No. 693,811. Patented Feb. 18, 1902.

C. I. YONGE.

BENCH VISE.

(Application filed May 14, 1901.)

(No Model.)

Fig. 1.

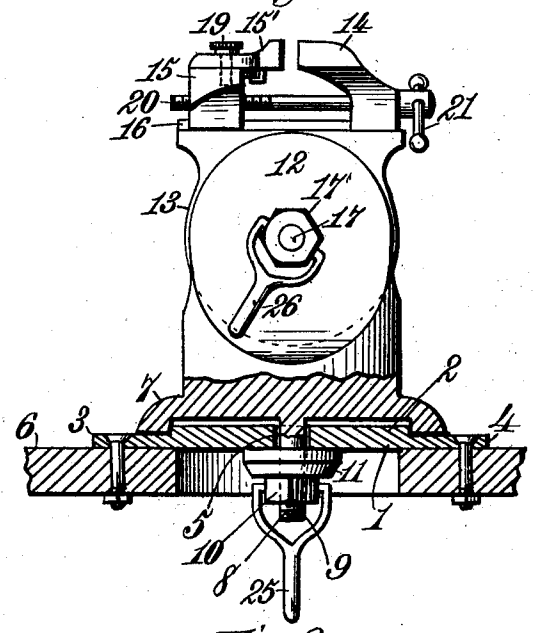


Fig. 2.

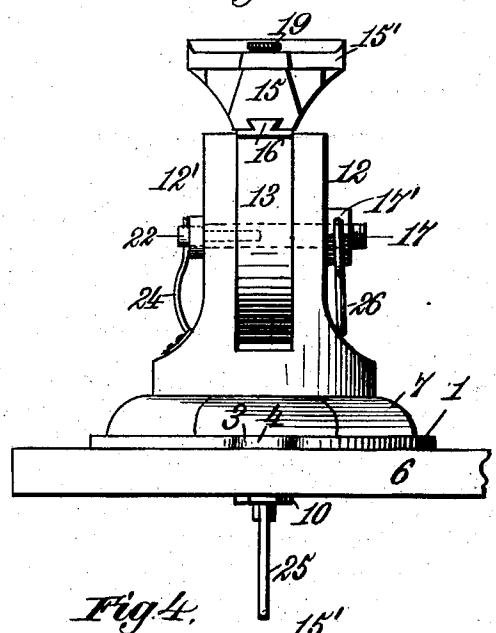


Fig. 3.

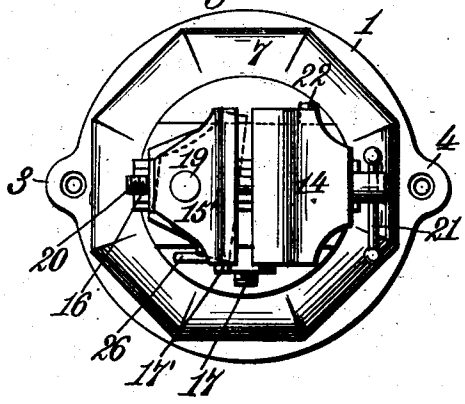


Fig. 4.

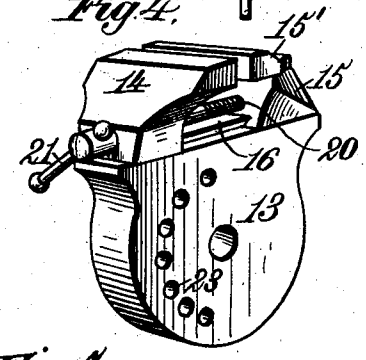


Fig. 5.

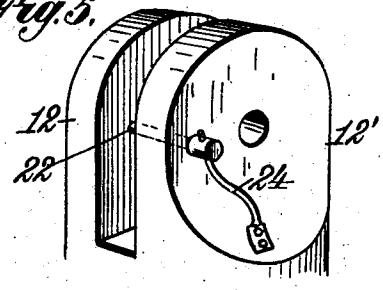


Fig. 6.

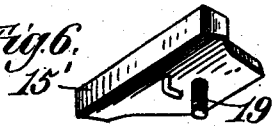
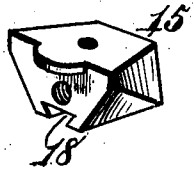


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHANDLER I. YONGE, OF TAMPA, FLORIDA, ASSIGNOR OF TWO-THIRDS TO JOHN C. GRISWELL AND THEODORE LESLEY, OF TAMPA, FLORIDA.

BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 693,811, dated February 18, 1902.

Application filed May 14, 1901. Serial No. 60,202. (No model.)

To all whom it may concern:

Be it known that I, CHANDLER I. YONGE, a citizen of the United States, residing at Tampa, in the county of Hillsboro and State of Florida, have invented new and useful Improvements in Bench-Vises, of which the following is a specification.

This invention relates to certain new and useful improvements in bench-vises particularly adapted for use by carpenters, machinists, or other mechanics.

The object of the invention is to construct a bench-vise which shall be extremely simple in its construction, strong, durable, efficient in its use, comparatively inexpensive to set up, and one that can be adjusted in horizontal and vertical planes to facilitate operations upon the work held thereby; and to this end it consists of the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a sectional side elevation of my improved bench-vise. Fig. 2 is an elevation taken at right angles to that of Fig. 1. Fig. 3 is a plan. Fig. 4 is a detail perspective view of the adjustable supporting-plate carrying the jaws. Fig. 5 is a similar view of the supporting-ears. Figs. 6 and 7 are detail perspective views of the adjustable jaw and its sliding section.

Referring to the drawings by reference-numerals, 1 denotes the base-plate of the vise, having its upper face formed with an annular ridge 2. The plate 1 is provided at its side with a pair of diametrically opposite apertured projections 3 4 and further provided with a centrally-arranged opening 5. The base-plate 1 is adapted to be mounted upon a suitable support 6—for example, the top of a bench or table—and be secured thereto by means of fastening means of any desirable character extending through the apertured projections 3 4 and engaging the top of the table, bench, or other support.

The reference-numeral 7 denotes the base proper of the vise and which has its lower face formed with an annular recess of a slightly-larger diameter than the ridge 2 of the base-plate 1. The base is adapted to be mounted upon the base-plate 1, and when in such position the ridge 2 of the base-plate extends within the recess of the base. The ridge 2 not only retains the base in one position upon the base-plate 1, but also acts as a guide when horizontally adjusting the base 7. Secured centrally to the lower face of the base 7 is a downwardly-extending retaining-bolt 8, having its lower portion screw-threaded, as at 9, and upon the said screw-threaded portion is mounted the clamping-nut 10 and washer 11. The bolt 8 is adapted to extend through the opening 5 of the base-plate 1 and the top 6 of the table or other support. When the bolt is in such position, the nut 10 is screwed upon the same until it engages the lower face of the top of the support. By such an arrangement the vise will be securely clamped to the base-plate and top 6 and movement of the vise will be prevented, or, in other words, it will secure the vise rigidly to the support 6 upon the plate 1. When it is desired to adjust the vise in a horizontal plane to facilitate the handling of the work, or if the light is poor and it be desired to bring the work to the light, so that the operator can see the work in the proper manner, the nut 10 is loosened and the vise moved to the desired position, when the nut 10 is screwed home, connecting the vise rigidly to the base-plate and support.

Formed integral with the base 6 is a pair of upwardly-extending supporting-ears 12 12′, suitably spaced apart and between which is mounted the adjustable supporting-plate 13. This latter has suitably secured thereto the fixed jaw 14 and also supports the sliding or adjustable jaw, the latter consisting of sliding and adjustable sections 15 15′, respectively. The supporting-plate 13 may be of any preferred form of construction, with the exception that the same should be formed with a flat top provided with an integral tenon

16, substantially in the form of a dove's tail spread. The plate 13 is pivotally connected to the ears 12 12′ by means of the headed pin 17, the latter secured in position by means of the fastening-nut 17′, mounted thereon.

The section 15 of the sliding or adjustable jaw is formed with a dovetailed groove 18 to permit of connecting the section 15 to the tenon 16 and also to permit of the sliding of the section 15 upon the tenon 16 when the former is adjusted, as hereinafter described. The section 15′ of the sliding jaw is adjustably connected to the section 15 by the set-screw 19, which extends through the section 15′ and engages the section 15. By constructing the sliding or adjustable jaw of the sections 15 15′ owing to the adjustability of the latter various forms of material to be operated upon can be securely clamped between the jaws of the vise, more particularly wedge shapes—that is to say, the section 15′ can be set in such a manner that its engaging face will contact through its length with the side of the material which is operated upon. The sliding or adjustable jaw is longitudinally adjustable in relation to the fixed jaw by means of the screw-threaded adjusting bolt or screw 20, the latter extending through the section 15 of the sliding or adjustable jaw and the lower portion of the fixed jaw 14. The bolt 20 may be provided with the usual form of operating-handle 21. By pivotally mounting the supporting-plate 13 between the ears 12 12′ the jaws can be adjusted to various vertical planes and retained in such position by means of the fastening-stud 22, extending through the ear 12′ and engaging the plate 13. One side of the plate 13 is formed with a series of recesses 23, within which the stud 22 is adapted to engage when securing the plate in the desired position. The stud 22 is retained in its fastening position by the bearing-spring 24, one end of which is secured to the stud, and the other or lower end is secured to the ear 12′.

The nut 10 upon the bolt 8 is provided with a handle or spanner 25, and the nut 17′ upon the pin 17 is also provided with a handle or spanner 26. These handles or spanners are employed so that the operator can loosen or tighten the nuts 10 and 17′ at will.

It will be evident that by the construction herein set forth the vise can be adjusted in a horizontal plane by simply loosening the nut 10, which releases the base from the base-plate, which overcomes the elevating of the vise to obtain this horizontal adjustment, necessary in devices of this character. It will also be evident that the jaws can be adjusted to various vertical planes by loosening the nut 17′.

It is thought the many advantages of my improved vise, particularly the simplicity thereof, together with the easy manipulation thereof, can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and it will also be noted that various minor changes may be made in the details of construction without departing from the general spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vise, a base-plate having a ridge on its upper face, a base mounted upon said base-plate, provided with a recess to receive said ridge, and capable of horizontal adjustment upon the said base-plate, vertically-extending means connected to said base for securing it in its adjusted position upon said base-plate, a pair of upwardly-extending ears integral with said base, a supporting-plate pivotally mounted in said ears, provided in one side with a series of recesses and capable of being adjusted to various vertical planes, means connected to one of said ears, extending through the same and engaging in said supporting-plate for securing it in its adjusted position, a fixed jaw secured to said supporting-plate, a longitudinally-adjustable sliding jaw formed of two sections and suitably connected to said supporting-plate, means for longitudinally adjusting said sliding jaw, and means for adjusting one of the sections of the said sliding jaw in relation to said fixed jaw, substantially as herein shown and described.

2. In a vise, a base capable of horizontal adjustment, vertically-extending means for securing said base in its adjusted position, a spanner connected to said vertical adjusting means for releasing the same, a fixed and sliding jaw connected to said base and capable of being adjusted in various vertical planes, a spring-actuated means for securing said jaws in their adjusted position, said sliding jaw formed in two sections, means for adjusting one of the sections of the sliding jaw in relation to said fixed jaw, and means for longitudinally adjusting said sliding jaw in relation to said fixed jaw.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHANDLER I. YONGE.

Witnesses:
EDWARD L. SPARKMAN,
GEO. H. WILDER.