Nov. 15, 1927.

1,648,995

C. PHILLIPS

CLAMP AND TIGHTENER FOR CONCRETE FORMS

Filed Dec. 28, 1926

Fig. 2

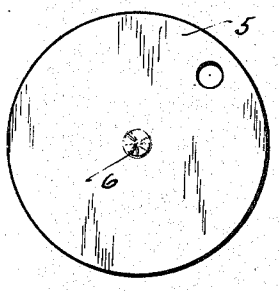


Fig. 1

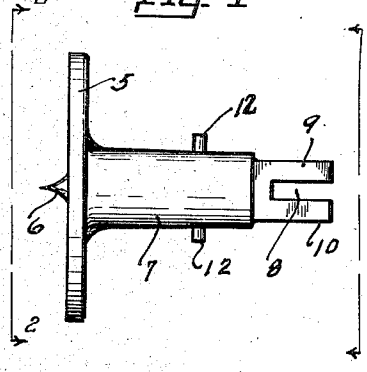


Fig. 3

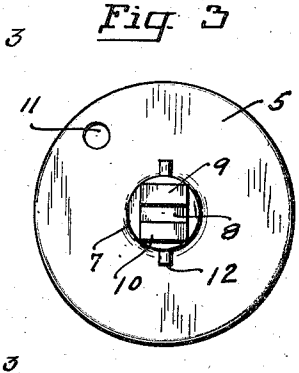
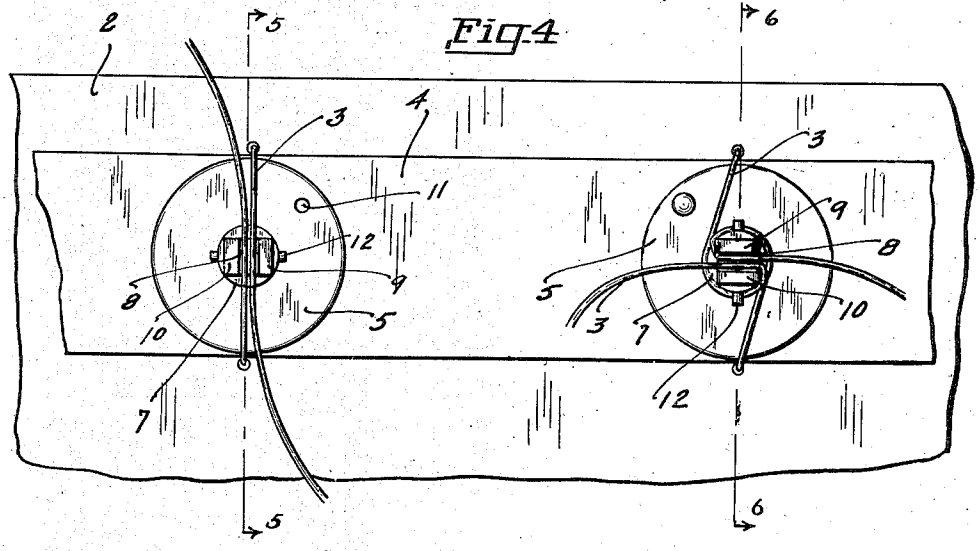


Fig. 4



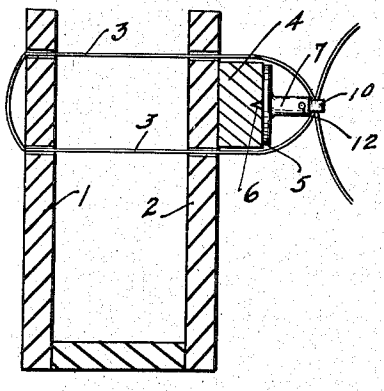


Fig. 5

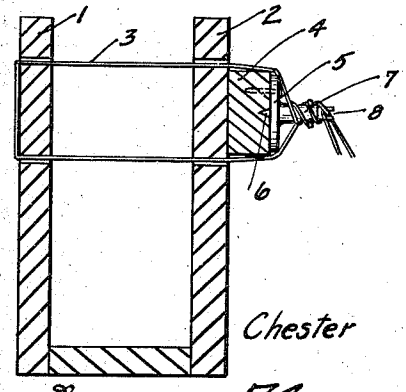


Fig. 6

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UNITED STATES PATENT OFFICE.

CHESTER PHILLIPS, OF PORTLAND, OREGON.

CLAMP AND TIGHTENER FOR CONCRETE FORMS.

Application filed December 28, 1926. Serial No. 157,502.

My invention relates to improvements in concrete construction, having as its primary object the locating and tightening of the tie wires as ordinarily used upon the wooden forms in concrete construction.

The device consists primarily of a base, a pivotal projection disposed upon the side of the base to be disposed adjacent the concrete form and a column oppositely disposed to that of the pivotal projection, said column having outwardly tapering side walls and terminating in an open ended slot, through which the tie wires are made to pass, said slot being proportioned to admit of the entrance of a bar or other tool for the tightening of the clamping wires and finally an element disposed through the base and associated therewith for maintaining the device in fixed relation with that of the forms.

One of the objects of my device, consists in having outwardly tapering side walls disposed upon the column associated with the base to permit of the easy removal of the device from the tie wires when so desired.

A still further object of my device, consists in having a pivotal projecting element associated with the form side of the base to position the device and maintain the same in a relative position to the form to prevent the lateral movement of the device in relation to the form during the tightening process to be administered to the clamping wires.

A still further object of my invention consists of providing an open ended slot terminating the outward end of the column associated with the base to permit of the free and easy placement of the wires within the slot and the final admission of a tightening rod or tool within the slot to facilitate the rotation of the device and at the same time to maintain the wires within the slot during the tightening process.

With these and incidental objects in view, the invention consist in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:—

Fig. 1 is a longitudinal side elevation of the device.

Fig. 2 is a plan view, taken on line 2—2 of Fig. 1, looking in the direction indicated.

Fig. 3 is a top plan view, taken on line 3—3 of Fig. 1, looking in the direction indicated.

Fig. 4 is a longitudinal plan view of a concrete form, illustrating my devices in place upon the form.

Fig. 5 is a cross section view, taken on line 5—5 of Fig. 4, looking in the direction indicated.

Fig. 6 is a cross section view, taken on line 6—6 of Fig. 4, looking in the direction indicated.

Like reference characters refer to like parts throughout the several views.

Heretofore tightening devices for form wires have been used wherein the same have generally been composed of two or more parts, and wherein once the tire wires have been tightened by the device, more or less trouble has been experienced in the disassociation of the device from the wire.

In my new and improved device the same is composed of one piece only, and wherein means has been provided for the maintaining of the device in a relatively fixed position upon the form to act as a pivotal center about which the same may be rotated during the tightening process. This pivotal projection serves a dual purpose in that it acts as a pivotal point about which the same may be rotated and at the same time permits of an attachment of the device to the form by driving the pivotal point into the form in the initial stage of attaching the same.

My device is primarily intended for use upon concrete forms made of wood in which wall members 1 and 2 of the forms are to be tied together. This is accomplished by the passage of a tie wire 3, from oppositely disposed walls of the forms and thence passing the same about a rail 4. My device consists primarily of a base 5, preferably made circular in form and having a pivotal point 6, disposed on the form engaging side of the base. This pivotal point is preferably made conical in form and disposed centrally of the base and of a sufficient length and taper to cause the device to be maintained upon the form when the projecting pivotal element is driven into the form structure. A column 7 is disposed upon the opposite side of the base 5, having outwardly tapered side walls the same terminating in an open ended slot 8 through which the form wires are made to pass. The side walls 9 and 10 of the open ended slot are made sufficiently

strong to permit of the entrance of a tightening rod therebetween. When the device has been turned sufficiently to place the required tension upon the wire 3, a fastening element is then driven through the opening 11 within the base 5, into the adjacent form member to maintain the same in relative fixed position upon the rail form. Where the forms are large and a very substantial tension is required, within the tie wires 3, I have found it necessary at times to place engaging elements 12 in the side walls of the column and at such times to use a special wrench for tightening that they may be made to engage with the column and the engaging elements 12.

In devices of this kind the reclaiming of the device after the same has been used is important and unless the device can be disassociated from the wire the labor cost does not justify the same. In my new and improved device the open ended slot in connection with the outwardly sloping side walls of the column makes it very easy to remove the device from the wire after the wires have been cut and to reclaim the same. The fact that the device is made of a single piece facilitates its recovery and continued use.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What I claim is:—

1. In a device of the class described, the combination of a base, a projection disposed upon the form side of the base, a column disposed centrally of the opposite side of the base, a slot terminating the outer end of the column and means for maintaining the device in fixed position.

2. In a device of the class described, the combination of a base annular in form, a conical projection disposed centrally of the base, a column oppositely disposed to that of the conical projection disposed upon the base, a slot terminating the column and means for fixedly maintaining the device.

3. In a device of the class described, the combination in a one piece device of a base, cylindrical in form, a central projection disposed upon one side of the base and a column and means in the base adapted to maintain the device in fixed position.

4. In a device of the class described, the combination in a one piece device of a base member, a projection disposed upon one side of the base to permit of pivotal engagement with a concrete form, a column oppositely disposed upon the base to the pivotal projection having outwardly tapering side walls, an open ended slot disposed in the column to permit of engagement with concrete form tie wires and with a tightening bar and means disposed in the base for maintaining the device fixed relative to the forms when the tie wires are tightened.

5. In a device of the class described, the combination in a one piece device of a base member, a projection disposed upon the form engaging side of the base to permit of pivotal engagement of the base with the concrete form, a column oppositely disposed upon the base to the pivotal projection, said column having outwardly sloping side walls, an open ended slot terminating the column and engaging elements disposed upon the outer periphery of the column to facilitate the rotation of the device to tighten the tie wires.

CHESTER PHILLIPS.