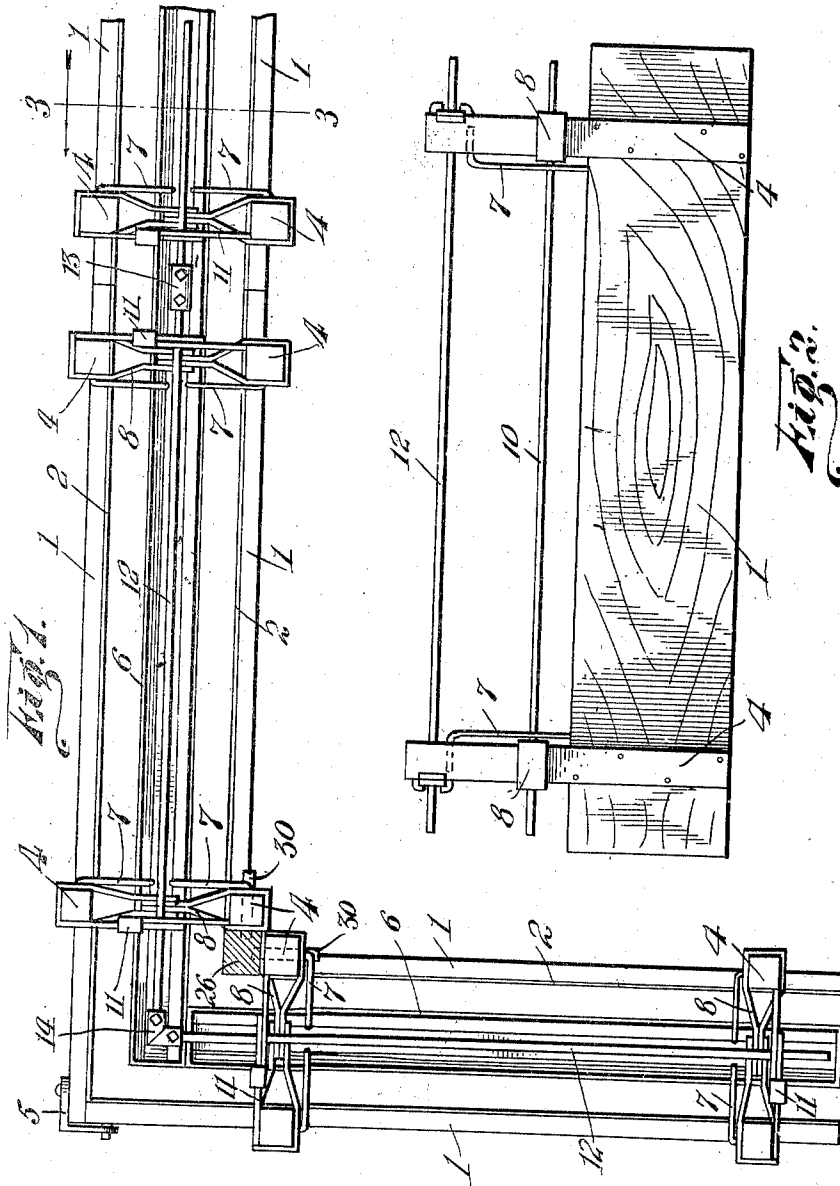


965,805.

H. T. FROST.
MOLD FOR VENTILATED CONCRETE WALLS.
APPLICATION FILED JAN. 25, 1910.

Patented July 26, 1910.

3 SHEETS—SHEET 1.



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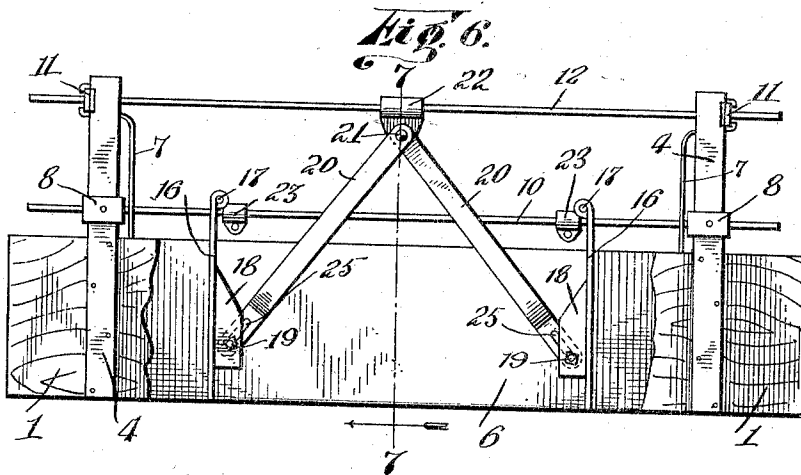
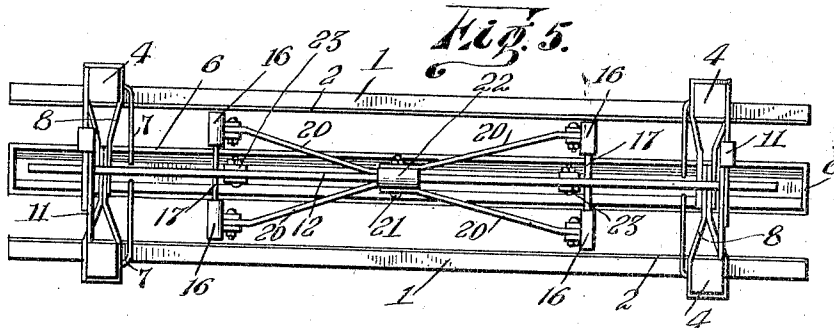
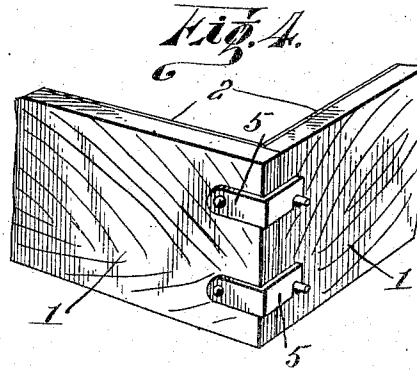
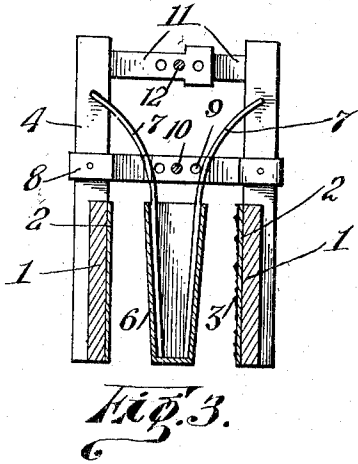
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3 SHEETS—SHEET 2.



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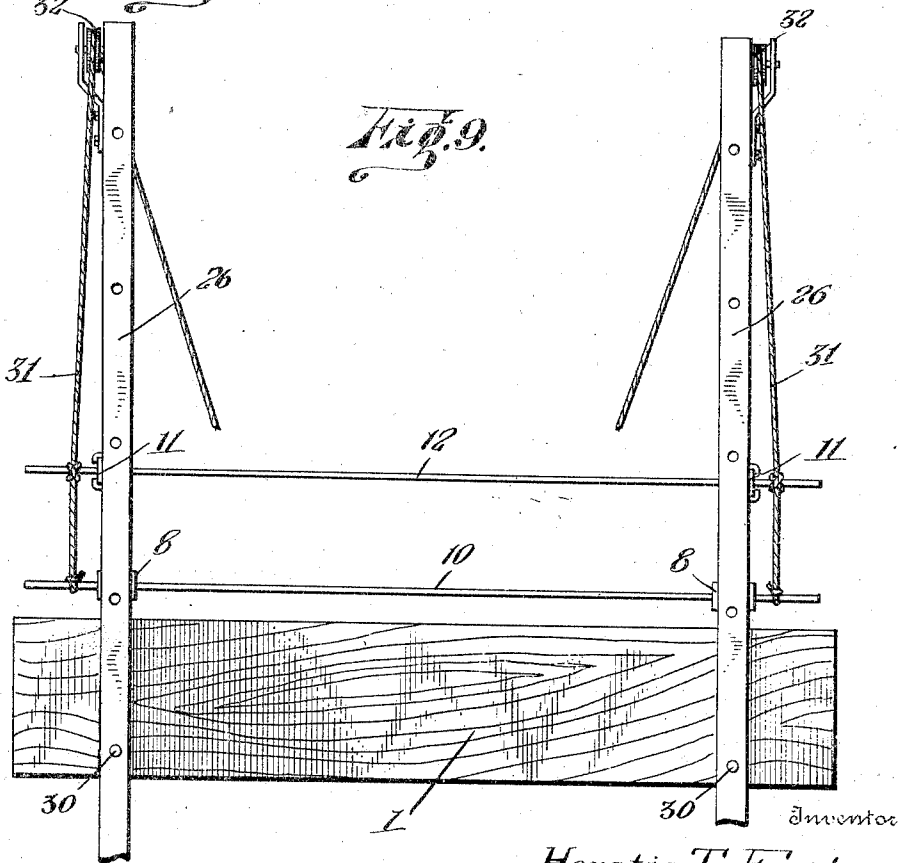
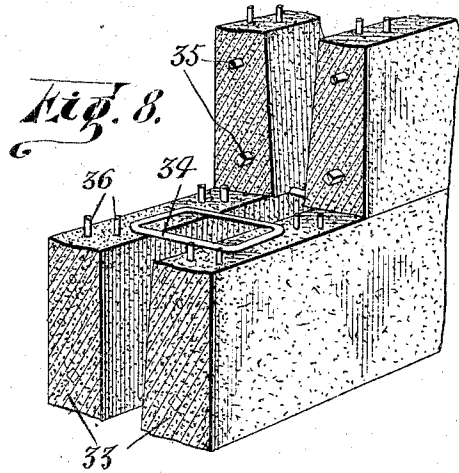
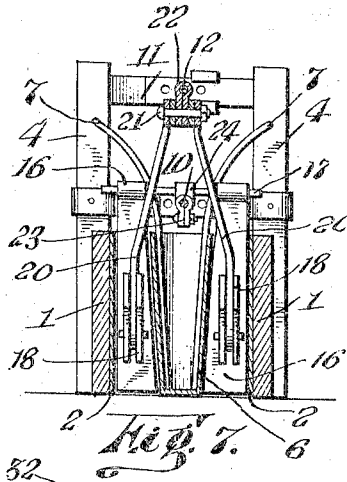
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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MOLD FOR VENTILATED CONCRETE WALLS.

965,805.

Specification of Letters Patent.

Patented July 26, 1910.

Application filed January 25, 1910. Serial No. 540,046.

To all whom it may concern:

Be it known that I, HORATIO T. FROST, a citizen of the United States, residing at Vivian, in the county of Lyman and State of South Dakota, have invented certain new and useful Improvements in Molds for Ventilated Concrete Walls, of which the following is a specification.

This invention relates to molds for ventilated concrete walls for buildings, and one of the principal objects of the invention is to provide reliable and efficient means for molding a double concrete wall having an intermediate ventilating space between the members of the wall.

Another object of the invention is to provide a mold for constructing a double wall, said mold being adjustable for walls of different thicknesses and provided with means whereby the mold may be raised after each molding operation.

Another object of the invention is to provide a mold for double-wall concrete buildings, in which a core for forming the ventilating or dead air space between the two members of the wall shall be of slightly tapering form, so that the mold can be raised readily after each molding operation.

Still another object of the invention is to provide a mold for concrete walls in which the sides of the mold are movable away from the wall in order to permit the mold to be raised without interfering with the surface of the wall.

Another object of the invention is to provide adjustable cut-off devices arranged to be movable in the mold for forming door and window openings in the walls.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings in which,

Figure 1 is a plan view of two members of the mold forming the corner of the wall, said two members being connected together and the supporting posts being shown in section. Fig. 2 is a side elevation of one of the sections of the mold. Fig. 3 is a vertical section on the line 3—3 of Fig. 1, looking in the direction indicated by the arrow. Fig. 4 is a detail perspective view showing the manner in which the mold sections are connected at the corners. Fig. 5 is a plan view of one of the molds, showing the adjustable cut-off devices for forming openings for doors and windows. Fig. 6 is a side elevation of the same with one member of the mold broken

away to better illustrate the interior construction. Fig. 7 is a vertical sectional view on the line 7—7 of Fig. 6, looking in the direction indicated by the arrow. Fig. 8 is a detail perspective view showing a portion of the double wall with means for anchoring the two walls together. Fig. 9 is a side elevation showing two of the supporting posts with means for raising the mold sections.

Referring to the drawings the numerals 1 designate the members of the mold sections, said members being preferably formed of wood and provided with metal linings 2, the front one of which may be provided with a roughened surface 3, as shown in figure 3 to form a roughened or rock-like surface to the outer surface of the building. The mold members 1 are provided with standards or uprights 4 secured to the outer sides thereof and projecting above the upper edge of the mold sections 1. At the corners the outer mold sections are connected together by means of pivoted latches 5 or other suitable means.

The core 6 for forming the intermediate ventilating or dead air space comprises a hollow, preferably sheet metal device closed at the sides and bottom and open at the top, said core being of tapering form, as shown more particularly in Figs. 3 and 7, and of less width at the bottom than at the top. Connected to the inner walls of the core 6 are curved supports 7, said supports being pivoted at their upper ends in the standards 4 for a purpose which will presently appear. The standards 4 are connected by adjustable braces 8 provided with adjusting perforations 9 and adapted to be connected by means of a rod 10, which extends through the perforations in the two members of the adjustable braces for permitting the mold sections 1 to be moved toward and away from the core to provide a thicker or thinner wall. Connected near the upper ends of the standards 4 are adjustable braces 11, said braces being also adjustable by means of perforations and a connecting rod in the same manner as the adjustable braces 8. It will thus be seen that the side members 1 of the mold may be adjustable toward and from the core 6 by means of the braces 8 and 11 and that the core supports 7 being pivoted in the standards 4 will permit of this adjustment. In molding walls of this character, especially when one of the walls is provided with a roughened surface, it is

necessary to move the members outward slightly before the mold is raised for another tier. By removing the rod 12 the members may be swung apart upon the rod 10 as a pivot when necessary to move the members outward before molding another tier. The construction thus far described will permit of this movement of the side members of the mold. The rods 10 and 12 may be connected together by means of suitable couplings 13, when two or more sections are connected together for forming a continuous wall, and at the corners right angular couplings 14 are provided.

For forming openings in the walls for window and door frames, I have provided adjustable cut-off devices 16 comprising metal plates designed to fit between the core 6 and the inner walls of the members 1, said plates being disposed in pairs connected at their upper ends by means of a cross rod 17. Each of the plates 16 is provided with an angular flange 18 and pivotally connected at 19 to said flanges are the adjustable arms 20, said arms being brought together in the center at their upper ends and pivoted at 21 to a supporting eye 22 mounted upon the rod 12. Guide eyes 23 mounted to slide on the connecting rod 10, are provided with bent portions 24 extending over the cross rods 17, as shown more particularly in Fig. 7. The arms 20 are provided with slots 25 at their lower ends to permit the adjustable movement of the cut-offs 16. It will thus be seen that the cut-offs can be moved to adjust the width of the opening for the door or window frame.

For raising and lowering the mold sections after each tier of the wall is formed, I provide upright posts 26, as shown in Figs. 1 and 9, said posts being provided with pins 30, which extend through said posts and into the mold sections for supporting them at any required height. Ropes or cables 31 are connected at their lower ends to the rods 10 and 12, as shown in Fig. 9, said ropes or cables passing over pulleys 32 near the upper ends of the posts 26.

As shown in Fig. 8, the two members 33 of the wall are provided with cross anchors or ties 34 made preferably in rectangular form of round or square rods or bars. These anchors or ties are laid upon the tops of the tiers after they are molded and when the next tier is molded these ties are embedded within the tops of the tiers. Other suitable ties or anchors may be provided. I have also shown longitudinal reinforcing rods or bars 35 and vertical reinforcements 36 which may be employed if desired.

The operation of my invention may be

briefly described as follows: When the desired number of sections of the molds have been connected together to form the wall, the concrete is poured in between the core 65 and the mold members and after it has been set the mold members 1 are moved outwardly a slight distance and are then raised by means of the ropes or cables 31 for the next tier, as will be understood.

From the foregoing it will be obvious that a mold made in accordance with my invention, is simple in construction, can be quickly operated, is adjustable to different thicknesses of walls, will provide a ventilating opening between the two members of the wall and is provided with simple and efficient means for forming window and door openings of varying widths.

Having thus fully described the invention what is claimed as new is:

1. A mold for concrete buildings comprising parallel members, a tapering intermediate core, means for adjusting said members toward and from the core, cut-offs for forming the door and window openings, said cut-offs comprising plates disposed between the outer walls of the core and the inner walls of the mold members, slotted arms pivotally connected to the cut-offs, said arms being pivotally connected together, and means for raising and lowering the mold members, the core and the cut-offs.

2. A mold for concrete walls comprising parallel mold members, standards connected to said mold members, adjustable braces connected to said standards, removable rods connected to said braces, a tapering core pivotally suspended by curved rods from the standards, cut off devices between the core and mold members, means for adjusting said cut off devices, and means for raising the mold sections, the core and the cut off devices.

3. A mold for concrete walls comprising parallel mold members, standards connected to said mold members, upright posts, means for supporting the mold members adjustable upon the posts, adjustable braces connected to said standards, rods for holding said braces in adjusted positions, a tapering core, curved supports for said core, said supports being secured to the inside of said core and pivoted to said standards, and means for raising the mold members and said core.

In testimony whereof I affix my signature in presence of two witnesses.

HORATIO T. FROST.

Witnesses:

WM. J. SLITER,
A. T. CRETNEY.