

P. F. O'SHAUGHNESSY.
 VISE ATTACHMENT.
 APPLICATION FILED JUNE 6, 1919.

1,336,087.

Patented Apr. 6, 1920.
 2 SHEETS—SHEET 1.

Fig. 1.

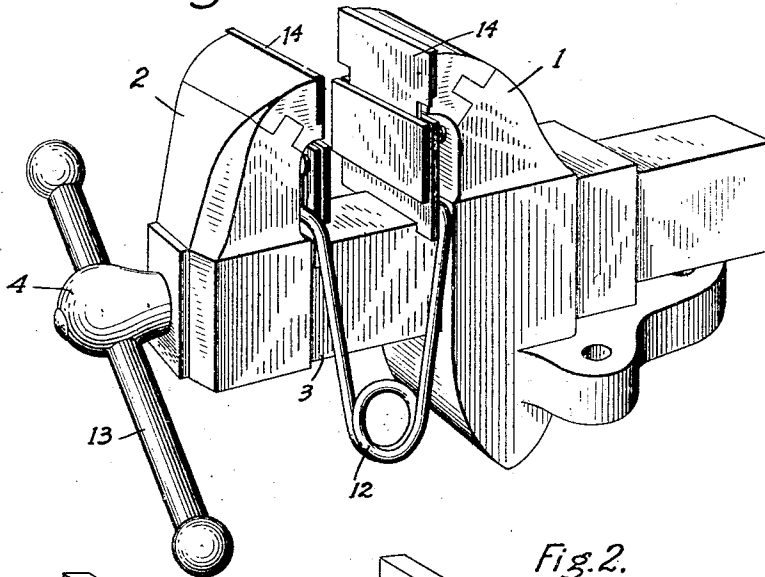
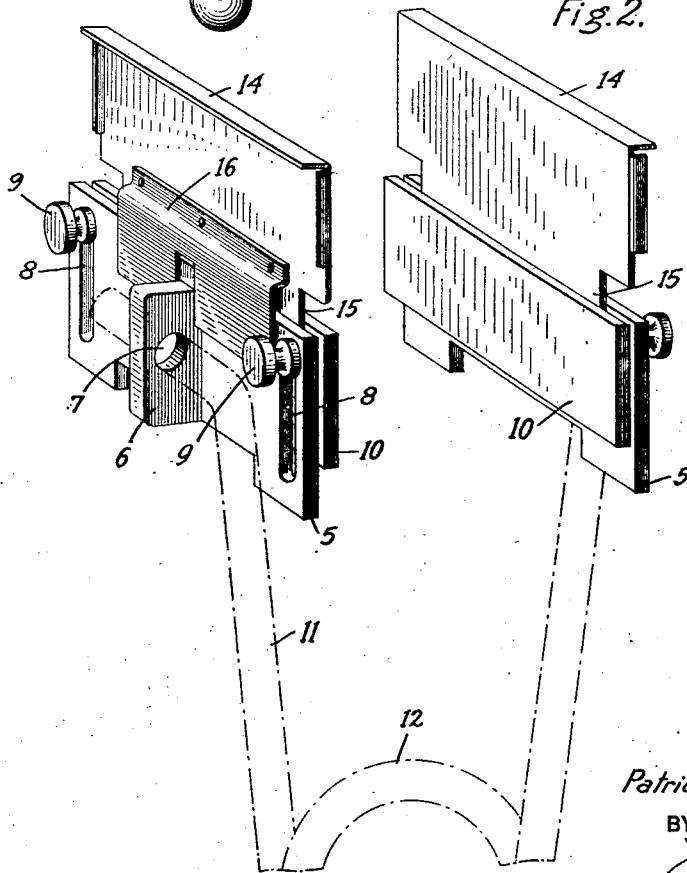


Fig. 2.



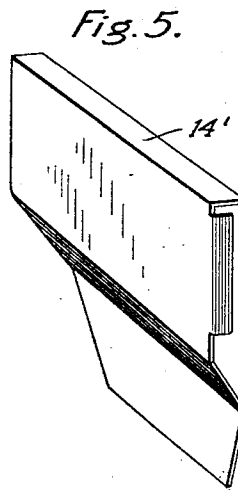
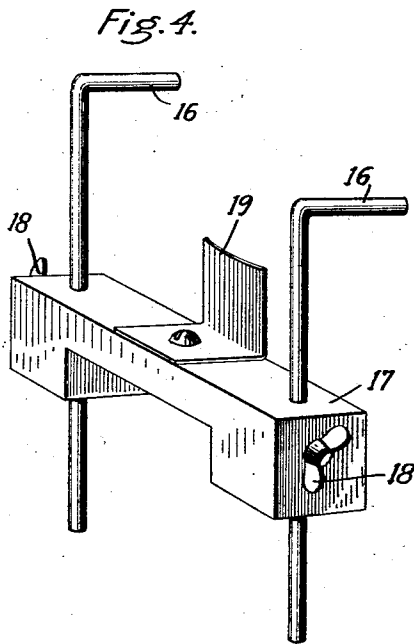
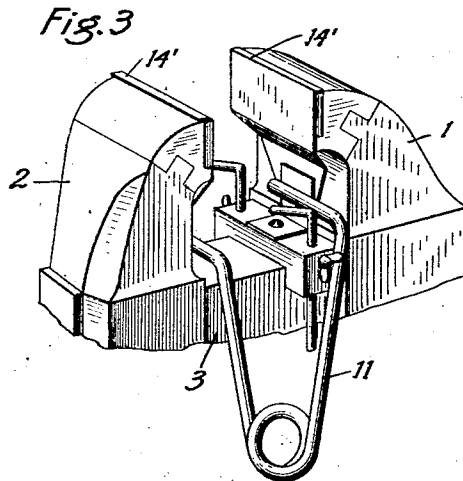
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UNITED STATES PATENT OFFICE.

PATRICK F. O'SHAUGHNESSY, OF BROOKLYN, NEW YORK.

WISE ATTACHMENT.

1,336,087.

Specification of Letters Patent.

Patented Apr. 6, 1920.

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To all whom it may concern:

Be it known that I, PATRICK F. O'SHAUGHNESSY, a citizen of the United States, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Vise Attachment, of which the following is a specification.

This invention is a vise attachment and is intended more particularly for employment on metal working vises. The object of the invention is to provide an attachment for a metal worker's vise, whereby the jaws thereof are at all times held in such adjustment that there is no lost motion whatsoever between the movable jaw and the hand operated screw which controls the movement thereof.

A further object of the invention is to provide such an attachment which will embody means for supporting the work in the vise at a predetermined height and to simultaneously support the cushioning plates in cooperative relation with the vise jaws so as to preclude the marring of the metal in the grip of the vise.

Features of the invention, other than those specified, will be apparent from the hereinafter detailed description taken in conjunction with the accompanying drawing.

In the accompanying drawing I have illustrated different practical embodiments of the invention, but the constructions herein shown are to be understood as illustrative only, and not as defining the limits of the invention.

Figure 1 is a perspective view of a well known form of a metal worker's vise showing the preferred embodiment of the present invention associated therewith.

Fig. 2 is a perspective view of the attachment removed from the vise.

Fig. 3 is a perspective view illustrating a modified form of the attachment; and,

Figs. 4 and 5 are detail perspectives of elements of the structure illustrated in Fig. 3.

In the accompanying drawings I have shown a well known type of a metal worker's vise embodying a fixed jaw 1 and a movable jaw 2 mounted for movement toward and away from the fixed jaw on a guide 3 and adapted to be so moved through the manipulation of a hand screw 4.

In the preferred embodiment of the present

invention, two plates 5 are provided which are preferably identical in shape and structure. Each plate has formed on the back thereof a vertically extending rib 6 provided with an aperture 7 and near these lateral edges are vertical slots 8. Through the slots 8 extend thumb screws 9 by means of which, what I term height pieces or members 10 may be clamped in position on the plates 5.

The apertures 7 in the ribs 6 are for the reception of the free ends of a spring 11 provided intermediate its ends with a coil 12 for the purpose of increasing its resiliency and rendering it operative within relatively wide limits.

When it is desired to apply the attachment to a metal worker's vise the jaws are separated and the attachment placed in the position shown in Fig. 1, wherein the vertical edges of the ribs 6 will engage with those portions of the jaws below the clamping faces thereof, while the adjacent faces of the plates 5 will come substantially flush with the clamping faces of the vise jaws. The spring 11 will force the ribs 6 tightly against the jaws and hold the attachment in position and will simultaneously have a tendency to force the jaws apart thereby taking up all lost motion of the hand screw 4 and for the purpose of rendering the vise capable of the most minute adjustment. It will appear that while the edges are under the tension of the spring 11 that the hand screw will be frictionally held in any position in which it may be placed and there will be no tendency of the handle 13 and said hand screw to assume a vertical position as is commonly the case if lost motion is present. This tendency of the hand screw to shift not only requires the taking up of lost motion whensoever the hand screw is operated but generally precludes that nice adjustment which results in quick acting of the vise to clamp or release a piece of work. When the spring is employed it requires only slight movement of the hand screw to release the work and the parts are locked in this position so that only the slightest return movement is required to reclamp the work in position.

When the parts are in the position shown in Fig. 1, it will be noted that the plates or height pieces 10 are adapted for vertical adjustment in the slots 8 through the manipulation of the thumb screws 9 and these

plates have the function of vertically spacing the work to be done with reference to the upper faces of the vise jaws. Thus if one inch stock is to be worked on the plates 10 might conveniently be positioned and locked in place about $\frac{1}{4}$ of an inch below the top of the jaws so that when the stock is placed in the vise with its lower edge resting on the upper jaws of the plates 10 said stock will protrude $\frac{1}{4}$ of an inch above the top of the vise and be supported there by the plates until the jaws are clamped together. The height pieces are of particular utility where a workman has turned out a large number of parts of the same shape and size since they are conducive to rapid manipulation of the vise and uniformity in the product. In practice it is not essential to employ two height pieces as shown since one is usually sufficient except when operating upon relatively thick stock.

The cooperating faces of a metal worker's vise are usually in a form of deeply milling surfaces intended to tightly grip the material clamped between the jaws, however when soft material such as copper or brass is clamped between such jaws the milling surfaces thereof bite into the stock and mar the same so that it is a general practice when working on such stock to cover the face of the jaws with copper or aluminum plates to properly protect the stock against the marring action of the jaws. The copper plates usually employed for this purpose are especially in fashion to conform to the jaws and overlap the sides thereof for the purpose of holding them in position when the jaws are moved apart but, unless they very closely conform to the shape of the vise there is great tendency for them to fall off. When the present invention is employed these copper or other soft metal plates may be in the form of two plates 14 shaped to cover the opposing faces of the jaws. These plates have depending portions 15 which are adapted to be positioned between the plates 10 and 5 so that when these plates are clamped together by the screws 9 the depending portions 15 are tightly gripped between them and the plates 14 maintained in proper position. The plates 14 may further be provided on their backs with an off set keeper 16 adapted to overlie the back of the plate 5 and to clamp the plate 14 in position irrespective of the plates 10. This latter construction is preferable when only one height piece 10 is employed since, with such construction, the height piece 10 may be omitted and the plate 14 will still be maintained in proper position.

In Figs. 3, 4 and 5 a modified form of the arrangement is shown. In this embodiment the spring 11, is employed as before and directly cooperates with the soft metal

plates 14' corresponding to the plates 14. The free ends of the spring 11 rest against the lower portions of the plates 14' and force them against the inner faces of the jaws and, by so doing, hold the plates in shape and simultaneously take up the lost motion in the hand screw. The height means in this form of the invention embodies a pair of rods 16 adapted for vertical adjustment in a yoke 17 adapted to straddle the guide 3 and the vise as shown in Fig. 3. The rods 16 are locked in adjusted position by wing nuts 18 and the yoke is held in place by a tongue 19 interposed between one end of the spring 11 and one of the plates 14' as shown. The spring thus holds the height adjusting means as well as the plates in position as is the case in Figs. 1 and 2, though in a slightly different manner.

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

1. A vise attachment embodying a vertically movable member adapted to be positioned between the jaws of a vise to underlie and support work clamped between the vise jaws, a spring associated with the member for holding it in cooperative relation relative to the vise, and means for locking the vertically movable member in a predetermined position beneath the work which it supports.

2. A vise attachment embodying a supporting member upon which work is adapted to rest to support the work in a position to project a predetermined distance above the jaws of the vise, a spring associated with said supporting member for holding it in position in the vise and means for locking the supporting member in predetermined vertical adjustment.

3. A vise attachment embodying a supporting member upon which work is adapted to rest to support the work in a position to project a predetermined distance above the jaws of the vise, a spring associated with said supporting member for holding it in position in the vise and means for locking the supporting member in predetermined vertical adjustment, in combination with a liner plate supported by the supporting member in a position to overlie the face of one of the vise jaws.

4. A vise attachment embodying a pair of supporting plates adapted to underlie and support work positioned between the jaws of the vise for the purpose of holding the work in a position to project a predetermined distance above the vise jaws, carrier plates on which said members are mounted for vertical adjustment, a spring associated with said carrier plates for maintaining them in cooperative relation with the vise, and means for locking the supporting members in predetermined vertical adjustment on the carrier members.

5. A vise attachment embodying a pair of supporting plates adapted to underlie and support work positioned between the jaws of the vise for the purpose of holding the work in a position to project a predetermined distance above the vise jaws, carrier plates on which said members are mounted for vertical adjustment, a spring associated with said carrier plates for maintaining them in coöperative relation with the vise,

and means for locking the supporting members in predetermined vertical adjustment on the carrier members, in combination with a pair of liner plates one of which is carried by each carrier plate in a position to overlie the face of one of the jaws of the vise.

In testimony whereof I have signed my name to this specification.

PATRICK F. O'SHAUGHNESSY.