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H. HAUSER

2,599,174

TOGGLE-OPERATED FLY-TYING VISE

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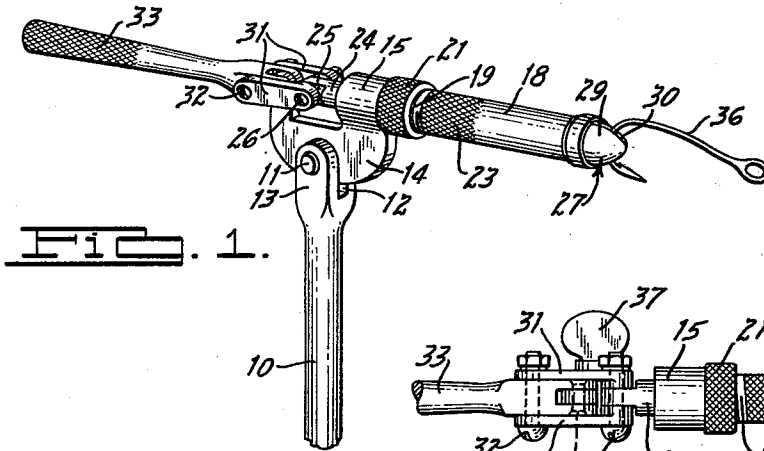


Fig. 1.

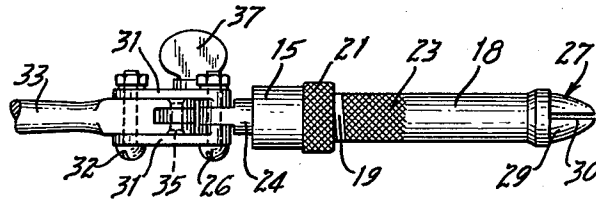
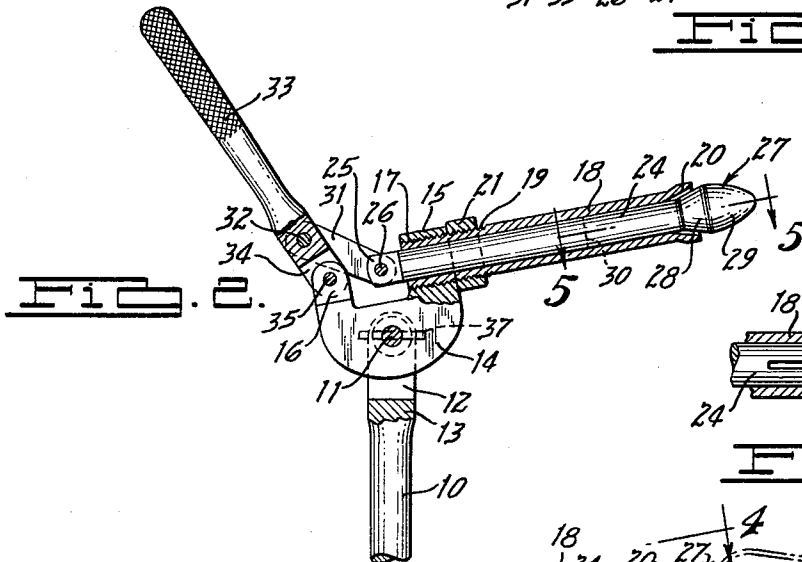


Fig. 4.



Hi. I

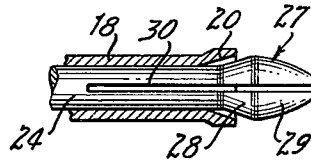


Fig. 5.

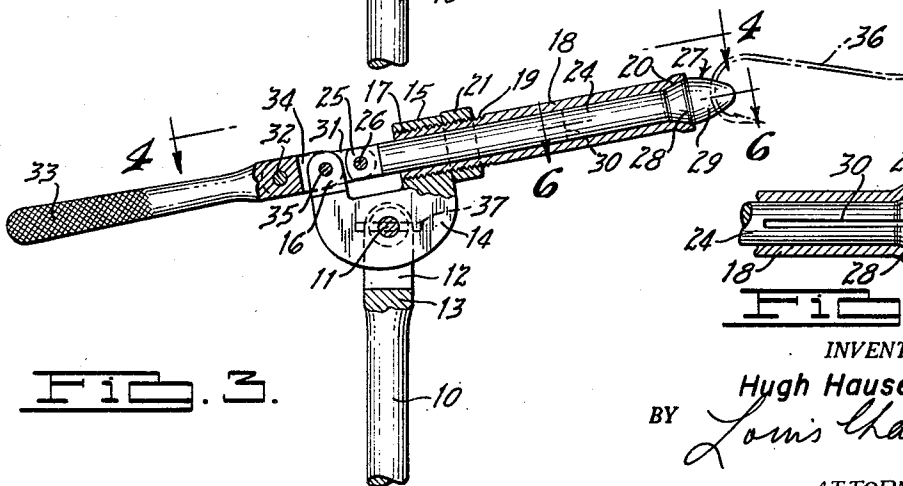
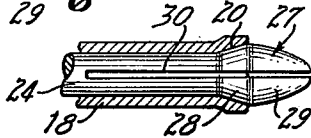


Fig. 3.



File. 6.

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TOGGLE-OPERATED FLY-TYING VISE

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1 Claim. (Cl. 81—25)

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Generally, my invention pertains to vises which may be used for the purpose of clamping small objects when it may be desired to have some work performed thereon. More specifically, my vise has been designed as a convenient tool to be used for the purpose of holding fish hooks in preparing fish flies. The object of my improvement is to provide a vise equipped with jaws which may be instantly brought to a clamping position, and in which the operative end, including said jaws, may be adjusted to any position angularly with respect to a supporting standard upon which the vise is mounted. The further object of my improvement is to provide a device in which the spread of the jaws in their clamping position may be regulated for best operative efficiency of said vise. While some of the features of the vise are already known to trade, the novelty of my improvement lies in the means of effecting quick clamping of the jaws, and, reversely, in effecting quick release of the object from between the jaws.

I shall now describe my improvement with reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of my vise with a fragmentary view of the standard upon which the vise is mounted;

Fig. 2 is a side elevational view of the vise and said standard, both being shown partly in section;

Fig. 3 is a sectional view of the vise in a different operative position than that shown in Fig. 2;

Fig. 4 is a top elevational view of the vise as seen along line 4—4 of Fig. 3;

Fig. 5 is a fragmentary view, partly in section, of the operative end of the vise on line 5—5 of Fig. 2;

Fig. 6 is a fragmentary view of the operative end of the vise taken on line 6—6 of Fig. 3.

Similar numerals refer to similar parts through the several views.

The vise is supported upon a vertical standard 10 which, at its lower end, may be held upon a suitable base or in a clamp, as the case may be. As no invention is involved in securing the standard in its place, the details pertaining to said mounting are not shown.

Pivotaly mounted on a pin 11 within a slot 12 in the upper end 13 of the standard is a flat semi-circular member 14 disposed in a vertical plane, the member including an integrally connected bushing 15 disposed above the line of the diameter of member 14 and located to one side of the center point of said diameter. Located at the opposite end of said diameter is

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an integrally connected tongue or lug 16 having a transverse circular aperture therein.

The bushing 15 is threaded internally, as shown at 17, for reception of a tube 18 which is threaded at one end upon its outer surface, as shown at 19, and which, at the opposite end, has an outwardly flaring mouth 20. A lock-nut 21, threaded internally and knurled on the outer side, as shown at 22, abuts the bushing 15, as shown in the drawings. It will be noted that a part of the outer surface of tube 18 is also knurled, as shown at 23, at the end adjoining said lock-nut 21.

Slidably located within the tube 18 is a shaft 24, the shaft being longer than the tube and projecting from the tube at both ends. At one end 25, where it projects above the mid-portion of member 14, it is provided with a transverse hole for reception of a cross-pin 26. At the other end the shaft terminates in a gland, generally indicated by numeral 27, said gland including a tapering portion 28 which fits into the mouth 20 and an outer oval portion 29. The shaft is slotted at the end provided with said gland 27, the slot 30 extending from the end of gland 27 to a substantial distance within tube 18, as best shown in Figs. 5 and 6. The split portions of said gland constitute jaws of the vise, said jaws being in opposed relation to each other and capable of being flexed towards each other. The opposite end 25 of the shaft, as already described, is connected by means of the above-said pin 26 to a short link 31, which, at the other end, is connected by means of a similar cross-pin 32 to a lever 33, which, at the lower end, is forked, as shown at 34, to straddle the above-said lug or tongue 16 to which it is connected by means of cross-pin 35, the whole arrangement described above, including said lever, said link, and the connection to shaft 24, being well known as a toggle mechanism.

I shall now describe the operation of my vise. The jaws of member 27 are normally in spaced relation to each other, as shown in Fig. 5, the position of the jaws permitting easy insertion of a fish hook 36 which is to be dressed to serve as a fish fly. The position of member 27 as a whole, with respect to the mouth 20 of the tube 18, is best shown in Fig. 2. Once the hook is inserted between the jaws of said gland, the gland is drawn back into the mouth 20, this being effected by means of lever 33 which, on being pressed downwardly from position shown in Fig. 2 to a position shown in Fig. 3, will, by means of link 31, pull said member 27 inwardly against

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the inner surface of mouth 20. The inner surface of said mouth, bearing against the tapered portion 28 of member 27, will force the split portions thereof towards each other, as shown in Fig. 6, to clamp the fish hook in between. If desired, the mouth of tube 18 may have the outline of an ellipse, the long axis thereof being in the plane of slot 30, although in practice a mouth circular in cross-section appears to be satisfactory.

As already described, tube 18 is threaded into bushing 15. If the tube is not fully screwed in, the outer end thereof, including mouth 20, will be further removed from said bushing, limiting the extent of the longitudinal movement of shaft 24, and, by the same token, limiting the extent to which the jaws of gland 27 may be compressed towards each other. The arrangement permits adjustment of the extent to which the jaws of the gland may be brought towards each other. Once the tube has been sufficiently unscrewed from or fully screwed into bushing 15, the position of the tube may be secured against longitudinal displacement by means of lock-nut 21.

As already described, member 14, supporting the operative parts of the vise, is mounted upon a standard 10 by means of a pin 11. This is made in the shape of a thumb screw provided with a thumb piece 37 in order to retain the operative parts of the vise in any desired angular position upon said standard. As the arrangement is well known, no further details will be described.

It will be understood that some minor changes may be made in the structure of my vise without departing from the inventive principle disclosed herein.

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What I, therefore, wish to claim is as follows:

A vise of the kind described, comprising an upright standard, a flat semi-circular member pivotally mounted at the upper end of said standard and including an internally threaded bushing and a lug aligned therewith, but in spaced relation thereto, a tubular member threaded at one end into said bushing and having, at the opposite end, a flaring-out mouth, a shaft slidingly disposed in the tubular member and including, at one end, a gland slotted to form two opposed jaws and having a tapered portion retractable into said mouth, a lever pivotally mounted upon the lug, and a link at one end connected to said lever and at the other end connected to the shaft at the end remote from the gland, the lever serving to draw the tapered portion of the gland into the mouth and thus move the jaws of the gland towards each other.

HUGH HAUSER.

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