

R. W. & L. H. BATEMAN.
VISE.

APPLICATION FILED OCT. 25, 1910.

1,002,486.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

FIG. 2

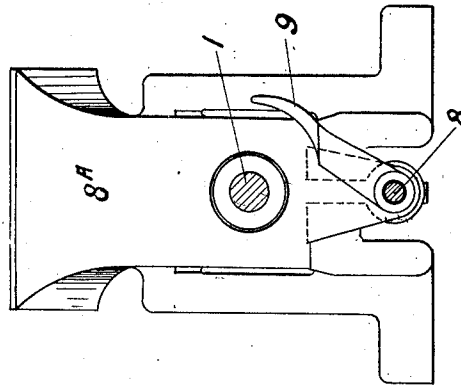
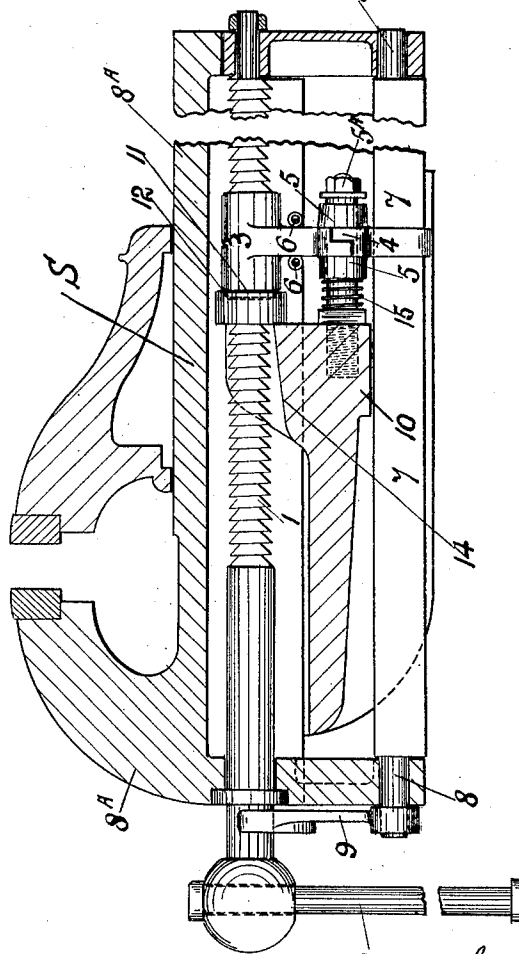
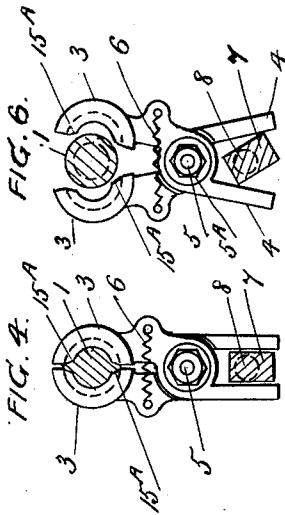


FIG. 1



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2 SHEETS-SHEET 2.

FIG. 3

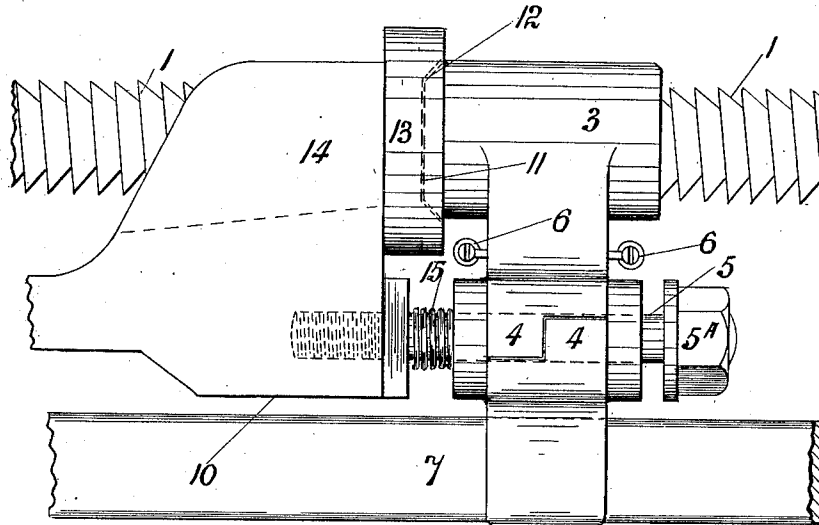
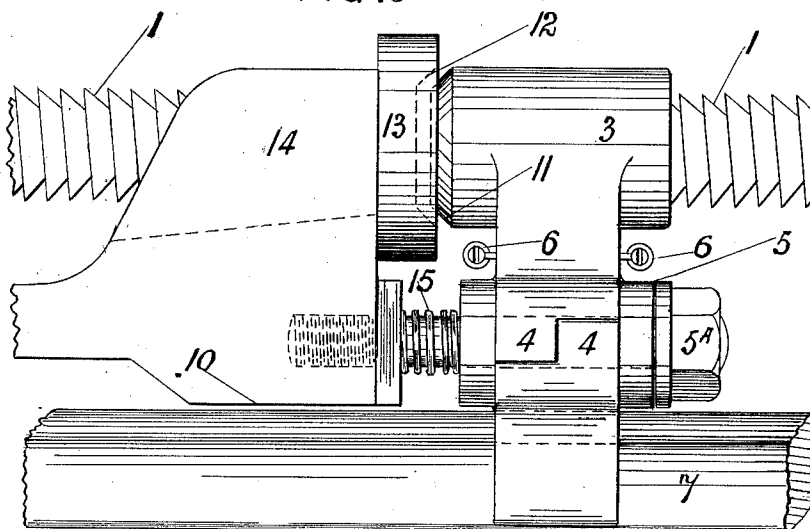


FIG. 5



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UNITED STATES PATENT OFFICE.

RICHARD WILKINSON BATEMAN AND LOFTUS HANSON BATEMAN, OF LEEDS, ENGLAND.

VISE.

1,002,486.

Specification of Letters Patent.

Patented Sept. 5, 1911.

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REISSUED

To all whom it may concern:

Be it known that we, RICHARD WILKINSON BATEMAN and LOFTUS HANSON BATEMAN, residing at 35 Hill Crest avenue, Leeds, in the county of York, England, have invented certain new and useful Improvements in Vises; and we do hereby 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.

This invention relates to improvements in parallel vises of the class in which the nut is made in two portions or halves pivoted together and closed on the operating spindle or screw by a tilting bar or rod and normally closed by a spring and so brought into or out of mesh with the spindle or screw and when the nut and screw are disengaged the movable jaw of the vise can be rapidly slid up to the work or the jaw opened or closed and when so moved the nut and screw can be engaged and the jaw screwed tightly into position. The present invention is designed to achieve these desired results in a vise of extreme simplicity which can be produced at comparatively small cost the invention comprising a divided nut closed by a spring and opened by an eccentrically mounted bar or rod, the divided nut, when closed, being held in this position owing to one of its ends being convex and engaging with a concave recess in the face of a disk or washer or in the face of a buttress, and when the jaws of the vise are relaxed, or the grip loosened, the divided nut is slidable on its carrying stud and may be slid thereon by a spring, so that the convex end of the nut is disengaged from the concave recess gradually and easily.

Referring to the drawings which form part of this specification:—Figure 1 is a sectional elevation of a vise made in accordance with the said invention. Fig. 2 is an end elevation of the vise with the operating handle removed. Fig. 3 is a view in elevation of part of the vise illustrating the divided nut in the closed position meshing with the operating screw and with its convex face engaging the concave recess the jaws of the vise being closed or gripping the work. Fig. 4 is an end view in elevation of the divided nut closed. Fig. 5 is a similar view to Fig. 3 but showing the divided nut open and disengaged from the operating screw and concave recess, the jaws of the

vise being open. Fig. 6 is an end view in elevation of the divided nut open.

According to this invention the operating spindle or screw 1 of the vise is mounted in fixed bearings and is rotated in either direction by handle 2 as ordinarily. The nut comprises two halves or portions 3—3 each half or portion 3 being carried on a rocking limb or arm 4 mounted on a stud 5, after the manner of a pair of pliers. The portions 3—3 are slidable on the stud 5, the amount of movement being limited between the nut 5^A and the spring 15. The upper or nut ends 3—3 of the limbs or arms 4—4 are drawn together by a spring 6 (or springs) and when closed (see Figs. 3 and 4) the two halves or portions constitute a complete nut through which the screw passes. Between the lower or outer ends of the arms or limbs 4—4 there passes a tilting bar or rod 7 eccentrically mounted on its carrying studs 8—8 and operated or rocked by a thumb lever 9 or like device and when tilted or rocked the eccentric rod or bar 7 bears upon the lower or outer ends of the limbs or arms 4—4 and rocking them on the stud 5 the tension of the spring 6 is overcome and the two portions or halves of the nut 3 are separated or opened (see Fig. 6) and disengaged from the screw 1. On releasing the thumb lever 9 the spring tension closes the nut 3 and the latter meshes with the screw 1.

The studs 8—8 are supported in bearings or supports fixed or cast to the base or slide S of the movable jaw 8^A of the vise as shown in Figs. 1 and 2. The rod or bar 7, being eccentric, operates upon and actuates each limb or arm 4 equally, and each portion of the nut 3 moves or opens or closes through a like arc and disengages or engages the screw 1 with a minimum amount of movement.

The stud 5 carrying the arms or limbs 4—4 is fixed in the base piece 10 of the vise. The inner face of the nut 3 is convex as at 11 and when the vise is closed or gripping the work the concave face 12 of a washer 13 interposed between the nut 3 and a buttress portion 14 of the vise. The convex and concave surfaces 11—12 when under pressure exert a closing tendency on the nut 3 which is thereby maintained in a closed position and for the time being is practically a solid or ordinary nut. When the jaws of the vise are relaxed or the grip of the vise loosened the nut 3 will rebound or auto-

5 matically release itself from the concavity of the washer and in order that the disengagement may take place gradually or smoothly a spring 15 is placed on the spindle 5 interposed between the boss of the nut 3 and the base 10.

10 The two halves or portions of the nut instead of being pivoted below the screw and formed after the manner of a pair of pliers may be hinged or pivoted above the screw the operation and action being in each case the same. The nut 3 can be of any desired length and the corners of each half or portion are removed as at 15^A so that the nut 15 3 disengages from the screw 1 with a minimum amount of movement.

Having now described our invention what we claim as new and desire to secure by Letters Patent is:—

20 In a vise, the combination, with a stationary base provided with a jaw, of a hollow slide slidable in the said base and also

provided with a jaw, said base having also a buttress portion which projects within the hollow slide, an operating screw journaled 25 in the said slide, a pair of crossed and pivoted arms supported by the said buttress portion and having nut sections at their upper ends, a rectangular bar having a pivot at each end, said pivots being pivoted in the 30 respective ends of the said slide and said bar being arranged to slide between the lower end portions of the said arms, and means for tilting the said bar to place the nut sections in engagement with the said 35 screw.

In testimony whereof we affix our signatures, in presence of two witnesses.

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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."
