

M. PAGE.
BENCH VISE.
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1,063,379.

Patented June 3, 1913.

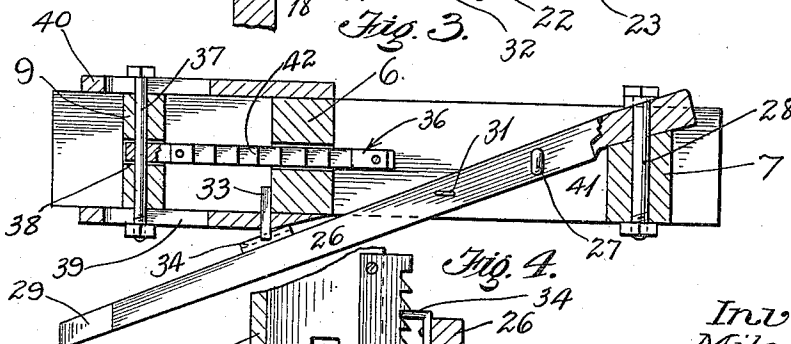
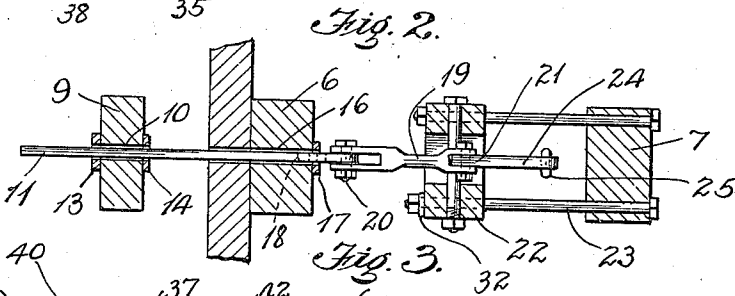
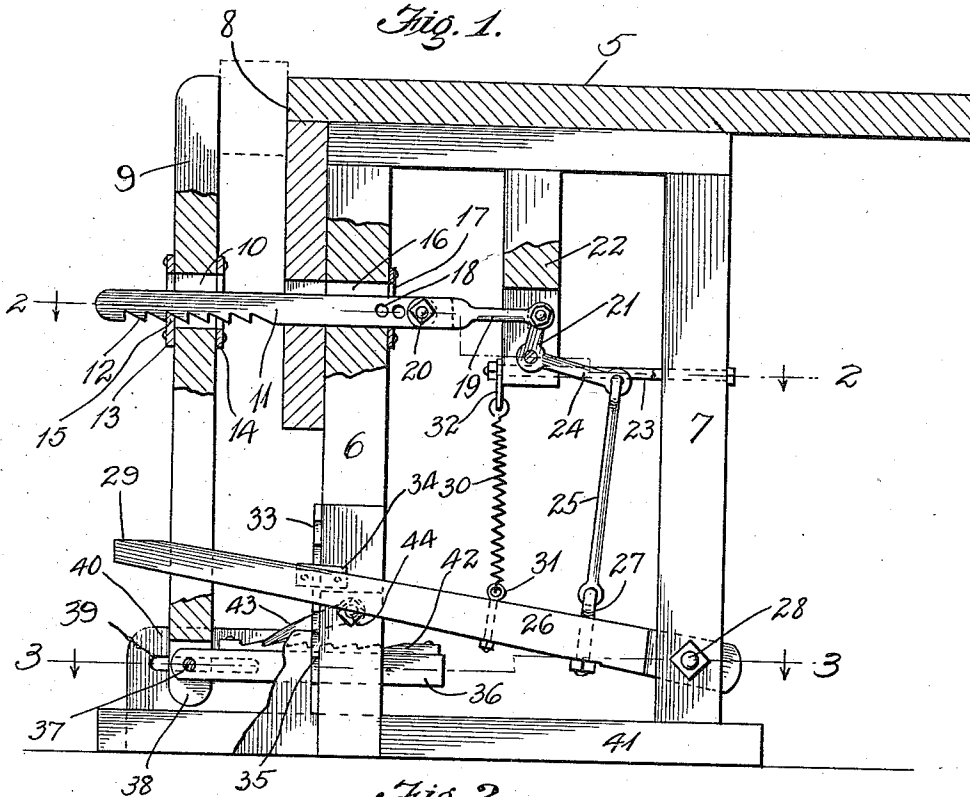


Fig. 4.

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MILO PAGE, OF BENTON, CALIFORNIA.

BENCH-VISE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MILO PAGE, a citizen of the United States, residing at Benton, in the county of Mono and State of California, have invented a new and useful Improvement in Bench-Vises, of which the following is a specification.

This invention relates to bench vises and more particularly to vises adapted for carpenters' benches, and the principal object is to provide a foot operated vise.

It is a further object to provide a bench vise that is quickly and easily operated to vary the position of the movable jaws together with means to lift the operating lever to release the gripping action.

In the drawings accompanying this specification Figure 1 is a transverse longitudinal section through a work bench, most of the movable parts of the device being shown in elevation. Fig. 2 is a section on the line 2—2 of Fig. 1 looking in the direction indicated by the arrows. Fig. 3 is a section on the line 3—3 of Fig. 1 looking in the direction of the arrows. Fig. 4 is a detail cross section of the operating foot lever showing its engagement with its locking rack.

In the drawings like numerals indicate similar parts, 5 being the top of a bench supported by suitable legs 6 and 7, and front edge 8 with its face forming one jaw adjacent to which is mounted the movable jaw 9, preferably formed of a suitable piece of wood, as are all the other parts previously mentioned of the structure.

The jaw 9 is of the general common form provided with a slot 10 through which is adapted to project the reciprocating bar 11 provided with the teeth 12 on its lower edge. Secured to this jaw 9 and providing bearing surfaces which surround the slot 10, are the metal plates 13 and 14, the former of which is provided with a tooth 15 which is adapted to engage with the teeth 12 on the bar 11. This bar 11 passes through a similar registering slot 16 in the leg 6 and the face secured thereto, a metal bearing plate being also provided to embrace the inner end of the slot.

The inner end of the bar projects beyond the plate 17, and is provided with a plurality of bores 18 to permit of adjustment. This inner end of the bar 11 is adapted to be engaged by the yoke bar 19 provided with the bolt 20 to secure this latter to the bar 11, the inner end of the bar 19 being pivot-

ally mounted on one arm of the bell crank 21. This bell crank 21 is pivotally mounted on the bracket 22 suspended from the bench intermediate of the legs 6 and 7, preferably stayed to the latter by means of the bolts 23. The longer arm 24 of the bell crank is connected to the pitman 25 which in turn is pivotally connected to the foot lever 26 by means of the eye bolt 27.

The foot lever 26 which is shown as a wooden lever of sufficient length to extend from its pivotal connection 28 close to the foot of the leg 7 to a point beyond the vertical jaw 9, is provided with the foot tread 29. Attached to the foot lever is the spring 30, preferably a spiral spring, connected to the lever by an eye bolt 31 and to a bracket 32 secured by the stay bolt 23 to the bracket 22, so that the lever is normally lifted out of engagement with its locking rack 33. A suitable engaging bracket 34 is provided secured to the side of the lever adjacent the rack 33 and adapted to engage with the teeth 35 on the latter, this rack being supported on the leg 6.

The leg 6 has a second slot adjacent the rack 33 which embraces the jaw bar 36, this bar being pivotally connected to the jaw 9 by the bolt 37 which passes through the slot 38 in the jaw, this bolt extending beyond the edges of the jaw and engaging with the guideways 39 which are formed in the guide plates 40 secured on either side of the leg 6. These guide plates are also secured to the foot plate 41 which assists in the support of the bench being secured to the lower ends of the legs 6 and 7.

On the upper edge of the jaw bar 36 is preferably secured the tooth rack 42 which is adapted to be engaged by the forwardly projecting pawl 43 pivoted in the upper end of the lower slot in the leg 6 by means of the bolt 44.

The operation of the device will be readily understood by the description and the drawings.

When it is desired to change the width of the material to be gripped by the jaws, the bar 11 is raised slightly to clear the tooth 15, and the jaw is held with its upper end in engagement with the material to be gripped. Then the rod 11 is dropped in engagement with the tooth 15, and any necessary adjustment of the lower end can be made by moving the pawl 43 in engagement with the tooth until the preferable parallel

relation between the jaw and its adjacent facing is obtained. By pressure on the foot tread of the lever the same is forced down until the proper tension is obtained, the
 5 lever being so adjusted as to readily spring the bracket 34 to engagement with the teeth on the rack 33. In the reverse movement, the lever 26 is forced slightly outward away from the leg 6, releasing the bracket 34 and
 10 the tension of the spring lifts the foot lever and the jaw so that the work previously gripped to the jaw can be readily removed.

What I claim is:

1. In a bench vise, in combination with a
 15 bench, having a jaw facing formed thereon, of a pivotally and slidably mounted jaw adjacent said jaw face, a pair of toothed bars connected to said jaw, a pivoted operating lever mounted on said bench, a bell crank
 20 lever pivoted to said bench, means to connect said bell crank lever to one of said toothed bars and to said operating lever, a pawl engaging with the other of said toothed bars and a locking means to secure said lever in

positive relation in the actuation of said 25 toothed bar.

2. In a bench vise, in combination with a bench having a jaw face and a bench supporting means, of a slotted jaw pivotally and slidably mounted in relation to said jaw 30 face, a lower toothed bar secured by pivotal means to said jaw, a pawl adapted to engage the said toothed bar, an upper toothed bar engaging in said slot in said jaw provided with adjusting means, a bell crank lever 35 mounted on said bench adjacent said upper toothed bar, an operating lever pivoted to one of the supports of said bench, rods connecting said bell crank lever to said tooth bar and said operating lever, and a spring 40 adapted to lift said lever.

In witness that I claim the foregoing I have hereunto subscribed my name this 15th day of October, 1912.

MILO PAGE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."