R. WILSON.

WALL MOLD.

APPLICATION FILED SEPT. 15, 1915.

1,172,857.

Patented Feb. 22, 1916.

2 SHEETS—SHEET 1.

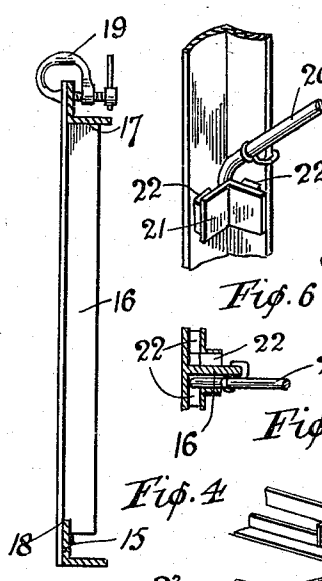


Fig. 4

Fig. 7

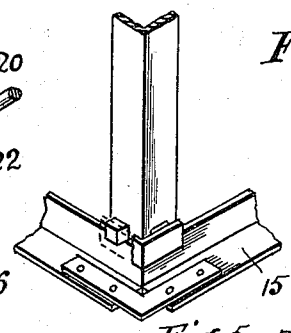


Fig. 5

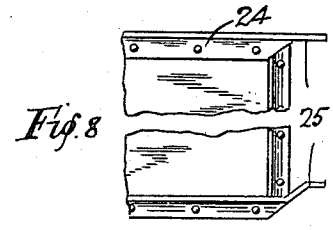


Fig. 8

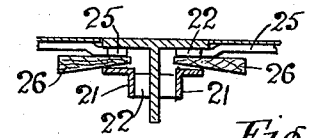


Fig. 9

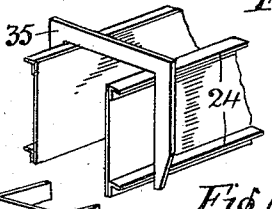


Fig. 10

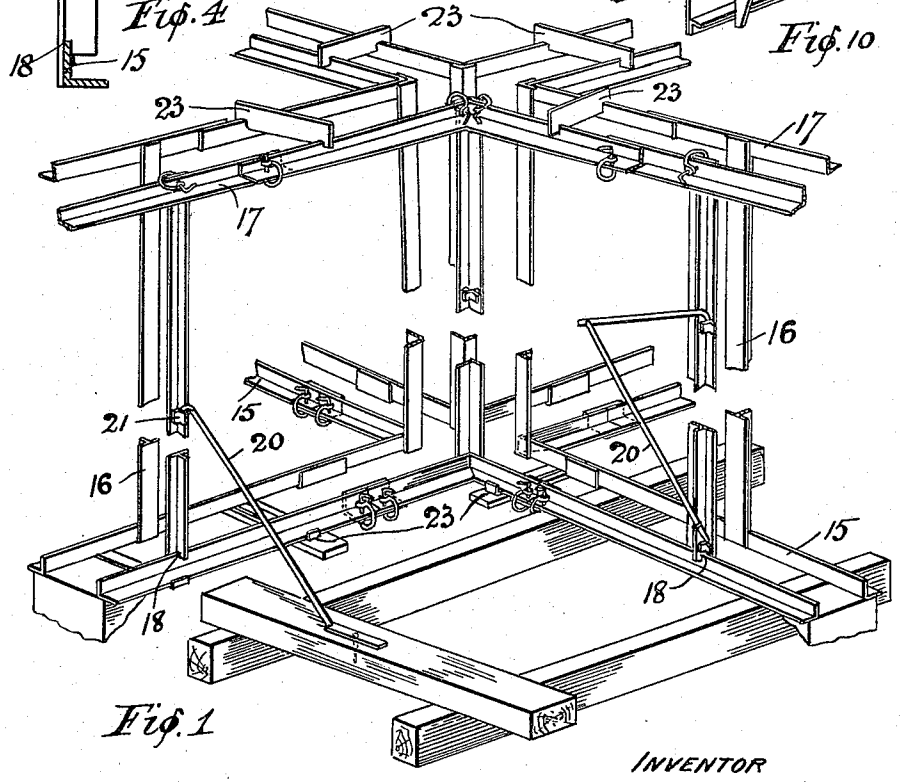


Fig. 1

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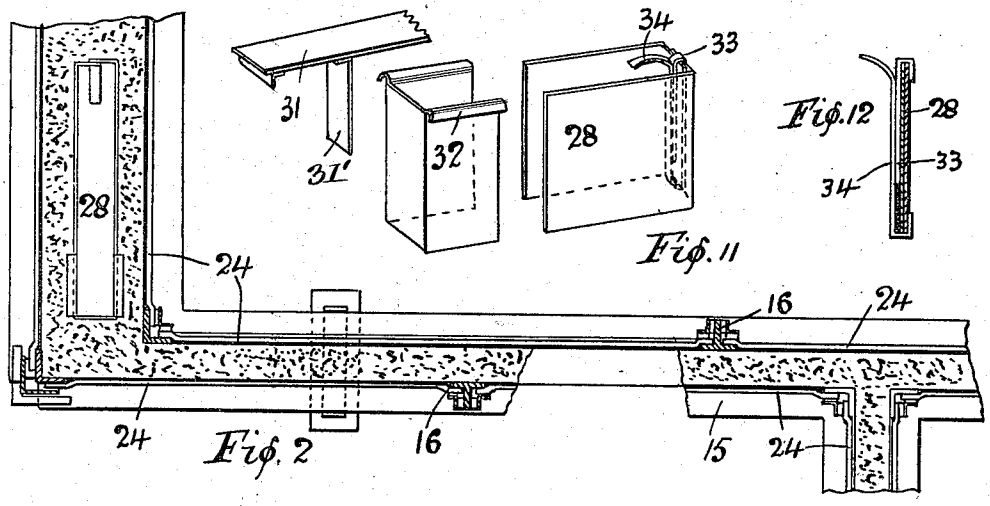


Fig. 2

Fig. 11

Fig. 12

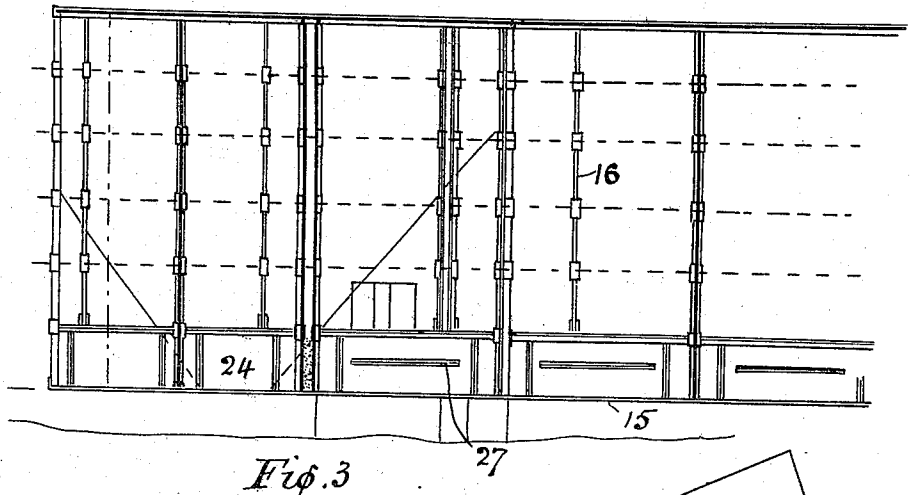


Fig. 3

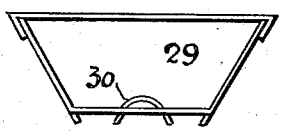


Fig. 13

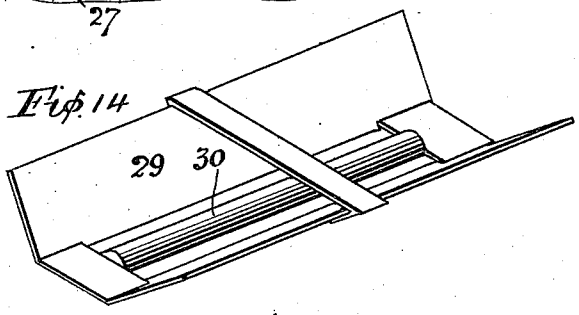


Fig. 14

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ROBERT WILSON, OF HOBART, TASMANIA, AUSTRALIA.

WALL-MOLD.

1,172,857. Specification of Letters Patent. Patented Feb. 22, 1916.

Application filed September 15, 1915. Serial No. 50,792.

To all whom it may concern:

Be it known that I, ROBERT WILSON, a subject of the King of Great Britain, residing at 116 Collins street, Hobart, in the State of Tasmania, Commonwealth of Australia, contractor, have invented certain new and useful Improvements in Wall-Molds, of which the following is a specification.

My invention relates to the building of concrete structures such as dwellings, stores, workshops, and the like and provides means whereby either solid or hollow concrete walls can be built up section by section.

According to this invention, a plurality of angle and T irons are employed, the angle irons, for the most part, horizontally, and the T irons vertically. Suitable means are used for keeping the framework in position, and supporting means are provided on the vertical irons for holding specially prepared sheeting frames which, by means of the supports, can be quickly placed in position and easily removed after the concrete has set. But in order to fully understand the invention reference will now be made to the accompanying drawings, in which—

Figure 1 is an elevation of the suggested arrangement of angle irons at the intersection of two walls. Fig. 2 is a sectional plan showing angle of wall. Fig. 3 is a side elevation of a wall frame work with the sheeting frames in position at the base of same. Fig. 4 shows the methods of attaching a T iron to the horizontal angle irons. Fig. 5 illustrates a corner angle fixing with brackets for holding sheeting frame. Fig. 6 is an elevation of inside corner showing sheeting brackets and scaffold rod attachment. Fig. 7 is a sectional plan of a T iron showing the same. Fig. 8 shows in side elevation portion of sheeting frame. Fig. 9 is a sectional plan of a T iron showing method of attaching sheeting frame to same. Fig. 10 is a perspective view of a yoke for supporting the sheeting frames when subjected to pressure. Fig. 11 is a like view of a cavity box with lid and stiffener and means for breaking down the box for removal, and Fig. 12 is a sectional side elevation of the breaking down means. Fig. 13 shows trough or hopper used for filling cavity walls, and Fig. 14 is a perspective view of same with yoke attachment.

The angle irons 15 are laid horizontally in lengths, clamped or bolted together if necessary, and riding on the upturned web of same are the T irons 16 at suitable intervals, the other ends of the same being secured to further angle irons 17 parallel with 15, or to other suitable supports.

It is necessary, in a structure of the kind indicated, to provide means for staying the parts and strengthening the whole before applying it to the use for which it is intended. To that end, the ends of the T irons are rabbeted at 18 (as shown in Figs. 1 and 4) to rest astride the iron 15, and when the iron 17 is placed on the T it can be held by the clamp 19. Goose necks 20 are used as struts, the hooks engaging in brackets 21 each of which is made of a piece of angle iron packed out from the main iron by blocks 22. These blocks are used on the upright T and angle irons as seen in Figs. 6, 7, and 9, and are used to support the lugs of the sheeting frame hereinafter to be described. The blocks should be of lesser area than the iron angle pieces forming the brackets.

The packed out brackets 21 are positioned at intervals along the uprights for the purpose above explained and in order to further stabilize the framework riding pieces and other like distance pieces 23 are disposed between points in the same.

The open spaces between the upright T irons are filled with the sheeting frames 24 to which is riveted sheet iron to form a plane surface. The corners of the frame are provided with lugs or projections 25 which are bent to come behind the cross piece of the T iron and to rest upon the block 22 thus permitting the sheeting to be flush with the T iron face. To keep the frame in position wedges 26 are driven in between the frame lug and the angle iron bracket. The sheeting is suitably reinforced to withstand inside pressure such as by riveting thereto light angle iron pieces 27 both horizontally and vertically if necessary. The length of the sheeting frames will correspond with the distance between the uprights between which the frames will be placed longitudinally and secured, thus forming a continuous channel having its sides parallel between the uprights into which the concrete is filled, as in Fig. 2, to form a solid wall.

When a hollow wall is to be constructed, as seen in plan also in Fig. 2, cavity boxes 28 are disposed medially parallel to the sheeting prior to filling in the material through the hopper 29 in the opening of which is a longitudinal convex cap piece 30

that will cover up the box 28 and deflect the stuff to the sides as it falls through the hopper.

The boxes 28 are specially constructed to facilitate their being removed after the cement has set and same are provided with lid 31 and stiffening means 31′ to avoid the sides bellying under the pressure of the material. Each box is made in two or more parts and may have its edges rolled over as at 32 to assist in withdrawing it. If it is made up of three parts one end of the box is cut vertically and the edges made to overlap (Figs. 11 and 12), and in order to strengthen said end a yoke 33 is placed over the top edges of the overlapping side and a stirrup 34, bent at the top to provide a handle or grip, is adapted to confine the sides at the bottom. To remove a cavity box it may be lifted bodily out of place or the grip 34 can be pressed downward and the yoke 33 taken out when the sides of the box will collapse inward. Or, if the yoke be removed the sides will collapse and the end with the rolled edges may then be lifted clear. If necessary both ends of the box can be fitted with the yoke and stirrup device and have the overlapping edges.

The sheeting frames are installed right along the line of wall to be constructed and receive the wet concrete which is well rammed down. When set the sheeting frames are removed by knocking out the wedges 26 and lifting the frames clear; they are then secured by the wedges higher up the uprights in the specially devised brackets 21. A yoke 35 may, if necessary, be placed over the sheeting frame 24 to steady same under pressure of the wet concrete.

A supply of angle and T irons in different lengths will be kept on hand and arranged and disposed according to the ground plan of the structure to be erected. The T irons might be long enough to reach to the top of the ground floor rooms, and when the material has been filled in and set to the upper ends of the irons, the latter and the horizontal irons are removed and relaid upon the set concrete for the purpose of building on to the same another section or lift to the building, and so on until it is raised to the height required.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a wall mold, the combination with horizontal ground irons, and standards supported thereon, of brackets at intervals along said standards, said brackets comprising an angle iron piece and blocks between each angle iron piece and the standard, goose-necks provided with hooked ends adapted to enter the space formed between the angle iron piece and the standard forming struts, and mold panels supported by the brackets.

2. In a wall mold, the combination with horizontal irons, and standards supported thereon, of brackets placed at intervals along the standards, said brackets consisting of short angle iron pieces, blocks between the angle iron pieces and the standards, said blocks being of lesser area than the angle iron pieces, panels between the standards and supported by the brackets, lugs on said panels, and wedges driven between the lugs and the angle iron pieces.

3. In a wall mold, horizontal ground irons, a web on each ground iron, standards upon said ground irons said standards being rabbeted in their lower ends to take into the web of the ground irons, short angle iron pieces secured at intervals to the standards and packed out from the same, mold panels supported on the angle iron pieces, distance pieces between the horizontal irons, and goose-necks having one end hooked into the space between the angle iron pieces and the standards and the other secured to the ground work to form struts.

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

ROBERT WILSON.

Witnesses:
J. ADAMS,
JOS. DARLING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."