O. D. McCORD.

CEMENT FORM TIE CLAMP.

APPLICATION FILED FEB. 20, 1918.

1,272,281. Patented July 9, 1918.

Fig. 1.

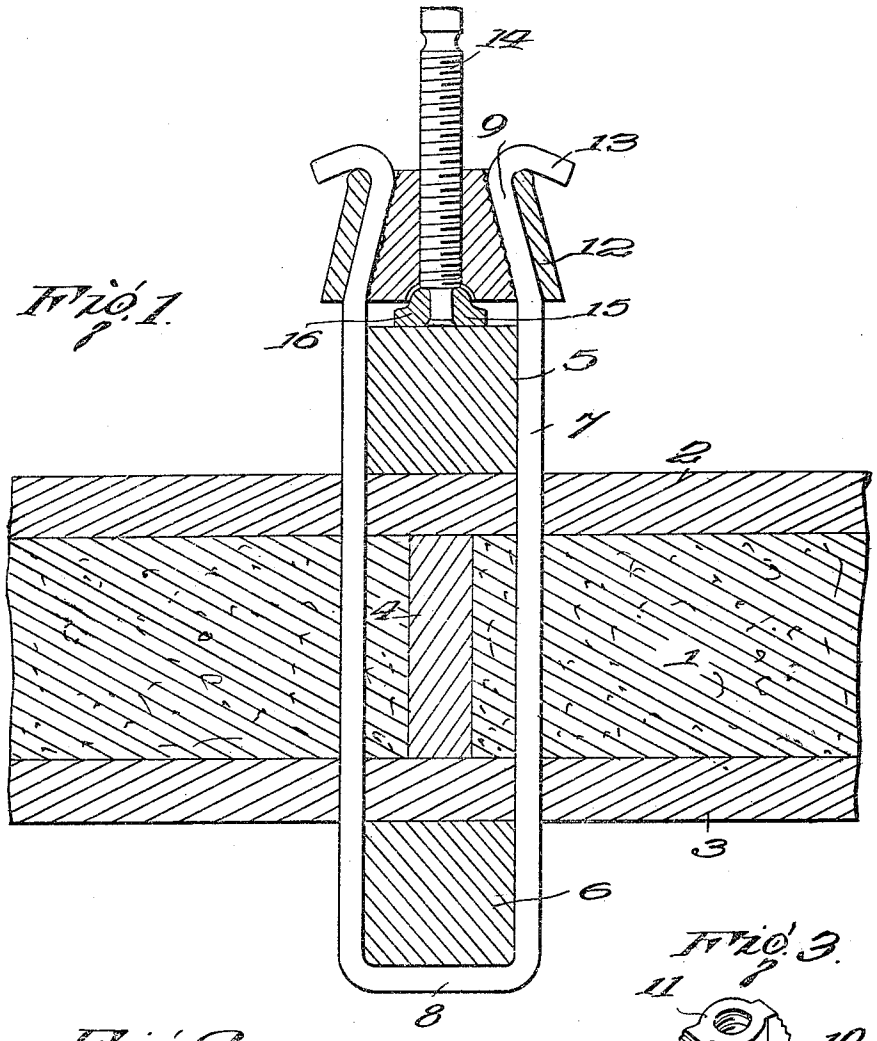


Fig. 2.

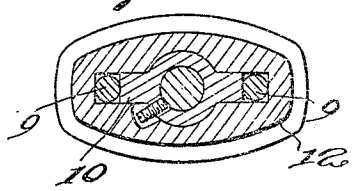
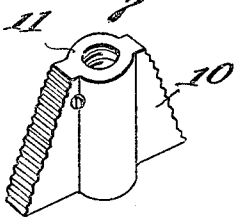


Fig. 3.



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CEMENT-FORM TIE-CLAMP.

1,272,281. Specification of Letters Patent. Patented July 9, 1918.

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To all whom it may concern:

Be it known that I, OTTO D. McCORD, a citizen of the United States, residing at Rock Island, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Cement-Form Tie-Clamps, of which the following is a specification.

This invention relates to new and useful improvements in ties for concrete form molds, and the primary object of the invention is to provide a simple and efficient device, which includes a single piece of wire, having its free end so connected and arranged adjacent one side of the concrete form, that when the wire is in position, it will securely clamp the walls of the form in the desired spaced relation, and hold them as straight as desired.

Another object of the invention is to provide a new and improved tie of this character, which is so constructed, that it is adapted to use different sizes of wire, to form the locking portion, and said wire is so positioned through the concrete form, that it may be easily removed after the concrete is molded, and the form removed therefrom. This tie eliminates the twisting of wire, which was heretofore necessary to carry out broadly the same object, and greatly increases the efficiency of a device of this character by reducing the construction thereof to its simplest form.

A further object of the invention is to provide a device of this character which is easily and simply constructed, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view, my invention consists of the novel features of construction, combination, and arrangement of parts, which will be herein referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings:

Figure 1 is a plan view of my clamp in operative position, the wedging parts being shown in section,

Fig. 2 is a bottom view of the wedging portion of the clamping tie, and

Fig. 3 is a detail perspective of the wedge employed in this form of device.

In describing my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views.

The device is shown as applied to a concrete form of the usual type for making concrete walls, which includes a cement inner portion 1, having side wall forms 2 and 3, and a center spacing brace 4. The outer faces of the wall forms 2 and 3 have spacing strips, preferably formed of wood and designated by the numerals 5 and 6 positioned vertically thereon, and preferably in alinement with the center spacing member 4. If desired, however, the use of the spacing strips 5 and 6 may be eliminated, but their function however increases the efficiency and expedites the operation of this type of device.

The tie is formed by a single piece of wire 7, which is bent upon itself intermediate its ends as shown at 8, the bent end being positioned outside of the wall forms 3 and surrounding the three outer sides of the strip 6, while the parallel side portions of the wire 7 extend through alining openings in the side walls 2 and 3 of the form, and extend from the side walls 2 of said form. The extending portions at this end are adapted to engage the opposite sides of the spacing strip 5, and from this point to their tips, they are bent inwardly as shown at 9, to engage opposite inclined wings 10 with serrated outer edges that project from a tubular sleeve member 11. This tubular member wing, forms the wedge which is used in this device. This wedge portion is adapted to be surrounded by an outer sleeve that is substantially correspondingly shaped and which is designated by the numeral 12 so as to securely clamp the end portions 9 of the wire therebetween. The extremities of the wire are then bent outwardly over the sleeve 12 as clearly shown at 13.

The tubular portion 11 of the wedge member is externally threaded, and positioned through the same, is an externally threaded brace rod 14, connected as shown at 15 with the upper end of a head 16 engageable with the outer side of the spacing strip 5 as clearly shown in Fig. 1 of the drawings. This brace bar in its coöperative engagement with the wedge member enables the wedge to be moved outwardly to securely clamp the wire tie in position. The inner sleeve 11 is provided with a projecting guide lug 17 slidable in a groove in the outer sleeve 12, as clearly shown in Fig. 2 of the drawings.

In operation, when the various parts of

the device are assembled as is clearly shown in Fig. 1 of the drawings, it is obvious that rotation of the brace rod 14 in one direction, will move the wedge shaped clamping member outwardly along the same, as well as forcing the head 16 against the spacing strip 5. This movement will tighten the tie wire, and securely hold the walls 2 and 3 of the form in position. This type of tie is easily applied, or released as is obvious, and the same is adapted to receive different sized wires according to the size of the form which is clamped. This tie does not twist the wire such as is ordinarily done in the conventional type of concrete form ties, but molds the sides substantially straight, so as to permit their removal after the concrete wall is formed.

From the above description taken in connection with the accompanying drawings, it is thought that a clear and comprehensive understanding of the construction, and advantages of my invention may be had, and while I have shown and described the device as embodying a specific structure, I desire to have it understood that such changes may be made in said structure which do not depart from the spirit and scope of the invention as claimed.

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

1. A device of the class described including a single piece of wire bent loop shape and adapted to fasten through the walls of a concrete form, a sleeve, a wedging member engageable with the free end of said wire, and means to hold said member outwardly from the adjacent form walls.

2. A device of the class described including a single piece of wire bent loop shape and adapted to fasten through the walls of a concrete form, a sleeve, a wedging member engageable with the free end of said wire, a brace passing through said member and engageable with the adjacent form wall, and means to move said wedge outwardly along the brace to hold the wire securely in position.

3. A device of the class described including a single piece of wire bent loop shape and adapted to pass through the walls of a concrete form, a sleeve, a wedging member engageable with the free ends of said wire, an externally threaded brace rod passing through said member and having its inner end engageable with the adjacent wall of the form, and the wedge member being internally threaded for coöperative engagement with the said rod whereby upon rotation of the rod, the member is movable outwardly to securely hold the wire in position.

In testimony whereof, I affix my signature hereto.

OTTO D. McCORD.

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