April 24, 1928. 1,667,504

A. N. ZELBERGLET

ADJUSTABLE MOUNTING FOR BENCH TOOLS AND THE LIKE

Filed May 14, 1924

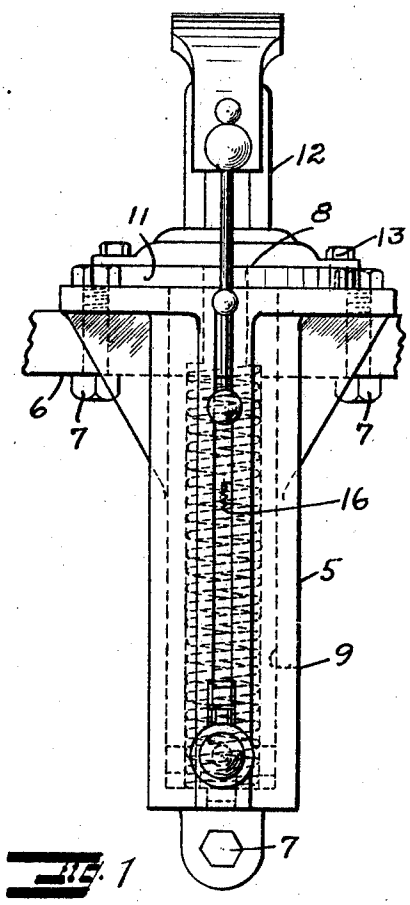


Fig. 1

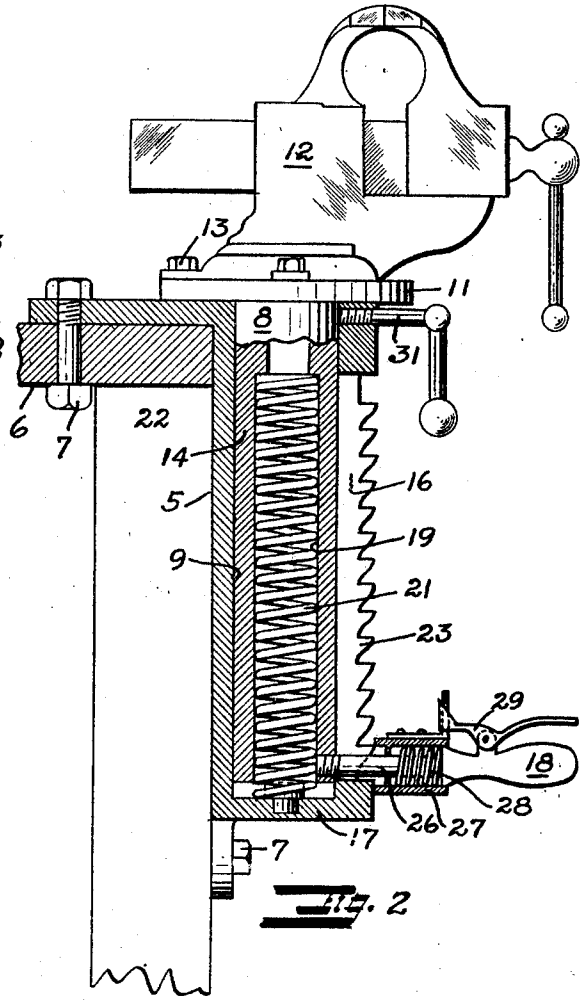


Fig. 2

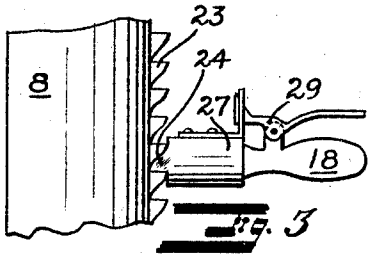


Fig. 3

INVENTOR.
ABRAHAM N ZELBERGLET
BY Joseph B. Gardner
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

ABRAHAM N. ZELBERGLET, OF OAKLAND, CALIFORNIA.

ADJUSTABLE MOUNTING FOR BENCH TOOL AND THE LIKE.

Application filed May 14, 1924. Serial No. 713,346.

My invention relates to a mounting for a vise or other bench tool, and particularly to the type of mounting which permits adjustment of the vertical positioning of the mounted device.

The object of the invention is to provide a mounting of the character described having self operating means for supporting practically all the weight of the supported bench tool and movable parts of the mounting during manipulation of the mounting.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of my invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawings and description, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claims.

Referring to said drawings:

Figure 1 is a front view of a mounting of my invention showing a vise mounted thereon.

Figure 2 is a sectional view taken on the line 2—2 in Figure 1, the vise being shown in full view.

Figure 3 is a side view of a portion of the device.

The efficiency of a mechanic's effort depends to a considerable extent on the accessibility of his work. In shops in which fixed bench tools are used, all work must usually be operated on thereby at a fixed working height, regardless of the height of the mechanic and his relation to the work. To obviate the above mentioned difficulty, vertically adjustable mountings have been provided, but, since the tools are usually of considerable weight and the movable part of the mounting must be correspondingly heavy—two hundred pounds being not uncommon for the combined weights of the tool and movable portion of the mounting—the manipulation for adjustment has required the putting forth of considerable effort by the mechanic, with the result that at best such manipulation has been extremely awkward and difficult. In accordance with my invention, however, I have provided a bench tool mounting in which the great portion of the weight supported thereby during vertical adjustment of the mounting and tool, is carried independently of the means for moving the mounting to adjusted position.

As here shown, the device of my invention comprises a base member 5 and a vertically movable supporting member 8, the former being arranged to be secured to a bench 6 by means of bolts 7, while the latter is slidably mounted in a guideway 9 provided in the base. The support 8 is here shown provided with a flanged head portion 11 to which a vise 12, or other bench tool may be secured by means of bolts 13. The support is also provided with a stem portion 14 arranged to slidably fit in said guideway and is preferably of such length as to extend substantially to the bottom of the guideway when the support is in the lowermost position therein. The guideway 9 is preferably cylindrical in shape, is provided with a slot 16 extending longitudinally thereof at one side, and is closed at its bottom end 17. Movement of the support in the guideway may be effected by means of a handle 18 fixed to the lower end of the stem 14 and extending outwardly through the slot 16.

In accordance with my invention, means are provided for enabling a mechanic to readily move the support to position the tool at the desired height, notwithstanding the excessive weights to be moved as previously pointed out. As here shown, the lower portion of the stem 14 is provided with a bore 19 in which a helical spring 21 is arranged to be placed, said spring being interposed between seats provided at the bottom end 17 of the guideway and the top end 22 of the bore 19. The spring 21 is preferably of such strength and dimensions that it will exert a lifting force almost equaling the entire weight of the support and tool. In this manner, the greater part of the force to be exerted in raising the support and load will be supplied by the spring, and the mechanic need exert but a comparatively small additional force to move or hold the support in desired position.

Downward movement of the support is here shown arranged to be prevented by means of a ratchet rack 23 provided on the base member 5 adjacent the slot 16, the rack cooperating with a pawl 24 here shown mounted on the shank 26 of the handle 18. In the present embodiment, the pawl 24 is

formed as the forward portion of a sleeve 27 which is arranged to encircle the handle shank 26, the sleeve being normally urged forwardly by means of a spring 28 encircling the shank. The sleeve 27 and pawl 24 may be retracted by means of a suitable hand lever 29 pivotally mounted on the handle. It will thus be noted that releasable means have been provided for holding the support in desired raised position.

Since the support should be held rigidly in position, means are provided for positively locking the stem 14 in the guideway 9. As here shown, said means include a set screw 31 preferably mounted in the upper portion of the base 5 and arranged to engage the stem 14.

I claim:

1. An adjustable bench tool mounting comprising a vertically disposed fixed guideway, a unitary tool supporting member slidably engaging in said guideway for movement of the parts thereof in fixed paths, a spring supporting said member for movement between predetermined positions, and means arranged for supporting said member independently of said spring in said predetermined positions, said means comprising a rack fixed with respect to said guide, a pawl fixed to said supporting member for vertical movement therewith arranged to engage said rack, and a handle for moving said member in said guide.

2. An adjustable bench tool mounting comprising a body defining a vertically disposed guideway and a vertically extending slot, a hollow unitary tool-supporting member slidably engaging in said guideway, a coil spring arranged within said supporting member and pressing against said body whereby it may support the latter in different positions, a rack provided on said body, a handle fixed to said supporting member and extending through said slot, and a pawl associated with said handle and arranged to engage said rack and lock said member in adjusted position.

In testimony whereof, I have hereunto set my hand at Oakland, California, this 8th day of May, 1924.

ABRAHAM N. ZELBERGLET.