E. O. KEATOR.

ADJUSTABLE CLAMP.

APPLICATION FILED SEPT. 11, 1916.

1,226,221. Patented May 15, 1917.

Fig. 1.

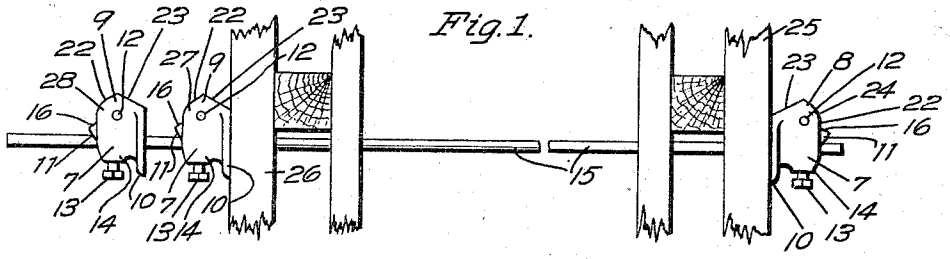


Fig. 2.

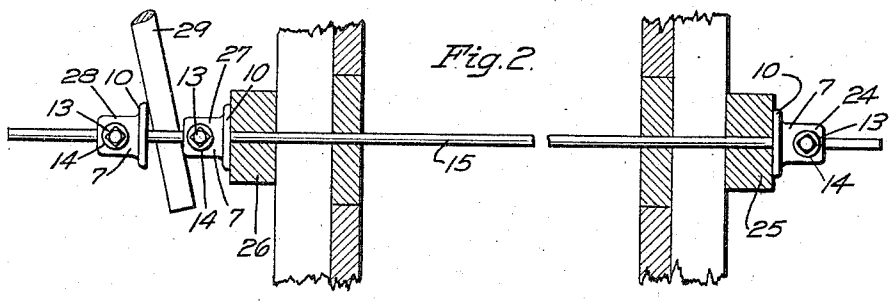


Fig. 3.

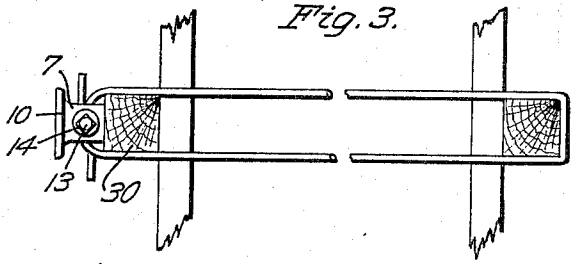


Fig. 5.

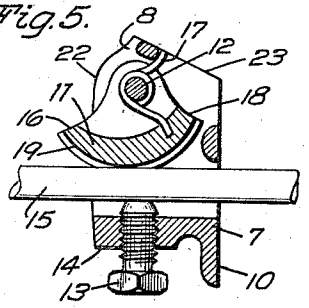


Fig. 4.

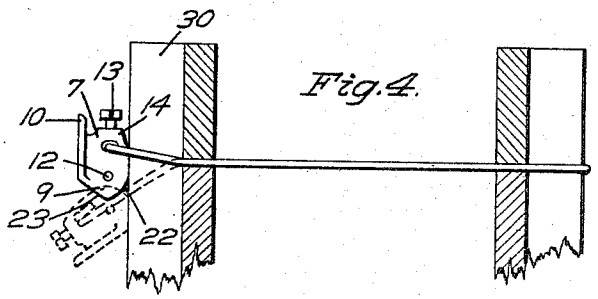
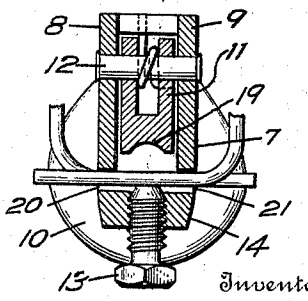


Fig. 6



Witnesses:

F. E. Arthur.

W. Thornton Bogert

Inventor

By Edward O. Keator

Walter D. Murray

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD O. KEATOR, OF CINCINNATI, OHIO.

ADJUSTABLE CLAMP.

1,226,221. Specification of Letters Patent. Patented May 15, 1917.

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To all whom it may concern:

Be it known that I, EDWARD O. KEATOR, a citizen of the United States of America, and resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Adjustable Clamps, of which the following is a specification.

This invention relates to an improved adjustable clamp for concrete mold constructions and particularly to an adjustable clamp for the mold retaining rods or wires employed in molds for concrete walls.

An object of my invention is to produce a clamp adapted to facilitate the drawing of the mold walls to position and the retaining of the walls in this position.

A further object is to produce a clamp adapted to automatically secure the retaining rods or wires and the other component parts of the molds in their adjusted positions immediately upon moving the clamps to retain the parts in these positions.

These and other objects are attained in the clamp construction described in the following specification and illustrated in the accompanying drawings, in which;

Figure 1 is a fragmental elevation of a series of mold walls retained in position by clamps embodying my invention.

Fig. 2 is a horizontal fragmental sectional view of the mold walls shown in Fig. 1, the rods and clamps being shown in plan.

Fig. 3 is a fragmental vertical elevation of a mold of somewhat different type from the mold disclosed in Fig. 1.

Fig. 4 is a horizontal fragmental sectional view of the mold walls disclosed in Fig. 3, showing the positions occupied by the clamp before and after moving it to its locking position.

Fig. 5 is a sectional elevation through a clamp embodying my invention and showing it mounted upon a section of rod.

Fig. 6 is a sectional elevation of a clamp embodying my invention, showing the manner of attaching it to retaining wires.

The clamp embodying my invention consists of a body portion 7 having two lugs 8 and 9 extending from a portion 10 forming the bed plate or base of the clamp, an eccentric 11 rotatively mounted on a pin 12 extending between the lugs 8 and 9, and a set screw 13 located in the boss 14 formed at the juncture of the lugs 8 and 9. The set screw is to be adjusted for varying thicknesses of the rod 15, so that in the normal position of the eccentric it contacts with the rod upon one side and the set screw contacts with the rod on the other side. A spring 17 is provided for retaining the eccentric normally in such a position that the portion of its surface presented to the surface of the rod upon insertion of the rod between the set screw 13 and the eccentric 11, will lie between the smaller end 18 and the clamping end 16, so that the parts will occupy the positions disclosed in Fig. 5. The surface of the eccentric which engages the surface of the rod has preferably a peripheral groove to conform to the contour of the rod as disclosed at 19 in Fig. 6.

Immediately beneath the lug 14 and in alinement with the end of the set screw extending therethrough, are located elongated apertures 20 and 21 in the walls of the lugs 8 and 9. These apertures are provided for the purpose of admitting the ends of the mold wires, so that the set screw may be brought to bear against these ends to retain them in position, as disclosed in Fig. 6. The apertures 20 and 21 are located at a less distance from the surface 22 than from the surface 23 the curved portion of the surface 22 being eccentric to the apertures. The reason for this eccentric construction will be hereinafter more fully described. When this method of fastening the wires is employed, the supporting surfaces 22 and 23 of the clamp body 7 are brought into cooperation therewith, the surface 22 being employed previous to moving the clamp to its locking position and the surface 23 being employed to retain the clamp in its locked position as disclosed in dotted lines in Fig. 4.

In using the clamp upon rods as disclosed in Figs. 1, 2 and 5, for the purpose of retaining the mold walls in position, a clamp is placed at one end of the rod as shown at 24 in Figs. 1 and 2. In this position the supporting surface of the base 10 is brought into engagement with the outer batten 25 of one wall of the mold and another clamp is slipped over the opposite end of the rod so that the supporting surface of its base is brought into engagement with the outer batten 26 of the opposite wall of the mold, as disclosed at 27 in Figs. 1 and 2. This second clamp is moved by hand into engagement with the batten 26 as far as possible. A third clamp is now slipped over the pro-

jecting end of the rod adjacent to the second clamp and a space is left between the clamp 27 and the third clamp 28. Between the clamps 27 and 28 is now inserted a bar 29 which acts as a lever, one surface of the lever being brought to bear against the base 10 of the clamp 28 and the opposite surface being brought to bear against the lugs of the clamp 27. Movement of the lever forces the clamp 27 into tighter engagement with the batten 26 of this wall of the mold, the clamp slipping along the rod because of its eccentric 11 permitting of this movement. When the clamp has been brought to the proper position, the lever is withdrawn, the eccentric of the clamp 27 acting to prevent movement of the clamp in the opposite direction. The clamp 28 may then be easily removed from the rod, its eccentric being moved to release the rod so that the clamp may be slipped therefrom. In order to remove the clamps from the rod it is but necessary to loosen the set screws of the clamps and to slip them from the rod.

In Figs. 3, 4 and 6 the clamp is shown as applied to a mold construction employing wire for retaining the opposite walls of the mold in position. In this use of the clamp the ends of the wire are passed transversely through the apertures 20 and 21 and in opposite directions therethrough. When passed through these apertures and positioned properly therein, the set screw 13 is brought into clamping engagement with the wire ends so as to bind them against displacement. In using the clamp in this manner the supporting surface 22 opposite the surface of the base 10 is employed, this surface being somewhat curved as disclosed in Fig. 4 so that the clamp may be rocked over the surface of the batten 30 against which it is held, in order to bring its remaining surface 23 into engagement with the surface of the batten 30 as disclosed in dotted lines in Fig. 4. Locking movement of the clamp from the position shown in the full lines in Fig. 4 to the position shown in dotted lines, will cause tightening movement of the wires and consequent movement of the wall to its proper position, the clamp rocking upon its surface 22 until the point between the surfaces 22 and 23 is passed, at which time the clamp will automatically change its position to lie upon its surface 23, the movement being one having eccentric characteristics. The clamp will then remain in the position disclosed in dotted lines in Fig. 4, the wires being bent at the point they leave the wall of the mold. In order to release the clamp it is merely necessary to release the set screw, whereupon the wires may be withdrawn from the apertures 20 and 21.

Having thus described my invention, what I claim is:

1. An adjustable clamp comprising a body portion having a series of supporting faces extending in angular relation with one another and a passage extending through the body portion in alinement with the faces and spaced at varying distances from one face and its adjacent face, said passage being adapted to receive an object to be clamped, and means mounted in the body portion adapted to retain the object in the passage.

2. An adjustable clamp comprising a body portion having a series of supporting faces extending in angular relation with one another, a passage extending through the body portion in alinement with the faces and spaced at varying distances from one face and its adjacent face, and a second passage intercepting the first mentioned passage and extending through the body portion from one of the supporting faces, said passages being adapted to receive an object to be clamped, and means mounted in the body portion adapted to retain the object in its mounting passage.

3. An adjustable clamp comprising a body portion having a series of supporting faces extending in angular relation with one another and having a passage extending through the body portion from one of the supporting faces and another passage intercepting the first mentioned passage and extending transversely of the body portion, said second mentioned passage extending parallel with the supporting faces and spaced at a greater distance from one than from the adjacent supporting face, an eccentric rotatively mounted on the body portion and extending into the first mentioned passage, and means intercepting the passages, adapted to move an object located in the first mentioned passage into position to be engaged by the eccentric, and to secure an object located in the second mentioned passage against displacement therefrom.

In testimony whereof, I have hereunto subscribed my name this 7th day of September, 1916.

EDWARD O. KEATOR.

Witnesses:
CEDRIC E. FOSDICK,
W. THORNTON BOGERT.

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