June 19, 1928. 1,674,330

J. E. HYLER

CLAMP

Filed March 17, 1927

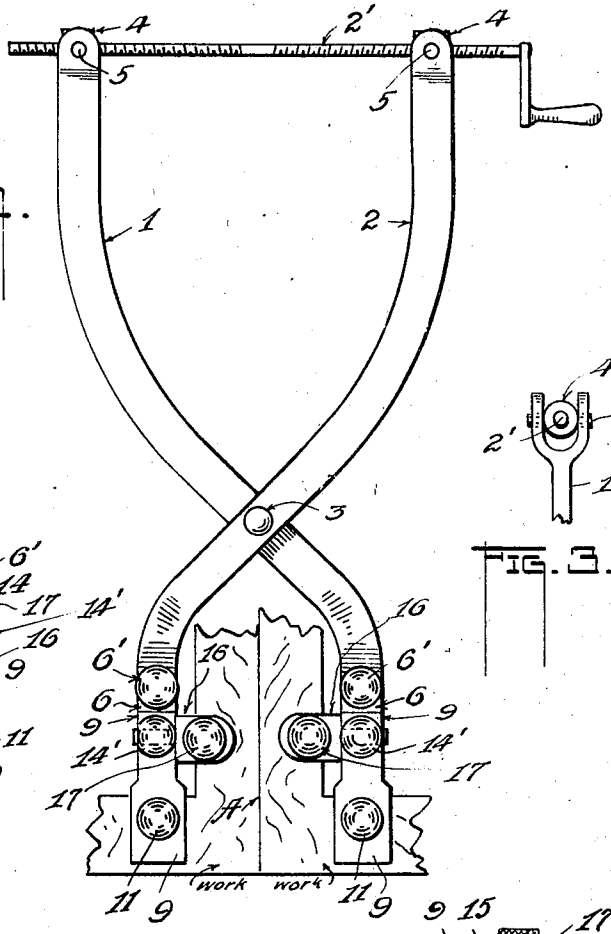


FIG. 1.

FIG. 2.

FIG. 3.

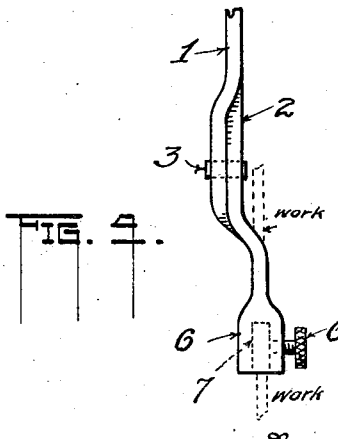


FIG. 4.

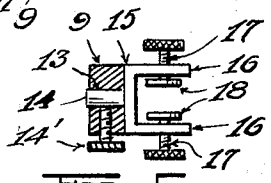


FIG. 5.

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JOHN E. HYLER, OF PEORIA, ILLINOIS.

CLAMP.

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This invention pertains to clamps and has to do with an adjustable clamp suitable for wood work as in joinery, though of use in other lines of work.

An object of the invention is to furnish a clamp having portions at one end of each of two arms for firmly holding separate parts to be joined and having means to operate the arms for bringing together the parts of the work to be joined and securely holding them in abutment.

Another object is to provide a clamp having a portion on each of two arms thereof each for holding a piece of work such as wood to be glued as in joinery, together with means to adjust the portions of the work to their positions with respect to one another as their positions for permanent connection, and also to provide manually operated means to separate the portions for gluing and for returning them to their abutting positions.

Other objects and advantages will appear in the following specification aided by the accompanying drawing wherein:

Figure 1 is an elevation of the clamp of my invention.

Figure 2 is a side elevation of a portion of one of the arms of the clamp showing work holding devices illustrated in Figure 1 attached thereto.

Figure 3 is a detail of a swiveled collar in one of the arms of the clamp.

Figure 4 is an elevation showing the edges of portions of the two arms of the clamp, and

Figure 5 is a plan of a work holding device shown in Figures 1 and 2.

The characters 1 and 2 represent two arms each bent in its own plane to about the form shown in Figure 1 and resembling an ice tongs in this instance, said arms being pivoted on one another at 3. The upper end of each arm is bifurcated as shown in Figure 3 and a bored and threaded collar 4 is swiveled therein on gudgeons 5, a rod 2′ having both a right hand and a left hand thread engages in the threaded bores of said collars.

The opposite end of each of the arms terminates at an enlargement 6, Figure 2, each having a socket 7 to receive the stem 8 of a member 9, the latter abutting against said enlargement as shown in both Figures 1 and 2, and a hand screw 6′ in the enlargement engages the stem 8 for securing the member 9 in any position of adjustment. The extremity of each said member 9 has two spaced portions 10 paralleling the plane of the clamp through each of which extends a hand screw 11 bearing a plate 12 on its inner end, the two plates adapted for clamping work between them.

The member 9 has a socket 13, Figure 5, also paralleling the plane of the clamp and this receives a stem 14 held by a screw 14′, a member 15 being carried by the stem which is similar to the member 9 in that it comprises extensions 16 each receiving a hand screw 17 having a plate 18 for clamping work, it being observed that the members 15 extend in the direction of one another as shown in Figure 1.

Since it is the purpose to clamp the work between the plates 12 of the member 9, or between the plates 18 of the member 15, or both, and since the work may very often be of some considerable size I preferably offset the lower ends of the arms 1, 2 above the enlargements 6 so that the work can extend beyond the pivot of the arms in a different plane from the long ends of said arms as indicated in Figure 4.

In operation, where two portions of work are to be glued together on the line A, for example, Figure 1, said portions are placed between the plates 12 or 18, or both, the surfaces to be glued being made to perfectly abut at said line A bringing them into the same plane flush with one another by the adjustment of the screws 11, 17.

Having accomplished this exact setting of the work of the thread bar or rod 2′ is turned in a direction to separate the parts of the work sufficiently to apply glue to the edges or surfaces to be joined, whereupon a reverse direction of movement of said threadbar brings the parts into exact abutting positions as before and may there be held as long as desired or until the glue has set.

For certain jobs the members 9 may be swung on their stems 8 within the enlargements 6, or again, the members 15 may be similarly swung. Again, the latter members may be removed to get them out of the way of pieces of work held by the members 9, or the latter may be removed when the members 15 are acting in a holding capacity.

With these adaptations the clamp is usable for different forms of work to be glued

or otherwise to be attached to one another. Not alone is the tool adapted for gluing purposes since it may be employed where metal parts are to be accurately and firmly held during soldering or like operations.

In joinery and other work it is very difficult to properly adjust and hold parts being operated upon but with a tool of the nature described an exact adjustment is made possible, since after the separation of the parts of the adjusted work for gluing they can be brought together in exact positions.

The members 9 and 15 besides being capable of turning within their sockets 7 and 13 respectively may be adjusted telescopically within said sockets as may sometimes be desirable.

I claim:

1. In a tool of the nature described, the combination with a pair of arms pivotally connected between their ends, and means to hold them in adjusted positions relatively, of a work clamping member carried by each of two corresponding ends of the pair of arms, the same being adjustable independently relative to the arms in the direction of the other ends of the same, and in a direction paralleling the planes of the arms, being likewise adjustable in a rotary direction relative to the latter, means to secure each member in adjusted positions, a work-clamping member carried by each first named member adjustable relative thereto both in the direction of one another and in a direction paralleling the plane of the arms, and adapted also for rotary adjustment, and means to fix each second named member in adjusted positions.

2. In a work-holding clamp the combination with a pair of arms pivotally connected between their ends, and means to fix them in adjusted positions relatively, of a bifurcated member at each of two corresponding extremities of the arms, each provided with a stem, there being a bore in the end of each arm extremity, the axes of said bores paralleling the planes of the arms, said bores receiving the stems telescopically, separate clamping means on the arms for engaging the stems for fixing the members in adjusted positions, and a clamping screw carried by each bifurcation adapted to clamp a piece of work between the bifurcations and for shifting the work in a direction at right angles to the plane of said arms.

3. In a work-holding clamp, the combination with a pair of arms pivotally connected, and means to hold them in adjusted positions relatively, of a member having a stem to engage in each of corresponding ends of the arms, there being a socket in each of the latter to receive one of the stems, the latter adapted for a telescopic and a rotary adjustment in said sockets, means to fix the stems in adjusted positions, and screws carried by each member adapted to clamp between them a piece of work.

4. In a work-holding clamp, the combination with a pair of arms pivotally connected, and means to hold them in adjusted positions relatively, of a member having a stem to engage in each of corresponding ends of the arms, there being a socket in each of the latter to receive one of the stems, the latter adapted for a telescopic and a rotary adjustment in said sockets, means to fix the stems in adjusted positions, screws carried by each member adapted to clamp between them a piece of work, there being a bore in each member extending in a direction at right angles to its stem, a clamping device having a stem to lie in the bore adapted for telescopic and rotary adjustment therein, and a screw in the member to fix the stem in adjusted positions.

In testimony whereof I affix my signature.

JOHN E. HYLER.