

YISE.

1,283,192. .

2 SHEETS—SHEET 1.

[illegible]

Fig. 6

*Fig. 7*

*Fig. 3*

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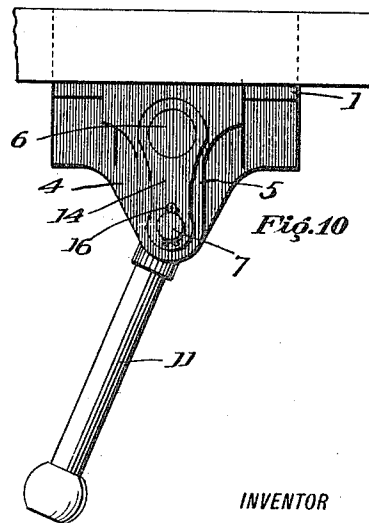
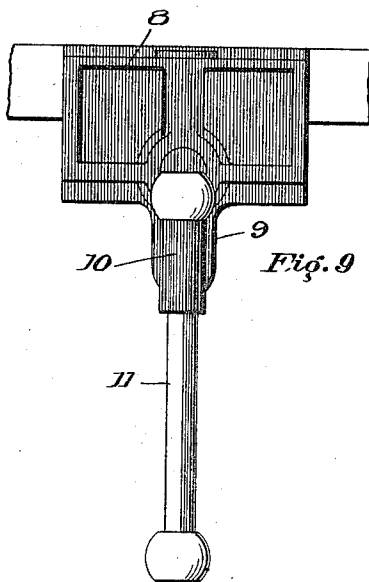
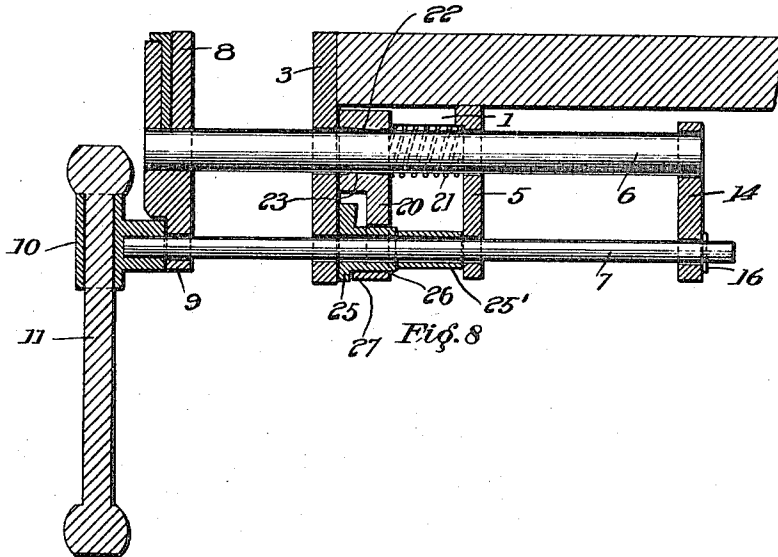
WISE.

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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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WISE.

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Specification of Letters Patent.

Patented Oct. 29, 1918.

Application filed March 1, 1917. Serial No. 151,666.

*To all whom it may concern:*

Be it known that I, SAMUEL HUGHES, citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Vises, of which the following is a specification.

This invention is an improved vise, the jaws of which normally may be readily moved toward each other into engagement with the work and tightened to grip the work, and the jaws may be readily untightened and moved apart.

In the accompanying drawing which forms a part of this specification, I have illustrated the invention in the form which I consider the best, but it is to be understood that it may be embodied in other forms and it is intended that this specification and the appended claims cover the invention in whatever form it may be embodied.

Referring to the drawing:

Figure 1 is a side elevation of the invention attached in position for use with the jaws in non-gripping position.

Fig. 2 is a bottom plan view thereof.

Fig. 3 is a front end view of the vise, certain parts thereof being shown in section and other parts being removed.

Fig. 4 is a rear view of the gripping element.

Fig. 5 is a sectional view of the gripping element.

Fig. 6 is an end view of the cam for actuating the gripping element.

Fig. 7 is a side view of said cam.

Fig. 8 is a longitudinal section of the vise attached in position for use, the jaws being shown in non-gripping position.

Fig. 9 is a front elevation of the vise attached in position for use.

Fig. 10 is a rear elevation of the vise attached in position for use.

In the drawing 1 indicates a frame adapted to rest against the under side of a bench and is provided with holes 2 through which screws are driven into the bench, thus securing the frame to the bench. A stationary jaw 3 is formed on the front end of the frame 1 and projects upwardly and rests against the front edge of the bench. A bearing 4 depends from the front end of the frame 1 and a bearing 5 depends from the rear end of the frame, in which bearings are reciprocally mounted movable jaw shank 6 and shaft 7, and in which said

shaft is also rotatively journaled. The shank 6 is secured to a movable jaw 8 and extends rearwardly therefrom through the bearings 4 and 5. The front end of the shaft 7 extends through and is journaled in a bearing 9 depending from the movable jaw 8. On the front end of the shaft 7 is secured a handle sleeve 10 in which is slidably mounted a handle 11. A lug 12 is formed on the hub of the handle sleeve which lug is adapted to engage a lug 13 on the movable jaw to limit the rotary movement of the shaft 7. A connecting member 14 slips over the rear ends of the shank 6 and shaft 7. A pin 15 is driven through said member and the shank and a pin 16 extends through the end of shaft 7 against the member 14 which pins hold said member on the rear end of the shank and shaft and connect the rear end of the shank and shaft together. A gripping element 20 surrounds the shank 6 between the bearings 4 and 5, and a spring 21 surrounds the shank with its respective ends engaging the bearing 5 and the rear of said gripping element which spring holds the front face of said gripping element against the bearing 4. Said gripping element has a pair of gripping jaws 22 and 23 for engaging the shank 6. A cam 25 is slidably mounted on the shaft 7 for rotation with said shaft.

The front end of the cam rests against the rear face of bearing 4 and a sleeve 25' surrounds the shaft with its respective ends engaging the rear end of the cam hub and the bearing 5, whereby the cam is maintained against axial movement between said bearings. The hub of the cam projects through an opening 26 in the lower portion of the gripping element. A cam 27 is provided on the lower extremity of the gripping element which the cam 25 is adapted to engage to move the lower end of the gripping element outwardly to cause the jaws 22 and 23 of the gripping element to grip the shank 6 and hold the said shank against axial movement and the vise jaw in gripping position. The shaft 7 is provided with an axial slot 28 in which slides a feather 29 secured to the cam 25, whereby the shaft is allowed to slide through the cam and the cam is caused to rotate with the shaft.

Normally the cam 25 releases the lower end of the gripping member and the spring 21 holds the gripping element with the jaws 22 and 23 in non-gripping position with

relation to the shank 6 and the lug 12 on the handle sleeve rests at the right of lug 13. In this position the shank 6 and shaft 7 may slide freely through the bearings 4 and 5 and the jaw 8 moved freely toward or away from the jaw 3. When it is desired to grip a piece of work between said jaws, the work is placed therebetween and the jaw 8 pushed against the work; the handle is then turned clockwise, causing the shaft 7 and cam 25 to turn and the cam 25 to engage cam 27 and move the lower end of gripping element 20 rearwardly, the front of the upper part thereof being held against the bearing 4, whereby the jaws 22 and 23 grip the shank 6 and hold the jaw 8 in gripping position and the work gripped between said jaw and the jaw 3.

The turning of the cam 25 is limited by the engagement of the lugs 12 and 13 so that the cam cannot be turned past the position in which it engages cam 27 and holds the jaws 22 and 23 in gripping position with shank 6.

Having described my invention, I claim as new and desire to secure by Letters Patent:

1. A vise comprising a frame, a vise jaw

on said frame, bearings on said frame, a second vise jaw, a shank on said second vise jaw reciprocatively mounted in said bearings, a gripping element, a shaft reciprocatively and rotatively mounted in said bearings, a cam on said shaft for engaging and causing said gripping element to grip said shank and lock the vise jaws in gripping position, a handle for turning said shaft and cam to actuate said gripping element, and means for limiting the turning movement of said cam.

2. A vise comprising a frame, a vise jaw on said frame, bearings on said frame, a second vise jaw, a shank on said second vise jaw reciprocatively mounted in said bearings, a gripping element, a shaft reciprocatively and rotatively mounted in said bearings, a cam on said shaft maintained between said bearings said cam being slidable on said shaft and rotatable therewith, means for rotating said shaft to cause said cam to engage and cause said gripping element to grip said shank and lock the vise jaws in gripping position.

In testimony whereof I affix my signature.  
SAMUEL HUGHES.

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