To all whom it may concern:

Be it known that I, CAROL F. BARON, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sectional Molds for Concrete Walls, of which the following is a specification.

My invention relates to new and useful improvements in sectional molds or forms for concrete walls for buildings, and more particularly relates to means for molding hollow walls so-called, having air spaces therein to prevent dampness, cold or heat from going through.

The feature of the invention is to provide a simplified form of mold which may be formed entirely of metal parts, which are temporarily held in position during the pouring and hardening of the liquid concrete, and to design and construct the same so that the lower section of the form may be taken out from time to time and replaced upon the top section to form extensions of the mold, to receive further quantities of concrete and whereby the wall may be carried up to the desired height. Further to arrange these sections so that they may be used for molding one layer at a time or so that they may be quickly and easily set up or removed from the inside of a building and by the manipulation of a few nuts, bolts and sheet metal parts and without the employment of extended braces or beams.

With these and other objects in view the invention resides and consists in the construction and novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departure from the spirit or sacrificing any of the advantages of the invention.

Similar characters of reference denote like or corresponding parts throughout the several figures of the accompanying drawings forming a part of this specification, and upon which,

Figure 1 shows a perspective view of a hollow concrete wall in the course of construction and having my improved mold section applied thereto, as would be required in the building of a concrete wall with an air space therein.

Fig. 2 shows a detached perspective view of a sheet metal cover which I employ to cover the top edge of the inner plates of the mold and the air space formed therebetween.

Fig. 3 shows a plan view of the mold sections as illustrated in Fig. 1.

Fig. 4 shows a vertical cross section through a portion of the mold sections and wall, and illustrates the cover for the air spaces positioned thereon.

Fig. 5 shows a detached side view of one of the inner plates of the mold.

Fig. 6 is a perspective view of one of the spaces which are positioned between the inner plates, shown in Fig. 5.

Fig. 7 shows an enlarged detailed perspective view of the connecting end portions of the outer corner plates showing how the inner corners of the mold are formed, and Fig. 8 shows a longitudinal section of two of the outer plates showing how their ends are connected together.

In the drawings 10 represents the outer section of the wall, 11 the inner section and 12 the air space formed therebetween. 13 represents tie rods, the opposite end portions of which are bent and embedded in the two wall sections from time to time as the same is carried up. There may be any desired number of these rods to strengthen and stiffen the wall and support one from the other.

The outer plates which I have indicated by 14 are formed of thin metal and are all alike in construction. They are preferably oblong and have a small angle iron 15 secured to their outer faces adjacent to their lower edge so as to leave a depending edge portion 16 that is positioned inside of the top edge of the lower plate. A flange 17 is formed along the upper edge of the plate and serves to support the before mentioned angle iron 15 and its plate when positioned thereon. The end portions of these plates are also provided with angle irons 18 and 19 that fit up against each other when the plates are arranged in position to form a mold, and with their extended edge 20 seated behind the offset 21 of the connected end of the adjoining plate. These plates 14 are further provided with a central vertical angle iron 22 that serves to stiffen and strengthen the structure. Holes 23 are also formed through their lower edge portions to...
accommodate the bolts 24 that extend therethrough and through the vertically disposed channel arms 25 secured to the end portions of the bolts 24. Washers 26 and thumb nuts 27 mounted upon the bolts 24 are used to draw the plates up into proper aligned positions as will be apparent from the drawings. These bolts also extend through slots 28 in the lower edge portions of the inner plates 29. A second series of bolts 30 are positioned upon the top edge of these plates and each bolt is provided with a head and collar 31 against which latter the inner edge of the outer plates rest. These upper bolts are also each provided with a washer and a nut 32 whereby the plates are adjusted and held in alignment against the collars. These upper bolts pass through holes 33 in the inner plates 29 and serve to support the same in a manner which permits them to be lifted out by the bolts.

The spacer 34 of which there may be any desired number is positioned between the two inner plates 29 in a way to hold them straight and at a uniform distance apart. These spacers include a T-shaped head having notches 35 upon the under side that engage the top edge of the plates in a manner to prevent displacement. A shield 36 which may be of any desired length is provided to cover the air space and is formed of sheet metal and shaped to form two inclined side portions that not only cover this space but direct the liquid concrete into the molds and prevent it from running into the air spaces. This shield is provided with guards 37 upon its under side that fit down into the space between the top edge portion of the inner plates, in a manner to support the shield in position, but yet to allow of its removal as occasion may require. The inner plates which are used to form the corners of the mold are provided with angle irons 38 and 39 as shown in Fig. 3, and whereby one is supported against the other and in a manner to prevent displacement when the concrete is poured in. A strap 40 which is shown positioned against the outer side of the outer corner plates serves to brace and support the plates. The end portions of said strap is supported by the upper bolts 30 arranged upon the top edge of the plates. The vertically disposed channel arms 25 are adapted to be shifted to form upward extensions, when removing the lower line of plates forming the lower section of the mold, and are positioned to support the plates when they are replaced above, to build up the mold for building on the top of the wall.

This is done by first removing the nuts 27 from the lower bolts 24 as shown in Figs. 1 and 4, and then drawing out the bolts and next swinging the brace upon the upper bolt 24, until the long arm 25 is brought to the top (see dotted lines Fig. 1) and the short arm disposed downward thereby reversing the position and to form an extended support for the upper sections to be added. When this is done the lower line of plates are free to be removed and positioned upon the top edge of the upper plates and in which event the upper bolts 30 would be removed and again positioned upon the top edge of the added plates so as to again form the complete mold section as indicated in Fig. 4 ready to receive a further layer of liquid concrete.

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

1. A sectional wall mold comprising a series of outer plates of uniform type to form the outer sides of the mold, bolts extending through the lower portions of said plates, braces positioned against the outer side of the outer plates and engaged by the said bolts, a second series of bolts positioned upon the top of the outer plates, a series of inner plates hung from the upper bolts to form the inner opposite walls of the mold, and spacing members supported upon and positioned between the said inner plates.

2. A sectional wall mold comprising a series of outer plates of uniform type to form the outer sides of the mold, connecting means between the lower portions of said plates, braces positioned exteriorly of said plates and retained in position by the plate connecting means, connecting means between the upper portions of the plates, and a series of inner plates supported upon the upper connecting means to constitute inner spaced walls.

3. A sectional wall mold comprising a series of outer plates of uniform type to form the outer sides of the mold, connecting means between the lower portions of said plates, braces positioned exteriorly of said plates and retained in position by the plate connecting means, connecting means between the upper portions of the plates, a series of inner plates supported upon the upper connecting means to constitute inner spaced walls, and spacing members supported upon and positioned between the inner plates.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 17th day of May, A. D., 1919.

CAROL F. BARON.

Witnesses:

C. M. NEWMAN,
LILLIAN M. ALLING.