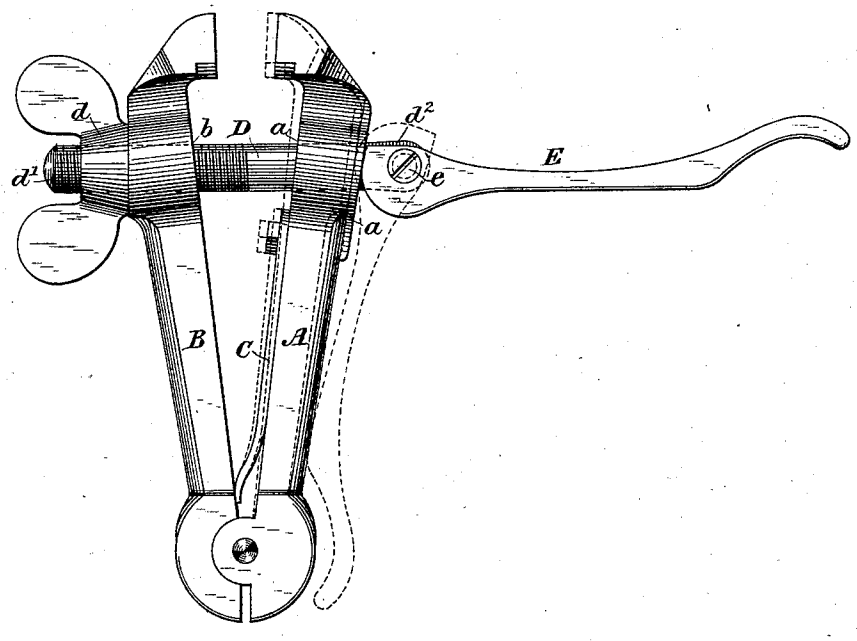
(No Model.)

W. M. WHITING.

VISE.

No. 299,889. Patented June 3, 1884.



WITNESSES

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WILLIAM M. WHITING, OF ELIZABETH, NEW JERSEY.

VISE.

SPECIFICATION forming part of Letters Patent No. 299,889, dated June 3, 1884.

Application filed October 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. WHITING, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Vises, of which the following is a specification.

The object of my invention is to construct a vise for grasping and securely holding articles of various sizes in such a manner that the pressure exerted by the pivoted jaws may be increased at will by a device acting independently of the screw and nut usually employed for forcing them together.

The invention consists in applying to that end of the clamping bolt or screw of a vise which is opposite to the nut by which the pivoted jaws of the vise are forced together a cam-lever movable in a vertical plane, which not only fulfills the office of the head of the screw-bolt, thus permitting the vise to be used in the ordinary manner, but also, in case it is desired to obtain greater pressure than can be conveniently secured by means of the screw and nut, may be independently employed for forcing the jaws still nearer to each other. The cam-lever is so applied that it may be conveniently grasped by the hand while holding the vise, and the necessary pressure may thus be applied without other effort than that required to hold it in position.

This improvement is of special value in working successively upon several articles of the same size, for in such case the vise may be set, by means of the ordinary screw, in such position as to allow the object to be readily placed between the jaws, after which the necessary pressure for grasping and holding the object may then be instantly secured by means of a single movement of the cam-lever. I have designed the vise with especial reference to the requirements of telegraph-line men. In constructing lines it is essential that the apparatus with which they perform the operations of tying and splicing the wires should be as simple and convenient as possible. The usual form of vise is inconvenient in these operations, for the reason that it is always necessary to turn a nut or screw-lever to cause it to grasp the wire, thus occupying both hands, whereas this form may be readily employed by using only the hand which holds the vise to operate the cam-lever and cause it to grasp the wire.

The accompanying drawing is a front elevation of an ordinary hand-vise to which the invention has been applied, showing the clamping-lever in its normal position, and in dotted lines in the position to which it is brought for the purpose of increasing the pressure of the jaws.

Referring to the drawing, A represents the main or fixed jaw of a vise, to which is pivoted the movable jaw B. A spring, C, normally tends to force these jaws apart from each other. A bolt, D, having a screw-thread formed upon it, extends through suitable apertures, *a* and *b*, in the jaws A and B. At one end of the screw-bolt is pivoted a cam-lever, E, which at the same time serves as a head for the bolt D, and prevents it from passing through the aperture *a*. The bolt is, for the purpose of attaching the cam-lever, and for the additional purpose of preventing it from turning, flattened along the portion d^2, extending through and beyond the jaw A; or it may with advantage be made of rectangular cross-section. A nut, *d*, turns upon the thread d' of the bolt D, projecting from the opposite side of the jaw B. By means of this screw the two jaws may be forced together, in the manner of an ordinary vise. When, however, a greater pressure is desired than may readily be obtained by means of the screw and nut, the cam-lever E is raised into the position shown in full lines in the drawing, so that the narrowest portion of its eccentric is interposed between the jaw and the pivot *e* of the lever. After the jaws have been brought sufficiently near together by means of the nut *d*, the final pressure for grasping the object may be obtained by forcing the lever downward into the position shown in dotted lines, where it may be conveniently held by grasping it in the hand, together with the lower portion of the vise. The pressure of the cam as it bears against the face-plate *a* forces the jaw A forward into the position shown in dotted lines. The cam-lever may be constructed to secure a greater or less movement of the jaws, as de-

sired, which will depend upon the form given to the curve of its bearing-surface.

I am aware that vises have heretofore been constructed with laterally-moving cams, and also that cams have been employed in connection with screw-bolts for acting upon the jaws of a saw-clamp, and that a cam-lever has been applied in connection with a ratchet for acting upon a movable jaw, and I make no claim to such construction.

I claim as my invention—

1. The combination, with the pivoted jaws of a vise, of a threaded bolt whose axis coincides with a vertical plane passing longitudinally through the middle of both jaws, a nut turning upon said bolt bearing against one jaw, and a cam-lever pivoted to said bolt and movable in a vertical plane bearing against the other jaw, said nut and cam-lever being capable of either independent or conjoint action, as set forth.

2. The combination, with the pivoted jaws of a vise, of a threaded bolt whose axis coincides with a vertical plane passing longitudinally through the middle of both jaws, a nut turning upon said bolt bearing against one jaw, a cam-lever pivoted to said bolt and movable in a vertical plane bearing against the other jaw, said nut and cam-lever being capable of either independent or conjoint action, and a spring for keeping said jaws normally separated, as set forth.

In testimony whereof I have hereunto subscribed my name this 9th day of October, A. D. 1883.

WILLIAM M. WHITING.

Witnesses:
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