March 1, 1927. 1,619,749

R. MURRAY

CLAMP

Filed Jan. 29, 1926

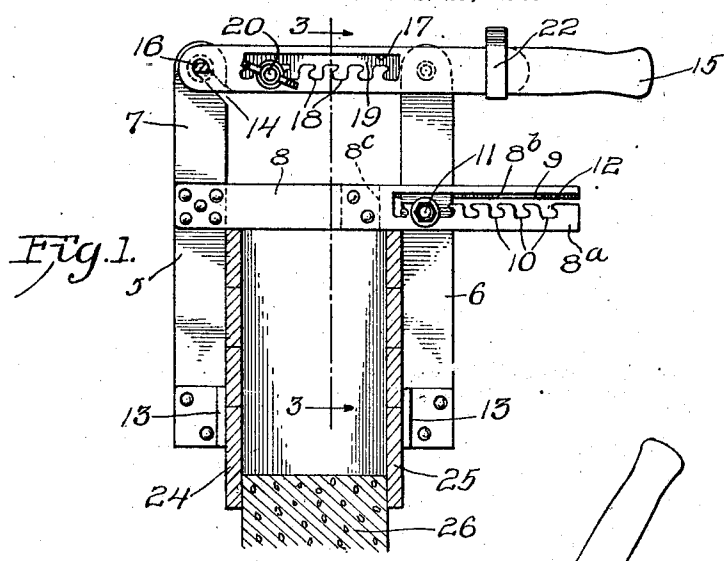


Fig. 1.

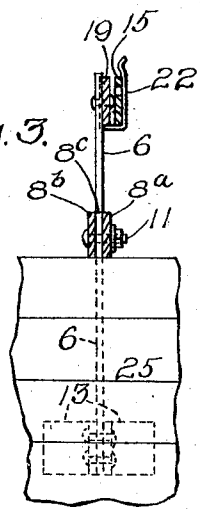


Fig. 3.

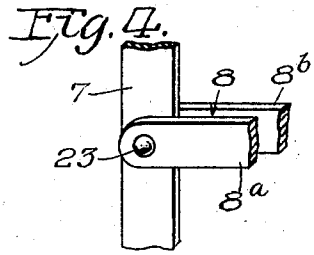


Fig. 4.

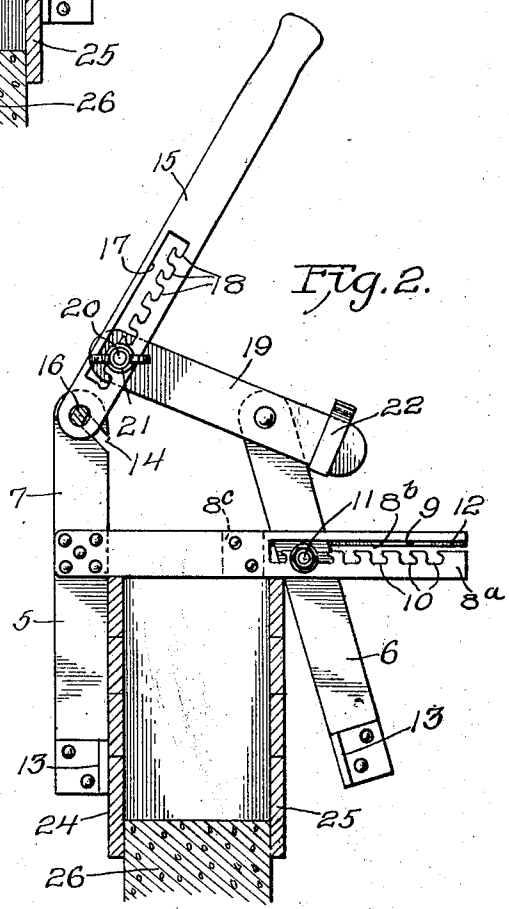


Fig. 2.

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UNITED STATES PATENT OFFICE.

RICHARD MURRAY, OF NEW YORK, N. Y.

CLAMP.

Application filed January 29, 1926. Serial No. 84,581.

This invention relates to clamps and particularly to devices of this class for use in connection with concrete molds for clamping and retaining the mold parts or sections of a mold in fixed and spaced relation; and the object of the invention is to provide a clamp of the class specified consisting of two jaw members, one of which is adjustable with relation to the other, and means cooperating with the adjustable jaw member and the other of said jaw members for moving the jaw members into predetermined spaced relation and for retaining the same in such position; a further object being to provide a clamp of the class described. one part of which is substantially T-shaped in form, one end of the crosshead of said part forming a jaw, and another jaw detachably and adjustably mounted with relation to the shank of the first named part, and the other end of the crosshead of the first named part having a lever pivotally and detachably coupled therewith, and means interposed between the second jaw and said lever for moving and retaining the jaws of the clamp in fixed relation; and with these and other objects in view, the invention consists in a clamp of the class and for the purpose specified, which is simple in construction and operation, and efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which.—

Fig. 1 is a side view of a clamp made according to my invention and showing the same in operative position.

Fig. 2 is a view similar to Fig. 1 but showing the several parts of the clamp in open position.

Fig. 3 is a section on the line 3—3 of Fig. 1; and,

Fig. 4 is a perspective detail view showing a slight modification.

My improved clamp as shown in the accompanying drawing comprises two jaw parts 5 and 6, the part 5 as shown in Figs. 1 and 2 of the drawing being in the form of a T-shaped member comprising a crosshead 7, to the central portion of which is fixed a shank 8 arranged at right angles to the crosshead and composed of separate parts 8^a and 8^b positioned at opposite sides of the crosshead 7. The part 8^a is provided at its free end with an aperture 9 opening outwardly through the end thereof, and one wall of said aperture is provided with a plurality of notches or recesses 10 adapted to receive a pin, bolt or rivet 11 secured to the central portion of the jaw member 6. This pin or bolt also passes through an elongated aperture 12 formed in the part 8^b and in longitudinal alinement with the aperture 9 and the notches or recesses 10 therein. This aperture 12 may, if desired, be formed similar to the aperture 9. The parts 8^a and 8^b are also preferably retained in spaced relation adjacent the apertures 9 and 12 by a block 8^c secured therebetween.

The ends of the jaw members 5 and 6 are preferably provided with wide faces formed by angle iron plates 13, secured thereto as seen in Figs. 1, 2 and 3 of the drawing to provide a comparatively wide bearing face therefor. In the use of the clamp, the crosshead 7 of the jaw member 5 is provided with an aperture 14 opening through one side edge thereof as clearly seen in Figs. 1 and 2 of the drawing. A lever 15, provided at its free end with a pin 16, is pivotally mounted in connection with the crosshead 7 by passing the pin 16 into the aperture 14, the shank of the pin 16 being flattened to permit of its passage through the outlet of said aperture and to key the lever 15 against displacement unless moved into such position as to permit the passage of the pin through the outlet as will be apparent.

The lever 15 is provided adjacent the pivot 16 with an elongated aperture 17, one wall of which is provided with spaced notches 18 which are positioned below the longitudinal central plane of the lever and below such plane extending through the axis of the pin 16 in order to provide a dead lock for the lever 15 when in operative position as seen in Fig. 1 of the drawing.

Pivoted to the end of the jaw part 6 is a link lever 19, the link arm of which is provided at its end with a screw or bolt 20 adapted to pass through the aperture 17 and operate in the notches or recesses 18 thereof. A winged nut 21 is employed to retain the link lever 19 against displacement from the lever 15. The short end of the link lever 19 is provided with a spring keeper or catch 22 into which the lever 15 is adapted to pass, and by means of which said lever is held

against displacement when the clamp is in operative position as seen in Fig. 1 of the drawing.

In Fig. 4 of the drawing, I have shown a slight modification in which the shank part 8, consisting of the parts 8^a and 8^b are pivoted to the crosshead 7 as seen at 23 instead of being riveted or fixedly secured thereto as shown in Figs. 1 and 2 of the drawing. It will be understood that I am not necessarily limited to any specific manner of constructing the separate parts of my improved clamp, nor to the proportionate dimensions thereof herein shown and described.

In the drawing, I have shown for the purpose of illustrating one use of my invention, the side wall members 24 and 25 of a concrete mold or form such as employed in the construction of buildings or the walls of buildings. My improved clamp or a number of these clamps may be used on that part of the mold or formed wall structure just above a concrete body 26, formed thereby for the purpose of retaining the walls 24 and 25 in spaced relation, or for moving the same into proper position if bulged. It will be apparent that in the use of my improved clamp, and in applying the same to the walls 24 and 25, the parts will be moved into the position shown in Fig. 2 of the drawing, after which the lever 15 is moved downwardly, which operation forces the link lever 19 laterally and downwardly and swings the jaw 6 or the face thereof inwardly into engagement with the wall 25. In the downward movement of the lever 15, it will be noted that the pivot pin 20 passes the dead center position between the pivots formed by the pin 16, and the pivotal connection of the jaw 6 with the link lever 19, and the parts are retained in operative position, the keeper 22 also aiding to retain the lever 15 in position.

It will also be understood that the pivot pins 11 and 20 may be adjusted into any of the notches or recesses 10—18 respectively, but when it is desired to retain the jaws 5 and 6 in parallel relation, said pins are placed in corresponding notches as in the illustration given, both pins being located in the second notch from the left. However, this arrangement may be changed to suit other conditions or uses of the clamp.

While I have shown certain details of construction for carrying my invention into effect, it will be apparent that I am not necessarily limited to the detail structure herein shown and described, and various changes therein and modifications thereof may be made within the scope of the appended claims without departing from the spirit of my invention or sacrificing its advantages.

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

1. A clamp of the class described comprising two jaw parts, a member attached to one part and with which the other part is adjustably coupled, and means involving a lever and link lever construction independent of said member and pivotally connected to the separate jaw parts for moving said parts into predetermined position.

2. A clamp of the class described comprising two jaw parts, a member attached to one part and with which the other part is adjustably coupled, means involving a lever and link lever construction pivotally connected to the separate jaw parts for moving said parts into predetermined position, and said lever and link lever being adjustably coupled together to compensate for the adjustment of the jaw parts with relation to each other by said member.

3. A clamp of the class described comprising two jaw parts, means coupled with the central portion of one jaw part and with which the central portion of the other jaw part is adjustably and pivotally mounted, a lever pivotally mounted to the free end of the first named jaw part, a link lever pivotally mounted to the corresponding end of the other jaw part, and means for adjustably coupling said link lever and first named lever.

4. A clamp of the class described comprising two jaw parts, means coupled with the central portion of one jaw part and with which the central portion of the other jaw part is adjustably and pivotally mounted, a lever pivotally mounted to the free end of the first named jaw part, a link lever pivotally mounted to the corresponding end of the other jaw part, means for adjustably coupling said link lever and first named lever, and means for retaining the lever and link lever in operative position when the clamp is in use.

5. A clamp of the class described comprising two jaw parts, means coupled with the central portion of one jaw part and with which the central portion of the other jaw part is adjustably and pivotally mounted, a lever pivotally mounted to the free end of the first named jaw part, a link lever pivotally mounted to the corresponding end of the other jaw part, means for adjustably coupling said link lever and first named lever, means for retaining the lever and link lever in operative position when the clamp is in use, and the adjustable coupling of the lever and link lever being produced by an aperture in one of said parts, and having notches to receive the pin on the other part.

6. A clamp of the class described comprising two jaw parts, a lever pivotally mounted to the free end of one of said jaw

parts, a link lever pivotally mounted to the corresponding end of the other jaw part, means for adjustably coupling said link lever and first named lever, and means on said jaw parts adjacent said levers and independent thereof for adjustably coupling said jaw parts.

7. A clamp of the class described comprising two jaw parts, a lever pivotally mounted to the free end of one of said jaw parts, a link lever pivotally mounted to the corresponding end of the other jaw part, means for adjustably coupling said link lever and first named lever, means on said jaw parts adjacent said levers and independent thereof for adjustably coupling said jaw parts, and one of said jaw parts being pivoted in connection with said last named means.

In testimony that I claim the foregoing as my invention I have signed my name this 28th day of January, 1926.

RICHARD MURRAY.