

F. KEES.
COLUMN CLAMP.
APPLICATION FILED MAY 13, 1912..

1,057,742.

Patented Apr. 1, 1913.

Fig. 1

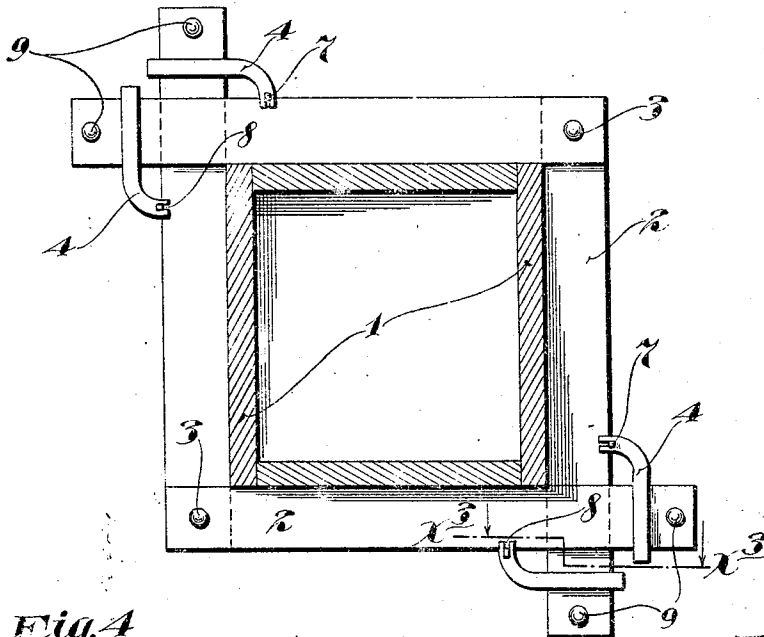


Fig. 4

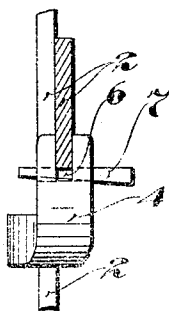


Fig. 2

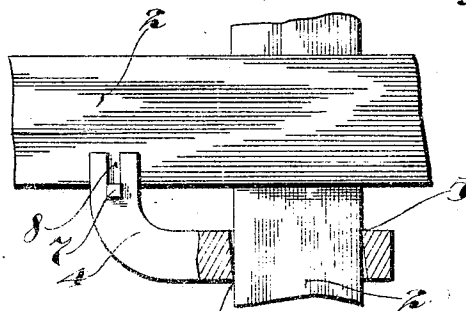
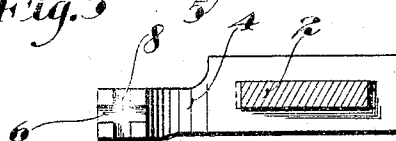


Fig. 3



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UNITED STATES PATENT OFFICE.

FREDERICK KEES, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO GEORGE W. WENZEL, OF MINNEAPOLIS, MINNESOTA.

COLUMN-CLAMP.

1,057,742.

Specification of Letters Patent.

Patented Apr. 1, 1913.

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To all whom it may concern:

Be it known that I, FREDERICK KEES, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Column-Clamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an extremely simple and highly efficient clamp for column forms adapted for use in the construction of concrete columns, and to such ends, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings wherein like characters indicate like parts throughout the several views:

Referring to the drawings,—Figure 1 is a view showing a column form in horizontal section, and showing in plan, the improved clamp applied thereto; Fig. 2 is a detail in plan with some parts sectioned and some parts broken away, showing a portion of the clamp; Fig. 3 is a section taken on the line $x^3 x^3$ of Fig. 1; and Fig. 4 is a view looking at the parts shown in Fig. 2 in a direction from the left toward the right.

The column form 1, as shown, is made up of four side boards or members which may be of the usual or any suitable construction. The complete clamp comprises two pairs of flat bars 2 pivotally connected at 3 and having their free ends overlapped or transversely crossed at diagonally opposite corners of the column form. To the free ends of the bars 2, so-called lock levers 4 are applied. There is one of these lock levers 4 for each clamp bar 2 and each is provided with an elongated perforation or slot adapting it to be telescoped onto or slid over the end of the corresponding clamp bar 2. The said slots, at their extremities, are slightly oblique and are formed with biting edges 5, one at the inside of one extremity and the other at the outside of the other extremity of said slot. The important purpose of this will presently appear. The free end of each lock lever 4 is bifurcated or provided with a longitudinal groove 6 adapted to

straddle the outer edge of the adjacent clamp bar 2.

When the four lock levers 4 are applied to the ends of the four clamp bars 2 with their bifurcated ends embracing the outer edges of the overlapping or adjacent bars, the four bars making up the complete clamp are held against lateral separation; and when the said lock levers are tightly forced, by pounding thereon with a hammer, or otherwise, as far inward as they will go, the biting edges 5 will grip or bite upon the edges of the said bars 2 and securely hold the said lock valves against outward slipping movement. This biting action is, of course, due to the fact that the outward force is applied to the projecting end of the lock lever, so that the biting or cramping action is produced between the lever and the bar which is passed therethrough. The clamping levers may, however, be quite easily removed from working position by forcing outward on the perforated ends thereof.

The clamping device, so far described, affords a complete clamp, but where greater clamping pressure is desired, I employ small wedges 7 which are insertible in vertical notches 8 formed in the projecting ends of the lock levers 4. When these wedges are inserted in the notches 8 and driven against the edges of the adjacent clamp bars 2, the lock levers will be very tightly clamped on the bars 2 which are passed therethrough, and the clamping bars will be very tightly pressed against the mold.

The numeral 9 indicates rivets applied to the ends of the bars 2, and which serve as stops to prevent the lock levers 4 from coming off from said bars and getting displaced.

The so-called column clamp above described, is of simple construction, of comparatively small cost, may be very easily applied and removed, and in practice, has been found highly efficient for the purpose had in view.

What I claim is:

1. In a device of the kind described, the combination with clamping bars, of lock levers having a cramping biting action on certain of said bars and having projecting ends bearing against adjacent bars.

2. In a device of the kind described, the combination with clamping bars, of lock levers having perforations with biting edges

having a cramping action on bars passed therethrough, said levers having bifurcated ends that embrace the edges of adjacent bars.

3. In a device of the kind described, the
5 combination with clamping bars, of lock levers having a cramping biting action on certain of said bars and having projecting ends bearing against adjacent bars, and
10 wedges seated in the projecting ends of said lock levers and operative on the edges of the engaging bars.

4. In a device of the kind described, the combination with clamping bars, of lock
15 levers having perforations with biting edges having a cramping action on bars passed therethrough, said levers having bifurcated ends that embrace the edges of adjacent bars, the projecting ends of said lock levers
20 also having wedge receiving notches, and wedges working in the said notches and pressing against the edges of adjacent bars.

5. In a clamping device of the kind de-

scribed, the combination with two pairs of pivotally connected clamping bars having overlapping free ends, of lock levers having
25 slots through which the ends of said bars are passed, said lock levers having a cramping biting action on the said bars and having projecting bifurcated ends that embrace
30 the edges of adjacent bars.

6. In a device of the kind described, the combination with clamping bars, of lock
levers having a cramping biting action on certain of said bars and having projecting
35 ends bearing against adjacent bars, said bars having stops at their ends preventing said lock levers from becoming displaced.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK KEES.

Witnesses:

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