Dec. 3, 1935. F. E. EDGREN ET AL 2,023,269

KNIFE

Filed Oct. 18, 1934

Fig. 1.

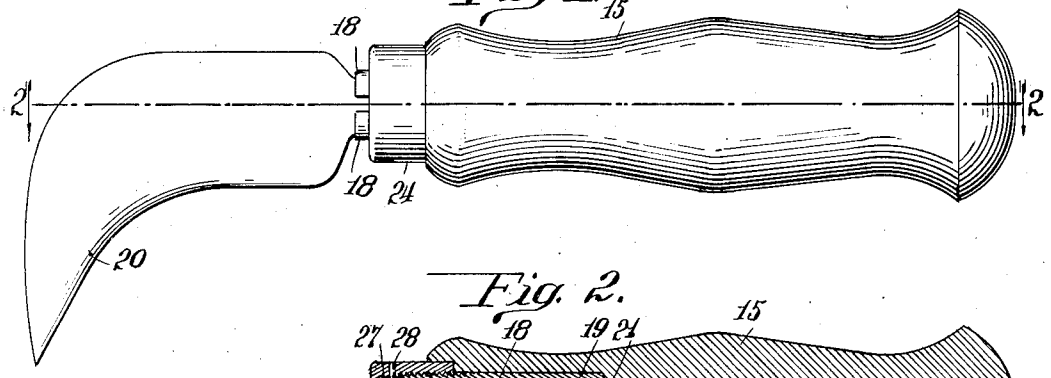


Fig. 2.

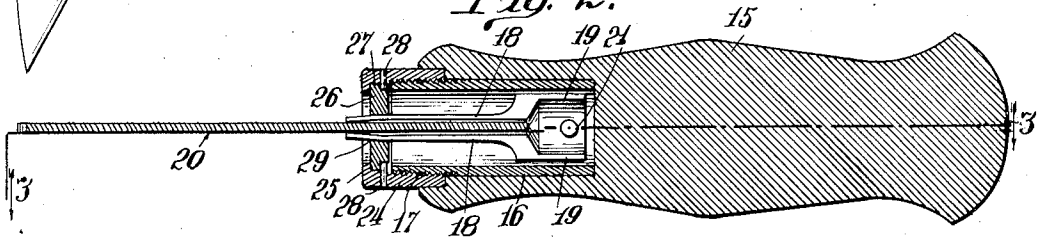


Fig. 3.

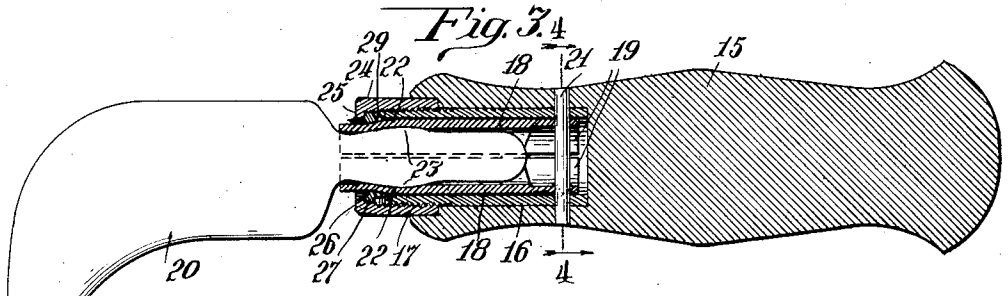


Fig. 5.

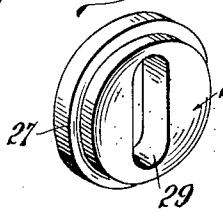


Fig. 7.

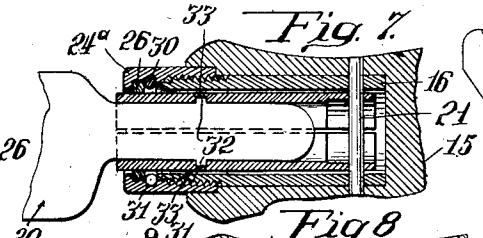


Fig. 6.

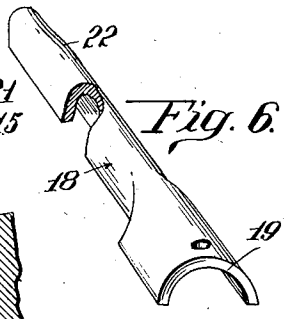


Fig 8

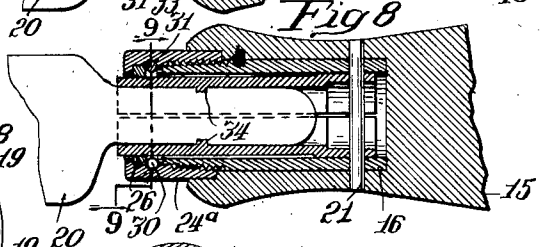


Fig. 4.

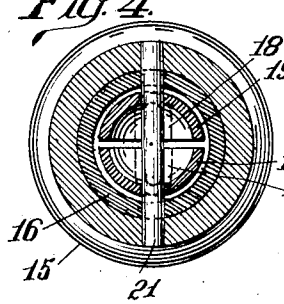
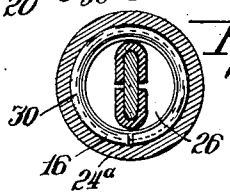


Fig. 9.



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Patented Dec. 3, 1935 2,023,269

UNITED STATES PATENT OFFICE

2,023,269

KNIFE

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Application October 18, 1934, Serial No. 748,874

2 Claims. (Cl. 279—36)

The invention relates to that class of knife wherein the blade is removably held in place to permit repeated sharpening and replacement when occasions require.

The object of the invention is to provide a simple, inexpensive and durable blade holding handle portion and which at the same time will effectively and firmly hold the blade in proper position, while permitting the blade to be quickly and easily released to permit replacement of a blade of one type by that of another so as to adapt the knife to different uses.

The invention consists of a knife-handle provided with blade gripping elements or jaws in conjunction with the knife-blade which is provided with a shank portion of prearranged type adapted to cooperate with the gripping elements which are controlled by pressure applying means.

The objects and advantages of our invention will be readily comprehended from the following detailed description of the accompanying drawing, wherein—

Figure 1 is a side elevation of a knife with our invention.

Figure 2 is a longitudinal sectional view taken substantially along the line 2—2 of Figure 1.

Figure 3 is a longitudinal sectional view taken substantially along the line 3—3 of Figure 2.

Figure 4 is a cross-sectional view taken substantially on the line 4—4 of Figure 3 as viewed by the arrows.

Figure 5 is a detail perspective view of a control disc.

Figure 6 is a detail perspective view of one of the blade gripping elements or jaws, with a portion broken away.

Figure 7 is a longitudinal sectional view of a portion of the handle and of the blade, illustrating a modification.

Figure 8 is a similar view showing another modification.

Figure 9 is a detail sectional view taken substantially on the line 9—9 of Figure 8.

In the particular exemplification of our invention as disclosed in the first six figures, the handle 15 is of suitable formation and material, such as wood, with one end provided with a bore to receive the short sleeve member 16.

The sleeve is of length somewhat greater than the depth of the bore in the handle so as to cause the sleeve to extend beyond the end of the handle and this extended portion is externally threaded as shown at 17.

This sleeve receives a pair of jaw members 18, 18, having longitudinally extending grooves from the outer or small ends to a point adjacent to the inner or flared ends 19 for the purpose of receiving the knife-blade or shank of the blade 20.

The sleeve 16 and the inner ends 19 of the gripping or jaw members 18 are shown secured in the bore of the handle 15 by a cross-pin 21, which extends through the ends of both jaw members, through the sleeve and through the handle, thus holding the sleeve and jaw members against any longitudinal movement as well as against rotative movement.

The outer ends of the jaw members 18, 18, preferably a short distance removed from the immediate ends, are each provided with a slight off-set or bulge as shown at 22 thereby slightly increasing the depth of the grooves in the jaws for the purpose of receiving the raised portion 23 formed on the opposite longitudinal edges of the shank of the blade 20; the depth of the grooves in the immediate outer ends of the jaws being preferably uniform and similar to the depth of the grooves at the inner ends of the jaw members.

The threaded outer end of the non-rotatable sleeve 16 is intended to receive the internally threaded ferrule or collar 24 which at one end has an inturned flange as shown in Figures 2 and 3 at 25.

The ferrule or collar 24 is shown provided with a slotted disc 26, detail of which is shown in Figure 5; and in this instance the disc 26 is shown provided with an annular shoulder 27 which is to be engaged by small pins 28, 28 secured within the ferrule or collar 24. The pins extend onto the shoulder of the disc and prevent the disc coming out of the ferrule while at the same time permitting rotative movement of the ferrule relative to the disc.

The slot 29 in the disc 26 is of size sufficient to receive the normal sized outer ends of the jaw members 18, 18 and permitting them to pass through the slot as shown in Figure 3; while on the other hand effecting a wedging relation with the bulging portions 22, 22 of the two jaw members 18, 18.

The length of the screw-threaded portion of sleeve 16 and the length of ferrule 24 are preferably such that the disc 26 may be brought into engagement with the bulged portions 22 of the jaw members 18 before the ferrule 24 has been completely screwed onto the sleeve 16. With such construction, the disc 26 will ride slightly onto the bulged portions 22 of the two jaw members and thus force the latter into firmer gripping relation with the shank of the blade and the

bulged portions 22 of the jaw members into firm relation with the raised portions 23, 23 of the blade-shank and hence prevent the raised portions 23 from leaving the bulged portions of the jaw members and passing through the normal sized outer ends of the jaws. As a result the blade is firmly held in place regardless of any strains to which the blade may be subjected.

Instead of securing the disc 26 in the ferrule 24 by means of the pins 28, the disc 26 may be held in the ferrule 24a against accidental removal by means of a resilient split ring 30 (see Figure 9) which seats or expands into a groove 31 cut in the ferrule beneath the threaded portion. The knife-blade, like in the previously described construction, passes through the slot in the disc and into the jaw members; the slot in the disc also receiving the outer ends of the jaw members, which are held by the cross-pin 21. The disc therefore will be held against rotation; while the ferrule may be screwed onto the threaded end of the sleeve and thereby force the disc lengthwise of the jaw members in the same manner as in the construction shown in Figures 1–3.

Instead of providing both the jaw members and the shank of the knife-blade with the raised or bulged portions 22 and 23, an interlocking relation between the jaws and knife may be effected as shown in Figures 7 and 8. In Figure 7 the knife-blade shank is shown provided at opposite longitudinal edges with small projections 32 which are intended to pass into a socket 33 formed in each jaw member.

In Figure 8 the blade-shank on opposite longitudinal edges is provided with notches 34 which are adapted to receive small pins or burrs formed within the channels of the jaw members.

It is apparent that with these constructions the knife-blade will be firmly held against outward longitudinal movement as long as the disc is in telescopic relation with the ends of the jaw members, because the slot in the disc is just sufficient to receive the spread ends of the jaw members produced by the shank of the knife-blade thus firmly holding the grooved sides of the jaw-members against the longitudinal edges of the shank of the blade.

We are aware that knife-handles for removably holding the blades have been made, employing a pair of retractible jaw members whose gripping relation with the blade is induced by either rotating the blade with the jaw members or by holding the blade against movement and rotating the handle which causes a threaded stem or bolt secured to the inner ends of the jaw members to screw lengthwise of a nut secured in the butt or other end of the handle. This causes the jaw members to be retracted or drawn into the handle.

This construction, however, has been found objectionable because if the blade is subjected to side pressure in a certain direction the blade with the jaw members will rotate in an unscrewing direction and the blade will be released.

Our improved construction overcomes this serious objection, as the jaw members are pivotally held in the handle against any rotary movement by the cross-pin 21; the jaw members being fixedly held against movement longitudinally of the handle. As a result, the blade will be held against rotary movement regardless of any sidewise pressure thereon. Furthermore, it is not necessary to bore out the entire handle and hence a stronger handle is provided.

What we claim is:

1. A knife of the character described comprising a handle counterbored at one end; a tubular member arranged in the bore of the handle and provided with an externally threaded end adapted to extend beyond the handle; a pair of longitudinally grooved jaw members arranged in said tubular member; means whereby the jaw members and the tubular member are secured in the handle against rotation and against longitudinal movement, while permitting a separating movement between the jaw members; a blade having a shank adapted to enter between said jaw members, the blade-shank and jaw members having interengaging surfaces to prevent longitudinal movement of the knife-blade; a ferrule adapted to screw onto said threaded end of the tubular member; and a slotted disc mounted in one end of the ferrule so as to permit independent rotative movement, the slot in the disc being adapted to receive the outer ends of the jaw members with the blade-shank therebetween and to hold the jaw members in gripping relation with the blade-shank when the ferrule is screwed onto the tubular member.

2. A knife of the character described comprising a handle portion counterbored at one end; an externally threaded sleeve in said counterbore; a pair of grooved jaw members arranged in said sleeve; means disposed through the handle whereby the sleeve and jaw members are held in the counterbore against movement longitudinally of the handle while the jaw members are permitted lateral spacing movement; a knife-blade insertable between the jaw members, the jaw members and knife-blade being provided with interengaging surfaces; a ferrule adapted to screw lengthwise of the sleeve and having an inturned flange at one end; and a disc seated in the ferrule against said flange and slotted to receive the ends of the jaw members when the knife-blade is in place, said disc being held in the ferrule so as to permit the latter to screw onto said sleeve without rotating the disc.

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