

Nov. 4, 1930.

C. M. SHOWERS

1,780,366

WALL FORM

Filed June 24, 1929

2 Sheets-Sheet 1

Fig. 1.

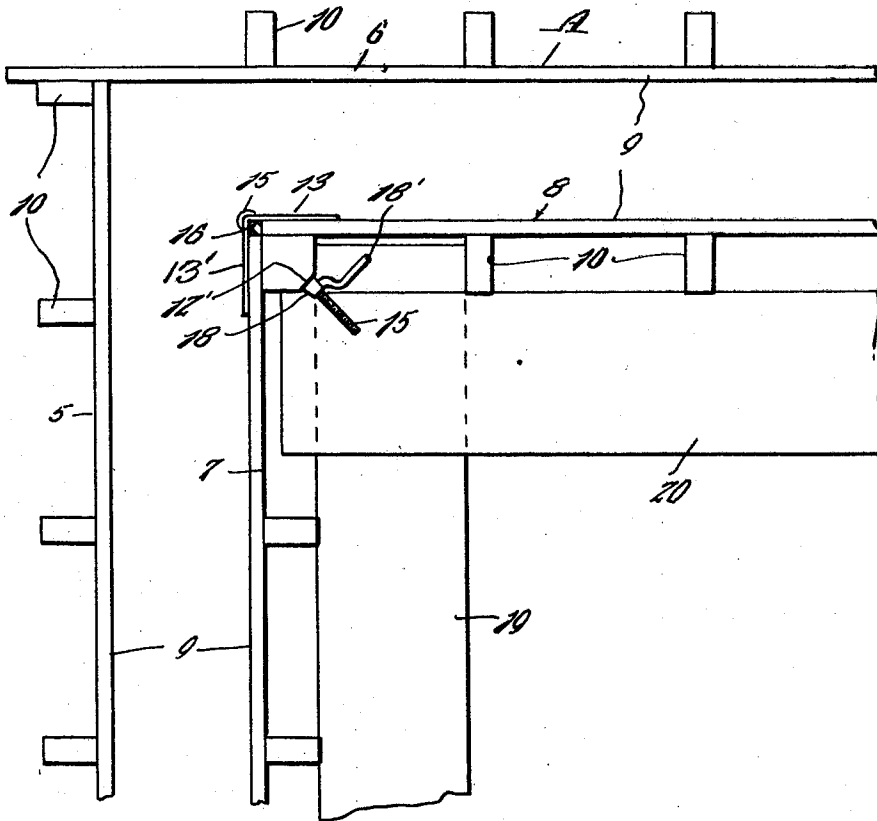
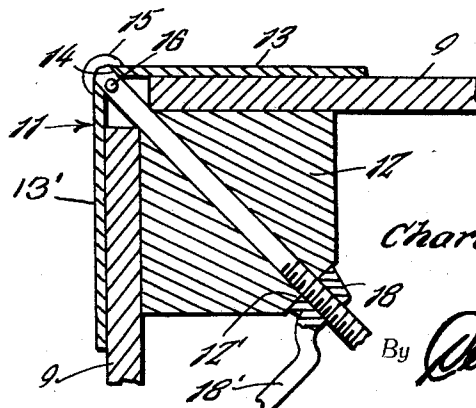


Fig. 3.



Inventor

Charles M. Showers -

By Clarence A. O'Brien
Attorney

Nov. 4, 1930.

C. M. SHOWERS

1,780,366

WALL FORM

Filed June 24, 1929

2 Sheets-Sheet 2

Fig. 2.

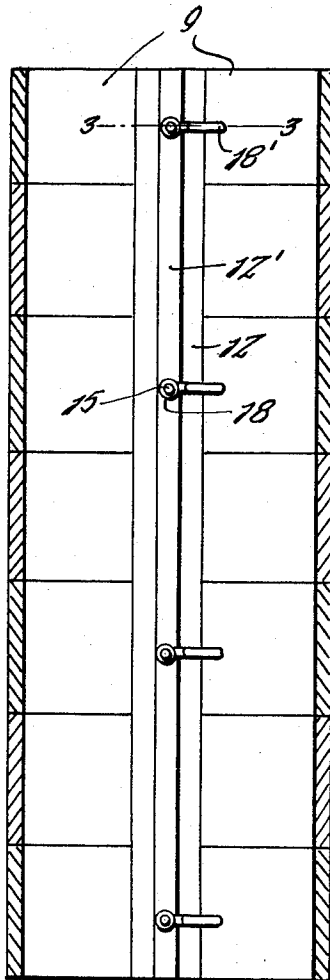


Fig. 4.

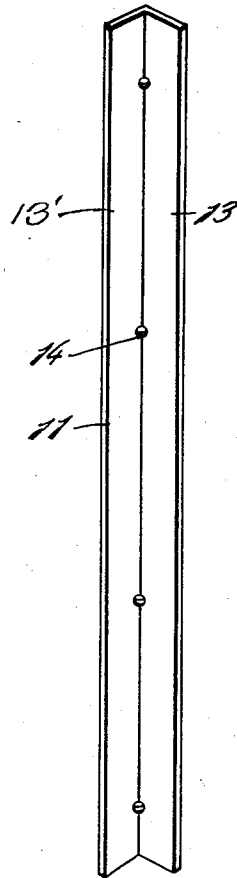


Fig. 5.

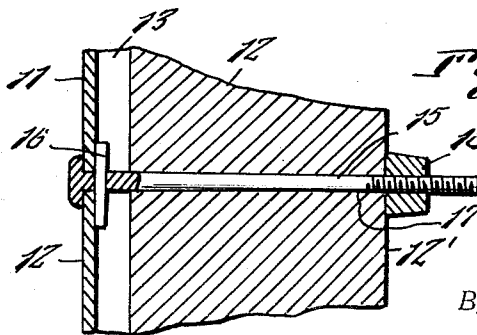
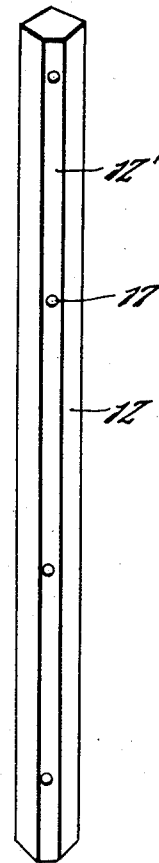


Fig. 6.

Inventor

Charles M. Showers

By

Clarence A. O'Brien

Attorney

UNITED STATES PATENT OFFICE

CHARLES M. SHOWERS, OF MADISON, WISCONSIN

WALL FORM

Application filed June 24, 1929. Serial No. 373,255.

This invention relates to concrete forms and has more particular reference to the provision of an improved clamping device for forming the inner corners of the form.

Another very important object of the invention is to provide means whereby the inner walls of the form may be so clamped together at their adjacent ends as to provide improved inner corners for the form, the structure being such that the inner form walls may be removed without possibility of harm to the corners of the completed concrete wall.

Another very important object of this invention is to provide a device of this nature, which is simple in construction, strong, durable, inexpensive, positive in operation, practical, thoroughly reliable and efficient in use.

The manner in which I attain the above and numerous other objects as will become apparent during a study of the following description taken in connection with the accompanying drawings will be better understood from the following detailed description, of the preferred embodiment of my invention as herein to be described and fully illustrated.

In the drawings:

Figure 1 is a fragmentary top plan view of a concrete wall form and showing the application of my invention thereto.

Figure 2 is a vertical sectional view through the form and illustrating in front elevation my invention.

Figure 3 is a detail sectional view, taken substantially on the line 3—3 of Figure 2.

Figure 4 is a perspective view of one of the complementary clamping devices, forming a part of this invention.

Figure 5 is a front elevation of a corner post constructed in accordance with this invention, and adapted to be used in conjunction with the clamping element shown in Figure 4.

Figure 6 is a fragmentary detail sectional view fully illustrating the manner of assembling the parts shown in Figures 4 and 5.

With reference more in detail to the drawings, A designates generally a concrete wall form, comprising the outer side and end walls 5 and 6 respectively, and the inner side and end walls 7 and 8 respectively. As shown to

advantage in Figure 2, both the outer and inner side and end walls preferably comprise a plurality of superimposed boards 9. As in the usual construction, the boards 9 are maintained in said superimposed relation through the medium of spaced uprights 10. As is apparent the uprights for the outer side and end walls 5 and 6 respectively are disposed along the outer face of the boards forming the said walls, such being also the case with regard to the boards forming the side and end inner walls of the forms. Obviously then the space between the side and end walls respectively, are adapted to receive the concrete as in the usual construction of concrete walls. The outer corners of the concrete form A may be formed in any suitable manner as in the case illustrated the ends of the boards forming the outer side walls abutting the adjacent end portions of the boards forming the outer end walls, inwardly from the ends of said last mentioned wall to be held in said relation through the medium of one of the uprights 10, as is apparent. It is to the manner of forming the corners of the inner walls of the form that this invention is especially applicable. One embodiment of this, for the sake of illustration is shown in the accompanying drawings.

Heretofore, in forming the inside corners of the concrete form, it has been customary to provide a pair of uprights, preferably of wood and of suitable dimensions and securing the uprights together, after which the adjacent end of the board forming the side and end walls of the inner wall of the form to these uprights. Consequently, in removing the inner walls of the form, it was necessary to utilize a pinch bar to pry the uprights or as they may be termed the corner posts apart, and if one were not careful in the manipulation of the pinch bar, the danger of catching the corner of the concrete wall was ever apparent.

My particular invention aims to overcome the dangers resulting from this manner of forming the inside corners of the form, and to this end I have devised a pair of complementary clamping members designated as 11 and 12 respectively. The member 12 may

be termed the inner clamping member and the member 11 the outer clamping member.

As illustrated to advantage in Figure 4, the outer clamping member 11, is in the nature of an elongated angle bar, comprising the right angularly disposed flanges 13 and 13', respectively, the material forming the angular bar at the inner meeting edges of the flanges 13 and 13', being provided with a plurality of spaced apertures or openings 14, formed therein, and arranged in spaced longitudinal arrangement. As shown in Figure 1, the outer clamping member 11 is disposed at the meeting edges of the boards 9, forming the inner side and end walls 7 and 8 respectively of the form.

The clamping member 11 is so disposed that one of the flanges 13, rests upon the outer faces of the boards 9, forming the inner end wall 8, along the end portion of said wall. The other flange 13' is disposed along the inner faces of the boards 9 forming the inner side wall 7, at that end portion of the wall adjacent the end portion of the end wall 8 as illustrated. The inner or complementary clamping member 12 forms the corner posts for the inner corners of the concrete form, and as intimated this member 12 is in the nature of an elongated post form of wood or other suitable material and is preferably substantially squared in cross section. The post 12 has one corner thereof flattened or squared as at 12', said flattened or squared corner extending for the full length of the post as shown to advantage in Figure 5. The post 12 is also provided with openings disposed in spaced longitudinal alignment, and extending through the post from the squared corner 12' of the post to the opposite corner of said post. In practice, the corner post 12 is so disposed between the adjacent ends of the boards forming the respective walls 7 and 8 as to have one side thereof disposed flush against the end portions of the boards 9 forming the end wall 8, another face of the post being disposed along the adjacent end portions of the inner faces of the boards forming the side walls 7.

Thus it will be seen that that corner opposite to the squared corner 12' of the post will be disposed at the meeting edges of the walls 7 and 8 and extend somewhat in spaced parallelism to the apertured corner or meeting ends of the flanges 13 and 13', of the outer complementary clamping member 11 (see Figure 1).

Thus it will be seen that certain faces of the post 12 are adapted to be disposed in opposed relation to the flanges 12 and 13, respectively, said posts 12 extending somewhat in spaced parallelism to the flanges. To securely and adjustably clamp the complementary members 11 and 12 together so that they in turn may clamp therebetween the adjacent ends of the respective side and end walls 7

and 8, I provide elongated clamping bolts 15, and these bolts are disposed through the openings 14 in the other clamping member 11, the heads of the respective bolts contacting with the outer face of the meeting edges of the flanges 13 and 13', and in order to maintain the bolt 15 in a laterally extending position, the said bolts are each apertured at a point inwardly from their heads so as to receive spaced pins 16, said spaced pins 16 passing through the apertures and impinging against the inner face of the member 11 at the corner of said member 11 (see Figure 6). The surface of the shanks of the bolts 15 are, throughout the greater portion of their length, smooth, the smooth portion of the bolt extending through the respective apertures or openings 17, formed in the post 12. At their ends, the respective bolts 15, are threaded for threaded engagement with the wing nuts 18, said nuts 18 being of the usual construction and comprising the threaded aperture portion and the handle portion 18'. Thus it will be seen that by screwing the wing nuts 18 on the respective bolts 15, the members 11 and 12 will be drawn inwardly toward one another, thus clamping tightly therebetween the adjacent end portions of the boards 9 forming the respective inner walls 7 and 8 of the concrete form. Obviously the squared corner 12' of the corner post 12 will permit the internally threaded apertured portion of the wing nuts 18 to rest flush thereagainst, whereby during the turning of the said wing gate nut to a tightening position, the bolt 12 may be urged inwardly so as to coact with the member 11 in the manner above set forth.

From the foregoing then, it will be seen that I have provided an improved means for forming the inside corners of concrete forms, which is positive in operation, economical, thoroughly reliable and efficient in use, and which will, in no way, impair or interfere with the other usual constructions which are necessarily part of the form in the completion of the concrete wall. This is best exemplified in Figure 1, wherein I have shown the forming planks 19 and 20 respectively at their adjacent ends being disposed in overlapped relation and extending along adjacent sides of the post 12, whereby said forming planks may be also utilized to maintain the said post 12 in place, prior to the insertion of the end portions of the planks 9 between the post and the outer complementary clamping member 11.

Even though I have herein shown and described the preferred embodiment of my invention, it is to be understood that the same is susceptible to changes fully comprehended by the spirit of the invention and the scope of the appended claims.

What is claimed is:

1. In a corner construction for concrete forms, an elongated angle bar having the

flanges thereof adapted to be disposed in overlying relation with respect to the inner faces of the adjacent ends of the inner side and end walls of the form respectively, an
5 elongated post squared in cross section having certain faces thereof disposed against the outer faces of the said adjacent ends of the said walls, bolts passing through said angle bar at the connecting end of its flanges,
10 and said bolts being further adapted to extend through said post and to extend beyond said post at one corner thereof, and clamping nuts threadedly engaged with the projecting ends of said bolts.

15 2. In a corner construction for concrete forms, an elongated angle bar having the flanges thereof adapted to be disposed in overlying relation with respect to the inner faces of the adjacent ends of the inner side
20 and end walls of the form respectively, an elongated post squared in cross section having certain faces thereof disposed against the outer faces of the said adjacent ends of the said walls, bolts passing through said
25 angle bar at the connecting end of the flanges, and said bolts being further adapted to extend through said post and to extend beyond said post at one corner thereof, clamping nuts threadedly engaged with the
30 projecting ends of said bolts, and pins passing through said bolts between said angle bar and said post.

3. In a clamp for securing adjacent ends of walls together, comprising a metallic
35 plate adapted to be disposed against the adjacent ends of the walls on one side of the walls, a post adapted to be disposed against said adjacent ends of the walls on the opposite side of the wall, bolts
40 passing through said plate and said post for securing said plate and post in clamping relation.

4. In a clamp for securing adjacent ends of two walls together with the adjacent ends
45 of the walls terminating in spaced relation, an elongated plate adapted to be disposed against the adjacent ends of the walls on one side of the walls and bridging the space between the adjacent ends of the walls, a post
50 engaging the adjacent ends of said walls on the opposite sides of the walls for bridging the space between the said adjacent ends of the walls, bolts passing through said plates and said posts between said adjacent ends,
55 and nuts threaded on the ends of the bolts for securing said plate and post in clamping relation.

In testimony whereof I affix my signature.
CHARLES M. SHOWERS.