S. R. McKAY.

CONCRETE FORM.

APPLICATION FILED SEPT. 13, 1916.

1,307,368. Patented June 24, 1919.

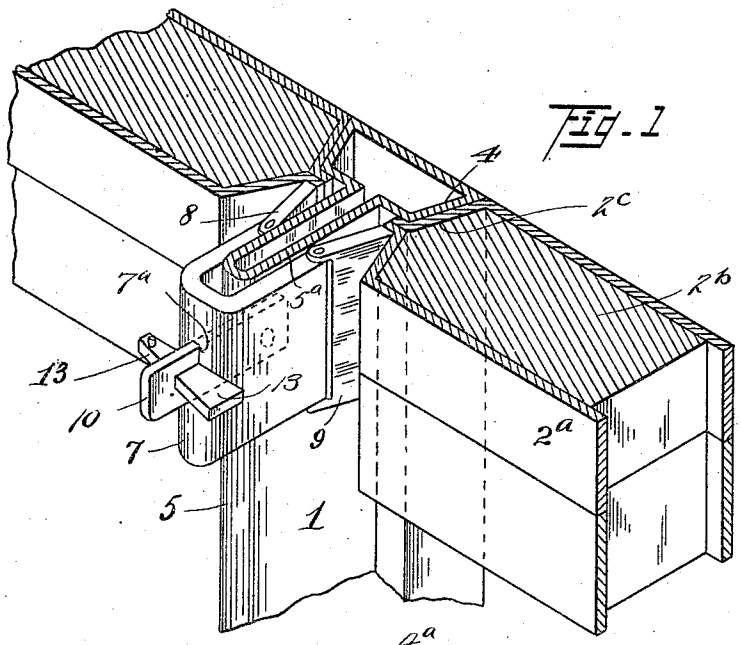


Fig. 1

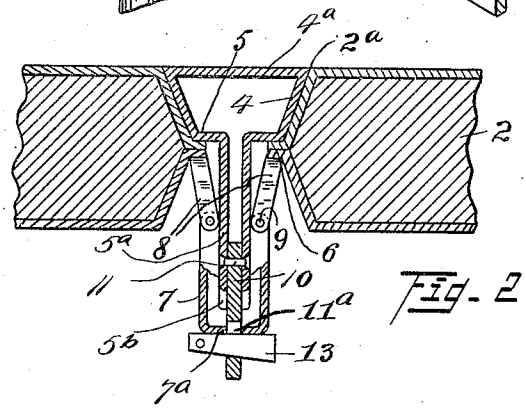


Fig. 2

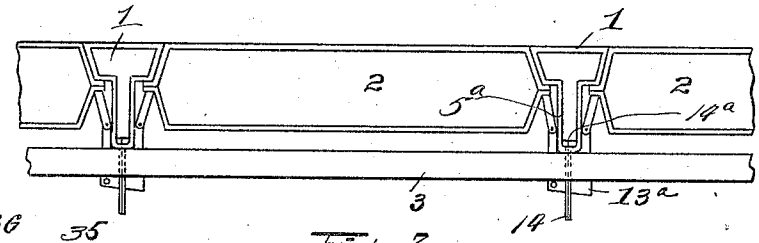


Fig. 3

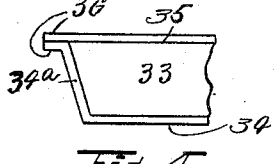


Fig. 4

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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CONCRETE-FORM.

1,307,368. Specification of Letters Patent. Patented June 24, 1919.

Original application filed June 12, 1915, Serial No. 33,799. Divided and this application filed September 13, 1916. Serial No. 119,847.

To all whom it may concern:

Be it known that I, STEWART R. McKAY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Concrete-Forms, of which the following is a full, clear, and exact description.

This invention relates to forms employed in the erection of concrete walls, such as enter into the construction of buildings, and more particularly to forms comprising spaced vertical posts with panels extending between and coöperating therewith to provide a support for the soft concrete material.

The invention relates more particularly to the construction of the panels; also to a coöperating construction of panels and posts whereby the panels may be efficiently secured to the posts and may be conveniently reversed should occasion require; also to a co-operating construction of posts, panels, and clamping means. The invention covered by this application is a division of my co-pending application No. 33,799, filed June 12, 1915.

In the drawings forming part hereof, Figure 1 represents a perspective sectional view through a post and the adjacent ends of two panels together with the clamping means; Fig. 2 a sectional plan view of the parts shown in Fig. 1; Fig. 3 a plan view showing the manner in which several panels and posts are connected in series; and Fig. 4 a detail in plan of a modified form of panel.

Describing the parts by reference characters, 1 denotes one of the posts generally, the post being preferably of metal and being hollow. As indicated in Fig. 3, the posts will be spaced a sufficient distance apart to receive the panels 2 therebetween. For the purpose of maintaining the posts in properly spaced relation, a suitable number of ranger rods 3 may be employed, which rods may be connected to the posts in any convenient manner.

The panels illustrated herein comprise each a wooden body 2^b having a metal sheathing 2^a thereon. The wooden body 2^b is oppositely beveled at each end thereof, as indicated at 2^c and the sheathing is shaped to conform to the beveled ends of the wooden body, the meeting edges of the beveled portions 2^d of the sheathing being flanged to provide a lip 6 of doubled metal. This lip, as will be pointed out hereinafter, coöperates with seats formed therefor on the posts and each beveled surface is adapted to coöperate with the correspondingly beveled portion of a post.

Each post is substantially wedge-shaped in section providing a widened face 4^a from which there extend the oppositely beveled portions 4 providing beveled surfaces complementary to and coöperating with the beveled surfaces 2^d on the sheathing. The length of the beveled surfaces 4 is substantially the same as the length of the beveled surfaces 2^d and the beveled surfaces 4 merge with ledges or shoulders 5 extending parallel with the lips 6. From the ledges 5 there projects an extension 5^a, the opposite sides of said extension being preferably parallel as shown and the extension being U-shaped in section. The length of the beveled surfaces 4 being equal to or substantially equal to the length of the beveled surfaces 2^d when the panels are applied and clamped in position upon the posts, the lips 6 will engage the ledges 5 with the inner or work-facing sides of the panels and the inner or work-facing side of the post forming a plane.

To secure the panels in place, I prefer to employ a clamp such as illustrated herein, said clamp comprising a U-shaped yoke 7 having arms 8 pivoted thereto, as shown at 9. To secure the clamp to the U-shaped extension 5^a of a post, an arm 10 is pivoted between the branches of the extension 5^a, as indicated at 11, said arm projecting through a slot at the rear end of said extension, as indicated at 5^b, and being itself provided with a slot 11^a near the rear or outer end thereof. This arm is adapted to extend through a slot 7^a in the outer end of the clamp 7. Coöperating with the slot 11^a is a wedge key 13 which is adapted to bear upon the rear end of the slot 11^a. With this construction, it will be evident that, when the wedge key is driven home, the clamp is driven inwardly whereby the arms 8 and 9 will push the panels 2 inwardly along the beveled surfaces 4 until the lips 6 engage the ledges 5.

By reference to Fig. 3, it will be seen

that the ranger rods 3 may be secured to the posts 1 by means of arms 14 extending through slots in the U-shaped extensions 5^a of the posts, each arm having a head 14^a within each post, and each arm being provided with a slot which is adapted to receive a wedge key 13^a, the arms extending through slots in the ranger rods 3. In other words, I am able to employ the same style of wedge keys for securing the ranger rods to the posts that are employed for the purpose of securing the panels in place.

In Fig. 4 there is shown a modified form of panel wherein the wooden body or filler 33 is provided at each end with a single beveled surface extending entirely thereacross. The sheathing consists of an inner or work-facing plate 34 and an outer or rear plate 35 which covers the outer or rear face of the wooden body or filler, being beveled at its ends to correspond to the inclination of the beveled ends of the filler, as indicated at 34^a. The plates 35 are extended beyond the inner ends of their respective fillers and the inner ends of the plates 35 are bent laterally to provide at each end of a panel a lip 36 of doubled metal. This construction of panel differs from that shown in Figs. 1–3 in that the panels are not reversible.

In both forms of my invention illustrated herein, the panels and the posts are provided with coöperating beveled surfaces whereby a wedging action is secured between the posts and the panels when the latter are secured in place. Furthermore, in both forms of my invention, the panels are provided with lateral extensions or lips which are adapted to engage the ledges or shoulders of the posts and, when the panels are seated, the inner or working sides of the panels and the inner or working sides of the posts form a substantially continuous plane surface, the lips serving to support the panels in this definite relation to the posts. It will be evident that, when the concrete has set and the clamps have been released and the panels are moved outwardly or away from the concrete, the panels will immediately disengage the posts and an increasing clearance will be provided between the panels and their seats on the posts. This construction enables the panels to be removed without hindrance and without adhesion between the panels and the posts due to the presence of concrete between their engaging surfaces.

Having thus described my invention, what I claim is:

1. In a form of the character described, the combination, with a pair of posts each having a lateral surface presented toward the other and said surfaces being beveled in opposite directions, of a panel having at each end thereof oppositely beveled surfaces, the surfaces of the panel being adapted to coöperate with the beveled surfaces of said posts and there being a lateral extension between the beveled surfaces at each end of said panel, and means coöperating with said posts for securing the said panel to said posts.

2. In a form of the character described, the combination, with a pair of posts each having a lateral surface presented toward the other, said surfaces being beveled in opposite directions and each post having a seat located at the rear of its beveled surface, of a panel having at each end thereof oppositely beveled surfaces, the surfaces of said panel being adapted to coöperate with the beveled surfaces of said posts and there being a lateral extension between the beveled surfaces at each end of said panel, and means coöperating with said posts and said extensions for securing the said panel to said posts and for forcing the said extensions toward said seats.

3. In a form of the character described, the combination, with a pair of posts each having a lateral surface presented toward the other and said surfaces being beveled in opposite directions, of a panel having at each end thereof a surface beveled to cooperate with the beveled surface of the post adjacent thereto and each beveled panel surface having a lateral extension, and means coöperating with said posts and said extensions for securing the panels to the posts.

4. In a form of the character described, the combination, with a pair of posts each having a lateral surface presented toward the other and each provided with a seat located at the outer end of said surface, said surfaces being beveled in opposite directions, of a panel having at each end thereof a beveled surface, said panel surfaces being beveled in opposite directions to coöperate with the beveled surfaces of said posts and each beveled panel surface having a lateral extension, and means coöperating with said posts and said extensions for moving the said extensions toward said seats.

5. In a form of the character described, the combination, with a post having oppositely beveled lateral surfaces and seats at the rear of said surfaces, of a pair of panels, each having an end provided with a beveled surface, the beveled surfaces of the panels coöperating with the beveled surfaces on opposite sides of the posts and each panel having a lateral extension at the rear of each of the beveled surfaces thereof, a clamp having oppositely disposed branches adapted to engage said extensions, and means cooperating with said clamp and said post to force said extensions toward said seats.

6. The combination, with a post having a pair of oppositely arranged seats and an extension projecting rearwardly from said

seats, of panels having each a projection arranged to coöperate with a seat, a clamp comprising a yoke adapted to straddle said projection and having arms pivotally connected to the forward ends of said yoke, and means coöperating with said yoke and said extension for forcing the clamp and the panels toward said seats.

7. The combination, with a post having a pair of oppositely arranged seats and an extension projecting rearwardly from said seats, of panels having each a projection arranged to coöperate with a seat, a clamp comprising a yoke adapted to straddle said projection, and means coöperating with said yoke and said extension for forcing the clamp and the panels toward said seats.

8. As a new article of manufacture, a panel having each end thereof beveled in opposite directions whereby said panel may be reversibly applied between the oppositely beveled faces of a pair of posts.

9. As a new article of manufacture, a panel comprising a body provided with metallic sheathing, the opposite ends of the body being beveled and the sheathing covering such beveled ends.

10. As a new article of manufacture, a panel comprising a body provided with metallic sheathing, the opposite ends of the body being beveled and the sheathing covering the beveled surfaces at opposite ends of said body and being provided with a lateral extension at the end of each of such beveled surfaces.

11. As a new article of manufacture, a panel comprising a body having each end thereof beveled in opposite directions, and metallic sheathing applied to each side of said body and extending from said side along the beveled ends of the body which extend from said side.

12. As a new article of manufacture, a panel comprising a body having each end thereof beveled in opposite directions, metallic sheathing applied to each side of said body and extending from said side along the beveled ends of the body which extend from such side, the meeting edges of the sheathing being extended laterally whereby laterally projecting lips of doubled metal are provided at opposite ends of said panel.

In testimony whereof I hereunto affix my signature.

STEWART R. McKAY.

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