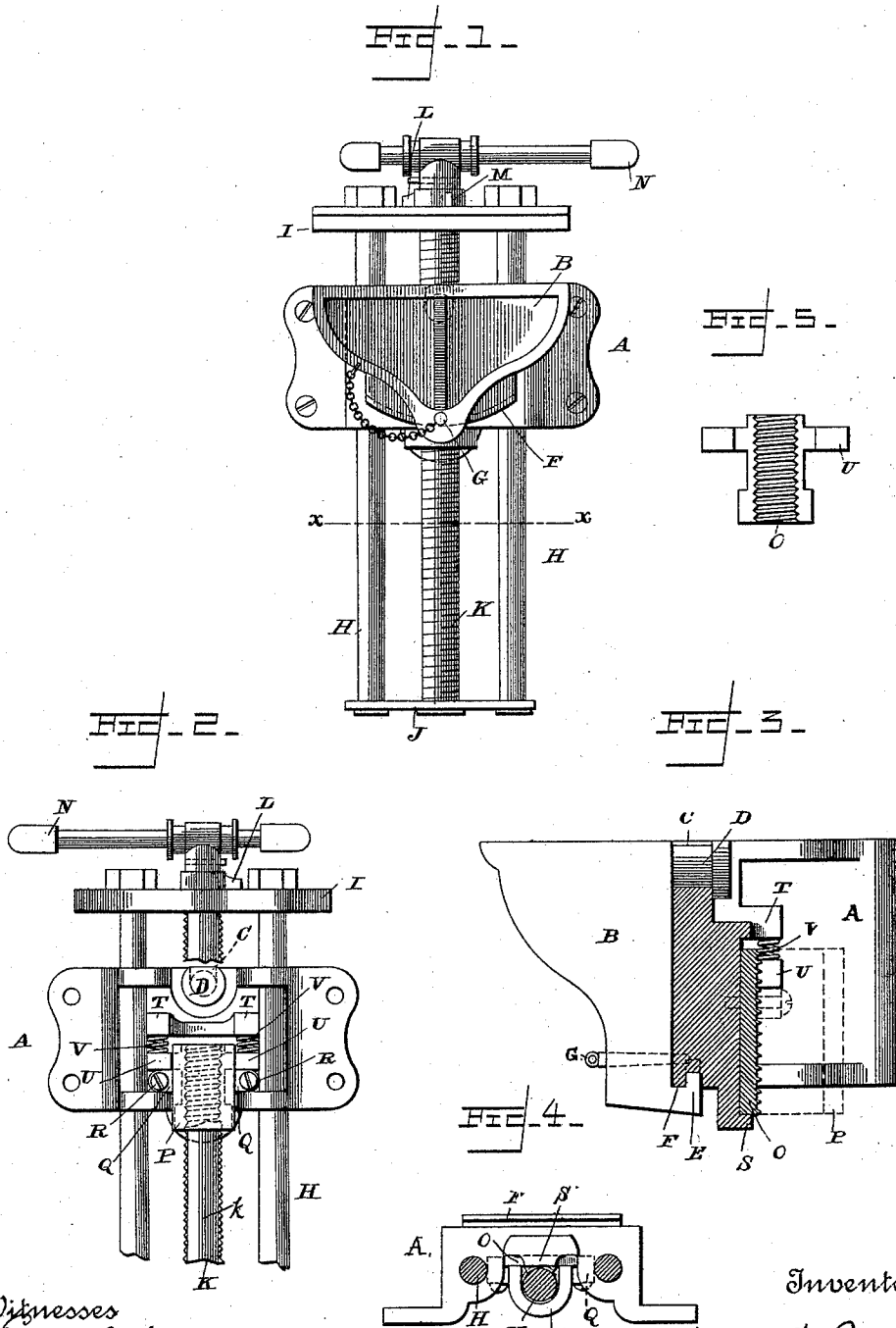


(No Model.)

H. C. RASNER.
VISE.

No. 527,217.

Patented Oct. 9, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

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WISE.

SPECIFICATION forming part of Letters Patent No. 527,217, dated October 9, 1894.

Application filed February 19, 1894. Serial No. 500,682. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. RASNER, a citizen of the United States, residing at San Francisco, in the county of San Francisco, State of California, have invented certain new and useful Improvements in Vises; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the letters of reference marked on the accompanying drawings, which form a part of this specification.

The object of my invention is to provide a quick-action vise which may be instantly adjusted in contact with the work to be gripped, and then to bring into action a screw clamping device. The vise jaws are similarly and rapidly adjusted to and from the work. For this purpose I employ a mutilated screw bolt and a peculiar nut device which will hereinafter be particularly referred to.

With these objects in view my invention consists in the following construction and combination of parts, the structure of which will first be described in detail, and the novel points believed to be new then described and claimed.

In the drawings: Figure 1 is a plan view of a vise to which I have applied my improvements. Fig. 2 is a bottom view of the same. Fig. 3 is a detail side elevation, partially in section. Fig. 4 is a rear elevation of the vise bed, and Fig. 5 is a detail of the yielding nut plate.

A represents the bed plate and standard adapted to be secured by screws or bolts upon a suitable bench or support.

B is a detachable jaw-head mounted upon the bed A. The bed is slotted at C to receive the pintle D upon which it oscillates and E is a hook or ledge formed oppositely of the pintle D and adapted to move along or in engagement with a segmental ledge F formed on the bed A.

G is a pin preferably secured to the jaw-head B by a chain, which is adapted to register with pin-holes in the jaw-head and bed so as to lock the jaw at right angles to the main operating screw. By swinging the jaw-head B in either direction beyond the raised seg-

mental ledge F the jaw may be removed or inserted upon the bed A. The ledge E may or may not be hook-shaped so as to enter a groove in the bed.

H are guide rods extending parallel in bearings formed in opposite sides of the bed A so as to slide therethrough. One end of the guide rods H carries the movable jaw-head I, which is the complement of the jaw-head B, and the opposite ends of the rods H are preferably united by a cross brace J.

A main nut is carried by the bed A, and the operating screw K passes through said nut and has its opposite ends secured in the jaw-head I and the cross-brace J.

N is the operating handle of the screw K constructed in the usual way.

L is a lug moving with the screw K, and M, a stop upon the jaw-head I for limiting the rotary movement of the screw K.

This vise is of the quick-action type.

The screw K is a mutilated one having a longitudinal spline or groove of sufficient width to slide under the nut-plate whenever they register with each other to permit the rapid advancement or recedure of the jaw-head I with respect to the jaw-head B.

O is the nut-plate having a mutilated, concave, segmental series of threads of a width slightly less than the groove or spline k so as to permit the latter to slide freely under it.

P is the nut sleeve or box having ears Q formed oppositely thereon, through which bolts R are passed, securely fastening the sleeve P to the under side of the bed under the nut plate O. The nut sleeve P is not threaded and its ears rest on the opposite sides of the nut-plate O and may serve to limit its longitudinal movement.

The nut-plate O rests loosely within the bed A, upon its under side, between a ledge S on one side, and lugs T on the other, within which it has a limited longitudinal play or movement upon the upper opposite edges of the nut-box sleeve P.

U are oppositely formed ears or lugs integral with the nut-plate O, projecting outwardly at each side.

V are springs or cushions between the lugs T and U which act to move the plate rearwardly against the stop or ledge S.

When the groove *k* registers with the nut-plate *O* the jaw-head *I* can be rapidly set to and from its work, and when it is desired to clamp the work handle *N* is rotated so as to bring the screw *K* and nut-plate *O* into engagement. As a result the screw *K* enters the thread upon the nut-plate, causing the latter to move longitudinally for a short distance against the pressure of the springs *V*. By this time the threads of the nut-plate and the screw have entered into substantial contact sufficient to prevent any tendency of the threads of either nut or screw being stripped or subjected to undue strain, which would be the tendency, provided there were no yielding of the thread elements. The lug *L* and stop *M* serve to prevent undue rotation of the screw *K*. The cross-brace *J* serves to steady the rods *H* and the screw *J*. The hook *E* may be dispensed with if desired. The springs *V* return the nut-plate *O* to its normal position when the nut and screw are out of engagement. By my invention the screw enters and moves the nut longitudinally far enough to allow

the thread to get a full hold on the nut before tightening on the work. The cross brace *J* steadies and supports the screw *K* also, in such manner that the wear of the threads upon the nut sleeve *P* is prevented when the vise is being adjusted to its work. By removing the pin *G* from the jaw-head *B* said jaw-head may be oscillated for the purpose of holding any special work.

I claim—

The combination of a bed, a nut-seat thereon, a mutilated nut resting in said seat having a rectilinear longitudinal movement in the seat, means for normally throwing the nut into one end of its seat, a jaw on the bed, a mutilated screw working in connection with said nut and a jaw carried by said screw.

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY C. RASNER.

Witnesses:

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