

F. V. SANDFORD.
KNIFE CONSTRUCTION.
APPLICATION FILED MAR. 16, 1910.

973,978.

Patented Oct. 25, 1910.

Fig. 1

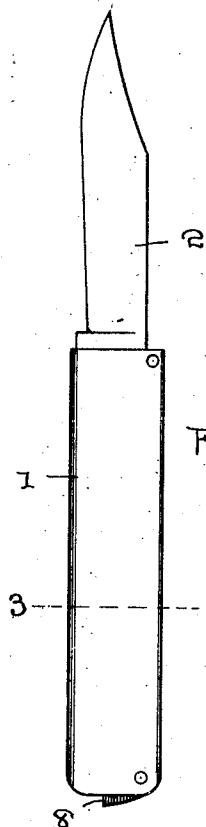


Fig. 5

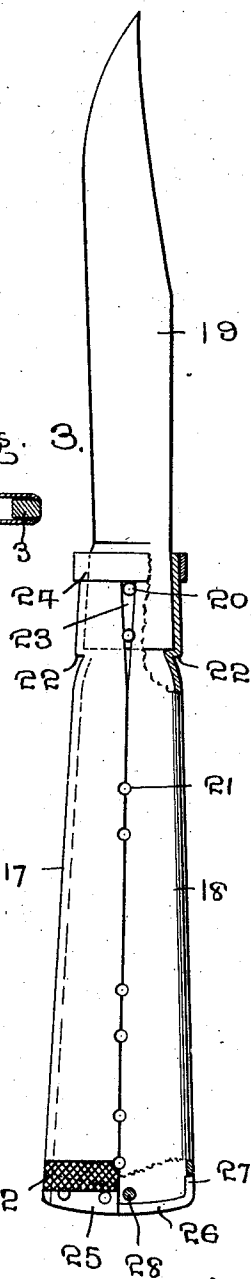


Fig. 2

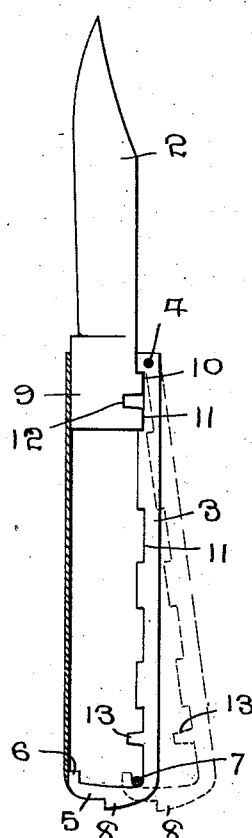


Fig. 3

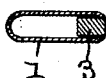


Fig. 4

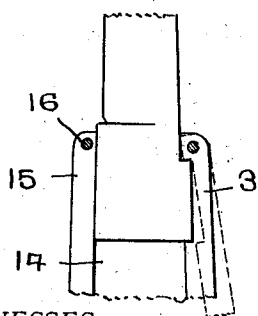
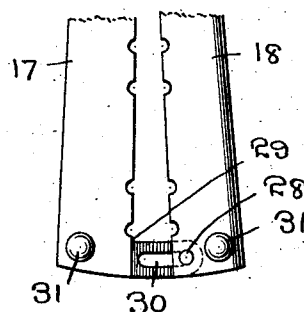


Fig. 6



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KNIFE CONSTRUCTION.

973,978.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed March 16, 1910. Serial No. 549,872.

To all whom it may concern:

Be it known that I, FRANK V. SANDFORD, a citizen of the United States, residing at Ellenville, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Knife Constructions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in knife constructions and more particularly to that class known as pocket knives and my object is to provide means for movably mounting a blade in a handle.

A further object is to provide means for locking the blade at various points in the handle.

A further object is to provide means for limiting the movement of the movable parts of the handle, and, a still further object is to provide means at opposite ends of the handle to limit the inward or outward movement of the blade.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings which are made a part of this application, Figure 1 is an elevation of one form of knife construction, showing the blade extended. Fig. 2 is a sectional view thereof showing the movable part of the handle in its extended position by dotted lines. Fig. 3 is a sectional view as seen on line 3—3 Fig. 1. Fig. 4 is a detail sectional view of the upper portion of a handle showing a modified form of handle. Fig. 5 is an elevation partly in section of a further modified form of knife construction, and Fig. 6 is a detail elevation of the lower end of a handle showing the handle in its open position and a modification of the means of limiting the movement of the movable part of the handle as shown in Fig. 5.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the handle of the knife construction which is preferably substantially U shaped in cross section and 2 indicates the blade, which may be constructed in the usual or any preferred manner, said blade being slidably mounted in the handle.

At the open edge of the handle 1 is provided a locking bar 3, one end of which is pivotally mounted in the handle 1 by introducing a pin 4 through the sections of the handle and the interposed locking bar, the pivoted end of the locking bar being substantially flush with one end of the handle and said bar being so arranged that when it is in its closed position, the outer edge thereof will be flush with the edges of the handle section. The opposite end of the locking bar 3 is provided with a right angled extension 5, which is adapted to pass between the walls of the handle and form a closure for the end thereof, said extension having a projection 6 thereon, which is adapted to engage a stop pin 7 extended through the handle section 1 and adjacent the open edge thereof, said projection and stop pin limiting the outward swinging movement of the locking bar.

The free edges of the handle 1 are preferably slightly bent inwardly to direct a pressure on the edges of the locking bar 3, so that when the locking bar is moved to its closed position, it will be held against casual outward swinging movement by friction or the pressure of the edges of the handle on the locking bar and to provide convenient means whereby the locking bar may be readily swung outwardly, the extension 5 is provided on its outer edge with a shoulder or offset 8, against which pressure may be applied to force the locking bar outwardly.

The shank 9 of the blade is provided on its rear edge with a rib 10, which is formed by projecting the shank beyond the rear edge of the blade and this rib is adapted to enter a notch 11 in the locking bar 3, when the blade is moved to its outward position, the end walls of the notch extending over either end of the rib forming a rigid lock for the blade when in its extended position.

If it is not desired to extend the blade its full length, a plurality of the notches 11 may be provided in the length of the locking bar, so that the point of the blade can be extended at varying distances from the open end of the handle.

The extension 5 forms a stop for the blade 2 when it is housed within the handle and it will be readily seen that by providing one of said notches adjacent the end of the locking bar with the extension 5, said blade will be securely held within the handle so long as the locking bar is closed.

The outward movement of the blade is limited by the outer end of the rib 10 engaging the outer end wall of the notch 11 and said end wall is always positioned in the path of the end of the rib, in view of the manner in which it is positioned when the locking bar is swung open.

The shank 9 is further provided with a notch 12, which is adapted to receive a tongue 13 extending inwardly from the locking bar 3, said tongue projecting a distance beyond the inner edge face of the locking bar, the object of the tongue being to prevent the blade from leaving the handle even though the locking bar should become partially open while being carried in the pocket, thus guarding against accidental injury to the person so carrying the knife. The edge of the shank 9 opposite the rib 10 is also projected a distance beyond the cutting edge of the blade, so that when the blade is seated within the handle and the locking bar moved to its closed position, the forward edge of the shank will be forced against the closed side of the handle and the rear edge of the rib thereon engaged by the locking bar 3, thus holding the cutting edge of the blade out of engagement with the edge wall of the handle. In view of the close fit of the shank between the side wall of the handle and the locking bar and in view of the entrance of the tongue of the locking bar into the notch in the shank, the blade will be held against rattling or any lateral movement while the knife is being carried in the pocket.

In Fig. 4 of the drawings, the handle consists of two plates 14, between which is placed a filler 15 along one side and the locking bar 3 at the opposite side, the filler 15 being secured between the plates by means of rivets or the like 16, the operation of the locking bar and blade being similar to that shown and described above with the exception that the notch in the shank and the tongue of the locking bar may be dispensed with.

In Fig. 5, I have shown a different form of handle and adjusting means for the blade, in that the handle is formed of two U shaped members 17 and 18, which are preferably of equal width in cross section and form the handle when the edges of said sections are brought together. The shank of the blade 19; in this instance, is provided with pairs of studs 20, which project from opposite faces of the shank, said studs being adapted to enter sockets formed by providing registering semi-circular notches 21 in the meeting edges of the sections 17 and 18. By providing the notches at intervals in the length of the two sections of the handle, the blade can be extended at varying distances, the same as when the locking bar is used and the meeting faces of the sections are tapered at their outer ends, as shown in Fig. 5, so that

the studs may readily pass between the sections and reach the outer end of the handle, as the normal distance between the sections at this point is not sufficient to admit the studs to pass therebetween, but the edges of the sections when moved together will wedge against the studs to form a rigid bearing for the blade. In addition to holding the blade extended by means of the studs, the closed edges of the sections 17 and 18 may be provided with ledges 22 formed by striking in portions of the sections, said ledges being so positioned as to extend below and engage the free end of the shank 23 of the blade. When the handle is formed in two sections, an oblong collar 24 is attached to one of the members and in this instance the member 17, while the end of the member 18 is slipped into the opposite end of the collar, thus leaving the section 18 in position to be swung laterally in the collar when the blade is being moved into or out of the handle. In this form of device, a block 25 is secured in the end of the section 17 and has a finger 26 which extends into the end of the section 18, said finger having an inwardly bent portion 27 which engages a stop pin 28 extending through the section 18 adjacent its edge meeting the section 17, so that when the section 18 is swung outwardly to release the blade, the pin 28 will be moved into engagement with the portion 27 and limit the swinging movement of said section.

In Fig. 6 of the drawings, the block 29 is fastened into the section 17 and projects into the section 18, that portion of the block extending into the section 18 having an elongated slot 30 therein, through which the pin 28 projects, the length of the slot determining the swinging movement of the section 18. In Fig. 6, I have also shown the sections 17 and 18 provided with buttons or knobs 31, whereby a positive grip may be made upon the sections 17 and 18 to separate the same, or in place of the buttons, any suitable means may be employed for providing the gripping surface, such as milling or roughening the surface of the sections, as shown at 32 in Fig. 5.

When the handle is formed of the U shaped sections, as shown in Figs. 5 and 6, that portion of the edges of the section 18 extending over the finger 26 or the block 29, is arranged to bind upon said parts to cause frictional engagement, whereby the section 18 will be securely held in its closed position.

It will further be seen that when the blade is extended from the handle, the collar 24 will form a stop for the outward movement of the blade, while the block 25 will form a stop for the blade when seated within the handle and said blade is held against outward movement by the studs 20 entering the notches adjacent the inner ends of said sections. It will further be seen that the parts

of the device may be readily and quickly operated to release the blade when it is desired to extend the same or return the blade into the handle. It will likewise be seen that when the blade is extended and properly engaged with the parts of the handle, an extremely rigid connection will be provided between the handle and the blade. It will likewise be seen that by providing the tongue on the locking bar and entering the same in a notch in the shank of the blade, said blade will be prevented from leaving the handle although the locking bar is partially open, and, it will further be seen that in view of the simplicity of the handle, a very strong and durable form of knife construction may be provided and at a minimum expense.

What I claim is:—

1. In a knife construction, the combination with a hollow handle, of a blade movably mounted in said handle, a movable member pivotally secured to the handle and having notches therein engaging parts of the blade and coacting means at the free end of said pivoted member and at an adjacent point on the handle to limit the swinging movement of said pivoted member, said limiting means also forming a stop for said blade.

2. In a knife construction, the combination with a hollow handle composed of a stationary and a swinging section; of a blade received by said sections, means to limit the outward movement of said blade, means to hold the same in other extended positions, and co-acting means at the lower ends of said sections to limit the movement of the swinging section, said latter means also forming a stop for said blade in its retracted position.

3. In a knife construction, the combination with a hollow handle composed of a stationary and a swinging section; of a blade received by said sections, means to limit the outward movement of said blade, means to hold the same in other extended positions, one of said sections being provided with an extension inserted in one end of the other section and said other section being provided with a transverse pin in the path of said extension, whereby the movement of said swinging section may be limited.

4. In a knife construction, the combination with a cutting blade having a shank

thereon, of a hollow handle in which said blade is seated, said handle being provided with a stationary and a movable portion, means to lock said blade within the handle, additional means to lock said blade in various extended positions, said handle having parts engaging the free end of the shank and means at each end of the handle for limiting the inward or outward movement of the blade.

5. In a knife construction, the combination with a blade, of a hollow handle having its ends and one side open, a locking bar pivoted at one end to one end of the handle, said locking bar entering the open side of the handle, and having means at its ends to limit the inward or outward movement of the blade, means to limit the swinging movement of the locking bar and additional means carried by the locking bar to prevent longitudinal movement of the blade when the locking bar is but partially open.

6. In a knife construction, the combination with a blade; of a hollow handle therefor having its ends and one side open, a locking member pivotally engaging one end of said handle and forming a closure for the open side thereof, the free end of said member forming a closure at the lower end of said handle and also forming a stop for said blade when resting within said handle, and means at the opposite ends of said locking member for respectively retaining said blade in its extended and its retracted positions.

7. In a knife construction, the combination with a blade; of a hollow handle therefor having its ends and one side open, a locking bar pivoted at one end of said handle and entering the open side thereof, the free end of said bar forming a closure at the lower end of said handle and also forming a stop for said blade within the handle, means at the opposite ends of said locking bar to secure the blade respectively in its extended and retracted positions, and means at the lower end of said handle to limit the pivotal movement of said locking bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK V. SANDFORD.

Witnesses:

C. A. NEALE,
C. S. FRYE.