

May 29, 1934.

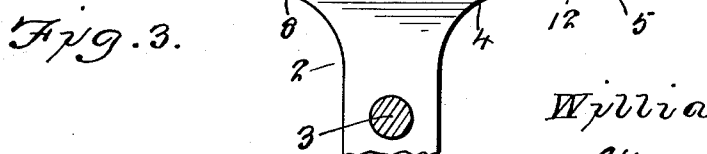
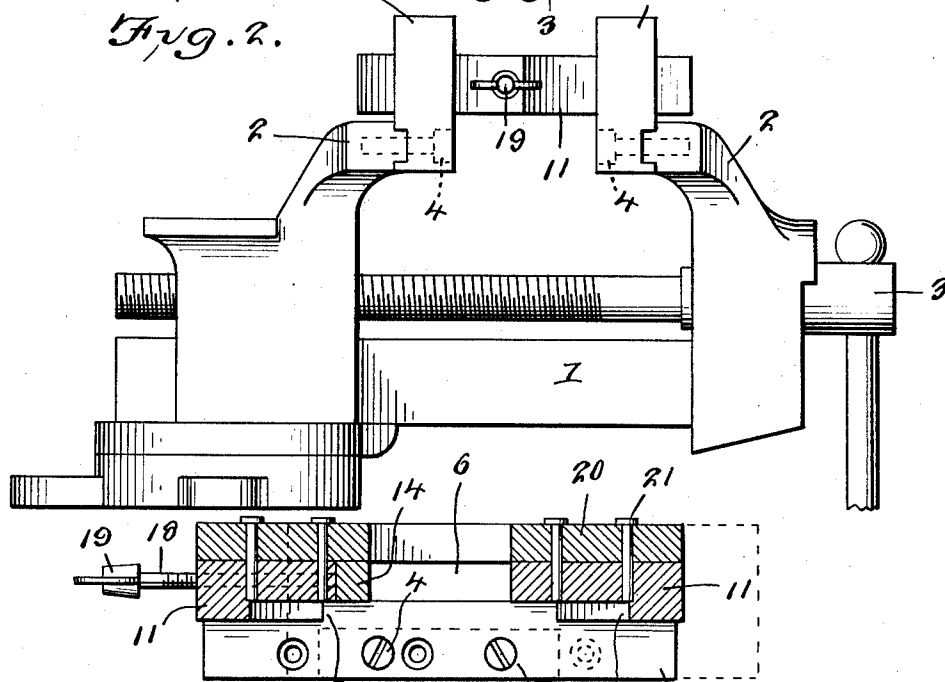
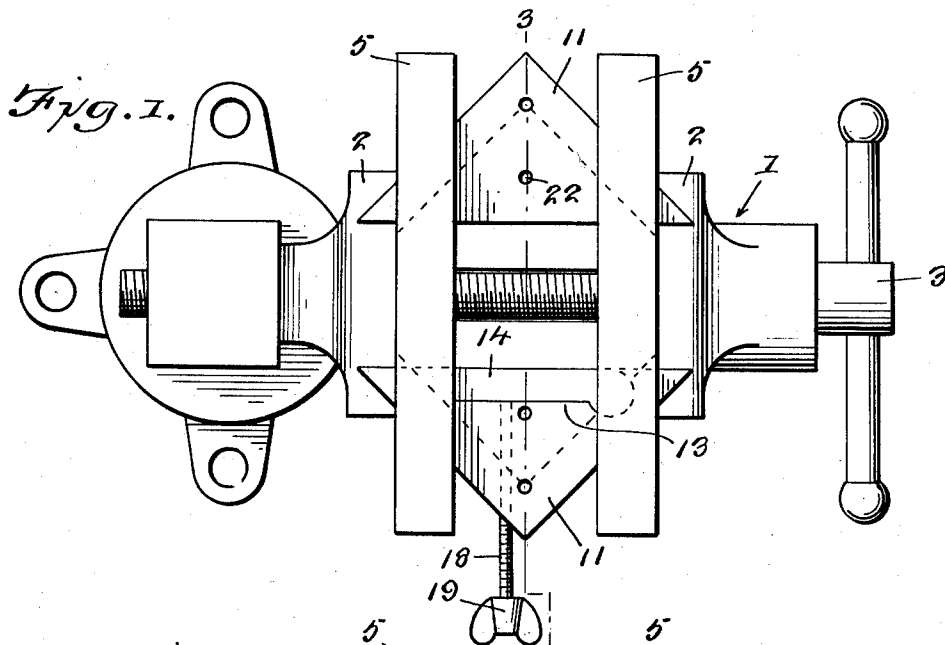
W. E. BOYLE

1,961,036

WISE

Filed Sept. 25, 1933

2 Sheets-Sheet 1



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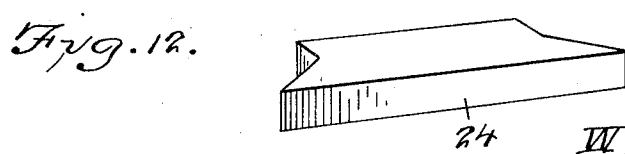
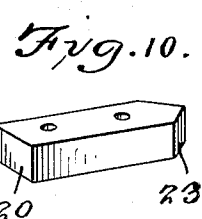
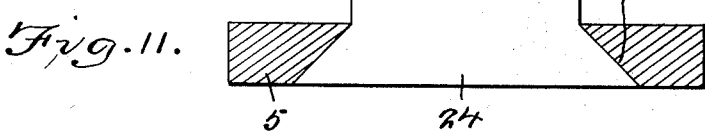
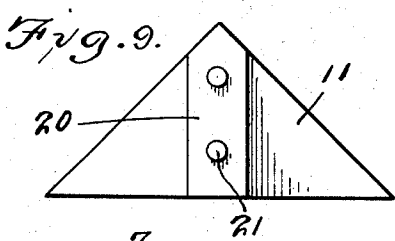
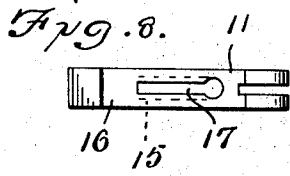
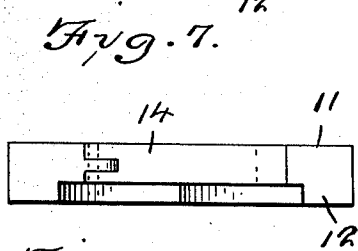
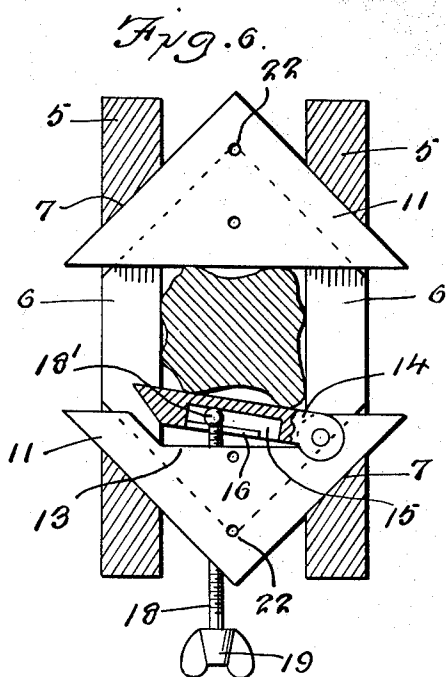
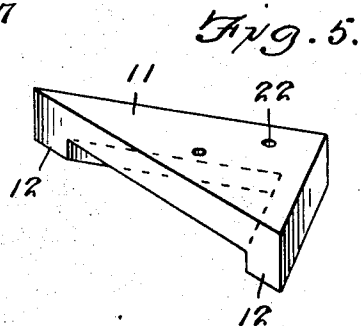
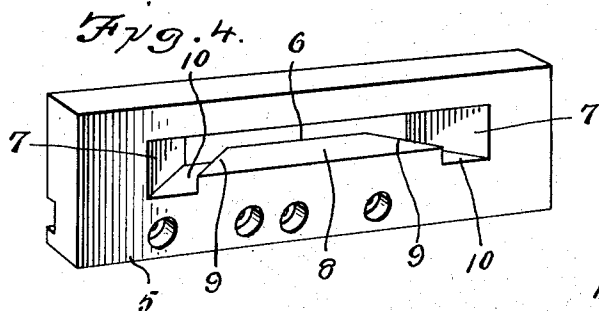
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1,961,036

VICE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,961,036

VISE

William E. Boyle, Baltimore, Md.

Application September 25, 1933, Serial No. 690,928

6 Claims. (Cl. 81—38)

This invention relates to vises and more particularly to attachments therefor and has for the primary object the provision of a device of the above stated character which may be easily and quickly applied to the jaws of a conventional type of vise for the purpose of gripping an object or device upon four sides thereof.

Another object of the invention is the provision of means whereby a device of irregular shape may be readily gripped upon four sides or faces thereof.

With these and other objects in view this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings in which

Figure 1 is a top plan view illustrating a vise with an attachment applied thereto and constructed in accordance with my invention.

Figure 2 is a side elevation illustrating the same.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a perspective view illustrating one of the auxiliary jaws of the attachment.

Figure 5 is a similar view illustrating another auxiliary jaw of the attachment.

Figure 6 is a horizontal sectional view showing the pairs of auxiliary jaws associated with each other and adjusted to grip a device of irregular shape upon four sides thereof.

Figure 7 is an edge view illustrating one of the auxiliary jaws.

Figure 8 is a side view illustrating a dog for operation in conjunction with the jaw shown in Figure 7.

Figure 9 is a plan view illustrating an attachment for one of the auxiliary jaws.

Figure 10 is a perspective view illustrating the attachment.

Figure 11 is a detail sectional view illustrating an attachment for one of the auxiliary jaws.

Figure 12 is a perspective view illustrating the attachment for the jaw shown in Figure 11.

Referring in detail to the drawings the numeral 1 indicates a conventional type of vise having the usual jaws 2 adjusted towards and from each other by the adjusting means 3. The jaws 2 upon their active faces are provided with screw threaded sockets to receive stud bolts 4 carried by pairs of auxiliary jaws 5 for the purpose of detachably connecting the latter to the

jaws 2. The heads of the stud bolts are countersunk in the auxiliary jaws 5 so as not to project beyond their opposing or active faces. Each auxiliary jaw 5 is secured to the respective jaw 2 by a pair of stud bolts and are further provided with additional openings and also the jaws 2 are provided with additional sockets permitting an adjustment of the auxiliary jaws laterally with respect to the vise. The auxiliary jaws are provided with slots 6 having end converging walls 7. One wall of each slot 6 is offset, as shown at 8, having the ends of the offset beveled, as shown at 9. The beveled ends parallel the end converging walls 7 cooperating therewith in forming converging channels or guides 10. The jaws 5 are of elongated formation and have cooperating therewith pairs of auxiliary jaws 11 each of substantially triangular shape, as shown in Figure 6. One face of each jaw 11 is provided with converging ribs 12 to be received in the grooves 10 with the offset portion 8 operating between the grooves. The jaws 5 move towards and from each other by the adjusting of the jaws 2 of the vise towards and from each other and due to the slidable connections between the jaws 5 and the jaws 11, the latter will move towards and from each other during the adjustment of the jaws 5 towards and from each other so that an object positioned between the pairs of jaws 5 and 11 will be gripped upon four sides thereby efficiently retaining the object against slipping.

The active face of one of the jaws 11 is recessed, as shown at 13, and pivotally mounted in said recess is an adjusting plate 14 provided with a slot 15 closed by a plate 16 having a keyhole slot 17. An adjusting rod 18 having feed threads meshes with feed threads of the last referred to jaw 11 and is provided with a ball or sphere 18' operating in the groove 15 by the adjusting rod 18 extending through the keyhole slot 17. A finger piece 19 is carried by the adjusting rod 18 whereby the latter may be rotated in either direction for moving the adjusting plate in and out of the recess 13. The adjusting plate 14 is employed for the purpose of gripping between the pairs of jaws 5 and 11 an object of irregular shape, as shown in Figure 6.

To facilitate the gripping of a round object by the auxiliary jaws 5 and 11, removable blocks 20 are provided having pins 21 to fit in sockets 22 formed in the jaws 11. The blocks have pointed ends 23 which project slightly beyond the active faces of the jaws 11 to cooperate with the jaws 5 in gripping the round object.

To employ the attachment with only a pair of jaws, namely the jaws 5, the jaws 11 are removed from the jaws 5 and facing blocks 24 are provided for the purpose of closing the slots 6 in the jaws 5. The ends of the blocks 24 are beveled to fit the converging walls 7 of the slots with a portion of said blocks projecting beyond the non-active faces of the jaws 5, as shown in Figure 11.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having described the invention, I claim:

1. An attachment for a vise comprising pairs of jaws arranged to form therebetween a space of rectangular shape to receive an object to be gripped, means connecting one pair of jaws to the other pair of jaws for causing said jaws to increase and decrease the size of the space between said jaws by the adjustment of one pair of said jaws with respect to each other, and means for securing the last-named pair of jaws to the jaws of a vise.

2. An attachment for a vise comprising a pair of elongated jaws secured to the jaws of a vise and having slots provided with beveled end walls, a pair of triangularly shaped jaws extending into the slots and engaging the beveled walls of said slots and cooperating with the elongated jaws in forming a space of rectangular shape to receive and grip an object by the adjustment of the elongated jaws with respect to one another through the adjustment of the vise.

3. An attachment for a vise comprising a pair of elongated auxiliary jaws having slots, means for adjustably and detachably connecting the auxiliary jaws to jaws of a vise for movement with the latter, said slots having converging end walls and one wall of each slot offset to form a projection lying in the slot, said projections having beveled ends cooperating with the con-

verging end walls of the slots to form converging guideways, a pair of triangular shaped jaws received by the slots, and converging ribs formed on the triangular shaped jaws and fitting the guideways.

4. An attachment for a vise comprising a pair of elongated auxiliary jaws having slots, means for adjustably and detachably connecting the auxiliary jaws to jaws of a vise for movement with the latter, said slots having converging end walls and one wall of each slot offset to form a projection lying in the slot, said projections having beveled ends cooperating with the converging end walls of the slots to form converging guideways, a pair of triangular shaped jaws received by the slots, converging ribs formed on the triangular shaped jaws and fitting the guideways, one of said triangular shaped jaws having a recess in its active gripping face, a plate pivoted to said last-named jaw and movable into and out of the recess, and means for adjusting the plate towards and from its respective jaw.

5. An attachment for a vise comprising pairs of elongated and triangular shaped auxiliary jaws, means for detachably and adjustably connecting the elongated jaws to the jaws of a vise, said elongated jaws having slots to receive the pair of triangular shaped jaws and the end walls of said slots converging to engage converging faces of the triangular shaped jaws.

6. An attachment for a vise comprising pairs of elongated and triangular shaped auxiliary jaws, means for detachably and adjustably connecting the elongated jaws to the jaws of a vise, said elongated jaws having slots to receive the pair of triangular shaped jaws and the end walls of said slots converging to engage converging faces of the triangular shaped jaws, and blocks removably secured to the triangular shaped jaws and having pointed ends projecting beyond the active gripping faces of the triangular shaped jaws.

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