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KNIFE

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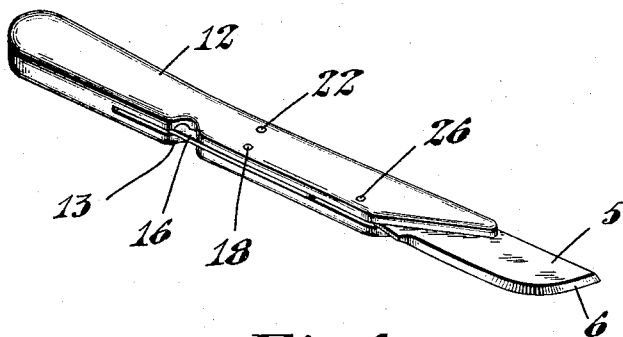


Fig. 1.

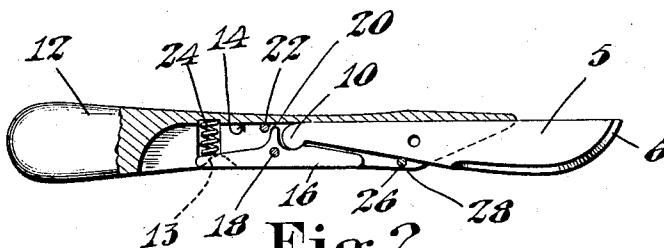


Fig. 2.

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KNIFE

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This invention relates to knives of the type in which the blade is readily detachable from the handle or holder, so that it may be conveniently replaced by a new sharp blade when it has become dull in use.

The knife of my invention is of such construction that the blade is rigidly and securely held without danger of displacement when in use, while at the same time it may be disengaged quickly without disassembling the organization or removing parts when replacement is desired.

The general construction of the knife, moreover, is such that it can be manufactured to good advantage at moderate expense, its parts being simple to produce and easy to assemble.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings, in which

Fig. 1 is a view in perspective of the knife, and

Fig. 2 is a sectional view of the knife showing the blade in operative position.

The handle 12 of the knife is formed of a single piece of metal shaped exteriorly to fit the hand of the user and having a single longitudinally extending slot therein such as might be formed by a saw cut. If desired, however, the handle may be a die casting and in such case the finished slot will be produced directly in casting the handle. The rear or bottom wall 14 of the slot is straight and supports the body of the blade.

The cutting blade 5 is of thin sheet steel having a curved sharpened cutting edge 6 and an elongated tapering shank which terminates in a circular enlargement or projection 10. The back edge of the blade is straight and adapted to lie against and be supported by the bottom wall 14 of the slot in the handle and is tangent to the contour of the circular projection 10. The thickness of the blade is such that it makes a sliding fit within the slot so that it is supported transversely by the side walls thereof.

A transverse pin 26 extends through the handle 12 and cross the slot near its forward end. The pin 26 has several functions. In the first place it cooperates with the tapering shank of the blade to position the blade with its back firmly against the bottom wall of the slot. It also limits the endwise movement of the blade in the slot and so locates it properly to be engaged by the locking member which will be presently described. Finally it assists in firmly holding the blade in operative position.

A T-shaped locking member 16 of thin sheet material is pivotally mounted within the slot of the handle upon a transverse pin 18. This locking member has a circular recess in one arm disposed close to its fulcrum pin 18 and shaped to receive the circular projection 10 on the end of the shank of the blade 5. Its other end is extended rearwardly and engaged at a point remote from its fulcrum by a compression spring 24 seated in a hole in the handle and tending to swing the locking member always into interlocking engagement with the shank of the blade. The locking member 16 has also a short arm 20 so arranged as to engage a third transverse pin 22, which acts as a stop to limit its outward swinging when the blade is removed. The handle 12 has a transverse notch 13 cut in its slotted edge to permit reaching the locking member 16 for the purpose of depressing its rear arm against the compression of the spring 24 and swinging it to disengage the circular recess from the circular end 10 of the shank for the purpose of releasing the blade.

It will be noted that the radius of the circular recess in the locking member 16 is somewhat greater than the radius of the circular projection 10 of the shank, and that when these parts are assembled the projection 10 engages the forward wall of the recess. The yielding engagement of the locking member therefor tends always to draw the blade further into the holder. This feature of construction is also important in that it compensates for slight variations in shape or dimension of the parts of the assembly.

In assembling a blade in the handle or holder 12 the blade is merely pushed endwise into the end of the slot. The circular projection 10 on the end of the shank co-acts with the tapering inner edge of the forward arm of the locking member 16 swinging this member sufficiently to permit the circular end 10 to reach the circular recess whereupon interlocking engagement of the two is at once effected and the blade rigidly and reliably locked in place in the handle ready for use. When it is desired to replace the blade the locking member is swung in the opposite direction by depressing its rear end as already explained and the used blade is disengaged by drawing it forwardly out of the slot.

Having thus explained the embodiment of my invention herein illustrated, I claim:

20 1. In a knife of the character described, the combination of a blade having a taper shank terminating in a circular projection, with a holder having a stop of circular contour for limiting the insertion of the taper shank by wedging engagement, and a blade locking member having a circular recess and being movable into yielding interlocking engagement with the end of the shank.

25 2. In a knife of the character described, the combination of a blade having an elongated shank, with a holder having a blade receiving recess, a blade locking member pivotally mounted within the recess and having three arms each extending in a different direction from the axis of pivotal movement of the locking member, a fixed stop located in the path of one arm, a spring engaging the second arm and the third arm being shaped for interlocking with the shank of the blade.

30 3. In a knife of the character described, the combination of a blade having an elongated shank tapered throughout its length and a straight back, a holder having a slot with walls forming a socket to receive the blade by endwise movement of the shank into the holder with the blade back sliding on one of said walls, a pin extending across the slot in position to engage the tapered shank of the blade and wedge it against said wall, and a locking piece arranged to hold the blade in such wedged position in its socket.

Signed at Boston, Massachusetts.

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