

W. A. BOECK.
MOLD FOR BUILDING BLOCKS.
APPLICATION FILED AUG. 9, 1907.

904,927.

Patented Nov. 24, 1908.

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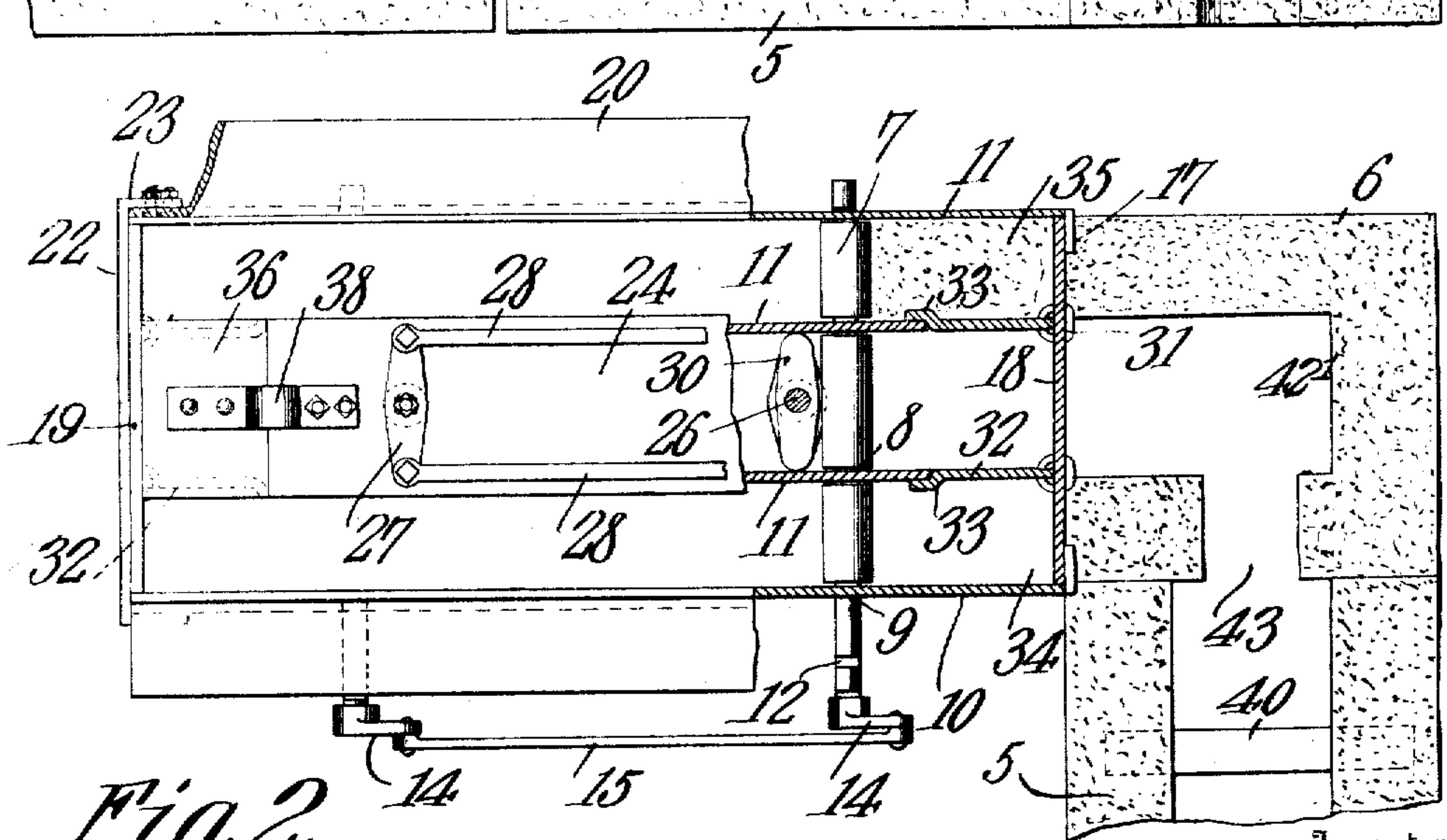
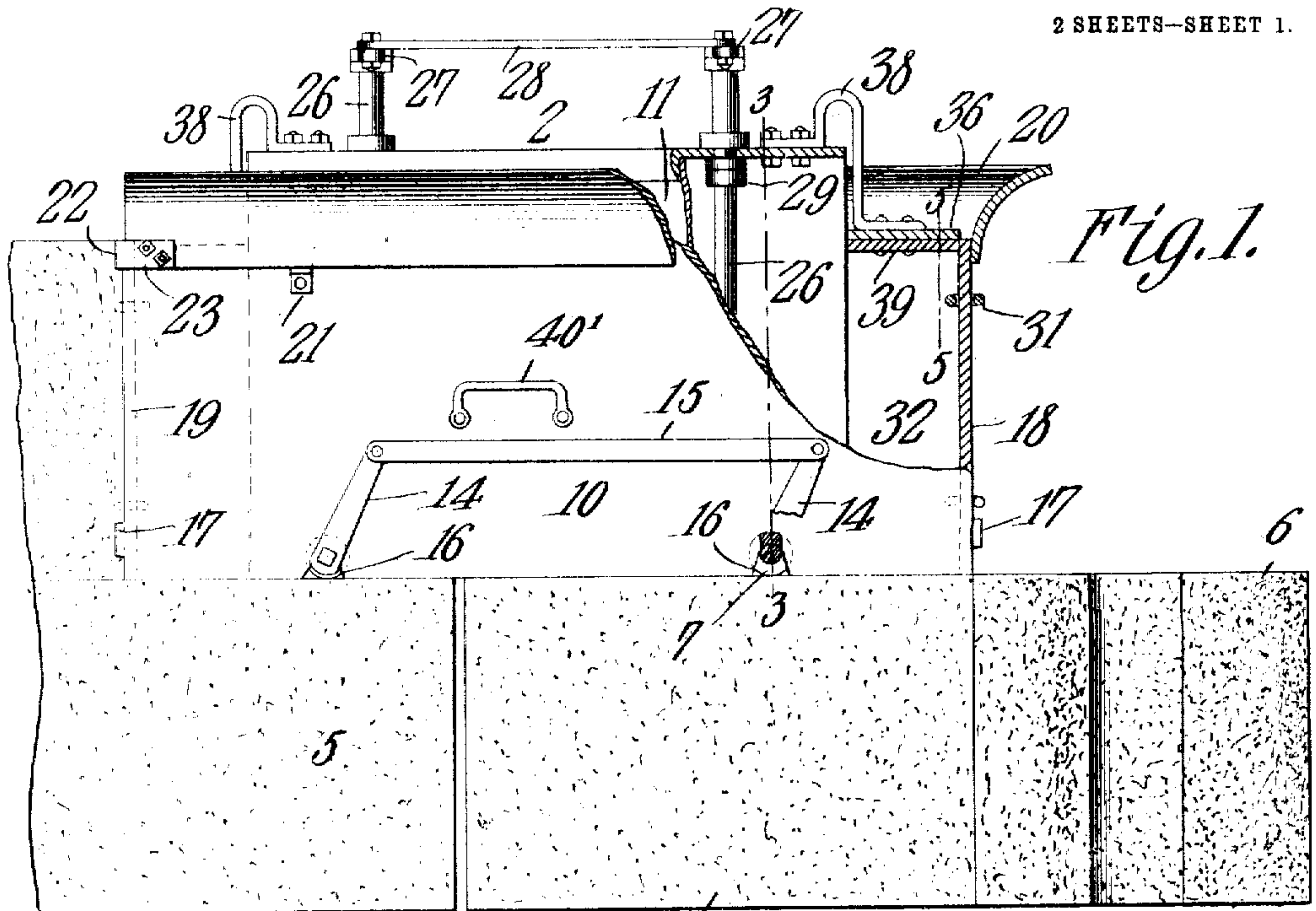


Fig. 2.

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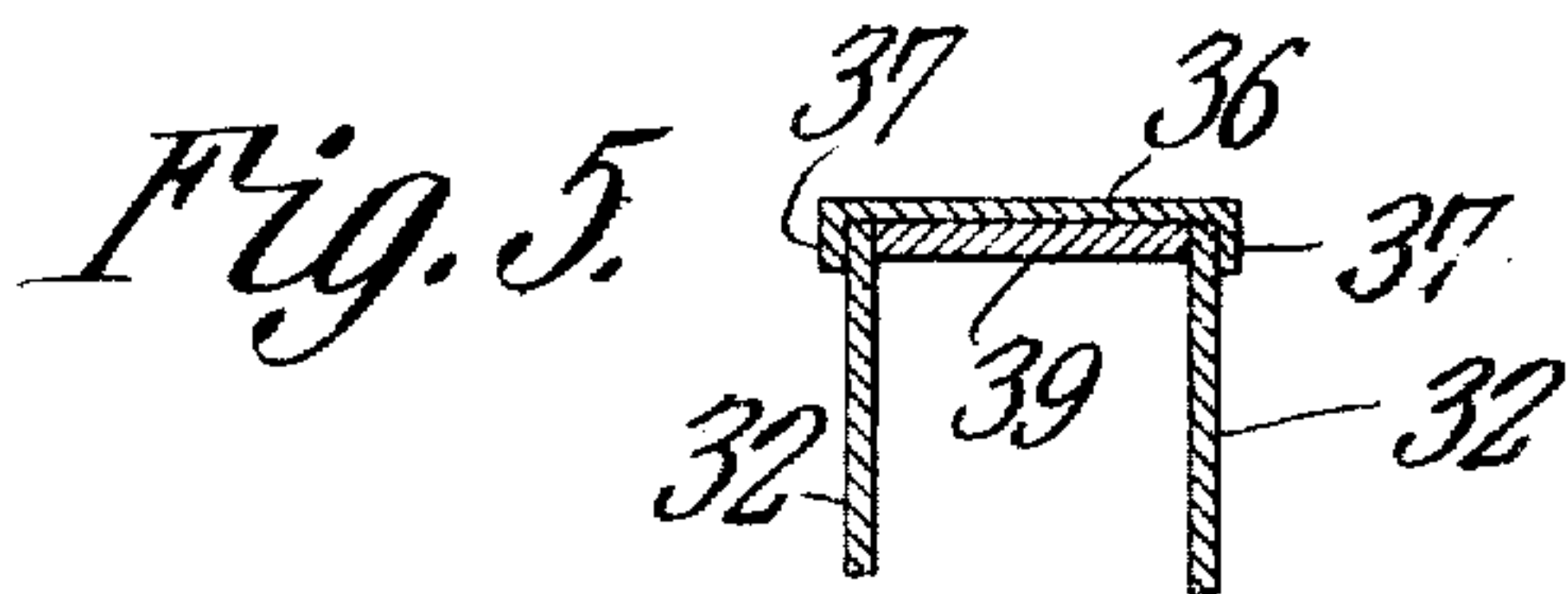
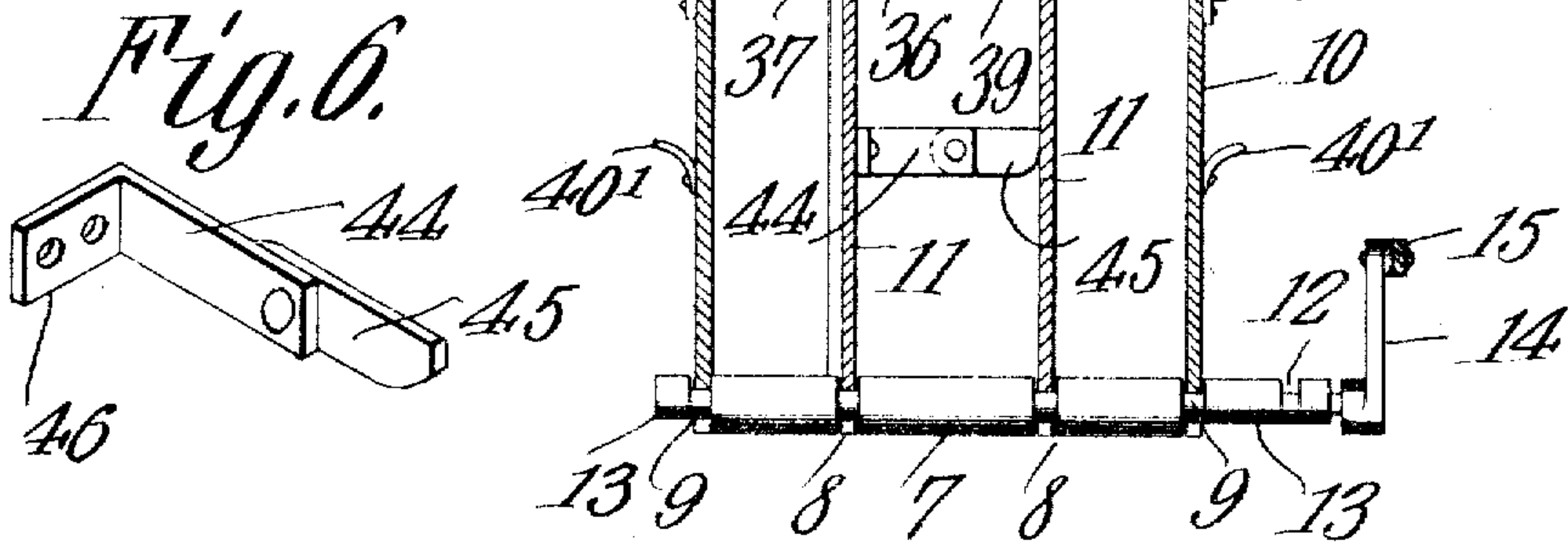
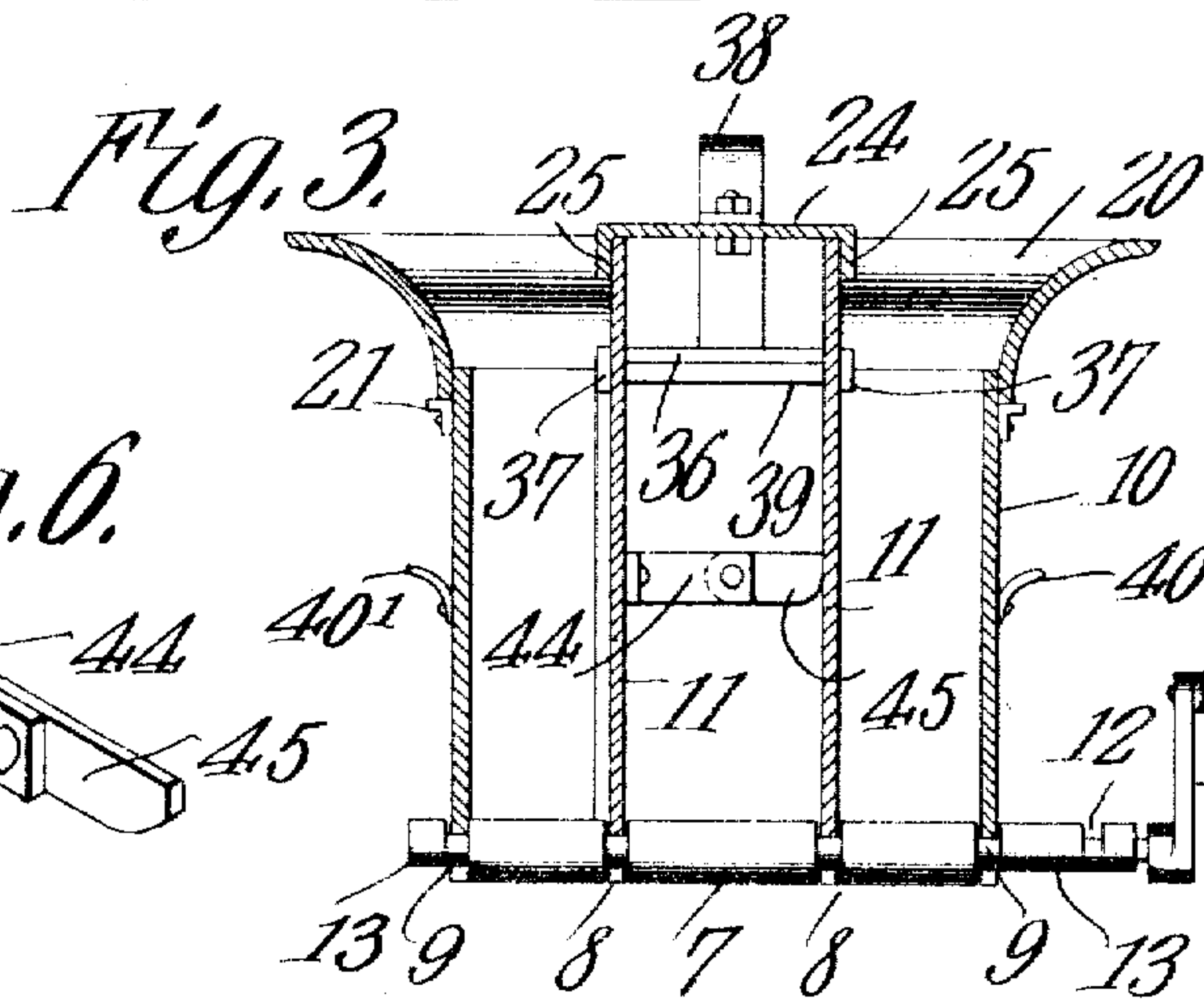
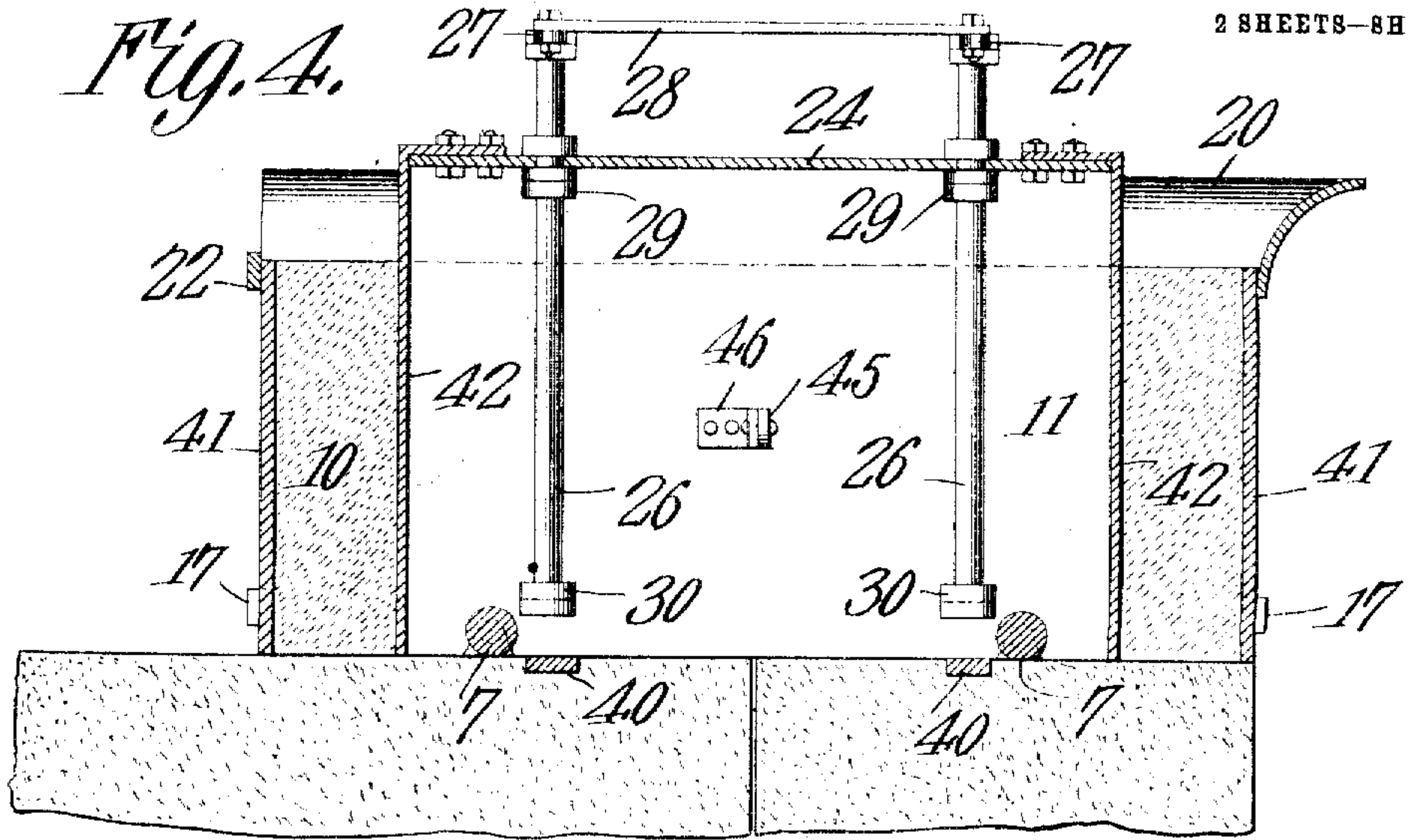
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MOLD FOR BUILDING-BLOCKS.

No. 904,927.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed August 9, 1907. Serial No. 387,866.

To all whom it may concern:

Be it known that I, WILLIAM A. BOECK, a citizen of the United States, residing at South Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Mold for Building-Blocks, of which the following is a specification.

This invention relates to molds for forming walls, partitions and similar structures from cement, concrete and other plastic material and has for its object to provide a strong, durable and thoroughly efficient device of this character by means of which artificial stone building bricks or blocks may be manufactured and laid into a wall at one operation of the mold.

A further object of the invention is to provide a mold for forming the wall with vertical air passages or flues, the blocks constituting the wall being constructed in sections spaced apart by tie rods.

A further object is to provide a mold including spaced transverse supporting members adapted to rest on the wall and provided with means for locking the side walls and core member of the mold in position thereon, said supporting members being pivotally united by a connecting link whereby said supporting members may be simultaneously released from engagement with the side walls so as to permit the removal of the latter.

A further object is to provide a novel form of core member for forming vertical air passages or flues in the several blocks comprising the wall, and means for locking the core member in engagement with the transverse supporting members.

A further object is to provide a mold having interchangeable end walls to permit the formation of corner blocks, said mold being provided with a removable hopper for retaining the side walls in engagement with the end walls of the mold.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side

elevation of a mold constructed in accordance with my invention showing the same in position on a wall. Fig. 2 is a top plan view partly in section of the same. Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a longitudinal sectional view showing the mold in position for making a corner block. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 1. Fig. 6 is a perspective view of one of the pivoted core braces detached.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved mold forming the subject matter of the present invention is principally designed for manufacturing and laying artificial stone bricks or blocks into a wall or similar structure and by way of illustration is shown in position on a wall in which 5 designates the side blocks and 6 the corner blocks.

The mold consists of spaced supporting members 7 preferably cylindrical in form, as shown, and adapted to rest on the ground and upon the upper longitudinal edges of the blocks in succeeding courses during the erection of the wall.

The supporting members 7 are provided with a plurality of spaced circumferential seating recesses 8 and 9, the seating recesses 9 being adapted to receive the lower longitudinal edges of the side walls or plates 10 while the inner seating recesses are designed to receive the plates 11 forming the side walls of the core member, there being one or more auxiliary seating recesses 12 formed in the supporting members so that the side walls may be adjusted laterally to permit the formation of blocks of different thicknesses.

The opposite ends of the supporting members at the recesses 9 and 12 are cut away at 13 to form smooth bearing surfaces so that when the supporting members are partially rotated the cut away portions 13 will be positioned at the lower longitudinal edges of the side walls of the mold and in which position the side walls may be adjusted laterally on the smooth bearing surface 13 to permit the removal of the same when it is desired to construct a succeeding course in the wall, as will be more fully explained hereinafter.

The inner ends of the supporting members are provided with terminal crank arms

14 having their free ends pivotally united by a connecting link 15 whereby the several supporting members may be simultaneously rotated to release the side walls of the mold.

5 The lower longitudinal edges of the side walls 10 are preferably formed with notches or recesses 16 for the reception of the supporting members so that said longitudinal edges will engage the upper faces of the blocks in the lower course and thus prevent the escape of cement, concrete or other plastic material when molding the bricks or blocks on the wall.

15 Extending inwardly from the side walls 10 and 11 are ears or lugs 17 which bear against the end walls 18 and 19 of the mold, as shown, and serve to assist in preventing accidental displacement of the end walls.

20 Surrounding the upper edges of the side and end walls of the mold is a laterally extending flange which constitutes a hopper 20 and serves to prevent spreading of the several walls of the mold when tamping the cement or other material in the molding compartment.

25 The hopper 20 is detachably secured to the walls of the mold and is supported in position thereon by means of one or more lugs or ears 21 extending laterally from some of the walls, as shown.

30 One end of the hopper 20 is preferably cut away so as to prevent the flange from bearing against the adjacent brick or block, the flanges of the hopper at the cut away portions being connected by the transverse bar 22, the opposite ends of which are provided laterally extending attaching ears 23 for engagement with the hopper as shown.

35 The core member includes a top section 24 provided with spaced depending flanges 25 which bear against the adjacent side walls or plates 11 and serve to prevent the cement or concrete from entering the space between the plates when molding the bricks or blocks.

40 Mounted for rotation in the top plate 24 of the core are spaced rods or shafts 26 having their upper ends provided with transverse bars 27 connected by parallel links 28 whereby when a longitudinal pull is exerted on either of the links 28 the vertical rods may be partially rotated.

45 Secured to the rods 26 beneath the cover 24 of the core member are clamping bars 29 having their opposite ends curved or rounded and adapted to clamp the side plates 11 of the core member in engagement with the retaining flanges 25 when the links 28 are actuated thereby to lock the upper ends of the plates 11 in engagement with said flanges.

50 Similar clamping bars 30 are secured to the lower or free ends of the shaft 26 for pressing the lower ends of the plate 11 in engagement with the adjacent seating recesses 8 in the transverse supporting members.

55 Pivotally connected at 31 to the end walls

18 are laterally extending wings 32 having their free ends off set at 33 for engagement with the adjacent vertical edges of the side plates 11 so that when the core member is positioned within the mold with the plates 11 of the core member in engagement with off set ends of wings 32 a hollow block will be formed consisting of spaced sections 34 and 35 having an air passage between them so as to permit the passage of air vertically of the wall.

70 As a means for preventing accidental displacement of the wings 32 during the formation of the block the opposite ends of the core member are provided with yieldably supported caps or plates 36 having spaced depending flanges 37 for engagement with the upper ends of the pivoted wings 32.

80 The caps or plates 36 are connected with the cover or top plate 24 of the core member by means of spring bars 38 one end of each of which is rigidly secured to the plate 24 while the opposite end thereof is bent laterally for attachment to the adjacent cap plate 36.

85 Secured to the bottom of each cap plate is a block 39 having its opposite ends spaced laterally from the flanges 37 to permit the introduction of the upper edges of the wing plates 32 whereby said wing plates may be locked in vertical alinement with the side plates 11 of the core member.

90 In erecting the wall the supporting members 7 are first placed in position on the ground with the side walls 10 and 11 engaging the adjacent seating recesses 9 and with the lower edges of the side plates 11 of the core engaging the seating recesses 8 after which the hopper 20 is placed in position on the side and end walls of the mold and the links or rods 28 adjusted so as to cause the clamping members 27 and 30 to force the side plates 11 of the core member in engagement with the flanges 35 and recesses 8, as best shown in Fig. 2 of the drawings.

100 The cement, concrete or other plastic material is then introduced in the molding compartments and thoroughly tamped after which the clamping members 29 and 30 are released and the cover plate 24 of the core member together with the cap plates 36 lifted bodily from the mold.

105 The hopper 20 is then removed and a longitudinal pull exerted on the connecting link 15 which rotates the supporting members 7 so as to cause the smooth bearing surfaces 13 to engage the walls of the notches 16 in the side plates of the mold thus permitting the side walls to be withdrawn laterally from engagement with the supporting members. The supporting members are then taken out of the wall so that the same may be re-used, the openings in the walls formed by the supporting members being subsequently filled with cement.

After the first course is formed the supporting members 7 are positioned on the upper longitudinal edges of the blocks forming the lower or finished course and the side walls and core member spaced in position on said supporting members and locked in engagement therewith in the manner before stated, this operation being continued until the several courses comprising the wall are completed.

After each course of the wall is finished suitable tie rods 40 are placed in position on the upper longitudinal edges of the blocks of each course with their intermediate portions spanning the intermediate air chamber so that when the succeeding course of blocks is placed in position the tie rods 40 will form a firm bond between the sections of the several blocks comprising the wall.

In order to vary the thickness of the wall it is merely necessary to adjust the side walls or plates of the mold laterally of the supporting members and introduce the lower edge thereof into the desired seating recesses, it being of course understood that the supporting members will be formed with a plurality of seating recesses so that the wall may be made of any desired thickness. It will also be understood that when the mold is adjusted to vary the thickness of the wall wider end plates will be used and the connecting bar 22 of the hopper will also be removed and replaced by a longer end bar.

The side walls of the mold are preferably formed with suitable handles 40' so that the same may be conveniently positioned on or removed from the wall.

When forming the corner blocks 6 the end walls 18 carrying the wings 32 are removed and suitable end walls 41 having smooth interior and exterior faces substituted in place of the end walls 18. The core member is also shortened which result is accomplished by detaching the bars 28 carrying the cap plates 36 from the top 24 of the core member and placing in position on said core member suitable end plates 42, which plates are spaced inwardly from the adjacent end walls 41 so as to render the block closed at each end.

In order to form a source of communication between the vertical air flue 42' of the corner blocks and the air space in the side blocks, a suitable spacing block formed of wood or other suitable material is preferably interposed between the core member and one of the adjacent side walls of the mold so as to form the corner block with a contracted neck 43 which permits the free circulation of air from the chambers of the blocks on one side of the wall through the corner blocks to the air spaces of the block on the adjacent side of the wall.

If desired the side blocks may be formed with joist-receiving openings by inserting a

similar block or blocks between the side walls of the mold and core member, in the form of the device shown in Fig. 2 of the drawings, as will be readily understood.

In order to assist in preventing inward pressure on the side walls of the core members said members are preferably provided with pivoted transverse braces each preferably formed in two sections 44 and 45 one of which is provided with a lateral flange 46 for attachment to the adjacent side wall of the core member while the section 45 is pivotally connected with the section 44 and is provided with an inclined or rounded terminal adapted to be swung downwardly in engagement with the opposite side wall of the core member, as best shown in Figs. 3, 4 and 6 of the drawings.

While the device is principally designed for manufacturing and laying artificial stone building blocks in a wall during the erection of the same it is obvious that the blocks may be formed separately and subsequently laid into a wall without departing from the spirit of the invention. It will also be understood that the molds may be used either with or without the core members and that the several blocks comprising the wall may be formed with an ornamental face in imitation of chipped or cut rock by inserting a suitable die plate in the mold.

From the foregoing description, it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

1. A mold including rotatable supporting members, side walls engaging the supporting members, a core member interposed between the side walls, and a link connection between the supporting members for rotating the latter thereby to release the side walls.
2. A mold including rotatable supporting members provided with spaced seating recesses, side walls engaging the seating recesses and supporting members, a core member interposed between the side walls, and means for simultaneously rotating the supporting members thereby to release the side walls.
3. A mold including a plurality of spaced rotatable supporting members having seating recesses formed therein, there being cut away portions disposed at some of the recesses, side walls seated in said recesses, a core member interposed between the side walls, and means for simultaneously rotating the supporting members to present the cut away portions to the end walls thereby to permit the release of the end walls.
4. A mold including spaced rotatable supporting members provided with terminal

and intermediate seating recesses, side walls engaging the terminal seating recesses, a core member seated in the intermediate recesses, and a link connection between the supporting members for rotating the latter thereby to release the side walls.

5. A mold including rotatable supporting members having seating recesses formed therein and provided with terminal crank arms, side walls engaging some of the recesses, a core member interposed between the side walls, a hopper engaging the side walls, and a link connecting the crank arms of the supporting members for rotating the latter thereby to release the side walls.

6. A mold including spaced rotatable supporting members having a plurality of seating recesses formed therein, side walls engaging some of the seating recesses, end walls provided with pivoted wings, a core member bearing against the supporting members and engaging the wings, and means for rotating the supporting members thereby to release the side walls of the mold.

7. A mold including rotatable supporting members, side walls engaging the members, end walls connected with the side walls, a hopper surrounding the walls of the mold, wings extending laterally from the end walls, and a core member interposed between the side walls and provided with terminal cap plates adapted to engage the wings.

8. A mold including rotatable supporting members, side walls supported by said members, end walls engaging the side walls, wings extending inwardly from the end walls, a core member including spaced side plates engaging the wings, and a cover forming a part of the core member and provided with means for engagement with the wings.

9. A mold including spaced rotatable supporting members having terminal and intermediate seating recesses formed therein, side walls engaging the terminal recesses, end walls connected with the side walls, pivoted wings extending inwardly from the end walls, a core member including side plates the lower longitudinal edges of which are seated in the intermediate recesses of the supporting members, a cover forming a part of the core member and provided with laterally extending flanges, cap plates carried by the core member and engaging the pivoted wings, and means carried by the cover for clamping the side plates of the core member in engagement with the flanges.

10. A mold including spaced rotatable supporting members provided with terminal crank arms, side walls engaging the supporting members, end walls operatively connected with the side walls, a hopper surrounding the walls of the mold, a core interposed between the side walls, means carried by the supporting members for engagement with the side walls, and means connecting the sup-

porting arms for simultaneously releasing the locking means from engagement with the side walls.

11. A mold including spaced rotatable supporting members, side walls bearing against the supporting members, end walls operatively connected with the side walls and provided with pivoted wings, a core member interposed between the side walls and provided with means for engagement with the wings, and means carried by the core member for locking the latter in engagement with the supporting members.

12. A mold including spaced rotatable supporting members having seating recesses formed therein, side walls having notches formed in their lower longitudinal edges and engaging the walls of the seating recesses, end walls connecting the side walls, a removable hopper surrounding the walls of the mold, a core member interposed between the side walls and spaced from the latter to form continuous molding compartments, and a link connection between the supporting members.

13. A mold including spaced rotatable supporting members, side walls engaging the supporting members and provided with laterally extending lugs, end walls operatively connected with the side walls, a removable hopper bearing against the lugs, wings pivotally mounted on the end walls, a core member interposed between the side walls and forming continuous molding compartments, and yieldably supported caps carried by the core member and engaging the wings.

14. A mold including spaced rotatable supporting members, side walls engaging the supporting members, end walls operatively connected with the side wall, a hopper surrounding the walls of the mold, wings extending within the mold and pivotally connected with the end walls thereof, said wings having their terminal portions off set, a core member including side plates for engagement with the off set ends of the pivoted wings, a cover forming the top of the core member and provided with depending flanges, cap pieces carried by the cover and engaging the wings, and means carried by the cover and engaging the side walls of the core member for locking the latter in engagement with the flanges.

15. A mold including spaced rotatable supporting members provided with terminal and intermediate seating recesses, side walls engaging the terminal seating recesses, end walls operatively connected with the side walls, a core member interposed between the side walls and including spaced plates having their lower ends seated in the intermediate recesses, a cover forming a part of the mold, rod journaled in the cover and provided with clamping members, and links

connecting the upper ends of said rods for rotating said clamping members thereby to lock the side plates of the mold in engagement with the adjacent seating recesses.

- 5 16. A mold including side and end walls, laterally extending wings pivotally connected with the end walls, a core member interposed between the side walls and forming continuous molding compartments, and
10 yieldable top plates carried by the core member and engaging the wings.

17. A mold including side walls, end walls operatively connected with the side walls, a core member interposed between the side
15 walls and formed with spaced plates, a cover forming the top of the core member and

provided with depending flanges, rods journaled in the cover and having their upper ends provided with transverse bars and their lower ends formed with spaced clamping members, and links connecting the bars for rotating the clamping members thereby to lock the side plates of the core member in engagement with the flanges.

In testimony that I claim the foregoing as 25 my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM A. BOECK.

Witnesses:

C. I. WEBB,

A. A. WRIGHT.