

Oct. 10, 1933.

C. F. MILLER ET AL

1,930,177

CARPENTER'S CLAMP

Filed Nov. 12, 1931

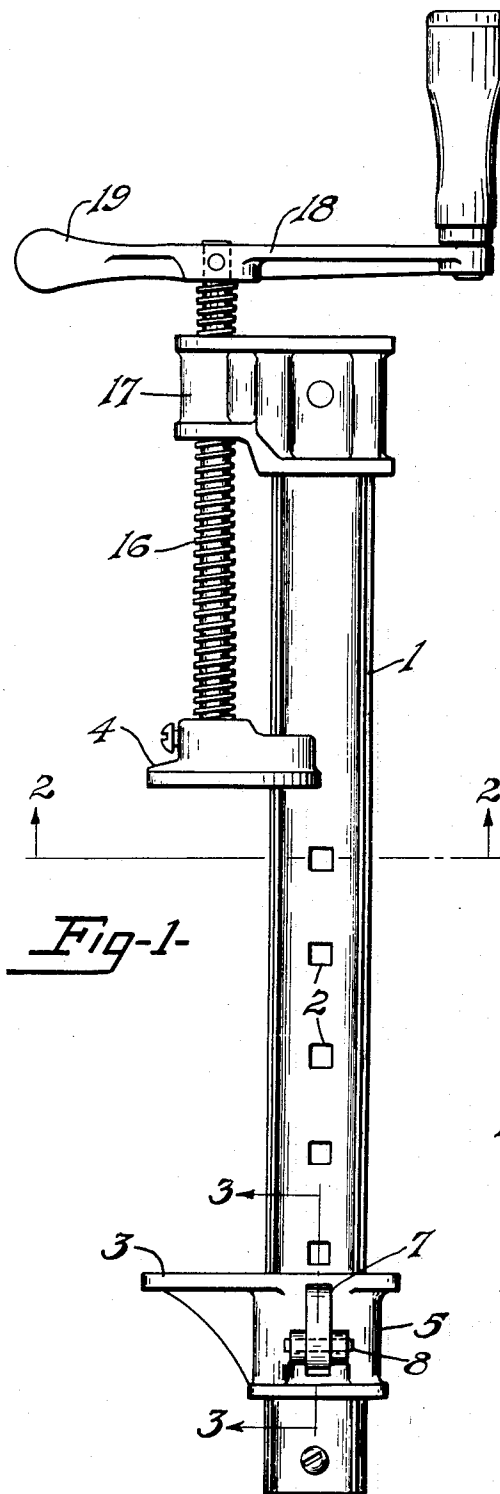


Fig-2-

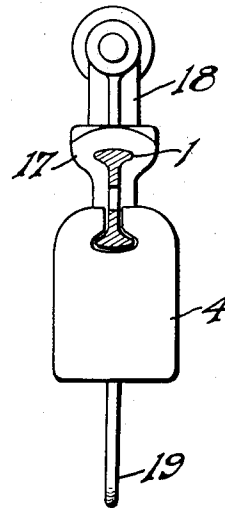
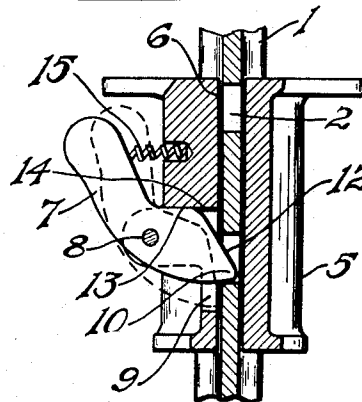


Fig-3-



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UNITED STATES PATENT OFFICE

1,930,177

CARPENTER'S CLAMP

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Application November 12, 1931
Serial No. 574,522

1 Claim. (Cl. 144—303)

This invention relates to clamps such as carpenter's and cabinet maker's clamps and has for its object a clamp which is particularly economical and strong in construction and especially a clamp in which the shiftable jaw can be quickly moved along the bar of a clamp to any one of a number of positions and firmly held against retrograde movement.

The invention consists in the novel features and in the combinations and constructions herein-after set forth and claimed.

In describing this invention reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation of this clamp.

Figure 2 is a sectional view on line 2—2, Figure 1.

Figure 3 is an enlarged sectional view on line 3—3, Figure 2.

This clamp comprises generally an I-bar 1 having perforations 2 along the median line of the web thereof, a shiftable jaw 3 slidable along the bar and a feed screw operated jaw 4 slidable along the bar toward and from the former jaw. The perforations 2 are preferably rectangular primarily for the purpose of providing a comparatively wide and straight thrust surface for the pawl to be described of the movable jaw 3 so as to avoid tearing or mangling of the web of the bar which is made as light as consistently possible. The movable jaw 3 is provided with a body portion 5 formed with a passage 6 for receiving the I-bar 1, the walls of the passage sliding close to the outer face of the web of the I-bar.

7 is a spring pressed pawl carried on one side of the body portion 5 and pivoted at 8 thereto, the pawl being angular in general form and pivoted at its angle, one arm constituting a finger lever extending along the body portion 5 and the other arm extending inwardly at an angle to the bar through an opening 9 in the body portion 5 and having a nose 10 for entering into any one of the perforations 2. The nose of the pawl is straight or square at one end of the lever for thrusting squarely against the square rear sides of the perforations 2 for holding the jaw 3 from retrograde movement when once set in position. The opposite side of the pawl is provided with an inclined or ratcheting surface 12 which coacts with the front sides of the perforations when the jaw 3 is being slide forwardly toward the jaw 4.

In order to relieve the pivot 8 of the pawl from thrust, the pawl and the body 5 are provided with coacting shoulders arranged to come into engage-

ment when the nose of the pawl enters one of the perforations 2 and as here shown the pawl 7 is provided with a shoulder 13 located between the pivot 8 and the nose 10 and coacting with a shoulder 14 on the body 5. The pawl is pressed into the openings 2 by a spring 15.

The jaw 4 is operated by a suitable feed screw 16 threading in a block or bearing 17 mounted on one end of the bar 1, the screw having a crank 18, the crank having an arm 19 extending beyond the screw or to the opposite side of the screw to that on which the crank is located so that when the jaw 4 is tightened against the work by turning the crank 18, it can be finally tightened by shifting the hand on the crank 18 so that the thumb can be utilized to press against the arm 19.

It will be understood that after the clamp has been initially tightened, further turning of the crank for final tightening exerts a leverage on the work rather than a tightening effect on the screw. By reason of the arm 19, the screw can be finally tightened without exerting a leverage on the work or without tending to turn the entire clamp and the work as a unit.

Owing to the perforations 2 and the arrangement of the pawl, the thrust is applied directly along the median plane of the bar 1 and not at one side thereof, as when teeth are formed on one side of the bar, and owing to the square nose of the pawl and the square perforations, the thrust is in a straight line and distributed over a comparatively large surface compared with round perforations.

What we claim is:

A carpenter's clamp comprising an I bar formed with a row of perforations extending entirely through the web thereof, the web having plain opposite side faces, a shiftable jaw slidable on the bar and having a passage through which the bar extends, the walls of the passage slidably engaging the opposite plain sides of the web of the bar, a feed screw operated jaw slidably mounted on the bar and movable toward and from the former jaw and a pawl carried by the former jaw on one side thereof and having a nose for entering said perforations and extending entirely through the same between the walls of said passage.

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