April 16, 1940. M. SHARE ET AL 2,197,136

POCKETKNIFE

Filed July 8, 1938

Fig. 1.

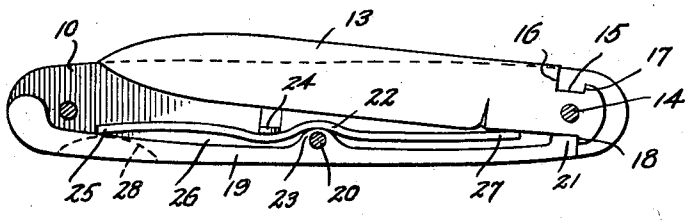


Fig. 2.

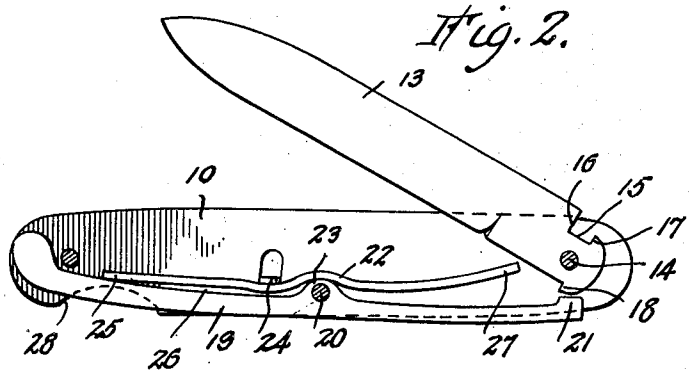


Fig. 3.

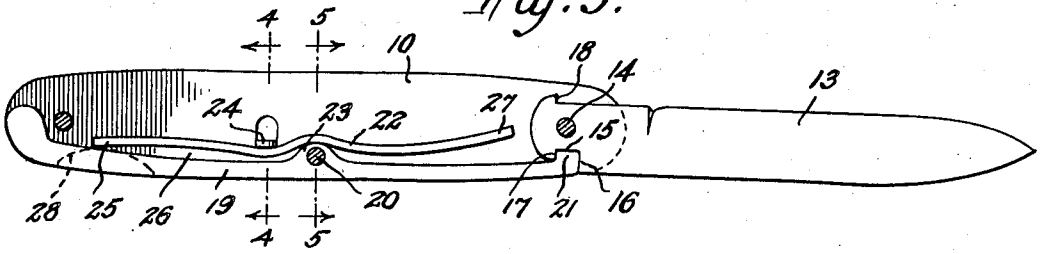
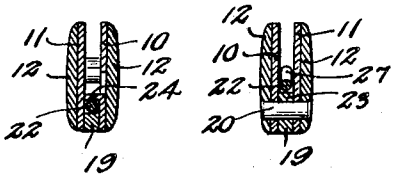


Fig. 4. Fig. 5.



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POCKETKNIFE

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Application July 8, 1938, Serial No. 218,130

3 Claims. (Cl. 30—160)

This invention relates to automatic blade opening knives and has particular reference to an improved construction for locking the blades in opened and closed positions and for effecting the automatic opening thereof when released from locked, closed position.

The invention comprehends a knife of the indicated character having a locking lever and a longitudinally extending spring fulcrumed on abutments engaging opposite sides thereof at longitudinally spaced points with one end of the spring disposed in resilient engagement with the lever for resiliently holding the lever in locked engagement with the blade and the opposite end of the spring resiliently engaging the blade adjacent the shank thereof when in closed position for effecting the automatic opening thereof when released from locked engagement with the lever.

More particularly the invention provides in a knife of said character, a locking lever pivoted intermediate its length between the sides of the knife and having means at one end thereof cooperating with the shank of the blade for locking the blade in opened and closed positions, a longitudinally extending spring fulcrumed on the lever adjacent its pivotal connection with the sides of the knife and fulcrumed on an abutment engaging the opposite side thereof at a longitudinally spaced point therefrom with one end of the spring tensioned against the lever at a point spaced from said pivotal connection for automatically effecting locking engagement of the lever with the blade when the same is moved to closed and opened relations, and the opposite end of the spring engaging the blade adjacent the shank thereof for effecting the automatic opening of the blade when the same is released from locked closed position.

With the foregoing and other objects in view, reference is now made to the following specification and the accompanying drawing in which there is illustrated the preferred embodiment of the invention.

In the drawing:

Fig. 1 is a side view of a pocketknife constructed in accordance with the invention with the side plate removed and illustrating the blade in closed position.

Fig. 2 is a similar view illustrating the blade locking means released and the blade sprung to partially opened relation.

Fig. 3 is a similar view illustrating the blade in fully opened locked position.

Fig. 4 is a transverse sectional view taken approximately on the line 4—4 of Fig. 3.

Fig. 5 is a similar view taken approximately on the line 5—5 of Fig. 3.

Referring to the drawing by characters of reference, the knife includes oppositely disposed side linings 10 and 11, each of which is provided with an ornamental face plate 12 and between which linings the blade 13 is pivoted on a pivot pin 14.

The tang of the blade 13 is provided with a notch 15 in the back edge thereof and which notch defines shoulders 16 and 17 disposed substantially perpendicular to the length of the blade and which shoulders are substantially equidistant from a transverse line extending through the pivot pin. The opposite side of the tang is formed with a shoulder 18 disposed substantially perpendicular to the length of the blade and which is substantially in alignment with the shoulder 17 of the notch 15.

Arranged between the linings 10 and 11 adjacent the back edge thereof is a longitudinally extending lever 19 pivoted on a pivot 20 and which is provided at one end thereof with an inwardly offset rectangular detent 21 adapted to be received in the notch 15 and to engage the shoulders 16 and 17 thereof to lock the blade in opened relation and to engage the shoulder 18 to lock the blade in closed relation.

In order to provide means for rocking the lever 19 so that the detent 21 thereof automatically engages the notch 15 and the shoulder 18 when the blade is moved to opened and closed positions, an actuating spring 22, disposed between the side linings 10 and 11, is fulcrumed between two longitudinally spaced abutments disposed on opposite sides of the actuating spring and defined respectively by an inwardly projecting lug 23 formed on the inner edge of the lever 19 adjacent the pivot 20 and a prong 24 struck inwardly from the side lining 10. The lug 23 and the prong 24 cooperate with the actuating spring to impinge the extremity 25 thereof against the inner edge of the lever 19 so as to exert a tension thereon in a direction to normally effect engagement of the detent 21 with the tang of the blade 13. The inner edge of the lever 19, between the lug 23 and the extremity 25 of the actuating spring, is longitudinally concaved to afford a clearance space 26 between the lever and the actuating spring to thereby permit of the flexing of the extremity 25 of the actuating spring against the inner edge of the lever.

The opposite end 27 of the actuating spring extends beyond the lug 23 to a point adjacent the tang of the blade 13 and in position to be engaged by the inner edge of the tang forwardly

of the pivot 14 to depress the end of the spring from the position shown in Fig. 2 to the position shown in Fig. 1 when the blade is moved to closed position to thereby impinge the tang against the end of the spring and to tension the end 27 thereof to effect the automatic swinging of the blade from closed position between the side linings 10 and 11 to a partly opened position for manual movement to completely opened locked position.

The side linings 10 and 11 and the ornamental side plates 12 are provided in their back edges with aligned curved recesses 28 to expose the lever 13 so that the same may be inwardly depressed by applying the thumb or finger thereto to thereby rock the lever on the pivot 20 so as to effect the outward movement of the opposite end of the lever and the retraction of the detent 21 from engagement with the notch 15 when the blade is to be moved from opened to closed relation and to free the detent 21 from engagement with the shoulder 18 when the blade is closed so as to permit the spring to function to automatically move the blade from closed position to partly opened relation.

The term "blade" as hereinbefore employed is intended to broadly cover not only a cutting blade but other implements such as a nail file, scissors, can opener and the like.

What is claimed is:

1. In a pocketknife, a handle including oppositely disposed side members, a blade pivoted between said side members, a lever pivoted between said side members adjacent the back edge thereof, interengageable detent and keeper means provided on one end of the lever and on the tang of the blade for locking the blade in opened and closed positions, an actuating spring positioned between said side members and fulcrumed between longitudinally spaced abutments, said spring having longitudinally spaced reversely curved portions with one of said curved portions contacting on one side thereof with one of said abutments and the other of said curved portions contacting on the other side thereof with the other abutment to oppositely tension the opposite ends of the said spring and with one end of the spring terminating adjacent the tang of the blade and adapted to be tensioned against the blade when the same is locked in closed position for automatically swinging the blade from closed position to partly opened position when the blade is released from locked position and with the other end of the spring impinging against the other end of the lever and exerting a tension thereon for normally holding the detent and keeper in locked engagement.

2. In a pocketknife, a handle including oppositely disposed side members, a blade pivoted between said side members, a lever pivoted between said side members adjacent the back edge thereof, interengageable detent and keeper means provided on one end of the lever and on the tang of the blade for locking the blade in opened and closed positions, an actuating spring positioned between said side members and fulcrumed between longitudinally spaced abutments, said spring having longitudinally spaced reversely curved portions with one of said curved portions contacting on one side thereof with one of said abutments and the other of said curved portions contacting on the other side thereof with the other abutment to oppositely tension the opposite ends of the said spring and with one end of the spring terminating adjacent the tang of the blade and adapted to be tensioned against the blade when the same is in locked closed position for automatically swinging the blade from closed position to partly opened position when the same is released from locked position and with the other end of the spring impinging against the other end of the lever and exerting a tension thereon for normally holding the detent and keeper means in locked engagement when the blade is in opened and closed positions respectively, and said side members being recessed in the back edge thereof for exposing the lever so that the same may be manually depressed to thereby rock the lever against the tension of the said spring for releasing the detent and keeper means.

3. In a pocketknife, a handle including oppositely disposed side members, a blade pivoted between said side members, a lever pivoted between said side members adjacent the back edge thereof, interengageable detent and keeper means provided on one end of the lever and on the tang of the blade for locking the blade in opened and closed positions, an actuating spring positioned between said side members and fulcrumed between an inwardly extending abutment on the inner edge of the lever and a longitudinally spaced prong struck inwardly from one of said side members, said spring having longitudinally spaced reversely curved portions, the convex sides of which curved portions respectively contact with said abutment and said prong to oppositely tension the opposite ends of the spring and to secure the spring in position between the said side members, said spring having one end thereof terminating adjacent the tang of the blade and adapted to be tensioned against the blade when the same is locked in closed position for automatically swinging the blade from closed position to partly opened position when the blade is released from locked position and said spring having its opposite end impinging against the other end of the lever and exerting a tension thereon for normally holding the detent and keeper means in locked engagement when the blade is in opened and closed positions respectively, and said side members being recessed in the back edge thereof for exposing the lever so that the same may be manually depressed to thereby rock the lever against the tension of the said spring for releasing the detent and keeper means.

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