

[54] **FOLDING POCKET KNIFE**
[76] Inventor: **Jacques Opinel**, 5, avenue Henri
Falcoz, F-73
Saint-Jean-de-Maurienne, France

[22] Filed: **Aug. 12, 1971**
[21] Appl. No.: **174,837**

[30] **Foreign Application Priority Data**
Aug. 17, 1970 France 7030163
[52] **U.S. Cl.** **30/161**
[51] **Int. Cl.** **B26b 1/04**
[58] **Field of Search**..... 30/159, 160, 161;
240/10.66

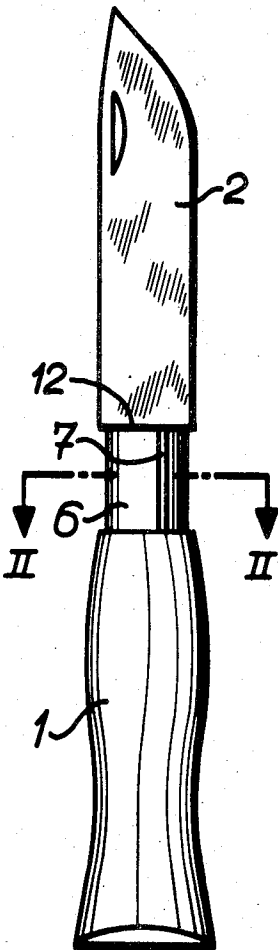
[56] **References Cited**
UNITED STATES PATENTS
2,078,023 4/1937 Schneider 240/10.66

1,415,887 5/1922 McWilliams 30/161
FOREIGN PATENTS OR APPLICATIONS
2,050,790 6/1971 Germany 30/161

Primary Examiner—Othell M. Simpson
Assistant Examiner—Gary L. Smith
Attorney, Agent, or Firm—Robert E. Burns; Emmanuel J. Lobato

[57] **ABSTRACT**
A pocket knife has a split ferrule rotatably mounted on a split ring fixed to the knife handle. When these splits are aligned, the blade can be closed and opened, and the blade held in the open position by turning the ferrule. An inwardly projecting peg on the ferrule cooperates with an aperture in the ring to limit rotation of the ferrule and to axially urge the ferrule to lock the blade in the open position.

8 Claims, 4 Drawing Figures



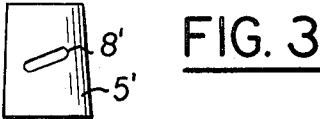
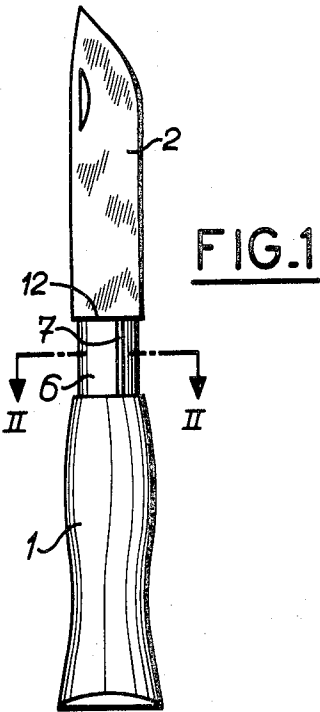
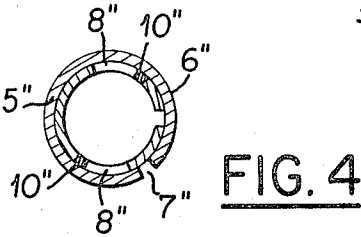
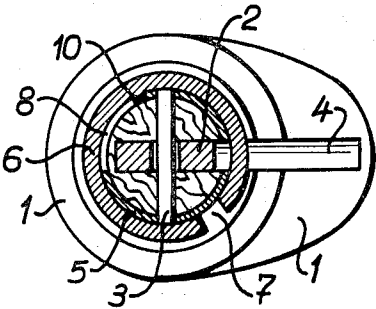


FIG. 2



FOLDING POCKET KNIFE

BACKGROUND OF THE INVENTION

This invention relates to knives with folding blades, commonly known as pocket knives, and has particular reference to such knives when provided with a stop-catch for holding the blade in the open position.

In the prior art there are knives with pivoted blades which fold up into the handle of the knife, fitted with a rotatable ferrule serving as a stop-catch. In such knives, the rotatable ferrule, acts in conjunction with a ring fixed to the knife handle and is generally conical in shape, is slotted along one of its generators, and the angular position of the ferrule determines whether the blade is clamped or free to rotate about its pivot. In fact, when the longitudinal slot of the ferrule is placed in the plane of the blade in the direction of the cutting edge of the latter, the blade is free to pivot about its axis and may be placed in the open or folded position. On the other hand, when the blade is in the open position, if the ferrule is rotated it clamps the blade and hence functions as a stop-catch.

It is obvious that with such devices it is necessary to retain the rotatable ferrule axially to the knife handle. A device of the prior art for retaining axially the rotatable ferrule comprises the use of the two protruding ends of the pivot axis of the blade, the rotatable ferrule having in a plane perpendicular to its axis a rib whose internal surface forms a groove in which the ends of the pivot axis of the blade are engaged. Another solution of the prior art comprises the use of a rotatable ferrule pierced by two diametrically opposed transverse apertures in which the ends of the pivot axis of the blade are engaged.

However, these devices for axially retaining the rotatable ferrule suffer from the drawback of causing a discontinuity in the outer surface of the rotatable ferrule which is not only detrimental to the appearance of the knife, but also facilitates the ingress of foreign bodies between the mating surfaces of the fixed ring and the rotatable ferrule, whose presence can be detrimental to the proper functioning of the device and in particular may jam the rotational movement of the ferrule with respect to the fixed ring.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a knife with a folding blade comprising a device for retaining axially the rotatable ferrule which is not visible and causes no discontinuity in the outer surface of the said ferrule.

The knife according to the present invention is characterised in that the ring fixed to the handle contains at least one aperture in which is engaged at least one peg fixed to or integral with the rotatable ferrule and protruding inwardly from the inside face of the said rotatable ferrule.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be understood by reference to the following description of a preferred embodiment of a knife according to the invention, given by way of example, as well as to the accompanying drawing, in which

FIG. 1 is a side view of a knife according to the invention in the open position;

FIG. 2 is a cross-section along line II — II of FIG. 1; and

FIGS. 3 and 4 are views of different embodiments of the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

In the embodiment of the invention represented in FIGS. 1 and 2, the knife comprises a handle 1, preferably of wood, and a blade 2 pivoted about an axis 3 fixed to the handle 1. The handle 1 contains a longitudinal slot 4 in which the blade 2 is housed when it is in the folded position. The end of the handle 1 carrying the blade 2 is furnished with a fixed ring 5 about which is rotatably mounted a ferrule 6. The rotatable ferrule 6 has a longitudinal slot 7. The angular position of the slot 7 determines whether the blade is clamped in the open position when the slot is not in the plane of the blade, or whether the blade 2 may rotate freely about its pivot axis 3 when the slot 7 of the ferrule 6 is in the plane of the blade 2. FIGS. 1 and 2 illustrate a knife according to the invention with the blade clamped in the open position.

The ends of the pivot axis 3 of the blade 2 are flush with the outer surface of the fixed ring 5.

The fixed ring 5 is pierced by a transverse slot 8, and the rotatable ferrule 6 is furnished with a peg 10 protruding inwardly from the inside face of the ferrule 6, this peg engaging in the slot 8 of the fixed ring 5. This peg 10 may either be fixed onto the ferrule, or formed in one piece with the ferrule by stamping or drawing or other suitable means.

This device enables the rotatable ferrule 6 to be retained axially on the fixed ring 5 while allowing the ferrule 6 to rotate freely about its axis through an angular distance defined by the length of the slot 8 in the ring 5.

As shown in FIG. 4, in another embodiment of a knife according to the invention, there are two diametrically opposed slots 8 in the fixed ring 5'. In this embodiment of the invention the rotating ferrule 6'' is furnished with two diametrically opposed pegs 10'' projecting inwardly from the inside face of the ferrule 6'' and each engaging in one of the slots of the fixed ring 5'.

In a preferred embodiment of knife according to the invention, the end face 12 of the rotatable ferrule 6 is in the form of a spiral ramp whose profile is such as to enable clamping of the heel of the blade in the open position no matter how much the ferrule is worn.

As shown in FIG. 3, the fixed ring 5' has a slot 8' whose major axis is oblique to a plane perpendicular to the axis of rotation of the rotatable ferrule, hence causing, when the ferrule is turned, an axial movement of the latter enabling the maximum clamping effect to be exerted on the heel of the blade 2, no matter how much the ferrule is worn.

What is claimed is:

1. A knife comprising a handle having a housing therein, a blade pivotally mounted on the handle and pivotable about a transverse axis between an open position wherein said blade is in line with the handle and a closed position wherein said blade is nested in said housing, a split ring fixed on the handle at a location around said transverse axis, a ferrule rotatably disposed concentrically about said ring for rotation about its longitudinal axis, said ferrule having a longitudinal slot for allowing passage of the blade between the open and

closed positions when the slot is aligned with both the blade and the split in said ring and a continuous external surface free of discontinuities except for said slot, and said ferrule also having an end bearing surface cooperating with said blade to hold the blade in the open position when the slot is out of alignment with the blade, and means retaining said ferrule concentrically about said ring and for limiting the angular displacement of said ferrule consisting solely of means defining a set of apertures in said ring and a set of corresponding inwardly protruding pegs aligned with the respective one of said set of apertures and slidably disposed therein.

2. A knife according to claim 1, in which each aperture in said set of apertures comprises means defining a slot having a major axis lying in a plane perpendicular to said longitudinal axis.

3. A knife according to claim 1, in which said ferrule is disposed on said ring for longitudinal movement along said longitudinal axis, and each aperture in said set of apertures comprises means defining a slot having a major axis lying in a plane generally oblique to said longitudinal axis and each protruding peg coacts with the corresponding aperture for controlling longitudinal movement of said ferrule in relation to said ring and said handle.

4. A knife according to claim 1, in which said set of apertures consists of two diametrically opposed apertures, and said set of pegs consists of two diametrically opposed inwardly protruding pegs cooperating with said apertures.

5. A knife according to claim 1: wherein said ferrule includes means defining an end bearing surface for holding said blade in said open position.

6. A knife comprising: a handle having a housing therein; a blade having a knife edge; means pivotally

mounting said blade on one end portion of said handle for pivotal movement about a transverse axis between an open position wherein said blade projects from said handle and a closed position wherein said knife edge is nested in said housing; an elongated ring connected to said one end portion of said handle and having means therein defining a longitudinal slot disposed to permit the movement of said blade therethrough during movement between said open and closed positions; a ferrule movably disposed concentrically about said ring and having means therein defining a longitudinal slot and a continuous external surface free of discontinuities except for said slot; means retaining said ferrule concentrically about said ring and for limiting the angular displacement of said ferrule to either effect alignment of said longitudinal slot in said ferrule with said longitudinal slot in said ring to permit movement of said blade therethrough during movement between said open and closed positions or effect nonalignment of the two slots to prevent movement of said blade out of said open and closed positions, said last mentioned means consisting solely of means defining a set of apertures in said ring and a set of corresponding protuberances on the internal surface of said ferrule each aligned with the respective one of said set of apertures and slidably disposed therein.

7. A knife according to claim 6, wherein said set of apertures consists of two diametrically opposed apertures and said set of protuberances consists of two diametrically opposed protuberances.

8. A knife according to claim 6, wherein each aperture in said set of apertures has its major axis lying in a plane generally oblique to the longitudinal axis of said longitudinal slot in said ring.

* * * * *

40

45

50

55

60

65