

S. E. FRENCH & D. T. BATES.
 VISE.
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1,037,231.

Patented Sept. 3, 1912.

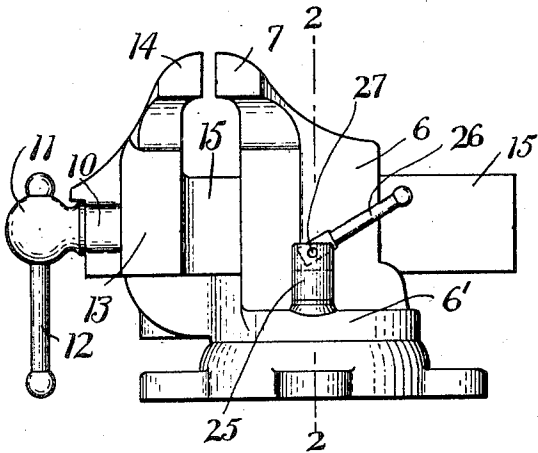


Fig. 1

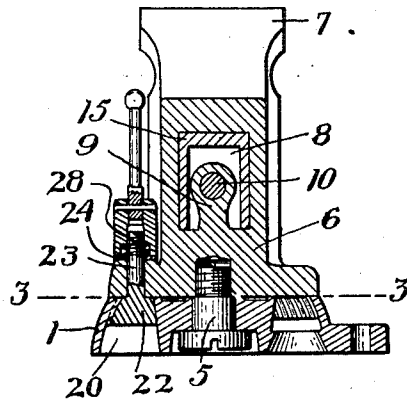


Fig. 2

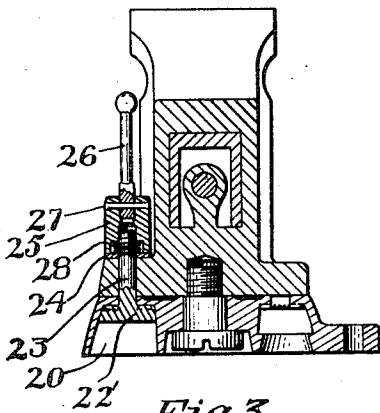


Fig. 3

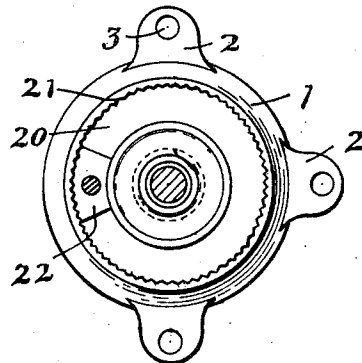


Fig. 4

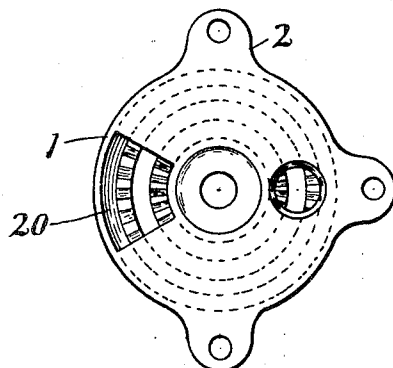


Fig. 5

Witnesses:

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UNITED STATES PATENT OFFICE.

STEPHEN E. FRENCH AND DRESSER T. BATES, OF ORANGE, MASSACHUSETTS, ASSIGN-
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WISE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, STEPHEN E. FRENCH and DRESSER T. BATES, both citizens of the United States, residing at Orange, county of Franklin, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Vises, of which the following is a specification.

This invention relates to vises, and particularly to a vise of the swivel-base type. In vises of this class, in which the vise proper is mounted for rotation on the vertical axis, it is a matter of considerable difficulty to provide locking means sufficiently positive to securely hold the vise against twisting on its pivot and yet permit it to be quickly and easily unlocked when it is desirable to make such an adjustment.

It is the object of our present invention to provide for this feature, together with various other features of improvement in structure. These various improvements will be more fully set forth in the specification which follows. In the drawings which form a part of this specification we have shown as an illustrative embodiment a form of vise which we have found well adapted to practical use.

Throughout the specification and drawings like reference numerals are employed to indicate corresponding parts, and in the drawings:—Figure 1 is a side view of a vise embodying our invention, Fig. 2 is a section on the line 2—2, Fig. 1, Fig. 3 is a sectional view similar to Fig. 2 but showing a modification in the arrangement of the corrugated surfaces, Fig. 4 is a top view of the base piece used in Figs. 1 and 2, and Fig. 5 is a bottom view of the base piece used in Fig. 3.

We provide a base 1 formed with ears 2 having holes 3 through which the base may be squarely bolted to the bench. The base has a central bore through which a screw 5 projects, the side 6 carrying the fixed jaw 7. The side 6 has a lateral opening 8 within which is located a bearing 9 threaded to receive the screw 10. On the end of the screw 10 is the usual head 11 and the operating bar 12. The screw 10 is rotatably held in the side 13 of the movable jaw 14. The side 13 has a channel-shaped extension 15 extending through the opening 8 and straddling the threaded bearing 9. The base 1 is provided with an annular recess or slot

20. As shown in Fig. 2, the slot 20 is of greater width on its lower side and is tapered toward the top. Near the upper edge of the slot wall it is corrugated by vertical grooves, as indicated at 21. Within the slot is the head 22 of a bolt 23. The head 22 is corrugated, as indicated at 22', to correspond with the corrugation on the wall of the slot 20. The shank of the bolt 23 passes through an opening on the lower part of the side 6. A washer 24 rests upon the upper surface of the flange 6'. The internally threaded block 25 is transversely slotted and a handle 26 is provided, as indicated at 27. A coiled spring 28 disposed in a counter-bore of the block 25 surrounds the shank of the bolt 23 and acts to normally hold the head 22 in engagement with the upper portion of the slot.

In the modification shown in Fig. 3 the head of the bolt 23 is indicated by 22'. In this form the corrugations are on the upper surface of the bolt 22 and the corrugations on the interior of the slot 20 are on the lower side of the upper flanged portion of the slot, as shown in Fig. 5. In this form the remaining parts of the vise are exactly the same and the operation is the same.

The operation of the device is as follows: It being supposed that the parts are in the clamped position shown in the drawing and it being desired to swing the device to secure a more convenient angle, the block 25 is unscrewed by means of the lever 26, thus releasing the bolt 23 from its clamped position. By bearing down slightly upon the block 25 the bolt 23 will be pushed down. In the form shown in Figs. 1, 2 and 4 the head 22, will be pushed down to a position below and on account of the angular disposition of the corrugations will also be relieved from contact with the corrugations, so that the whole vise may be swung on the screw 5 as a pivot. In the form shown in Figs. 3 and 5, when the block 25 is pushed down the corrugations on the upper face of the head 22' will be immediately thrown out of contact with the corresponding corrugations on the overhanging face of the slot. A vise locked in this manner is positively held and is found to be positively free from any danger of slipping even when work held in the vise is acted on under powerful leverage.

Various other modifications than that

mentioned above and shown in the drawing may obviously be made, all without departing from the spirit of our invention if within the limits of the appended claims.

5 What we, therefore, claim and desire to secure by Letters Patent is:—

1. In a vise, a base, a pair of relatively movable jaw members pivotally mounted in said base, said base having an annular slot concentric with said pivot, a locking piece 10 disposed in said slot, a shank on said locking piece operatively engaging the jaw portion of said vise, a wall overhanging said slot, the face of said overhanging wall and 15 the adjacent portion of said locking piece having corresponding corrugations, and means for moving said shank vertically to bring the corrugations of said locking piece into engagement with the corrugated wall 20 of said slot.

2. In a vise, a base, a fixed jaw member, a jaw member movable relative thereto, said fixed jaw member being pivotally mounted on said base, said base having an annular slot concentric with said pivot, and with a 25 vertical overhanging wall, a bolt having its head disposed in said slot and its shank passing through said fixed jaw member, the face of said overhanging wall and the adjacent portion of said head having corresponding corrugations and a threaded block engaging said bolt to bring said corruga- 30 tions vertically into engagement.

3. In a vise, a base, a pair of relatively movable jaw-members pivotally mounted on said base, said base having an annular slot concentric with the point of pivot and hav- 35 ing one of its side walls inwardly inclined, a bolt having a correspondingly beveled head disposed in said slot and its shank operatively engaging the jaw portion of the 40

vise, the inclined wall of said slot and the beveled portion of the head of said bolt having corresponding corrugations, and means for moving said bolt vertically in said slot 45 to bring said corrugations into engagement.

4. In a vise, a base, a pair of relatively movable jaw-members pivotally mounted on said base, said base having an annular slot concentric with the point of pivot and hav- 50 ing one of its walls inwardly inclined, a bolt having a correspondingly beveled head disposed in said slot and its shank operatively engaging the jaw portion of the vise, the inclined wall of said slot adjacent to its upper edge and the adjacent portion of 55 the head of said bolt having corresponding corrugations, and means for moving said bolt vertically to bring said corrugations into engagement. 60

5. In a vise, a base, a pair of relatively movable jaw-members pivotally mounted on said base, said base having an annular slot concentric with the point of pivot and hav- 65 ing one of its walls inwardly inclined, a vertical bolt having a correspondingly beveled head disposed in said slot and its shank operatively engaging the jaw portion of the vise, the inclined wall of said slot adjacent to its upper edge and the adjacent 70 portion of the head of said bolt having corresponding corrugations, and a threaded block for drawing said bolt up to bring said corrugations into engagement.

In testimony whereof we affix our signatures in presence of two witnesses. 75

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Witnesses:

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