No. 878,000. PATENTED FEB. 4, 1908.

J. W. HOLMAN.

WALL MOLD.

APPLICATION FILED SEPT. 3, 1907.

Fig. 2.

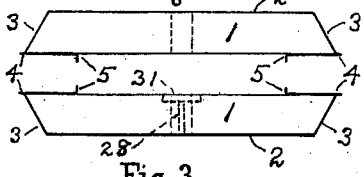



Fig. 4.

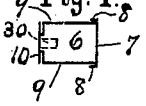



Fig. 1.

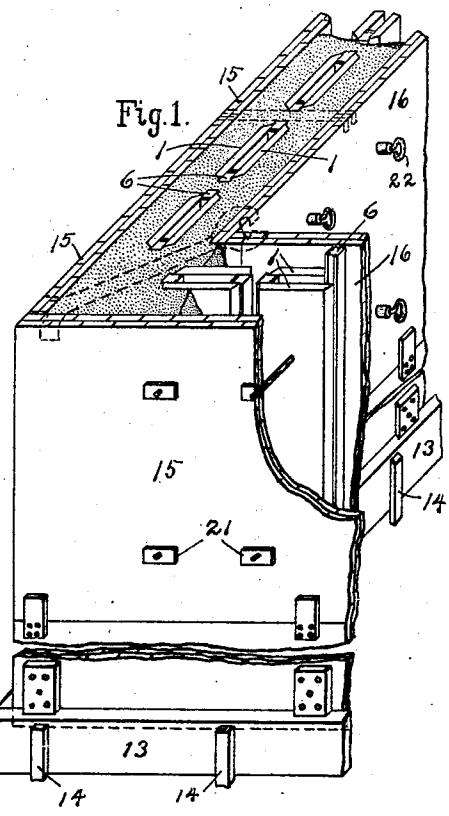



Fig. 3.

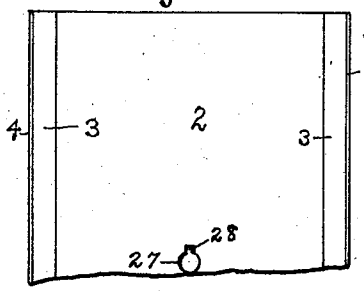



Fig. 5.

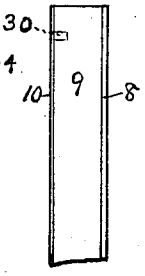



Fig. 6.

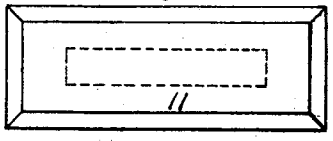
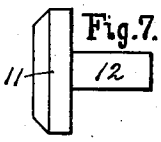



Fig. 7.



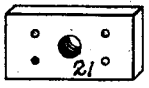




Fig. 8.

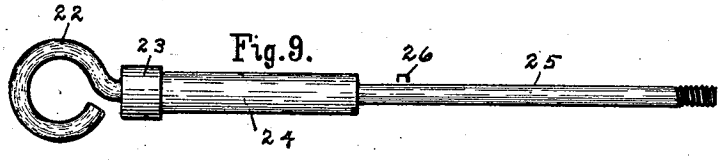
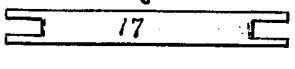



Fig. 10.



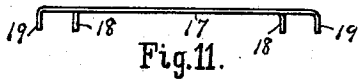
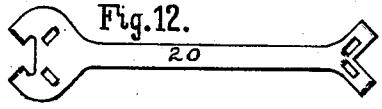




Fig. 11.

Fig. 12.



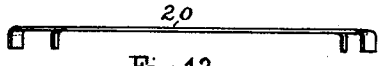




Fig. 13.

*WITNESSES.*

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THE NORRIS PETERS CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

JOSEPH W. HOLMAN, OF DETROIT, MICHIGAN.

## WALL-MOLD.

No. 878,000. Specification of Letters Patent. Patented Feb. 4, 1908.

Application filed September 3, 1907. Serial No. 391,015.

*To all whom it may concern:*

Be it known that I, JOSEPH W. HOLMAN, a citizen of the United States, and a resident of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Wall-Mold, of which the following is a specification.

My invention relates to molds for the construction of monolithic walls, particularly to the construction of cores for forming the air-spaces within such walls, and to means for holding the molds in position.

My invention consists in a novel core for hollow monolithic walls, comprising sides, and ends slidably interlocking with such sides.

It further consists in a novel fastening and spacing retainer whereby the core is held in position with reference to the wall molds.

In the accompanying drawings, Figure 1 is a perspective view showing wall molds and cores in position. Fig. 2 is a top view of the sides of the core and Fig. 3 is a side view of the same. Fig. 4 is a top view and Fig. 5 is a side view of the filling pieces or liners of the cores. Fig. 6 is a top view and Fig. 7 is a side view of the core cap. Fig. 8 is a view of the screw threaded plate to receive the end of the retaining device. Fig. 9 is a view of the retaining device. Fig. 10 is a top view and Fig. 11 a side view of a wall brace. Fig. 12 is a top view and Fig. 13 is a side view of a diagonal or corner brace.

Similar reference characters refer to like parts throughout the several views.

Monolithic walls are usually formed by pouring and ramming wet concrete into molds and permitting it to harden. Air spaces are formed by securing removable cores at proper intervals. The removal of these cores has always been a source of trouble.

The cores which I employ in this present invention consists of two sides 1, preferably of wood faced with sheet metal to prevent the wood from becoming damp and warping. The sheet metal extends over the face 2, beveled edges 3, and projects outward, then back, forming the edges 4. It then extends along the back and then outward forming the edges 5. The liners or filling pieces 6 are covered with sheet metal plates, the cap 7 being bent down at its edges 8 to form grooves next to the side plates 9 for the edges 4 on the sides 1. The side plates 9 are bent around the inner edges, and together with the plate 10 form grooves for the edges 5. These liners can be slipped up and down between the sides 1, holding the sides in position and being held in position by the edges 4 and 5. When the wall is being molded the cap 11 having downwardly projecting portion 12 may be placed over the core to prevent the concrete from falling into the interior of the core.

For molding walls, foundation molds 13 may be first employed, being held in position by stakes 14. On these molds 13 the wall molds rest, being preferably formed of sections of any desirable size. To position the sections 15 for the outer face of the wall, and the sections 16 for the inner face, the braces 17 having downwardly extending tongues 18 and downturned ends 19, are very convenient. The wall sections are held in place between the tongues and downturned ends. At the corners, corner braces 20 may be employed, which are provided with downwardly projecting tongues and ends as shown in Fig. 13, to secure the molds in position. A wall brace and a corner brace are indicated in dotted lines in Fig. 1.

Secured to the section 15 are screw-threaded plates 21. The retaining devices shown in Fig. 9 extend through holes in the sections 16, the cores, the sections 15, and screw into the plates 21. These retainers are formed with a handle 22, a collar 23 to engage the outside of the mold section 16, a sleeve or enlarged portion 24 which is adapted to position the core, and a rod portion 25 which extends through the core and screws into the plate 21. A pin 26 is adapted to engage the inner face of the inner side 1 of the core and thus hold the core in position. The cores have holes 27 to permit the passage of these retainers, the holes in the inner side 1 of the core being formed as shown in Fig. 3, the slot 28 permitting the passage of the pin 26.

To build a wall with air-spaces, the sections 15 and 16 are properly placed. The pairs of core walls 1 are then placed next to the outer sections 15 and the retainers introduced and screwed into the plates 21, the rods being left in such position that the pins 26 will register with the slots 28 in the sides 1. The inner sides 1 are then moved along the rods 25 against the parts 24 and the rods are turned sufficiently to carry the pins away from the slots 28, the inner sides 1 of the cores being thereby locked in position. The

outer sides of the cores are then positioned and the liners 6 slipped down into place, thus locking the cores. The braces 17 and 20 are then positioned, the caps 11 placed over the cores and the concrete rammed in.

To remove the molds and cores after the concrete has set, the caps 11 are first removed and the liners 6 pulled up, by means of a hook which takes into a hole 30 at the upper end of each liner. The rods 25 are then turned sufficiently to bring the pins 26 in line with the slots 28 when the inner sides 1 of the cores may be pushed out against the outer sides. This frees the pins 26 and the retaining devices may be removed. The cores are lifted out, the braces 17 and 20 removed and the wall sections taken down.

In case heavy core sides 1 are employed, it may be necessary to countersink a ring 31 for the pin 26 to travel in, as the distance between the right end of the part 24 (Fig. 9) and the right edge of the pin 26 should be less than the distance between the two sides 1 of the cores.

The narrowness of the liners 6 is such that their friction with the concrete after it has set is small, so the liners can easily be drawn up out from between the sides of the cores.

Having now explained my improvements, what I claim as my invention and desire to secure by Letters Patent is—

1. In a wall mold, the combination of outer forms for the sides of the wall, cores for forming air spaces in said wall and comprising sides and ends, and a retaining device adapted to pass through holes in the outer forms and core walls to position the cores and each provided with an enlarged part to engage the outer face of one of the sides of the core, and a projecting pin adjacent thereto which will engage with the opposite face of said side of the core.

2. In a wall mold, the combination of cores comprising sides and liners to separate the sides, the sides formed flat with beveled edges and having their outer side and edges covered with sheet metal so bent as to form projecting edges, the liners having grooves to receive those projecting edges on the sides, whereby the parts will be so positioned that the liners may be withdrawn longitudinally from between the sides, but lateral movement between the parts will be prevented.

3. In a wall mold, the combination of means for forming the sides of the wall, cores comprising sides and liners to hold the sides separated, both sides and liners being provided with projections to prevent lateral movement between them but permitting relative longitudinal movement, and retaining means adapted to engage one of the sides to hold the core in position.

4. In a wall mold, the combination of cores comprising sides and liners to separate the sides, the sides formed flat with beveled edges and having their outer side and edges covered with sheet metal so bent as to form projecting edges, the liners having grooves to receive these projecting edges on the sides, whereby the parts will be so positioned that the liners may be withdrawn longitudinally from between the sides, but lateral movement between the parts will be prevented, a retaining device adapted to pass through holes in the sides to position the core, and provided with an enlarged portion to engage the outer side of one of the sides of the core, and a projecting pin adjacent thereto which will engage with the opposite side of said side of the core, whereby the core will be positioned in the wall.

In testimony whereof, I have signed this application in the presence of two subscribing witnesses.

JOSEPH W. HOLMAN.

Witnesses:
ALBERT GRAUER,
EDWARD N. PAGELSEN.