Sept. 5, 1933. F. C. WOTNOSKE 1,925,221

CLAMP FOR CONCRETE FORMS

Filed May 20, 1932

FIG. 1.

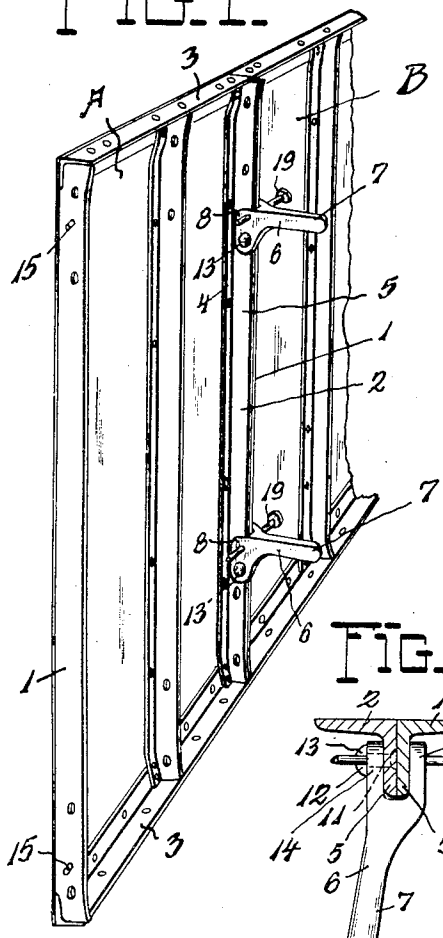


FIG. 2.

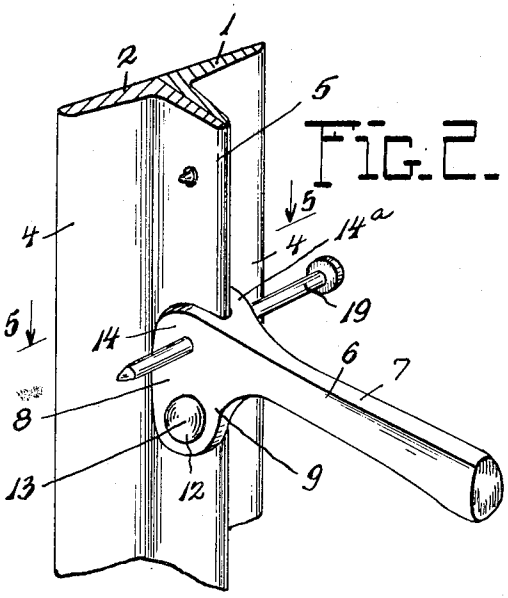
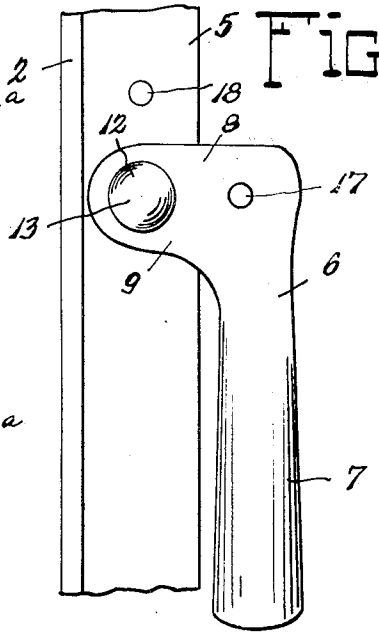


FIG. 5.

FIG. 3.



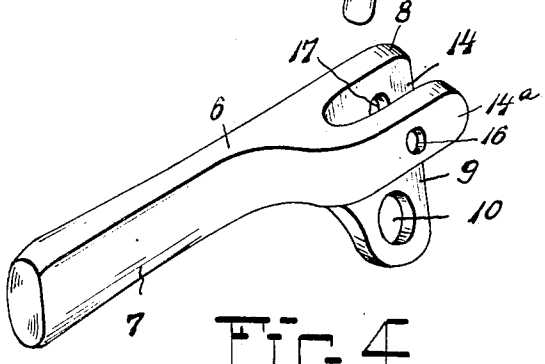


FIG. 4.

Inventor

FRED C. WOTNOSKE.

By Robbins & Robbins

Attorneys

Patented Sept. 5, 1933 1,925,221

UNITED STATES PATENT OFFICE

1,925,221

CLAMP FOR CONCRETE FORMS

Fred C. Wotnoske, Milwaukee, Wis., assignor to Metal Forms Corporation, Milwaukee, Wis., a corporation

Application May 20, 1932. Serial No. 612,601

1 Claim. (Cl. 25—131)

In concrete construction work, especially where walls are being built, it is customary to provide forms for the walls including plates reinforced by angular ribs extended longitudinally and transversely of the plate. To increase the area of these forms, it is of course usual to bring a plurality of plates into side by side relationship and to clamp these plates together by suitable clamping members carried by one of the end ribs of one of the plates.

The present invention relates to an improved form of clamping member which is provided with means whereby it may be locked in clamping position against accidental displacement, the invention being a simple form of clamping device provided with very simple locking means.

The invention will be more readily understood by reference to the accompanying drawing taken in connection with the following description, in which drawing—

Figure 1 represents a perspective view of a pair of wall form plates clamped together by the improved form of clamping devices, which are shown as being locked against accidental displacement.

Figure 2 is an enlarged perspective view of one of the clamping members applied in locking position to a pair of engaging end ribs of adjacent plates.

Figure 3 is a side elevation of one of the end ribs which carries a clamping device of the present form.

Figure 4 is a perspective view of the improved form of clamping device.

Figure 5 is a sectional view through engaging end ribs of adjoining plates, the clamping devices being shown in elevation, the view being taken along the line 5—5 of Figure 2.

Referring more particularly to the drawing, it will be seen that the plates A and B shown in Figure 1 as being in side by side relation, are reinforced by the longitudinal ribs 1 and 2 and the transverse ribs 3, there being a transverse rib along the top and bottom edges of the plate, and suitably secured thereto.

These reinforcing ribs are conveniently in the form of angles, one side of which rests flat against the plate, as indicated at 4, the other side of the angle being upstanding as indicated at 5.

To one of the side ribs extending longitudinally along the edge of the plate, there are secured a suitable number of clamping devices represented generally at 6, these clamping devices being provided with a handle portion 7 and a clamping portion 8, as will be more fully described hereinafter. This handle portion is of suitable length to give a desired leverage, and a clamping portion is formed integrally with the handle portion and is composed of a pair of diverging sides forming clamping members for snugly receiving therebetween a pair of mating ribs. The clamping portion 8 of the clamp is provided on one side with a projection 9 which is provided with a relatively large hole 10 which allows the clamping device to be permanently mounted on its supporting rib, which opening receives the shank 11 of a lug or rivet having a relatively enlarged head 12, by means of which the clamp is secured in position on the upstanding side 5 of the longitudinal end rib 2.

As previously described, this clamp is adapted to engage a mating rib 1 of the adjacent plate indicated in Figure 1 as B. In assembling the form, therefore, the plates A and B are brought together so that a rib 2 of the plate A and the rib 1 of the plate B will flatly and flushly engage, the clamps 8 being then rotated around their respective lugs, indicated generally at 13 in Figure 1, until the clamping members 14a and 14 engage as tightly as possible these mating ribs. To assure accurate mating of the ribs, one of them is conveniently provided with dowel pins 15 entering corresponding holes through the other rib.

In order to assure the clamps not becoming accidentally displaced, registering holes 16 and 17 are provided through the clamping members, and a similar hole 18 is provided through each of the mating ribs, all of these holes being brought into exact registry when the ribs are assembled and the clamping members brought into clamping position. The clamp is locked in this clamping position by the insertion of a pin or nail 19 through these holes.

It will be seen from the drawing that at least one of the clamping members is provided with an offset extension or arm in which the hole 10 is located, by means of which the clamping device may be permanently mounted on its supporting rib 5, the mounting being freely pivotal for allowing easy swinging of the clamping device around the lug 13. The locking holes are placed in any suitable position, care being taken that these holes exactly register with each other and with the holes 18 extending through the mating ribs. The interlocking relation between the parts is obtained by passing the pin 19 through all of the holes, the pin fitting substantially tightly to prevent its slipping out, while being

sufficiently loose to allow it to be easily withdrawn, manually, from its holes. The pin 19 very rigidly secures the clamp in locking position as long as the parts are in assembled relation.

To release the clamp, the pin 19 is simply withdrawn and the clamp swung about the lug 13 until it is brought out of engagement with the ribs to release the plates.

In view of the fact that it is necessary for the sides of the ribs to lie flatly against each other, the lugs 13 are cut off smoothly of the outside surface of the angle side 5. For this reason lugs in the form of rivets instead of bolts are provided, and they are tightly held in position in the ribs by any desired manner, as by shrinking the ribs around these rivets, or by pressing them in place, or by any other manner of affixing these rivets tightly in position. The end is cut off flush with the side of the rib, and smoothed down evenly therewith.

It will therefore be seen that this invention provides a very simple clamping device which is very simply adapted to be locked in position against accidental displacement by the simple provision of holes running through both sides of the clamp with the corresponding holes through the angles.

The pin or nail 19 passing through the two sides of the clamp and the two angles as well acts as a dowel in holding the two adjacent forms in perfect alignment with each other, so that the clamp having the nails through the clamp flanges and the angle flanges not only locks the clamp in place but brings the entire system of plates of the form in absolute alignment with each other.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is—

A clamping device for use on concrete molds and the like, which comprises a handle terminating in spaced clamping members for engaging cooperating flanges on the molds to interlock the flanges, at least one of which clamping members is provided with an extension projecting laterally of the handle and adapted to be permanently secured to the mold, the said clamping members and flanges being provided with openings extending therethrough in a transverse direction and adapted to be brought into registry to receive a locking pin therethrough, and a locking member removably inserted through the holes for securing the clamping device in locking position and for aligning the flanges of the molds.

FRED C. WOTNOSKE.