

J. M. CONLEY.

WISE.

APPLICATION FILED MAR. 11, 1913.

1,069,678.

Patented Aug. 12, 1913.

Fig. 1.

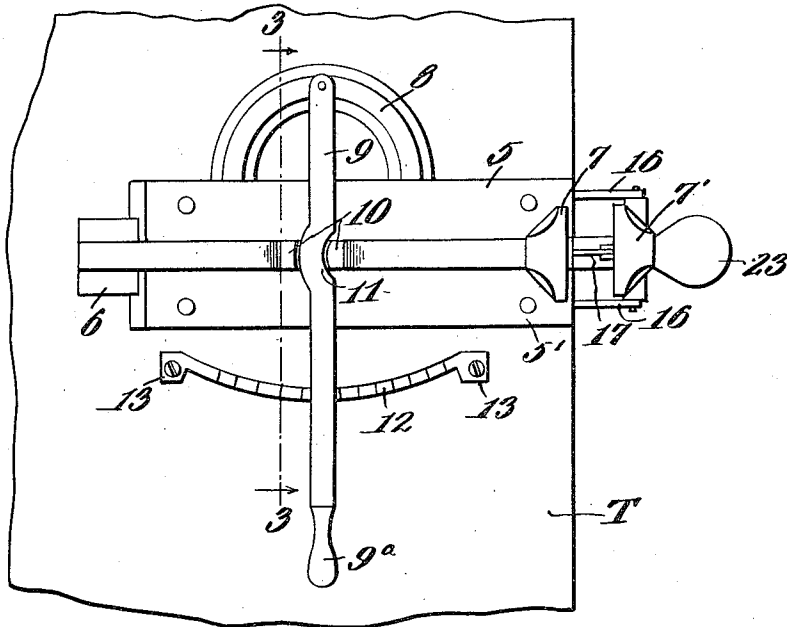


Fig. 2.

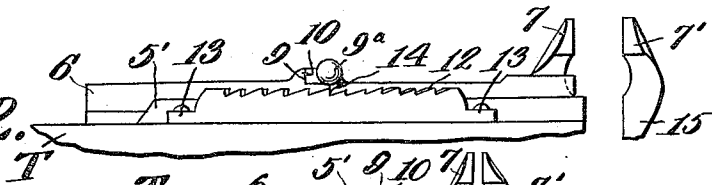


Fig. 4.

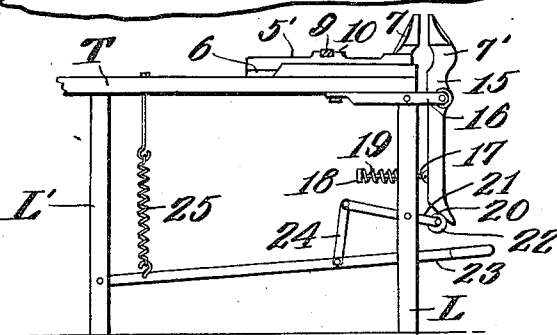
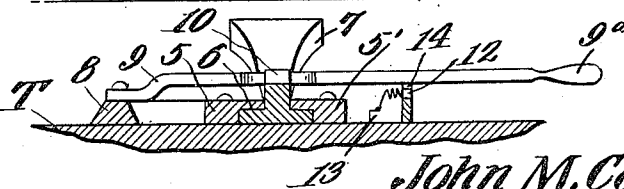


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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1,069,678.

Specification of Letters Patent. Patented Aug. 12, 1913.

Application filed March 11, 1913. Serial No. 753,598.

To all whom it may concern:

Be it known that I, JOHN M. CONLEY, a citizen of the United States, residing at Golconda, in the county of Pope and State of Illinois, have invented a new and useful Vise, of which the following is a specification.

The present invention appertains to bench vises or the like, and aims to provide a novel and improved device of this character.

It is the object of the present invention to provide in combination with a jaw adapted to be brought under tension by a treadle, a jaw coöperating therewith and adapted to be adjusted in a novel and improved manner relative to the said jaw so as to receive various sized objects therebetween.

Another object of the invention is to provide a slide carrying the adjustable jaw co-operating with the manually actuated jaw, in connection with the novel means for quickly adjusting the slide to various positions and for locking the same in such positions.

With the foregoing general objects outlined and with other objects in view which will appear as the nature of the invention is better understood, the present invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The preferred embodiment of the invention has been illustrated in the accompanying drawings, wherein similar reference characters have been employed to denote corresponding parts and wherein:—

Figure 1 is a plan view of the device. Fig. 2 is a fragmental side elevation. Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a reduced side elevation of the entire device showing the actuating means for the outer or forward jaw, part of the actuating mechanism for the inner or rear jaw being broken away.

In carrying out the invention, reference being had to the accompanying drawing, there is provided a guide comprising the side pieces 5 and 5' which are bolted or otherwise secured on the table or bench top although it is to be understood that the vise may be attached to various objects as

will be found convenient. The guide is secured laterally on the table or bench top with one end thereof adjoining one edge of the table or bench top, the side pieces being undercut and having a slide 6 of T-shaped cross section therebetween. The slide 6 carries the inner or rear jaw 7 at its forward end, said jaw upstanding from the slide and being adapted to be moved to one side or the other of the edge of the table or bench top.

The side piece 5 of the guide is provided with an arcuate bracket 8 projecting therefrom and lying on the table top, and to which is pivoted an actuating lever 9. The lever 9 is thus pivoted or fulcrumed on one side of the guide and passes through a pair of lugs 10 provided on the slide 6 and upstanding from and integral with the slide at an intermediate point. The lever 9 is preferably constructed of a flat bar with its respective edges engaging the lugs 10, the portion 11 of the lever between the lugs being curved or bowed so that the curved portion 11 may work within the lugs as the lever is swung backwardly and forwardly. The lever 9 is provided at its free end with a handle or grip 9^a for manually swinging the same.

At the side of the guide or slide opposite the bracket 8, there is provided a segment or arcuate ratchet bar 12 set on the edge of the table or bench top 3 and having a series of ratchet teeth along its upper edge. The segment or ratchet bar 12 is preferably provided with ears or feet 13 at its ends, which may be bolted or otherwise secured to the table or bench top, the segment or ratchet bar being curved about the fulcrum of the lever 9 as a center. The lever 9 is provided with an integral depending dog or pawl 14 co-operating with the ratchet teeth, the ratchet teeth facing forwardly and the pawl or dog facing rearwardly so that as the lever is swung forwardly, the pawl or dog 14 is adapted to engage the respective ratchet teeth so as to lock the lever against retrograde or rearward movement, and thus when the lever is sprung or lifted slightly so as to disengage the pawl or dog it permits the slide to be moved inwardly or rearwardly.

The outer or forward jaw has been designated by the numeral 7', the same complementing the jaw 7 and being formed at the upper end of a lever 15. The lever 15 is

preferably fulcrumed to a pair of bars 16 secured to the bottom of the table or bench top T, the upper arm of the lever being relatively short while the lower arm is relatively long in order to provide a sufficient leverage, as will hereinafter appear. To the lower arm of the lever 15 is pivoted a rod 17 which passes through the front leg or support L of the table or bench top, and which has a head 18 at its inner or rear end, a coiled wire spring 19 being compressibly disposed between the head 18 and the leg or support L so as to give an inward tension to the lower arm of the lever 15, to thereby yieldably hold the jaw 7' away from the jaw 7.

In order to actuate the lever 15, the lower end thereof has been beveled or provided with a cam 20, and a lever 21 has been fulcrumed to the support L, and carries a grooved roller 22 engaging the cam 20. A treadle 23 is fulcrumed to the rear leg or support L' and is connected to the rear arm of the lever 21 by a link 24 so that when the treadle is depressed, the roller 22 will be carried upwardly, and by its contact with the cam 20 will force the lower arm of the lever 15 forwardly and will thereby swing the jaw 7' toward the jaw 7. The treadle 23 is normally retained in raised position by means of a retractile spring 25 connecting the treadle adjoining its fulcrum with the table or bench top 3.

In use, the jaw 7 may first be set so that the object to be clamped may be readily accommodated by the jaws, it being noted that the jaw 7 may be moved forwardly by swinging the lever 9 forwardly so that the pawl 14 engages over the respective ratchet teeth to lock the lever and slide against retrograde or rearward movement. The slide, however, may be slid rearwardly when necessary by slightly raising or springing the lever upward so that the lever may be moved backwardly to carry the slide and jaw 7 backwardly or rearwardly therewith. When the jaw 7 has been properly set, the object is placed between the two jaws, and by de-

pressing the treadle 23, the jaw 7' will be brought into engagement with the object so as to tightly grip or hold the same between the two jaws. By relieving the treadle 23 of the foot pressure the tension created by the foot will be removed from the jaw 7' and the object may thus be readily freed. In this manner by actuating the treadle 23, the object may be quickly clamped and released, the jaw 7 being readily adjustable for various sized objects.

The treadle 23 may be held depressed by means of a ratchet, the treadle bearing a pawl or dog engageable with the ratchet, so that the constant pressure of the foot will not be necessary.

The present invention is an improvement over the device disclosed in my Patent No. 1,050,919, issued January 21, 1913.

What is claimed is:—

1. In a vise, a guide, a slide movable therein having a jaw at one end, the slide having a pair of upstanding lugs at an intermediate point, a second jaw cooperating with the aforesaid jaw, a lever fulcrumed at one side of a guide and having an arcuate portion engaged between the said lugs, and means for locking the lever at its various adjustments.

2. In a vise, a guide, a slide movable therein and having a jaw at one end, the slide having a pair of upstanding lugs at an intermediate point, a spring pressed manually operable jaw cooperating with the aforesaid jaw, a lever fulcrumed at one side of the guide and engaged between the said lugs, and an arcuate ratchet bar disposed at the other side of the guide, the lever having a dog engageable with the ratchet bar.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN M. CONLEY.

Witnesses:

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C. B. STORTON.