

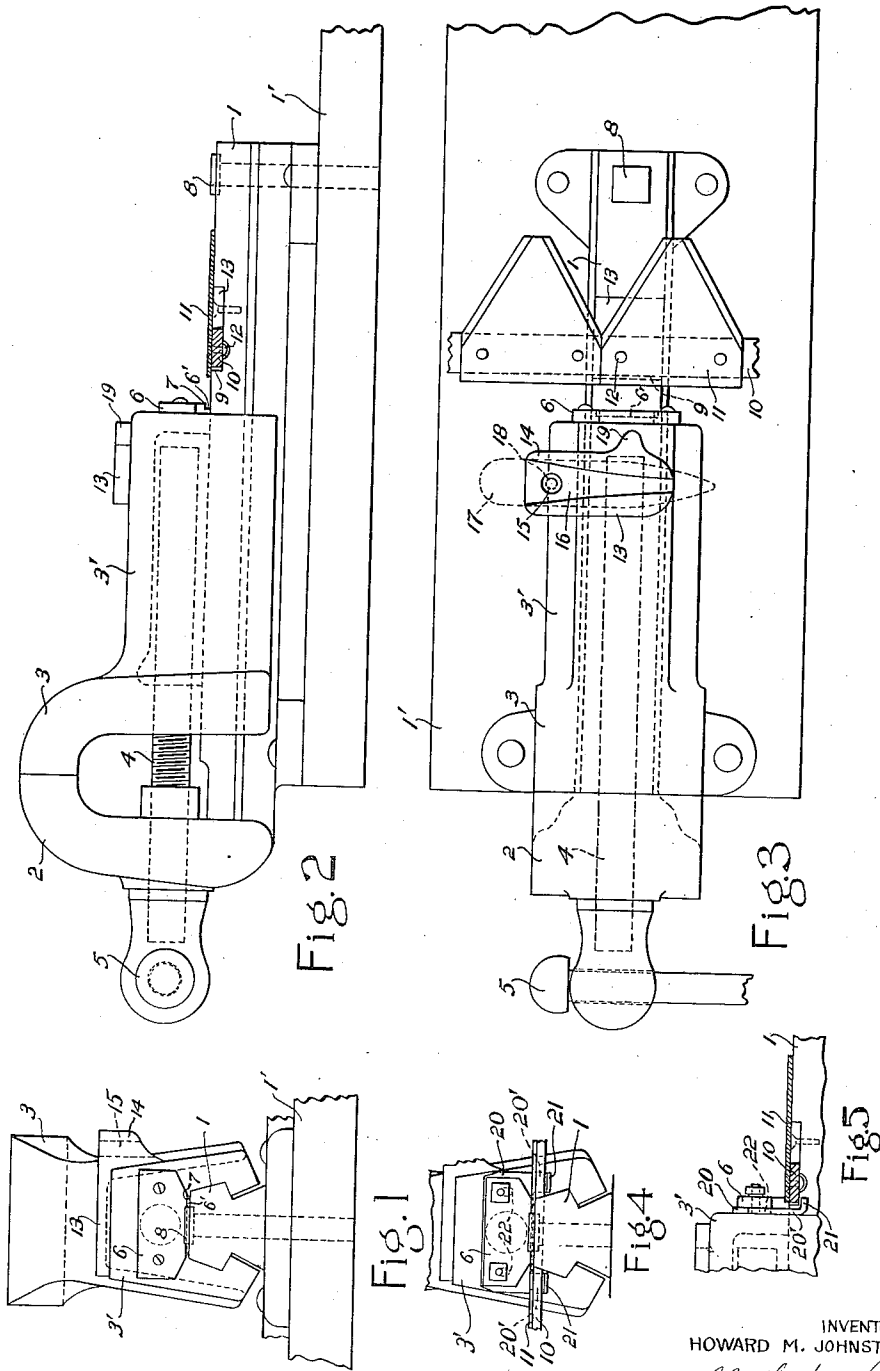
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WISE.

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# UNITED STATES PATENT OFFICE

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VISE

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3 Claims. (Cl. 29—89)

This invention relates to a vise and more particularly to a vise having means for shearing rivets from riveting members.

While a vise of the character described may be applied to general uses, it is particularly well adapted for the replacement of sections on the cutting bar of mowing machines and the like. It is frequently necessary, during the use of such machines, to replace worn or damaged sections, and it has heretofore been difficult for the user of the machine to carry out such an operation without bending the bar or otherwise injuring the knife.

The invention will be described with reference to the accompanying drawing in which,

Figure 1 is an end elevation,

Figure 2 is a side elevation,

Figure 3 is a plan,

Figure 4 is an end view of an associated guide means and

Figure 5 is a side view of the means shown in Figure 4.

In the drawing, 1 is the base member of the vise suitably anchored to a bench 1', 2 a fixed jaw at the end of the base adjacent the edge of the bench, 3 a movable jaw, having an elongated rear portion 3', slidably mounted on the base member and 4 a screw-threaded shaft adapted, by means of the handle 5, to open and close the jaws; all of which is known construction.

The rivet removing construction of the present invention comprises two essential elements, now to be described, one formed in the base member, the other on the inner end of the movable jaw section of the vice. On the base member is formed a shaped recess or the like to receive one element of the article, such as a mower knife, from which rivets are to be removed while the other element lies flat on the top face of the base member. In or on the inner end of the movable jaw section there is formed an overhanging lip or like means to retain the article in position for the deriveting operation.

As shown a plate 6 with a bearing face 6' and having a cut away portion or slot in its lower edge to provide an overhanging lip 7 is secured to the inner end of the portion 3' of jaw 3. The overhanging lip might be formed directly in the jaw member but the arrangement shown provides for adjustment in case of wear. A shaped transverse slot 9 is formed in the upper face of the base 1, and as shown is arranged to receive the bar 10 of a mower knife, while the cutter section 11, secured thereto by rivets 12, lies flat on the base. A bearing plate 13 may be remov-

ably inserted in the slot 9 so that should the bearing surface wear it may be readily renewed to insure accurate positioning of the knife or the like.

It will be observed that movement of jaw 3 causes the plate 6 to engage the section 11, with the lip 7 lying over the face thereof to hold it in position, as shown in Figures 2 and 3 and further movement causes the rivets to be clearly sheared off and the section separated from the bar without bending of the bar or other injury to either member.

A stop 8, which may be the head of an anchoring bolt, is preferably provided to insure against too much outward movement of jaw 3 and to thus protect the screw shaft from injury.

In some instances, the rear face of the cutting section 11 may be flush with the back of knife bar 10, and there is a consequent tendency of the bar to tilt during the deriveting operation. Means for preventing such tilting is shown in Figures 4 and 5 and comprises a guide plate 20 secured behind the shearing plate 6 and having depending portions 20' at either side thereof carrying laterally extending flanges 21 adapted to extend under the knife bar 10, when the bearing face 6' has engaged the section 11, as shown. Slots 22 in the guide plate 20 permit vertical adjustment of the plate for varying widths of knife bars.

Means for punching rivets from and for riveting articles may be provided, and as shown in Figures 1 and 3 comprises a transverse raised section 13 formed on portion 3' of the jaw 3 and provided with a projection 14 having a bore 15. A cut-away depression 16 in the section 13 forms a bearing for the article to be treated. By way of example a mower knife guard 17 is shown in dotted lines in position in Figure 3 and the ledger plate may be conveniently separated therefrom by punching out rivet 18. The arrangement is also convenient for riveting such articles, the top surface of the section being provided with a lateral extension 19 to form an anvil and its elevation with respect to the rearward extension of the jaw accommodating depending portions of the guard during the riveting operation.

I claim:

1. Device for shearing rivets in a pair of riveted members comprising a base having a transverse slot in its top face shaped to receive and hold one of said members whereby the other member rests flat upon the top face of said base, an element slidable on the top face of said base and having an overhanging lip adapted to en-

gage the edge portion of said other member, and means for preventing tilting movement of said first-mentioned member during the rivet-shearing operation comprising adjustable strips carried by said slidable element and depending on either side of said base, said strips having flanges adapted to extend under said first-mentioned member and closely adjacent thereto.

2. A device for shearing rivets in a mower cutting knife or the like which comprises a base forming one element in a vice, a transverse slot in the top face of the base to accommodate the bar of said knife with the under face of a cutting section thereof resting on the top face of said base on each side of said slot to prevent turning or twisting of said knife, and an element

slidable on the top face of said base and having an overhanging lip adapted to engage the edge portion of said cutting section.

3. A device for shearing rivets in a mower cutting knife or the like comprising a base forming one element of a vice, a narrow transverse slot in the top face of said base to receive the bar of said knife and permit the under face of a cutting section thereof to rest on the top face of said base to prevent twisting or turning of the knife, a bearing plate in said slot, and an element slidable on the top face of said base and having an overhanging lip adapted to engage the edge portion of said cutting section.

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