H. G. WEATHERILL.

ATTACHMENT FOR VISES.

APPLICATION FILED DEC. 20, 1916.

1,275,336. Patented Aug. 13, 1918.

Fig. 8.

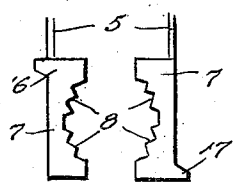


Fig. 1.

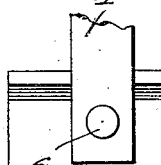


Fig. 2.

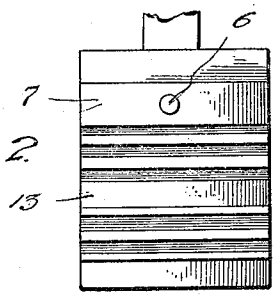


Fig. 3.

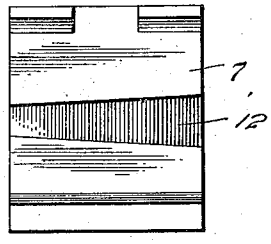


Fig. 4.

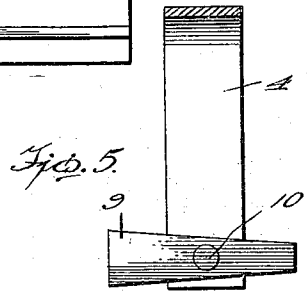


Fig. 5.

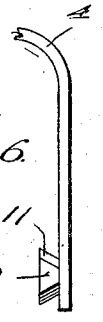


Fig. 6.

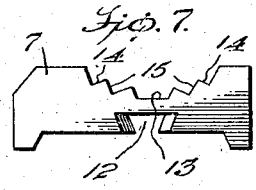


Fig. 7.

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ATTACHMENT FOR VISES.

1,275,336. Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed December 20, 1916. Serial No. 137,998.

To all whom it may concern:

Be it known that I, HENRY G. WEATHERILL, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Attachments for Vises; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an attachment for vises and the like and relates more particularly to vise attachments adapted for use in connection with clamping round work such as rods, pipes, tubes, etc.

The primary object of the invention resides in the provision of an attachment of the character described, which shall be extremely simple, inexpensive, practical and durable and which can be easily and quickly placed in position and readily removed at any desired time.

Another object of the invention is to provide the attachment with a plurality of gripping members having a plurality of teeth of peculiar formation which renders it possible, when the attachment is placed between the jaws of the vise, to clamp rods, pipes, etc., of widely varying diameters.

With these and other objects in view which shall become apparent from the following description taken in connection with the accompanying drawing, this invention comprises a resilient member having a plurality of arms normally spaced apart and being adapted to frictionally contact with the jaws of a vise, one or both of said arms being provided with means for gripping pipes, rods, tubes, etc. for the purpose of securely holding them between the jaws of a vise and preventing their rotation relative to the jaws.

In the drawings is illustrated an embodiment of my improvements, but it is evident that various alterations and modifications may be made therein without departing from the spirit of the invention, and the right is herein reserved to make such changes as fairly fall with the scope of the appended claim.

In the drawings:—

Figure 1 is a side elevation of a vise showing the attachment applied thereto.

Fig. 2 is a rear view of one of the gripping members.

Fig. 3 is a front view of one of the gripping members.

Fig. 4 is a rear view of one of the gripping members provided with a dove-tail tapered key-way.

Fig. 5 is a front view of a spring arm provided with a dove-tail tapered key.

Fig. 6 is a side view of a spring arm provided with a dove tail tapered key.

Fig. 7 is a side view of a gripping member provided with a dove-tail tapered key-way.

Fig. 8 is a view of a modification of the device on a reduced scale.

Referring more particularly to the drawings, wherein like characters of reference are employed to designate corresponding parts of the several figures, A represents a conventional form of vise comprising a body portion 1, a fixed jaw 2, a movable jaw 3, said jaws being of the usual flat faced type and a screw member *a*.

The improved attachment is shown comprising a spring member 4 which may be of any preferred construction, illustrated in the drawings as provided with a plurality of opposed arms 5 normally spaced apart. Preferably rigidly mounted on each of said arms 5 by means of a connecting member 6, is a gripping member 7 having a plurality of teeth 8, adapted to engage rods, tubes, etc., and to securely hold them against rotation relative to the vise jaws 2 and 3. The connecting member 6, as shown in Figs. 2 and 3, is in the form of a rivet. In this form of construction the gripping member is permanently fastened to the spring arms 5, but in the form of construction disclosed in Figs. 4, 5, 6 and 7, this connection is in the form of a dove-tail key 9 fastened securely to the end of the spring arm by means of the rivet 10. The dove-tail key may be tapered as at 11 to adapt it for engagement with the tapered slot 12 forming the gripping member 7. This permits of the gripping member 7 being wedged into position on the arm 5 of the spring member 4, and thus rigidly retained against displacement. It will be readily understood from the foregoing construction that the gripping member 7 may be removed at any time for the purpose of replacing it with a new one or

with others of different sizes and shapes for use in connection with different classes of work.

As pointed out above the gripping member 7 is provided with a plurality of teeth 8, which, as will be noted by referring to the drawings, are of peculiar formation so as to permit the rods, tubes, etc., of widely varying diameters being clamped securely in any predetermined position. As shown, these teeth are preferably wedged shaped and arranged in step-like formation from the channel 13 upward on either side and in such manner that the apexes of the teeth on each block lie on the arc of a common circle whose center is outside of and in front of the block. The upper face 14 of each tooth is preferably inclined downward and away from the centrally located channel 13, where the other faces 15 of said teeth 8 incline slightly toward the channel 9 in a downward direction.

It will be noted from this construction wherein the teeth 8 positioned on the opposite side of the channel 13 incline toward one another, that when the members 7 are clamped to the gripping engagement with the material being operated upon, the teeth will prevent any rotation thereof in either direction.

To prevent the gripping members 7 from being forced from the vise jaws 2 and 3, under the action of the pressure applied through the vise screw *a* to the jaws 2 and 3, it is essential to provide the gripping members 7 with outstanding lugs or flanges 16 and 17 at their upper and lower edges as is clearly shown in Fig. 1. These lugs may be so positioned as to fit a vise jaw of any particular depth of face, or may be arranged as shown in Fig. 8, wherein each gripping member 7 is provided with only one lug 16 and 17. In this arrangement the lugs are positioned on opposite ends of the gripping members with respect to each other and the device is thus made applicable to vise jaws of various depth of face.

In applying the attachment to a vise, the spring member 4 is grasped, the arms 5 pressed sufficiently toward one another to permit of the same being readily inserted between the jaws of said vise, the lugs 16 and 17 slidably engaging the top and the bottom edges of the vise jaws as shown in Fig. 1. The spring member is then released, thus allowing the arm 5 to spring apart into frictional engagement with the jaws and be thus supported in operative position. After the attachment has been placed in operative position between the vise jaws, the material to be operated upon is held in contact with the gripping member attached to the stationary jaws 2 of the vise A, while the movable jaw 3 of the vise is moved forward by means of the screw *a*, thereby firmly clamping the material between the opposed teeth of the gripping members 7. It is evident from the foregoing description that the use of this attachment is not limited to vises of the character shown in the drawings, but may be used in connection with wrenches or clamps or, in fact, any clamping devices having one or more movable jaws.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

A device of the class described comprising gripping blocks, a resilient member provided with a plurality of opposed arms, dovetailed keys secured in transverse relation to the arms and corresponding key-ways in the blocks, the taper of the keys and key-ways being such as to frictionally retain the blocks in operative position upon the arms.

In testimony whereof I affix my signature.

HENRY G. WEATHERILL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."