

UNITED STATES PATENT OFFICE.

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BAR-CLAMP.

No. 893,949.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES L. TAYLOR, a citizen of the United States, and a resident of Bloomfield, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bar-Clamps, of which the following is a specification.

This invention relates to that class of clamps represented by my prior patents No. 640,500, granted January 2, 1900, and No. 867,622, granted October 8, 1907, and the objects of the present improvements are to enable a clamp of this type having long jaws particularly constructed for sash and door manufacturers in veneer work and pattern makers in built-up work, to be also utilized by machinists and for other small work; to enable the movable jaw to be permanently fixed in parallel or slightly angular relation to the fixed head of the clamp; to prevent the adjustable jaw from being displaced or distorted by pressure of the work against only a short portion of its surface, even though such surface be not at the center of the jaw; to thus enable narrow work to be placed in such a clamp either close to the bar or at the outer ends of the jaws, and the clamp employed for such work as advantageously as on broad flat work; to thus increase the range of usefulness of the tool, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts in the several figures, Figure 1 is a side elevation of a clamp of my improved construction with the adjustable head, and jaw carried thereby, in central section longitudinally of the bar; Fig. 2 is a cross-section upon line *x*, Fig. 1, looking in the direction indicated by the arrow, and Fig. 3 is a cross-sectional view on line *y*, Fig. 1, looking in the direction indicated by the arrow.

In said drawings, 1 indicates the steel bar commonly employed in clamps of this sort, and having at one end of itself a jaw 2 fixed in position, as by means of a transverse pin 3, so that the said bar and jaw are in rigid relation with respect to each other.

To cooperate with the said fixed jaw 2, in engaging the opposite sides of the work, a movable jaw 4 is arranged upon the bar 1, being carried by screw 5 mounted in an ad-

justable head 6. This head is apertured as at 7 to provide a transverse passage for the bar 1, so that the head will slide on said bar without displacement in a plane perpendicular to the bar. The construction by which this head 6 is made adjustable upon the bar 1 and held in any desired position thereon, is the same as described in detail in my prior patent No. 867,622, above referred to, and need be described only briefly here. The head is provided at its rear, on that side of the bar where the work lies, with a recess 8 which is substantially an extension of the aperture 7 for the bar and receives a wedge 9. The large end of said wedge 9 projects rearwardly to form a finger grasp 10, and the small end of the wedge is turned upwardly as at 11 to lie in an enlargement of the recess, a spring 13 being arranged between said wall and the up-turned end 11 of the wedge to normally hold the wedge forward. Then in the edge of the wedge next the bar 1, and in the opposite or lower wall of the aperture 7, are gripping blocks 14, 15 respectively, arranged in pockets in the said parts and adapted to engage the bar 1 as fully set forth in my prior patents above referred to.

The upper part of the head 6 is extended for any desired distance above the bar 1, as at 16, and provides a transverse threaded seat 17 for the screw 5, which screw at its rear end has a handle 18 for turning. The forward end of the screw enters a socket 19 at the rear of the movable jaw 4, a set screw 20 through the wall of said socket entering a groove 21 in the end of the screw and thus serving to hold the jaw loosely thereon as to longitudinal movement, while permitting independent turning of the screw. Preferably the said socket 19 is located at about the middle of the movable jaw 4, so that in ordinary use of the same in clamping large broad surfaces, the said jaw may accommodate itself to the surface of the work. To hold the said movable jaw 4 in proper position opposite to the fixed jaw 2, the said movable jaw is apertured as at 22 to receive the bar 1, and in carrying out my present improvements, the end of said jaw beyond said aperture 22, or at the opposite side of the bar from that at which the work lies against the jaw 4, is forked or slotted longitudinally inward from its end as at 23. The neck 24 of a screw 25 lies in the said slot 23, the head 26 of said screw being at the face of the jaw

4, while at the rear of said jaw is a collar 27 on the screw. Both said collar and head are of larger diameter than the width of the slot 23, so that the screw can turn freely in said slot and still carry the jaw 4 with it on its longitudinal movement. The shank 28 of the screw is threaded as shown and works into a correspondingly threaded socket in an extension 29 of the adjustable head 6. The said screw 25 lies at all times substantially parallel to the bar 1, and its head 26 is shown as both knurled and slotted to enable the screw to be turned.

Obviously, when desired, the screw 25 may be removed entirely, and the clamp employed as it has been common heretofore to employ clamps of this type. When it is desired, however, to utilize the clamp for clamping a small thin body or article close to the bar 1, the screw 25 is inserted and utilized to hold the end of the jaw next to the bar against being displaced by the pressure brought upon it. It will be evident that by the screw 25 the movable jaw 4 can be adjusted to a position parallel to the fixed jaw or at any angle thereto, or if after a body has been clamped, it is found that the pressure is not exactly where desired or the face of the movable jaw not in desired relation to the work, the screw 25 can be turned to shift the position of the movable jaw upon the screw 5 as a fulcrum. Obviously whichever way the screw is turned it carries the jaw with it by virtue of the forked end of the jaw engaging the neck 24 of the screw as described.

By my construction, I not only enable the jaw 4 to firmly and solidly engage different pieces and kinds of work at different points of itself, but I also provide such a jaw which by means of the adjustable head 6 can be

quickly brought to different positions on the bar 1. Great convenience and usefulness of the tool is thus secured.

Having thus described the invention, what I claim as new is:

1. In a clamp, the combination of a bar, an adjustable head mounted upon said bar, a clamping screw working in said head parallel to the bar, a jaw pivotally carried on said clamping screw, and an adjusting screw having a neck lying in a slot of said jaw and being threaded into the said head.

2. In a clamp, the combination of a bar, an adjustable head mounted upon said bar, a clamping screw working in said head parallel to the bar, a jaw pivotally carried on said clamping screw and engaging the bar, both said head and jaw having extensions projecting on the opposite side of the bar from the said clamping screw, and an adjusting screw having a neck lying in a slot of one of said extensions and being threaded into the other.

3. In a clamp, the combination of a bar, an adjustable head mounted upon said bar, a clamping screw working in said head parallel to the bar, a jaw pivotally carried on said clamping screw and being apertured to receive the bar, both said jaw and head having extensions projecting beyond the bar on the side thereof away from the clamping screw, the said extension of the jaw being forked and the extension of the head providing a threaded socket, and an adjusting screw having a reduced neck lying in said slot and a threaded portion fitting said socket.

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Witnesses:

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