

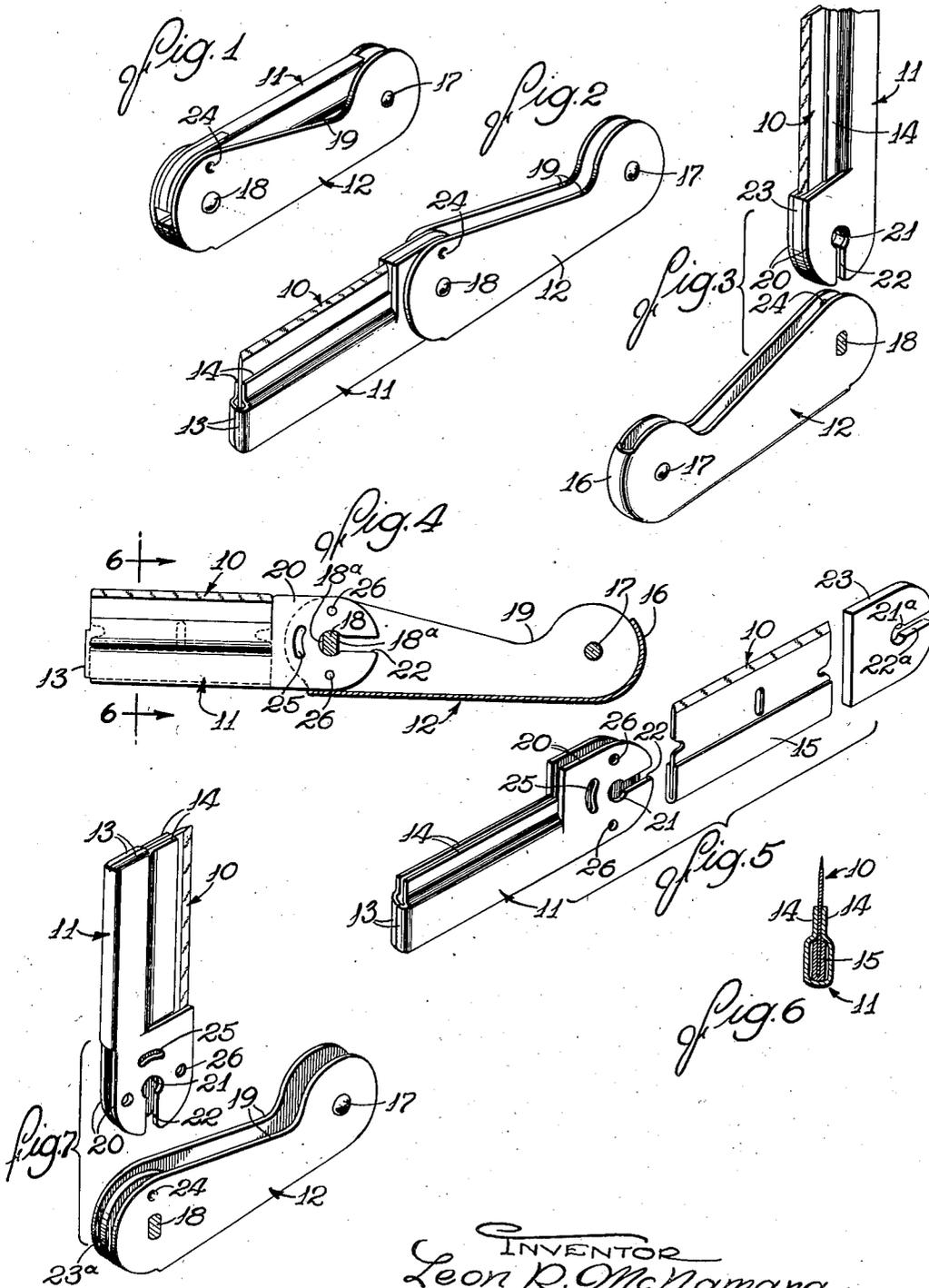
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POCKETKNIFE

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POCKETKNIFE

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10 Claims. (Cl. 30—157)

The invention relates to pocketknives and particularly to improvements in pocketknives of the replaceable blade type.

One object of the invention is to provide a pocketknife embodying a novel arrangement for utilizing a safety razor blade as the cutting element.

Another object is to provide a knife of the above character in which a blade holder and handle are pivotally connected in a novel manner such as to facilitate separation of the two and ready removal and replacement of the blade.

A further object is to provide a knife of the above character in which the blade holder is disposed between spaced sides of the handle.

Still another object is to provide a pocketknife of the type indicated which is very low in cost and simple to manufacture, as well as easy and safe to manipulate for blade replacement.

The invention also resides in the novel construction of the pivotal connection between the blade holder and knife handle.

Further objects and advantages will become apparent as the following description proceeds, taken in connection with the accompanying drawing in which

Figures 1 and 2 are perspective views of a pocketknife, embodying the invention, and shown respectively in its closed and open positions.

Fig. 3 is a perspective view of the knife parts showing the mode of disengagement of the cover from the blade holder.

Fig. 4 is a side elevation, partially in longitudinal section.

Fig. 5 is an exploded perspective view of the knife.

Fig. 6 is a transverse section along the line 6—6 in Fig. 4.

Fig. 7 is a perspective view of a modified form of knife embodying the invention and illustrates the mode of disengagement of the cover from the blade holder.

Referring more particularly to the first exemplary construction (Figs. 1 to 6) the improved pocketknife is adapted to utilize a safety razor blade 10, preferably of the so-called single edge type, as the cutting element. Such blades usually have a sufficiently keen edge for ordinary cutting operations long after they are too dull for shaving. Associated with the blade 10 are two main parts, namely a blade holder 11 and a handle 12, both of which may be economically fashioned as sheet metal stampings so that the whole structure is very simple and low in cost.

The blade holder 11 is of channel shape and is closed at its outer end by inwardly bent, abutting lugs 13. The opposite or inner end is, however, open so that the blade 10 can be pushed endwise into place in the holder. To grip the blade and hold it firmly against displacement, the longitudinal edges or lips 14 of the holder are offset inwardly toward each other, and being made of resilient sheet metal hold the blade 10 effectually against side play. Single edge razor blades of the type shown are commonly provided with a reinforcing strip 15 along their rear edges (Figs. 5 and 6) which provide longitudinal shoulders projecting laterally from the faces of the blade. These shoulders are engaged by the complemental shoulders formed at the bases of the offsets 14, thereby preventing edgewise displacement of the blade. Since the blade holder is quite deep as compared to the blade 10, it supports the blade relatively close to the cutting edge so that in spite of its comparative thinness, the blade will not be subject to twisting or breakage when in ordinary use of the knife.

The handle 12 is also of simple channel shape, being desirably rounded at both ends. Its forward end is closed, as indicated at 16 (Fig. 3) and a reinforcing pin 17 joins the side walls at this forward end, matching in appearance a pivot pin 18 at the other end. The sheet metal side walls of the handle are resilient and grip the side walls of the holder 11 frictionally when the knife is closed (Fig. 1) to retain it in such position. To facilitate opening of the knife, the handle side walls are cut away as indicated at 19.

Of particular importance in the knife disclosed is the pivotal connection between the blade holder and the handle. In general, this connection is such that the blade 10 is firmly held in the holder except when the handle is disconnected from the holder and also such that the pivotal connection can be disengaged and the holder and handle separated only when the holder is swung to a position intermediate its closed and open positions of the knife. Inadvertent disengagement when the knife is in use is thus prevented.

In the instant embodiment the blade holder 11 is provided with inner end portions 20 (Fig. 5) rounded at their ends. Alined holes 21 are formed at the centers of these portions and communicate with open ended slots 22 extending radially and longitudinally of the holder, these slots being of lesser width than the diameter of the holes. A metal block 23 of a shape similar to the portions 20 is inserted between the latter

to close the otherwise open end of the holder and thereby prevent removal of the blade 10. A hole 21^a and a slot 22^a in the block register with the holes and slots 21 and 22 in the holder.

A pivot pin 18 on one end of the handle 12 cooperates with the apertured ends of the holder 11 to retain the block 23 in place. The pin has a diameter only slightly less than that of the holder hole 21 and parallel flat sides 18^a spaced apart a distance slightly less than the width of the holder slot 22. Opposite ends of the pin project through holes of complementary cross section in the handle side walls near one end of the latter, the pin ends being expanded or peened over to fasten the pin and handle together. It will be observed that the sides 18^a of the pin extend transversely of the handle so that with the handle and holder disposed at right angles to each other as shown in Fig. 3, the pin 18 will enter the slots 22 and become seated in the holes 21 as the two parts are moved together. Thereupon the parts are pivotally connected and can be swung freely from the open position of Fig. 2 to the closed position of Fig. 1 and vice versa. In both of these positions the pin 18 is disposed with its greater dimension transverse to the ends of the slots 22 so that disengagement of the parts is prevented.

To retain the holder and handle parts 11, 12 against inadvertent disengagement even when in their right angle position, and especially when passing through the same, a friction catch arrangement has been provided. For this purpose, a tit 24 struck in from the side wall of the handle 12 rides in a slot 25 in one of the end portions 20 of the holder 11 while the parts are swinging through their 90 degree position. This same projection is also adapted to enter holes 26 in the holder end portion and exert a friction detent action for retaining the knife releasably in its open and closed positions.

In the modified construction of Fig. 7 a very similar arrangement of parts is used except that a block 23^a, corresponding to the block 23, is fixed permanently in position in the handle 12. The same reference numerals have been used to designate identical parts and, accordingly, their detailed description need not be repeated.

To assemble the knife of Fig. 7 the blade 10 is slipped lengthwise into the holder 11 where it is gripped by the holder edges 14. Then, the handle and holder parts are arranged at right angles, as shown, and the holder moved downward so that its end portions 20 enter the spaces between the sides of the handle and the block 23^a. The latter in this case is simply a disk shaped spacer thinner than the space between the handle walls and fixed to the pin 18. As the holder end portions 20 enter between the handle walls and the blade 23^a, the pin 18 rides up through the slots 22 until it enters the holes 21 whereupon the tit 24 snaps into the recess 25. Thereafter, the knife can be pulled open or closed in the usual manner. Whenever the user desires to remove the blade, he has only to turn the parts 11, 12 to their right angle position and pull them apart, whereupon the blade 10 can be freely removed through the open end of the holder.

I claim as my invention:

1. A pocketknife having, in combination, a blade holder and handle parts, each of channel shape and dimensioned to telescope at their ends, the holder channel being closed at one end and open at the other to receive a blade slid endwise into it, a block dimensioned to close the

open end of said holder when positioned between the holder side walls, said holder side walls and said block having registering holes therein and slots of lesser width than the holes extending from the latter to the end of the holder, a flattened pin extending transversely between the handle side walls for holding said block in place in the holder, said pin being dimensioned to slide through said slots into said holes only when said parts are held in a predetermined angular position, and one of said parts having a friction catch projection thereon engageable with a recess in the other part when said parts are assembled and in said predetermined angular position to prevent their inadvertent disassembly.

2. A pocketknife having, in combination, a channel shaped blade holder closed at one end and open at the other to receive a blade inserted endwise therein, said holder having a hole extending transversely of said open end, an open ended slot extending longitudinally of the holder, a handle having one end adapted to telescope with said holder, and a pivot pin extending transversely of and fixed to said handle end and having a diameter less than said hole and greater than the width of said slot, said pin having flattened sides spaced apart less than the width of said slot and disposed transversely of said handle whereby to enter the slot and hole when the holder and handle are moved together while angularly disposed relative to each other, said pin coacting with said slot to maintain the handle and holder pivotally connected in open and closed positions of the holder.

3. A pocketknife having, in combination, a channel shaped blade holder closed at one end and open at the other to receive a blade inserted endwise therein, said holder having a hole extending transversely of said open end, an open ended slot extending longitudinally of the holder, a channel shaped handle having side walls spaced to receive the slotted end of said holder, a pivot pin extending transversely of and fixed to one end of said handle and having a diameter less than said hole and greater than the width of said slot, said pin having flattened sides spaced apart less than the width of said slot and disposed transversely of said handle whereby to enter the slot and hole when the holder and handle are moved together while angularly disposed relative to each other, said pin coacting with said slot to maintain the handle and holder pivotally connected in open and closed positions of the holder, and a block on said pin disposed in the slotted end of said holder and holding a blade against endwise movement in said holder.

4. A pocketknife having, in combination, a blade holder adapted to receive a detachable blade, said holder having a hole extending transversely of said open end, an open ended slot communicating with said hole, a handle having a pivot extending transversely thereof and having a diameter less than said hole and greater than the width of said slot, said pivot being shaped to enter said slot and hole when the holder and handle are moved together while disposed in one angular position relative to each other and coacting with said slot to maintain the blade and holder pivotally connected in other positions of the holder.

5. A pocketknife having, in combination, a blade holder part adapted to receive and grip a separately formed blade, a handle part, and a non-circular pivot and a slot on the respective parts coacting to form a connection between the

parts permitting of disengagement and separation of the parts in one angular position thereof while maintaining the parts pivotally connected when the blade holder is disposed in open position.

6. A pocketknife having, in combination, a blade, a blade holder having side walls longer than said blade adapted to receive the blade between them with the ends of the walls projecting beyond one end of the blade, a separately formed spacer removably received between said wall ends and constituting an abutment for one end of said blade, a handle having side pieces spaced to receive said blade holder and spacer between them, and a pivot and slot providing a pivotal connection between said side pieces, said wall ends and said spacer to permit of separation of said holder and handle and of said holder and spacer when the holder and handle are disposed in a predetermined angle relation.

7. A pocketknife having, in combination, a blade, a blade holder having side walls longer than said blade adapted to receive the blade between them with the ends of the walls projecting beyond one end of the blade, a spacer received between said wall ends and constituting an abutment for one end of said blade, a handle having side pieces spaced to receive said blade holder and spacer between them, and a pivot and slot providing a pivotal connection between said side pieces, said wall ends and said spacer to permit of separation of said holder and handle and of said holder and spacer when the holder and handle are disposed in a predetermined angle relation.

8. A pocketknife having, in combination, a blade, a blade holder having side walls longer than said blade adapted to receive the blade be-

5 tween them with the ends of the walls projecting beyond one end of the blade, a spacer removably received between said wall ends and constituting an abutment for one end of said blade, a handle having side pieces spaced to receive said blade holder between them, and a pivot pin extending between said side pieces at one end thereof, said wall ends and said spacer having slots therein coacting with said pin to provide a pivotal connection between said side pieces, said wall ends and said spacer permitting of separation of said spacer from said holder and of said handle and said holder when the two are disposed in a predetermined angle relation.

15 9. A pocketknife having, in combination, a blade, a blade holder having side walls longer than said blade adapted to receive the blade between them with the ends of the walls projecting beyond one end of the blade, a handle having side pieces spaced to receive said blade holder between them, and a pivot and slot providing a pivotal connection between said side pieces and said wall ends permitting of separation of said holder and handle when the two are disposed in a predetermined angle relation.

20 10. A pocketknife having, in combination, a blade, a blade holder having side walls longer than said blade adapted to receive the blade between them with the ends of the walls projecting beyond one end of the blade, a handle having side pieces spaced to receive said wall ends between them, and a pivot forming a rigid connection between said side pieces, said wall ends having formed therein an open slot for receiving said pivot when said holder and handle are in a predetermined angular position and to lock the two together for pivotal movement.

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