Oct. 16, 1951 F. E. BERSCHE 2,571,189

JEWELER'S VISE

Filed April 16, 1947

Fig. 1.

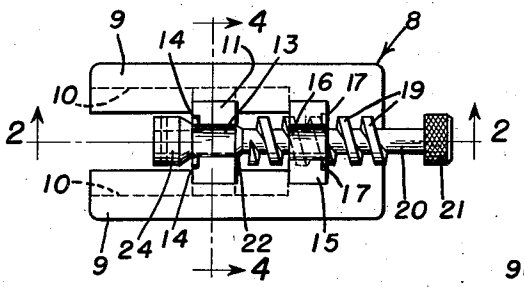


Fig. 5.

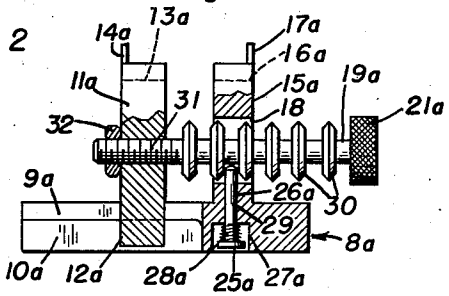


Fig. 2.

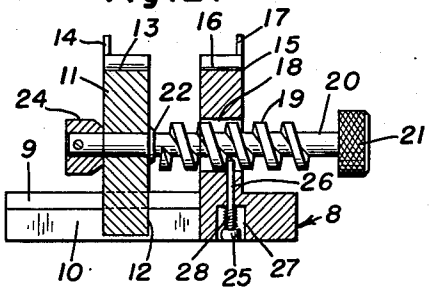
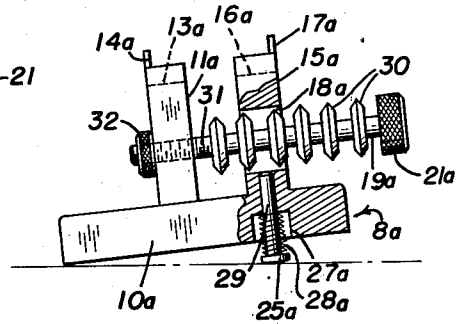


Fig. 6.



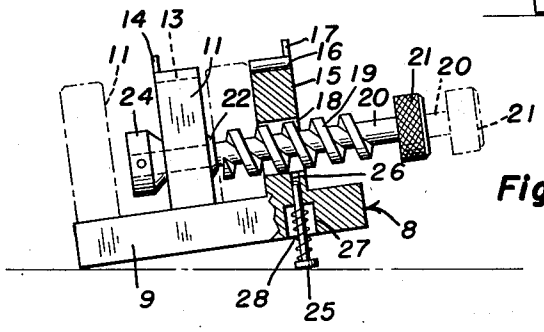


Fig. 3.

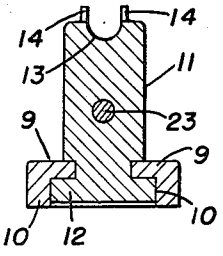


Fig. 4.

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JEWELER'S VISE

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3 Claims. (Cl. 81—6)

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The present invention relates to a novel and improved jeweler's vise, the same having more particular reference to a vise which is suitably and aptly constructed to conveniently clamp and support the works or movement of a watch in a handy and readily accessible manner to thus enable the jeweler to make repairs or to simply examine and inspect the mechanism, this as a step preliminary to giving a customer an estimate of costs to make necessary adjustments and repairs.

Briefly, the preferred embodiment of the invention is characterized by a portable handily usable double jaw equipped base, one jaw being fixed on the base and the other jaw readily movable toward and from it to enable the user to expeditiously regulate the jaws to effectively grasp and hold the watch in a position for unobstructed examination and estimation purposes.

Clamps and vises of the nature described are not, of course, new. The purpose of the present invention is, therefore, to structurally, functionally and otherwise improve upon known types, the principal improvement having to do with the ways and means whereby the shiftable or movable jaw is expeditiously opened and closed for effective clamping and retention results.

Another object of the invention is to provide a watch accommodating and clamping vise which is unique in that it embodies both coarse and fine adjustments, particularly an arrangement thereof which functions to provide a construction which, it is submitted, is superior to styles and types now in use.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the accompanying sheet of drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a top plan view of a watch holding or so-called jeweler's vise constructed in accordance with the present invention.

Figure 2 is a central longitudinal view, partly in elevation, taken on the longitudinal line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a view partly in section and partly in elevation, including dotted lines, illustrating the release action of the detent, which occurs when the structure, the unit, is lifted to a tilted position.

Figure 4 is a transverse vertical or cross sectional view on the line 4—4 of Figure 1, looking in the direction of the arrow.

Figure 5 is a central longitudinal sectional view, like Figure 2, but showing a modified construction.

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Figure 6 is a view in elevation in section, like Figure 3, but based on Figure 5 and showing the trip action of the latch or detent.

Referring now to the drawings by distinguishing reference numerals the base, which is relatively small for convenient use on a jeweler's work bench, is denoted by the numeral 8 and is of general rectangular or block form, the left hand end portion thereof being bifurcated and the furcations 9 being parallel and undercut as at 10 to provide assembling and guiding members for the movable jaw 11. As shown to advantage in Figure 4 the jaw is of vertical rectangular block-like form and has a T-shaped head 12 on its lower end which is slidably mounted between the undercut furcations. The upper end of the jaw is notched as at 13 and provided with upstanding studs 14 to assist in properly accommodating the watch works (not shown). The relatively fixed jaw, which is integral with the base, is denoted by the numeral 15 and is likewise of rectangular block-like form and is parallel to the jaw 11, is provided with a notch 16 and studs 17. Both jaws are of the same height and the respective notches 13 and 16 are in opposed alignment. These notches in conjunction with the complemental pairs of studs 14—14 and 17—17 provide satisfactory ways and means whereby the work-piece, usually the watch works, is satisfactorily accommodated and clamped between the jaws. Centrally it is formed with a relatively large hole 18 to accommodate the slidable and turnable adjusting screw (Figures 1 to 4 inclusive). The screw is provided with helical threads forming longitudinally spaced shoulders as at 19. On one end, the end portion 20, it is provided with a knurled finger knob 21. The opposite end portion is shouldered as at 22 and extends rotatably through an opening in the movable jaw, said end portion 23 having an assembling and retaining collar 24 pinned or otherwise secured thereto. The inner face of the collar is of frusto-conical form to reduce objectionable friction. It follows that by bodily pushing the feed-screw back and forth in relation to the hole 18, and by using the knob to do so, the movable jaw may be readily shifted to assume the position wanted. This is, of course, a coarse adjustment and can be had with requisite rapidity. For purposes of securing the movable jaw a headed latch or detent 25 is provided and this is slidable in a guide bore 26 which is provided therefor and which opens into the opening 18. The guide bore is counterbored at its lower end to provide a recess 27 to accommodate the latch when the latch is retracted into the base. The latch is provided

with an expansion spring 28 which surrounds the headed portion and which is situated between the head and the socket 27 to exert a downward thrust and to automatically project the latch when the base is raised to the tilted position shown in Figure 3. It follows that normally, when the base is sitting level as shown in Figure 2, the latch is engaged with the shoulders or threads 19 thus holding the feed-screw and slidable jaw in set position. By lifting the vise as a unit it takes the tilted position seen in Figure 3 the spring projects the headed end of the latch and this releases the other end from the shoulders 19, permitting the screw and jaw to be slid for rapid adjustment results.

The same basic principles, with a slight refinement, are disclosed in the modification in Figures 5 and 6. Only the movable jaw adjusting screw is changed. In these figures the base 8*a* is provided with furcations 9*a* undercut at 10*a* to provide an adjusting mount for the movable jaw 11*a*. The T-shaped head 12*a* is mounted between the furcations, the upper end being notched at 13*a* and provided with prongs or studs 14*a*. The stationary jaw 15*a* is the same as before and includes a notch 16*a* and studs 17*a*. The opening 18*a* accommodates the feed screw 19*a*, the latter having a knob 21*a*. The base block is bored as at 26*a* and socketed at 27*a* to accommodate the latch 25*a* and expansion spring 28*a*. Here the latch pin or detent 29 is engageable with marginally bevelled longitudinally spaced check and retaining shoulders 30 on the adjusting or feed-screw 19*a*. These differ from the threads 19 already described but in principle are the same. The left hand end 31 of said screw is screw-threaded and worked back and forth, having threaded adjustment with the screw-threaded hole which is provided in the movable jaw 11*a*. The protruding left hand end is provided with an assembly nut 32. In this modified form of the invention two degree-adjustments are possible. The coarse adjustment is provided as between the detent 29 and the shoulders 30, in an obvious manner. A finer adjustment is then had by the screw-threads 31 coacting with the screw-threaded central hole in the movable jaw. In other words the first or coarse adjustment is made then a finer adjustment can be had by using the screw-threaded connection between the feed screw and movable jaw.

Present day watch makers are called upon to examine and give estimates on repair costs of watch movements or works of various shapes and sizes. This necessitates using a movement holder or vise which is easily and quickly adjustable; easy to handle.

It must also have a fine adjustment to tighten the jaws of the vise against the movement. Springs are not practical for this purpose, as movements are apt to "pop" out, causing damage. Present day holders with full threaded screw shaft are very slow in operation. Such holders and vises require considerable effort and delay in adjusting from one extreme to the other.

My improved movement holder is almost instantaneous in action and yet permits the same fine screw adjustment found in regular screw type vises or movement holders. The jaw-gap may be controlled with one hand by way of the available knob, and the other hand is thus left free to hold the article above the jaws until proper gap is obtained.

The herein disclosed speed-type watch-works accommodating and holding vise is designed and well adapted for positive quick adjustment, extreme simplicity, and durability. It will open and close almost instantly and yet permit the fine screw adjustment feature found in the popular present day vises and movement holders. The structure and principle employed may be used on larger type vises, wrenches, and any device having jaws requiring a quick, positive, firm adjustment.

Changes in shape, size, materials and rearrangement of details and parts may be resorted to in actual practice, so long as they do not depart from the spirit of the invention or the scope of the appended claims, as is well understood.

I claim:

1. A jeweler's vise of the class described comprising a base having an upstanding fixed centrally apertured jaw, a movable jaw slidable on said base and movable toward and from said fixed jaw, a longitudinally shouldered jaw adjusting and operating member slidable through the aperture in the fixed jaw and provided at one end with a knob, the opposite end being rotatably connected with said movable jaw, said base being provided with a bore communicating with the aperture in said fixed jaw and opening at its lower end through the underside of said base, a latch slidable in said bore, the lower end of said latch being projectible through and beyond the lower end of said bore and provided with an expansion spring, whereby upon catching hold of said knob and lifting said base, the spring projects the latch and releases the same from engagement with the shoulders, and upon returning the base to a firm resting position on a bench the latch retracts and re-engages said shoulders.

2. A jeweler's vise of the class described comprising a horizontally elongated base provided with an upstanding vertical fixed jaw, said base having a vertical bore formed therethrough, the lower end of said bore opening through the bottom face of said base said jaw having a central opening into which the upper end of said bore opens, a headed latch slidable in said bore, the upper end of the latch projecting into the opening in said jaw, the lower end of the latch being projectible downwardly and beyond the bottom of the base when the base is tilted or otherwise lifted above a fixed supporting surface, a coiled spring surrounding the headed end of the latch and serving to project said headed end when said base is lifted, a slidable jaw on said base, an operating member connected with said slidable jaw and movable back and forth through the opening in the fixed jaw and provided with shoulders, the adjacent upper end of said latch being releasably connectable with said shoulders.

3. A jeweler's watch vise of the class described comprising a horizontally elongated rectangular flat bottomed base provided adjacent one end with an upstanding vertical fixed jaw, a complemental movable jaw slidable on said base and rising therefrom and opposed to and movable toward and from said fixed jaw, said fixed jaw being provided with a non-threaded opening, a helical adjusting screw passing through and freely rotatable in said opening and provided at one end with a finger knob, the opposite end of said adjusting screw being swivelly connected with said movable jaw, said base having a smooth non-threaded vertical bore opening at its lower end through the underside of the base and opening at its upper end into the opening provided in said fixed jaw, a headed projectible and retractible latch pin freely slidable in said bore, the head being on the lower end of said pin and adapted to project

to a position beyond the underside of said base, a coiled expansion spring surrounding the headed end of said latch pin and interposed between the head and base and normally exerting a downward pressure on the head and serving to project the head through the bore and beyond the underside of the base when the latter is bodily lifted and thus free of contact with a relatively fixed supporting surface, the upper end of said latch pin engaging the threads on said feed screw and being held constantly in feeding relation with said threads solely by the weight of the base resting firmly on the supporting surface.

FRIDOLIN E. BERSCHE.

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