June 24, 1930. A. DISIBIO 1,765,826

ADJUSTABLE CLAMP

Filed Dec. 1, 1928

Fig. 1

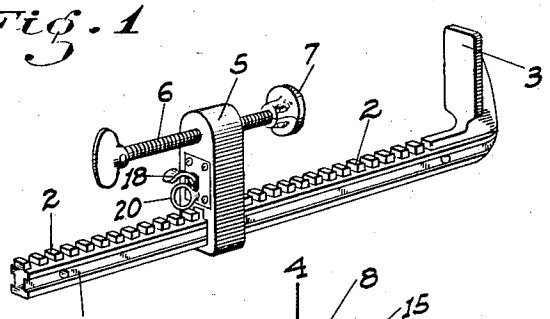


Fig. 2

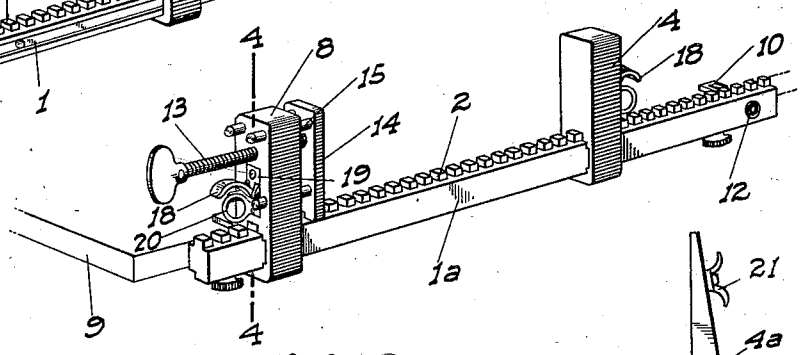


Fig. 3

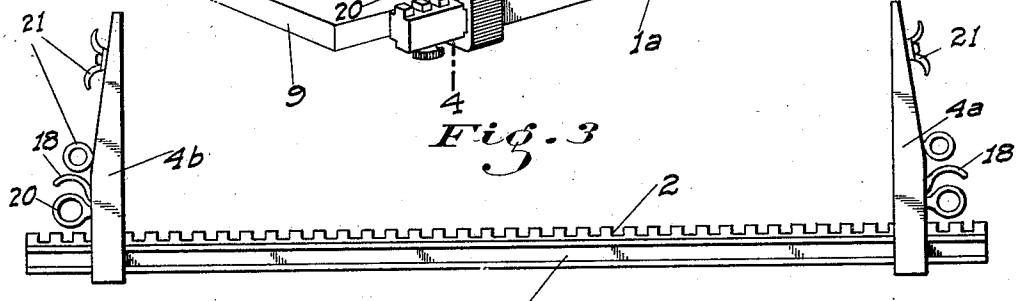


Fig. 4

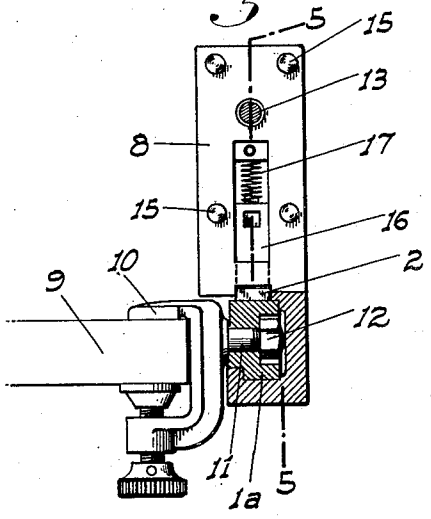
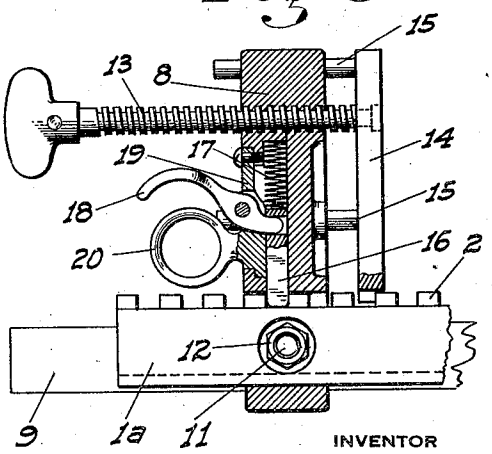


Fig. 5



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UNITED STATES PATENT OFFICE

ANGELO DISIBIO, OF PITTSBURG, CALIFORNIA

ADJUSTABLE CLAMP

Application filed December 1, 1928. Serial No. 323,090.

This invention relates to improvements in clamps for use by carpenters and other workmen and particularly represents improvements over the structure shown in my Patent No. 1,689,331 dated October 30th, 1928.

The principal object of the present invention is to provide a clamping structure of this general character having an improved mechanism for enabling the slidable clamping block to be manipulated with greater ease than was previously the case.

A further object is to provide a structure of this nature which may either be used as a portable hand implement or rigidly associated with a work table or bench as may be desired.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specifications and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a perspective view of the clamp as built to be a portable unit only.

Fig. 2 is a similar view of a clamp structure of a type adapted to be either used as a portable unit, or to be rigidly secured to a bench, showing the same as thus secured.

Fig. 3 is a side elevation of a form of the clamp structure particularly intended to be made in large sizes for use in connection with loads of lumber being carried on trucks and the like.

Fig. 4 is an enlarged cross section on the line 4—4 of Fig. 2.

Fig. 5 is a longitudinal section on the line 5—5 of Fig. 4.

Referring now more particularly to the characters of reference on the drawings the clamping structure in all its forms includes essentially a rigid bar, shown in the three types of Figures 1, 2, and 3, as 1, 1^a and 1^b respectively. All the bars are provided with a row of teeth 2 along their upper face, which teeth are preferably of substantially square form. The bar 1 is provided on one end with a rigid upstanding pad 3, while on the bars 1^a and 1^b slidable blocks 4 and 4^a respectively take the place of said pad. Slidable on the bar 1 is a block 5 having an adjustment screw 6 mounted therein parallel to the bar and provided on one end with a pad 7 to face the fixed pad 3. Means is provided between the block and bar to hold the block at any position along the bar, but since such means is identical with that provided on the structure of Figure 2, which will be described later, it is not thought necessary to describe such means for the specific structure shown in Fig. 1.

Slidable on the bar 1^a of the second type illustrated is a block 8, corresponding to the block 5, but cut away on one side of the bar, while being fitted onto the bar in such a manner that said block cannot be displaced from the bar by a lateral pull. The block 4 is similarly shaped and cut.

The bar 1^a is especially intended to be mounted closely adjacent one side edge of a work-bench 9 in fixed relation thereto. This is preferably done by means of spaced clamping yokes 10 engaging the bench and provided with outwardly extending horizontal studs 11 projecting through holes provided transversely through the bar 1^a. Nuts 12 on the outer ends of the studs engage said bar and cinch the same against the yokes. The slide blocks being cut away on the side of the bar nearest the yokes, said blocks are enabled to be shifted past the yokes in either direction without interference. At the same time the bar is easily disassociated from the bench and clamping yokes so as to be used as a portable tool if desired.

An adjustment screw 13 is mounted in the block 8 parallel to the bar 1, which on its end facing the block 4 turnably engages a rectangular pad 14 of substantially the same area as the face of said block above the bar. This pad is supported and guided in its movement independent of the adjustment screw by means of pins 15 secured on the

back face of the pad and slidable through the block 8.

Mounted in said block 8 for sliding movement therein at right angles to the teeth 2 and adapted to project between any two of the same is a pawl 16 yieldably held in such position by a spring 17. This pawl is raised at will to clear the teeth by a lever member 18 pivoted intermediate its ends on a plate 19 secured to said block on the face thereof opposite the pad, said lever member extending lengthwise of the bar. The inner end of this lever permanently engages a socket in the pawl, which at its outer end is shaped to form a suitable finger engaging pad and is disposed in cooperating position with a fixed finger ring 20 mounted in connection with said plate between the lever and bar and disposed in a vertical plane.

By means of this arrangement it will be seen that when one finger is engaged with the ring and the thumb is used to manipulate the lever the block may be readily shifted in either direction as desired, so as to move the same close to the part being engaged before manipulating the screw 13. It will also be seen that owing to the particular positioning of the outer end of the lever and the ring, these parts are in a very convenient position to be engaged by the proper digits of the hand so that not only may the lever be very easily depressed but shifting movement of the block, as said lever is held depressed, is rendered a very simple and easy procedure.

This same pawl and operating arrangement is mounted in connection with the blocks 5 and 4, as well as with the opposed blocks 4^a and 4^b on the bar 1^b. The latter bar and the slidable members thereon are of greater length and height respectively than in the other types, and are made of correspondingly greater proportions throughout, being particularly intended to straddle a load of lumber on a truck or the like, so as to keep such load from displacement while being transported.

The blocks, or rather arms, 4^a and 4^b, are also provided on their outer sides with rope engaging cleats and eyes as indicated at 21.

The bar of the type of device shown in Fig. 1, as well as the bar 1^a, may be provided with the spaced holes for the reception of the clamp-studs, so that this type may also be mounted in a rigid manner if desired.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A clamp including a bar having ratchet teeth along one face thereof, a block slidable along the bar, a pawl mounted in the black at an angle to the toothed face thereof and normally engaging one of the teeth, means for releasing the pawl from the teeth comprising a depressible finger-lever pivoted in connection with and projecting at one end into the block to permanently engage the pawl and a rigid finger-ring fixed in connection with the block on the same end as that from which the lever projects and disposed between said lever and the bearing.

2. A clamp including a rigid bar, a block slidably mounted thereon, clamping elements for detachable engagement with a bench, and studs projecting from said elements to extend through one side face of the bar; the block being cut away from surrounding relationship with the bar on the corresponding side, to permit of sliding movement of the block past the studs and clamping elements.

In testimony whereof I affix my signature.

ANGELO DISIBIO.