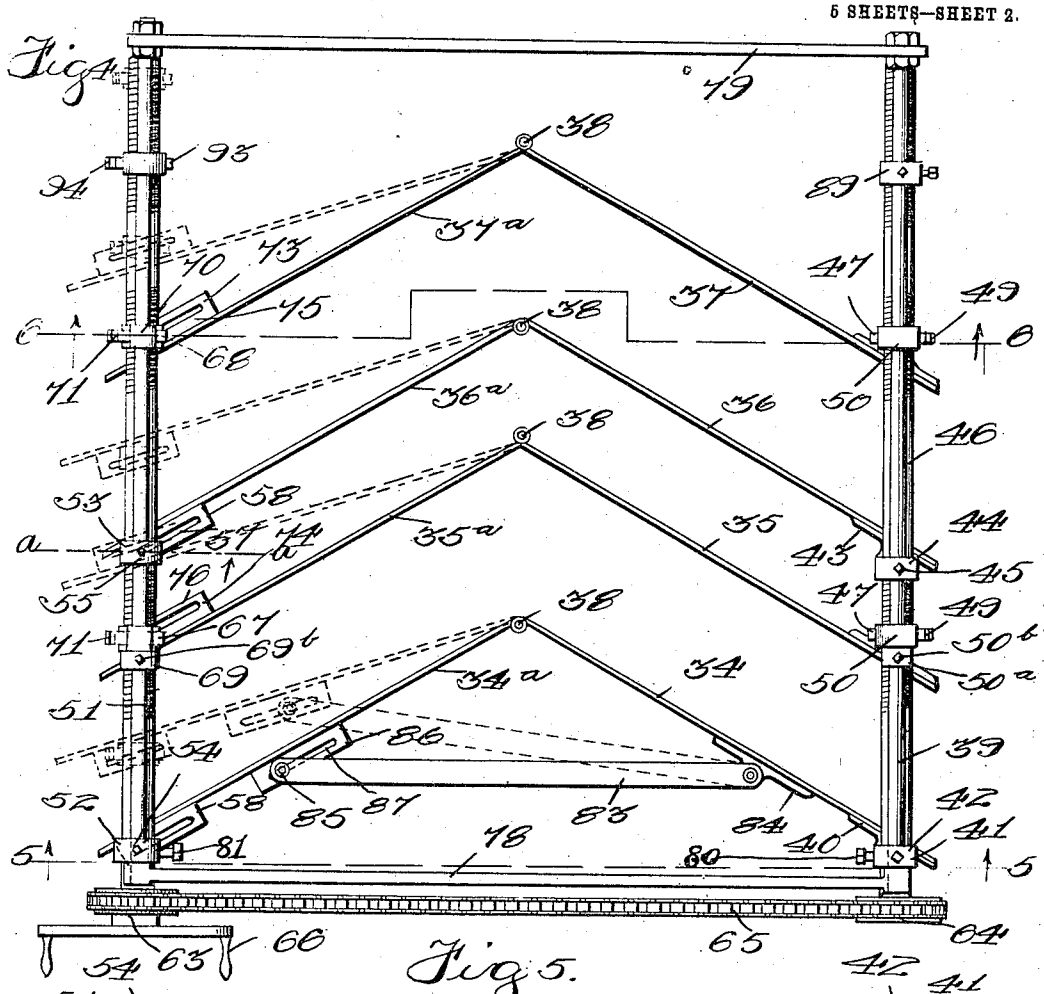
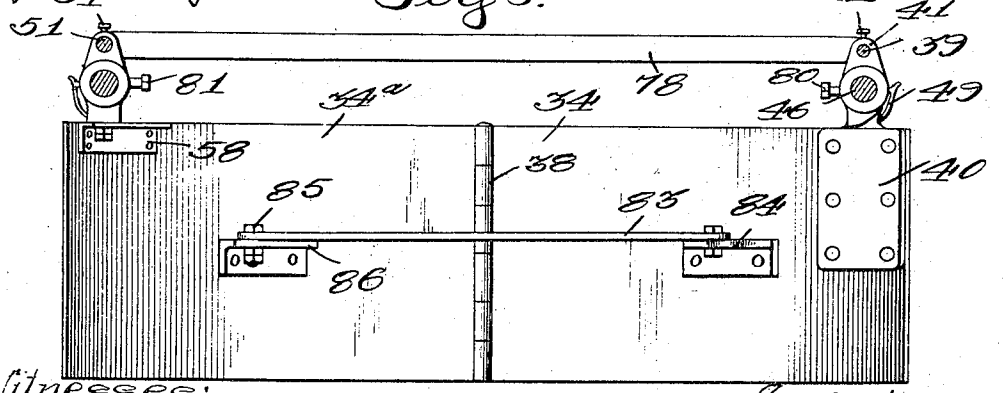


Fig. 5.



Witnesses:
Ira D. Perry
G. B. Weir

Inventor:
A. J. Stoeser
by Francis Hopkinson
Atty

No. 839,668. PATENTED DEC. 25, 1906.

A. J. STOESER.

MACHINE FOR MOLDING WALLS, &c.

APPLICATION FILED MAR. 6, 1905.

5 SHEETS—SHEET 3.

Fig. 6.

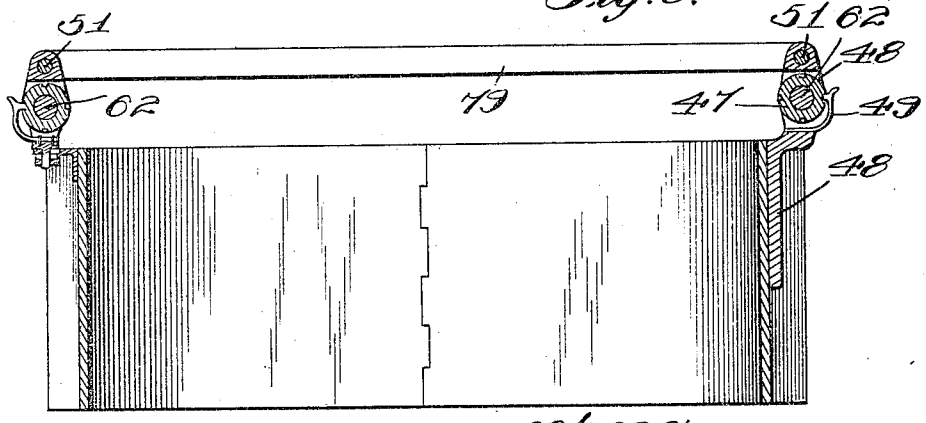


Fig. 7.

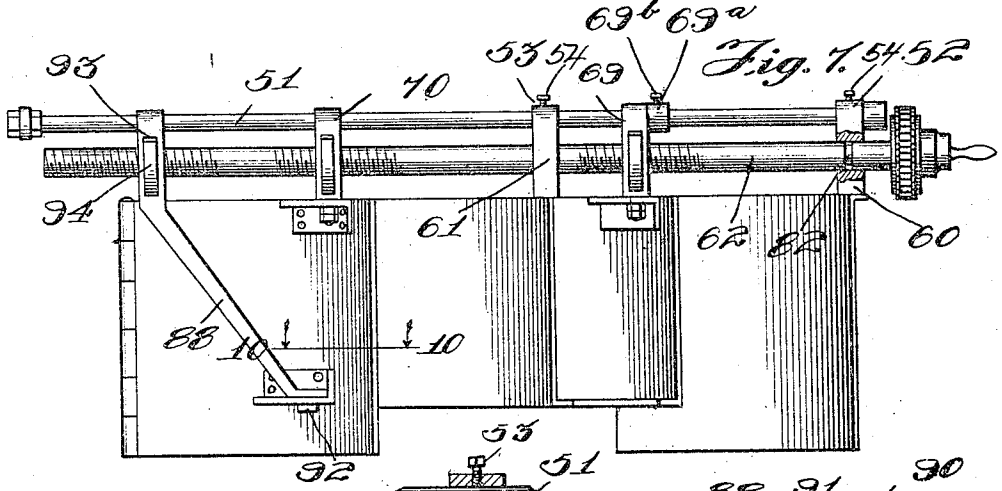


Fig. 8a.

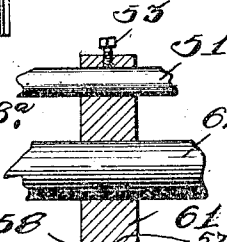


Fig. 10.

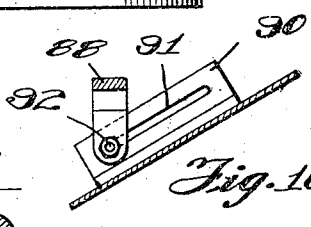


Fig. 8.

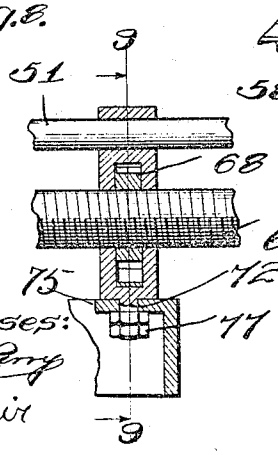
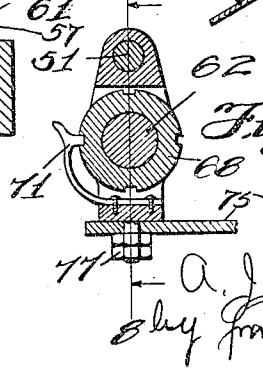


Fig. 9.



Witnesses:
Chas. D. Perry
J. B. Weir

Inventor:
A. J. Stoeser
by Francis A. Hoffman
Atty

No. 839,668. PATENTED DEC. 25, 1906.

A. J. STOESER.

MACHINE FOR MOLDING WALLS, &c.

APPLICATION FILED MAR. 6, 1905.

5 SHEETS—SHEET 4.

Fig. 11.

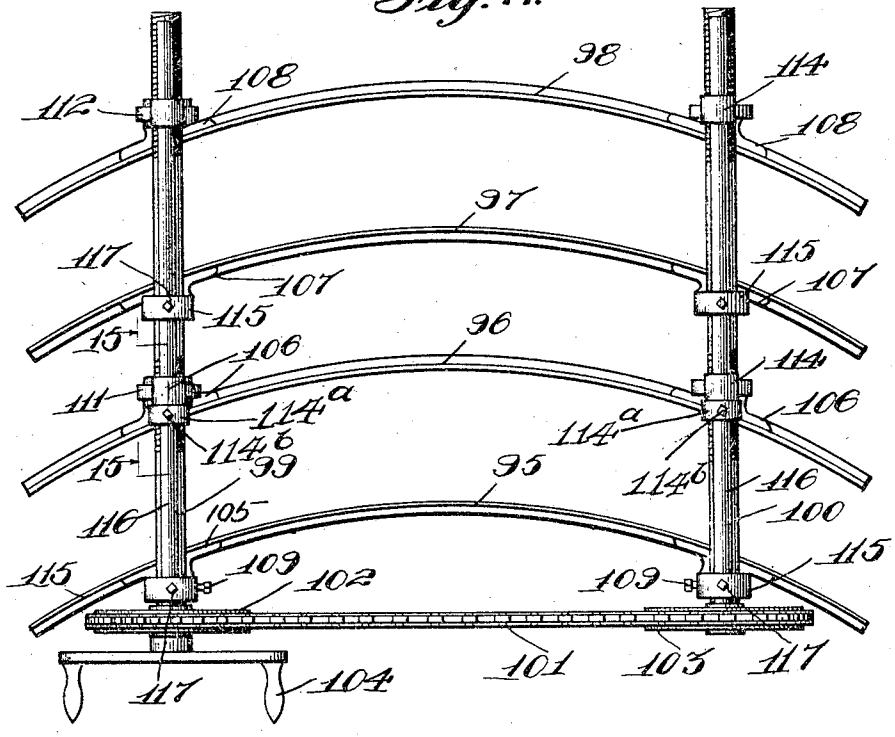
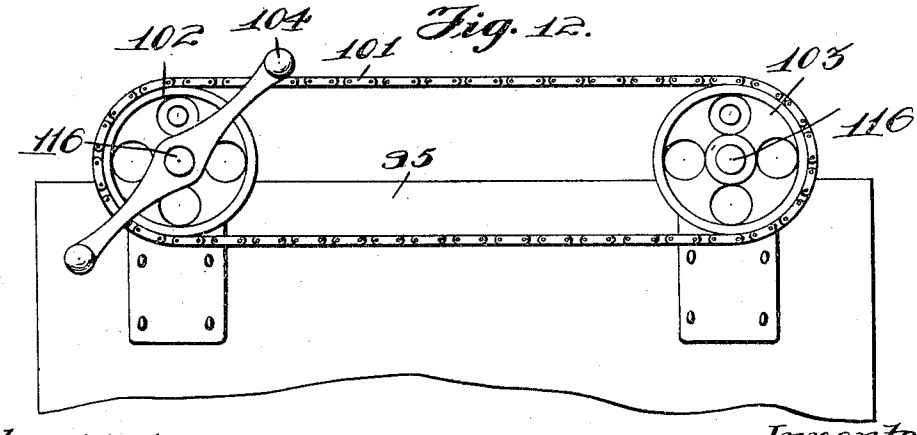


Fig. 12.



Witnesses:
Ira D. Perry
J. B. Weir

Inventor:
A. J. Stoeser
by Francis A. Hopkins
Atty

No. 839,668. PATENTED DEC. 25, 1906.

A. J. STOESER.

MACHINE FOR MOLDING WALLS, &c.

APPLICATION FILED MAR. 6, 1905.

6 SHEETS—SHEET 5.

Fig. 13.

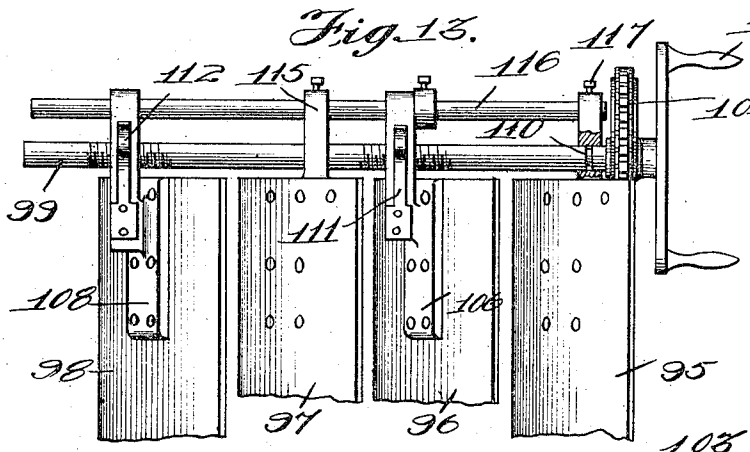


Fig. 14.

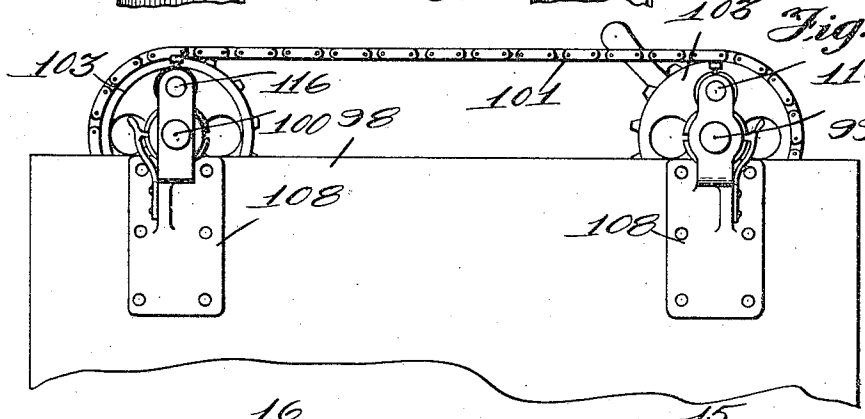


Fig. 15.

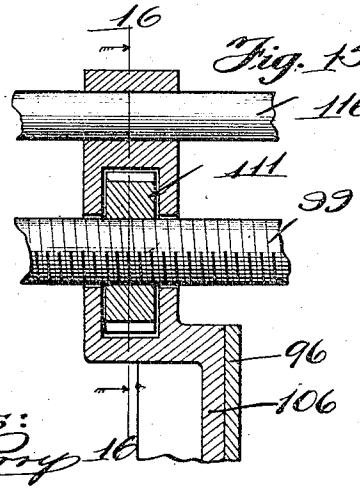
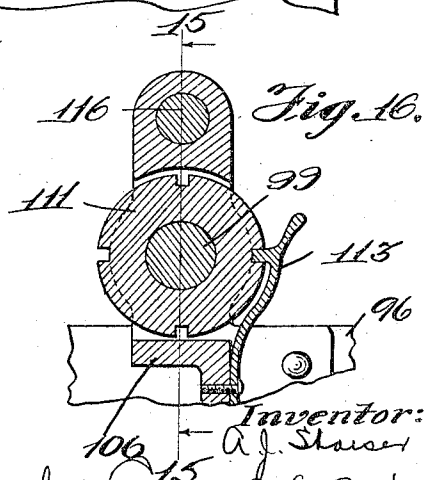


Fig. 16.



Witnesses:
B. D. Perry
J. B. Weir

Inventor:
A. J. Stoeser
by Francis Hoppin
Atty

UNITED STATES PATENT OFFICE.

ALEXANDER J. STOESER, OF CHICAGO, ILLINOIS.

MACHINE FOR MOLDING WALLS, &c.

No. 839,668. Specification of Letters Patent. Patented Dec. 25, 1906.

Application filed March 6, 1905. Serial No. 248,404.

To all whom it may concern:

Be it known that I, ALEXANDER J. STOESER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Molding Walls, &c., of which the following is a full, clear, and exact specification.

My invention relates to machines for molding concrete walls one section or block at a time directly upon the wall for various purposes—such as buildings, silos, &c.; and the invention has for its primary object to provide a machine of this character which will be easy to operate and will be of comparatively simple and inexpensive construction.

With the described ends in view the invention consists in the feature of novelty in the construction, combination, and arrangement of parts shown in the accompanying drawings and hereinafter fully described, with reference thereto, and particularly pointed out in the claims.

In the said drawings, Figure 1 is a plan view of my improved machine adapted for molding corners. Fig. 2 is a vertical central section taken longitudinally of the operating-screw. Fig. 3 is an enlarged detail cross-section on the line 3 3, Fig. 1. Fig. 4 is a view similar to Fig. 1, illustrating a modification whereby the angle of the corner to be molded may be varied. Fig. 5 is a cross-section thereof on the line 5 5, Fig. 4. Fig. 6 is a cross-section on the line 6 6, Fig. 4. Fig. 7 is a side elevation thereof. Fig. 8 is an enlarged detail sectional view on the line 8 8, Fig. 9. Fig. 9 is an enlarged detail cross-section on the lines 9 9, Fig. 8, and 6 6, Fig. 4. Fig. 8^a is a section on line *a a*, Fig. 4. Fig. 10 is a detail plan section on the line 10 10, Fig. 7. Fig. 11 is a plan view of the machine, showing a form suitable for molding silos or other curved walls. Fig. 12 is a front elevation thereof with the lower portion broken away. Fig. 13 is a side elevation thereof. Fig. 14 is a rear end elevation. Fig. 15 is an enlarged detail section on the line 15 15, Figs. 11 and 16; and Fig. 16 is a cross-section on the line 16 16, Fig. 15.

In Figs. 1 to 3 of the drawings, which show a form of the machine for molding corners, the plates which constitute the walls of the mold are bent at an angle to each other, and this angle in this form is a fixture; but the walls themselves are relatively movable or adjustable for the twofold purpose of varying the thickness of the wall to be molded and of relieving the pressure of the mold on the newly-formed wall, so that the machine may be lifted off. These walls of the mold are shown at 1 2 3 4 and so arranged as to constitute one or more mold-cavities 5 6, with an air-space 7 between them, two pairs of the mold-walls being thus employed when it is desired to mold what is known as "hollow" walls or an inner and an outer wall with an air-space between them, the width of which is determined by the distance between the two walls 2 3. The plates or walls 1 2 3 4 are bent at their mid-lengths along vertical lines to form angles or corners, and these corners may of course be any desired angle previously determined upon and which angle will be maintained throughout any relative adjustments of said walls.

At the bends of the walls 1 2 3 4 they are provided with brackets 8 9 10 11, and the brackets 9 and 11, which belong to the walls 2 4, the same being the outer mold-wall of the mold-cavity 6 and the inner mold-wall of the mold-cavity 5 and which are the walls that move to release the machine from the molded sections, are bifurcated, as shown at 12 13, respectively, and in the bifurcations are located rotatable nuts 14 15, respectively, through which passes an operating-screw 16. The brackets 8 and 10, however, are formed with plain collars 17 18, through which the screw loosely passes, thus serving to support and guide the mold-walls 1 3, and consequently when the screw 16 is rotated, which may be done by a handle 19, the walls 2 and 4 would be moved back and forth, thus increasing or decreasing the width of the mold-cavities 5 6 for allowing the machine to be lifted off the newly-molded section and to be readjusted for molding another section of the same thickness.

The screw 16 is held against longitudinal movement by any suitable means, such as a collar 20, fixed thereto on one side of a bracket 21, in which the end of the screw is journaled, and handle 19, fixed thereto on the other side of the bracket 21, the bracket itself being attached to the wall 1. The walls 1 and 3 are held against movement when the screw moves the walls 2 4 by being suitably attached to cross-bars 22 23, extending across their upper edges near their ends, as shown in Fig. 1. This attachment is effected through the agency of end brackets 24, the same in construction and secured to

the outer sides of the plates or walls 1 and 3 and having collars 25, through which the rods 22 23 pass and on which rods the collars are rigidly secured at any desired adjustment by any suitable means, such as set-screws 26, so that while the walls 1 3 are rigidly held in place during the operation of the machine they are susceptible of adjustment relative to their companion walls when the set-screws 26 are loosened, thus providing for varying the thickness of the wall to be molded. The movable walls 2 and 4 are likewise supported and braced at their ends by the rods 22 23 through the agency of brackets 27, the same in form as the brackets 24 and having collars 28, the same as the collars 25, excepting that the collars 28 do not have the set-screw 26, but slide loosely upon the rods 23. The rods 22 23 are connected together at one end of the machine by a cross-brace 29, which, if desired, may be formed with a collar 30 for the free passage of one end of the screw 16, and depending from this cross-brace 29 is a brace 31, supporting the wall 4 at a low point for resisting outward movement.

In the ordinary operation of the machine after the walls of the mold-cavities have once been adjusted for molding walls of the desired thickness the walls 2 and 4 only are moved back and forth by the screw 16 when it is desired to remove the machine from the newly-molded section and to set it again in place for molding another section; but should it be desired to mold sections of a different thickness the set-screw 26, belonging to the wall 3, would be loosened, so that the wall 3 could be moved forward or back for either increasing or decreasing the space 7. Tnen by turning the screw 16 the walls 2 and 4 would be moved to increase the distance between them and their companion walls, the wall 1 remaining fixed with relation to the screw 16 and the bars 22 23. Should it be desired to change the relative positions of the walls 2 and 4, the distance between which remains the same during the operation of the screw 16, the desired end may be accomplished by turning one or both of the nuts 14 15 on the screw 16, it being observed in Fig. 3 that these nuts are formed with notches 32, in which engages a locking dog or pawl 33 for holding the nuts against rotation at other times.

In the form shown in Figs. 4 to 10, inclusive, the angle of the corner to be molded is made variable by hinging one-half of each of the mold-walls. These walls, which correspond to the walls 1 2 3 4 of Fig. 1, are composed of two sections 34 34ª, 35 35ª, 36 36ª, and 37 37ª, the sections 34 to 37 being rigid sections and the others hinged sections pivotally connected to the former sections by suitable hinges 38, arranged on vertical axes, and the rounded portion of the hinge in each instance being located at the outer side of the mold-walls, so as to not indent the molded wall. The mold-wall 34 34ª and the mold-wall 36 36ª are fixed with relation to their companion walls during the ordinary operation of the machine, and their companion walls 35 35ª and 37 37ª move bodily without changing their angle during the ordinary operation of the machine—that is, in releasing the machine from the molded wall, just as in the form described with reference to Fig. 1. To that end the wall-section 34 is rigidly secured at one end to a bar 39, extending across the upper edges of all of the walls near one end of each, the wall-section 34 being provided with a bracket 40, having a collar 41, through which the rod 39 passes and to which rod the collar is secured by set-screw 42 or other suitable means. The wall-section 36 is provided with a similar bracket 43, having a collar 44, through which passes the rod 39 and to which rod the collar is secured by set-screw 45, so that while the wall-sections 34 36 are capable of being adjusted longitudinally of the rod 39 they may be locked rigidly in position during the operation of the machine.

Arranged below and parallel with the rod 39 is a screw 46, which passes loosely through the brackets 40 43, so as not to interfere with the movement of the brackets 40 43 when the set-screws 42 45 are loosened; but this screw has screw-threaded connection with the wall-sections 35 37 by any suitable means—such, for example, as nuts 47, arranged in bifurcated brackets 48, rigidly secured to the wall-sections 35 37, (see Fig. 6,) the nuts 47 being held against rotation with the screw by dogs 49, so that when desired the dogs 49 may be released and the wall-sections 35 37 adjusted on the screw 46 with relation to each other; but when the screw 46 is turned in the nuts 47 the wall-sections 35 37 will be moved in unison relatively to their companion wall-sections. The brackets 48 are also formed with collars 50, through which passes the rod 39, but which slide freely on said rod for guiding and steadying the movable wall-sections.

Extending across the outer ends of the wall-sections 34ª to 37ª is a rod 51, similar to the rod 39, which passes through collars 52 53, adapted to be secured rigidly to the rod 51 by set-screws 54 55 or other suitable means, and which collars have both swivel and sliding connection with the wall-sections 34ª 36ª, the form of such swivel and sliding connection being best shown in Figs. 7 to 9, inclusive, and which, it will be seen, consists of a pivot 56, passing downwardly through a slot 57 in a flange 58, secured to or formed on the back of the wall-section, one of these flanges 58 being on each of the wall-sections 34ª 36ª, and the lower end of the pivot 56 below the flange 58 is provided with a retaining means,

such as a nut 59, to prevent it from slipping out of the slot while permitting it to run longitudinally of the slot as the wall-sections 34ª 36ª are turned on their hinges 38 for varying the angle of the corner to be molded. When the desired angle or adjustment of the hinged wall-sections is attained, they may be locked to the rod 51 by the set-screws 54 55. The pivot 56 may be given connection or attachment to the collars 52 53 in any suitable way. They are shown as being formed on downward extensions 60 61, respectively, and through these extensions loosely passes a screw 62, similar to the screw 46 and arranged parallel therewith across the ends of the hinged wall-sections. The hinged wall-sections 35ª and 37ª have screw-threaded connection with the screw 62, and the screw 62 is connected to the screw 46 by means of sprockets 63 64 on the screws, respectively, and connecting chain-belt 65, an operating-handle 66 being on the screw 62, so that when the operating-handle is turned both screws will be rotated, and as a consequence both ends of each of the movable mold-walls 35 35ª and 37 37ª will be moved back and forth in unison. This screw-threaded connection between the wall-sections 35ª and 37ª is produced by nuts 67 68, arranged in slide members 69 70, respectively, and held therein against rotation by dogs or pawls 71, excepting when it is desired to change the angle of the mold-wall, when the dog 71 would be disengaged and the nut 68 rotated until the desired adjustment be attained. The slide members 69 70 slide loosely upon the rod 51, the rod being passed through them, and their lower ends are provided with pivots 72, (see Figs. 4, 8, and 9,) passing downwardly through slots 73 74 in plates or flanges 75 75, respectively, secured to the hinged wall-sections 35ª 37ª, so that as these sections are turned on their hinges for the purpose of changing the angularity their outer ends may be free to move transversely of the screw 62, while they at the same time maintain their attachment to the slide members 69 70, the lower ends of the pivots 72 being provided with nuts 77 or other suitable means for holding them in place.

The rods 39 51 are connected together at both ends by cross-bars 78 79, so as to constitute a rectangular rigid frame, maintaining the parallelism of the screws 46 62, which, as before explained with reference to Fig. 1, are fixed against longitudinal movement in any suitable way, as by pins 80 81, secured in the members 42, 52, and 60 and engaging in grooves 82 in the screws, one of these grooves being shown with reference to the screws 62 in Fig. 7 and the other in the screw 39, being the same and not necessary to illustrate.

For the purpose of bracing the wall-sections 34 34ª they are provided on their outer side with a connecting rod or brace 83, secured by a bracket 84 to the section 34 and by a bolt 85 and plate 86 to the section 34ª, the plate 86 having a longitudinal slot 87, in which the bolt 85 runs when section 34ª is turned on its hinge in changing the angularity.

The wall-sections 37 37ª may be braced at or near their lower edges by braces 88 89, which slide on the rods 39 51 in unison with the wall-sections when the screws are rotated, thus keeping in close touch with the wall-sections 37 37ª, to which they may be secured at their lower ends by any suitable means. The brace 88 for the hinged section 37ª, however, has sliding connection at its lower end with such sections 37ª, consisting of any suitable means, such as a plate 90, having a slot 91, in which runs a bolt or stud 92 on the lower end of brace 88, so that as the angularity of the hinged section 37ª is altered and its end moves transversely of the screw 62 the brace may be released from the section 37ª for the time being. This brace 88 is connected to the screw 62 by means of a nut 93, like the nuts 67 68, which is held against rotation by means of a dog 94, similar in all respects to the dog 71, Fig. 9, so that when the dog is released the brace 88 may be properly adjusted to suit the changed position of the section 37ª.

In the form of the invention shown in Figs. 11 to 16, inclusive, the mold-walls 95 96 97 98 are curved from end to end, making the machine suitable for molding silos or curved walls. The walls 96 98 are movable with relation to their companion walls and are moved as desired by means of parallel screws 99 100, extending across the upper edges thereof and connected together at one end by a sprocket-chain or suitable belt 101, running around sprocket-wheels 102 103 on the screws 99 100, respectively, so that when one screw is turned by means of a handle 104 the other will be rotated in the same direction. The mold-walls are each provided with a pair of brackets 105 106 107 108, respectively. The brackets 105 are provided with pins 109, which engage in grooves 110 in the screws 99 100 for holding the screws against longitudinal movement with relation to these two brackets, and the brackets 106 and 108 are provided with nuts 111 112, constructed and arranged as shown in Figs. 15 and 16 for giving the screws operatively connection with the walls 96 98, Figs. 15 and 16, which show the construction for all these nuts, will be readily understood from the description with reference to Figs. 8 and 9, the nuts 111 112 being held against rotation on the screws 99 100 by dogs or pawls 113 for the purpose described with reference to Figs. 8 and 9, the brackets being provided with collars 114 115, the former of which slide loosely upon rods 116, corresponding in construction and function to the rods 22 23, while collars 115

have set-screws 117, whereby they are secured to said rods.

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

1. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities and each comprising two sections hinged together whereby the angular relation of the sections of each wall may be varied, and means for holding said walls and for moving one of the walls of each cavity with relation to its companion wall.

2. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities and each comprising two hinged sections, a frame to which one section of each wall is secured, and means for adjustably securing the other section of each wall also to said frame.

3. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities and each comprising two sections hinged together, a frame to which one section of each wall is rigidly secured against rotary or oscillatory movement, and means for adjustably securing the other section on each wall to said frame whereby the latter said section may be rotated upon its hinge.

4. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities and each comprising two sections hinged together, a frame on which one section of each wall has sliding connection but is held against oscillatory or rotary movement with relation thereto, means adjustably secured to each of the other sections for connecting the same to said frame, and means for moving both sections of each wall bodily and in unison.

5. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities and each consisting of two hinged sections, a frame to which one section of each wall is secured and has sliding connection, means for adjustably securing the other section of each wall to said frame whereby the latter section may be turned upon its hinge, braces for sustaining the lower ends of the sections of one of said walls, and means for moving said braces and walls in unison on said frame.

6. In a machine for the purpose described the combination of a plurality of walls arranged to constitute separate mold-cavities, and each comprising two hinged sections, a frame in which one section of each wall is secured, a slotted sliding connection between said frame and each of the other sections whereby the latter sections may be turned on their hinges and thereby moved transversely of said frame, and means for moving one wall of each mold-cavity with relation to its companion wall.

ALEXANDER J. STOESER.

Witnesses:
SAML. A. WILLIAMS,
JAMES TURNOCK.