T. F. NOVY.

CLAMP FOR COLUMN MOLDS.

APPLICATION FILED OCT. 17, 1918.

1,290,646. Patented Jan. 7, 1919.

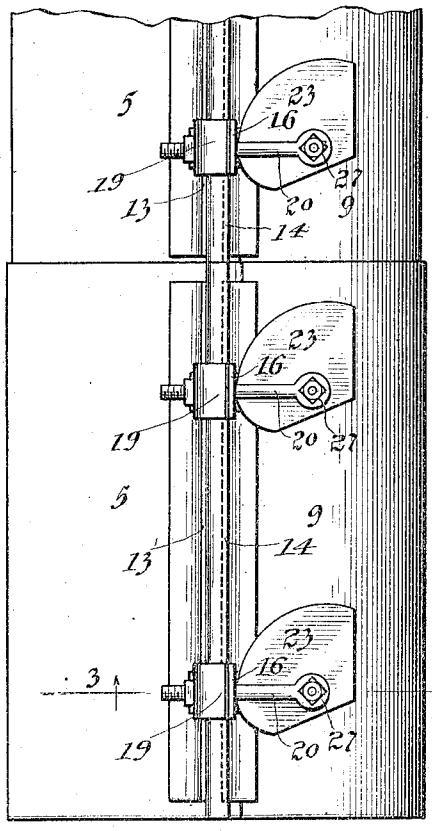


Fig. 1.

Fig. 3.

Fig. 4.

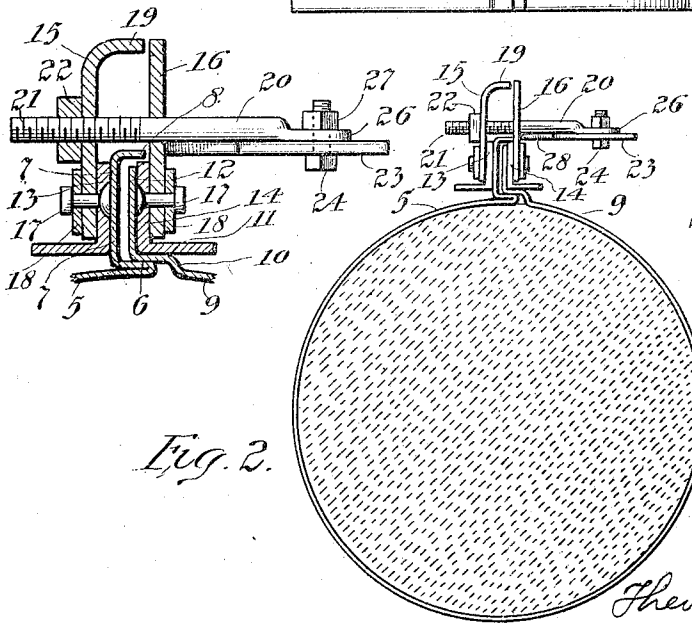
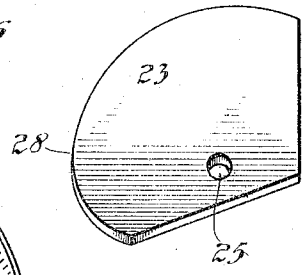


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CLAMP FOR COLUMN-MOLDS.

1,290,646. Specification of Letters Patent. **Patented Jan. 7, 1919.**

Application filed October 17, 1918. Serial No. 258,571.

To all whom it may concern:

Be it known that I, THEODORE F. NOVY, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clamps for Column-Molds, of which the following is a full, clear, and exact specification.

This invention relates to improvements in clamps for column molds provided with outwardly projecting flanges, the joints between which must be water tight to prevent leakage producing the formation of a seam or seams lengthwise of the molded column, which clamps have heretofore been tightened in their operative position by means of bodily detachable wedges manually inserted by hand of which a larger number than is required for immediate use must be kept on hand owing to the frequency of their being mislaid and lost.

The prime object of this invention is to dispense with the use of wedges and provide each of the several clamps with a tightening device which is not only permanently connected therewith, but adaptable for adjusting the jaws substantially without limit and be moved toward and locked in their operative position solely impact by means of either a hammer, wrench or other suitable device and therefore with the least expenditure of force and with maximum quickness.

A further object of my invention is to have a tightening device so constructed and arranged as to direct the clamping jaws toward each other in parallel planes and so maintain them throughout their operative clamped clamping position.

With these ends in view, my invention finds its embodiment in certain features of novelty in the construction, combination and arrangement of parts which the said objects, and certain other objects, are attained, all as hereinafter fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In said drawings:

Figure 1 illustrates any front elevation and clamp for a column mold in which my invention finds its embodiment.

Fig. 2 is an end elevation of the clamp in its tightened position upon a column mold.

Fig. 3 is a transverse section taken on the line 3, 3 of Fig. 1.

Fig. 4 is a perspective view of one of the clamp tightening devices for the clamping jaws.

For forming a joint between the longitudinal edges and a column mold the metal of one edge of portion 5 is bent upon and against itself as indicated at 6, and thence at a right angle to form a radial flange 7, merging into a flange 8 projecting at a right angle thereto.

The metal of the opposing portion 9 is provided with an outward bend 10, whence the metal projects at 11 in a plane parallel with the surface of the bend member 6 and merges into a flange 12, projecting at a right angle to the bend member 11 and in a plane parallel with the flange 7, the longitudinal edge of which is overlapped by the bend portion 8 of the flange 7, to provide a stop for and preventing the outward movement of the flange 12.

With the edges of the mold thus constructed, it will be seen that not only is the inner surface of the mold substantially continuous, but that by compressing the flanges 7 and 12 against each other a tight joint may be formed preventing any leakage from the mold tending to produce either a projection or groove in and longitudinal of the column molded therein.

As a means for producing and maintaining a sufficiently tight joint preventing a projection or groove in the molded column, my invention includes the employment of clamping jaws 13 and 14 of a length corresponding as nearly as may be, with the predetermined height of the column mold, the edge preferably consisting of angle bars provided at intervals of their length with shanks 15 and 16 respectively secured thereto by rivets 17, 17 between which and the jaws, if need be, are washers 18, 18. The shank 15 is bent at its outer end as indicated at 19, toward shank 16 which is straight and projects at its outer end in a plane opposing the edge of the bend 19 of the shank 15.

Shanks 15 and 16 are provided about midway their length and centrally of their width with registering perforatons, through which is projected a bar 20, loose in both of the shanks, but which is screw-threaded toward its free end as indicated at 21 and having a nut 22, for adjusting the relative movement of the shanks 15 and 16 toward and from each other.

On one end of the bar 20 is pivoted a cam 23, by means of a bolt 24, passing through a perforation 25, in the cam and through a flattened portion 26, of the bar, which bolt is secured in its operative position by means of a nut 27, screw-threaded thereon.

The operating surface 28 of cam 23 is so curved relative to the axis of its pivot that the jaws will be open when the cam is in the position shown in Figs. 1 and 3 and that on moving the cam in the direction indicated by the arrow in Fig. 1, the jaws will be forced toward a closed position against the flanges of the mold until a water tight joint is formed between these flanges as indicated in Fig. 2 and in which position they will be locked by the cam against accidental separation.

In other words, the cam 23 is permanently supported to the jaw structure and operates as a pivotal wedge adapted to be driven by the blows of a hammer or other suitable implement for clamping the jaws against and locking them in their tightened position upon the seam and which at the same time is also capable of being so arranged and supported that the tightening force is directed transversely through the jaws about midway their length and whereby parallelism between the clamping surface of the jaws may be secured and maintained and when on the other hand if either one of the jaws were tilted with reference to the other, their pressure would not be uniform throughout the seam and as must be for providing a water tight joint therein with the jaws locked in the position shown in Figs. 1 and 3.

With reference to the flanges forming the seam of the mold, it will be seen that with the use of a tightening cam such as herein described, but few blows of a hammer are required upon the vertical edge of the cam to force the jaws together for moving the flanges so tightly together that the leakage of water between them is impossible, whereas a single blow against the straight side of the cam will operate to unlock the cam from the jaws for quickly and conveniently removing the latter from the mold.

In the practical and repeated use of the clamp of my invention, it is found that by the employment of a cam as distinguished from the wedge and also screw-threaded tightening devices heretofore employed, there is a substantial saving in time and expenditure of force on the part of the operator for securing the clamp in its operative position upon a mold and for releasing and bodily removing them therefrom.

As I am the first, so far as I am aware, to employ a cam for tightening and locking the jaws of a column mold in their operative position, my invention is not to be limited to the particular curvature or form of the operating surface of the cam so long as its form is such that it is non-detachable from the clamp and is capable of being moved to and from its operative position by the blows from a hammer or other suitable implement.

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

1. A clamp for a column mold, the clamping jaws of which extend substantially the length of said mold and are each provided at intervals of their length with a shank and a pivoted cam permanently connected with said shanks for tightening the jaws.

2. A clamp for column molds provided with shanks at intervals of their length, a bar passing through said shanks and on which said shanks are slidable, a cam permanently pivoted to said bar and adapted to be moved to a position tightening and locking said jaws against the flanges of a column mold.

3. A clamp for column molds comprising in combination clamping jaws and shank for each jaw, the free end of one of which shanks is bent toward the other jaw a bar upon which said jaws are adjustable and a swinging cam mounted upon said bar for adjustably moving said jaws in their operative position for tightening the seam of a column mold.

In witness whereof, I have hereunto set my hand and affixed my seal, this 14th day of October, A. D. 1918.

THEODORE F. NOVY. [L. S.]

Witness:
JNO. G. ELLIOTT.

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