March 6, 1956 J. A. ARMSTRONG 2,736,960

RAZOR BLADE KNIFE

Filed Jan. 29, 1954

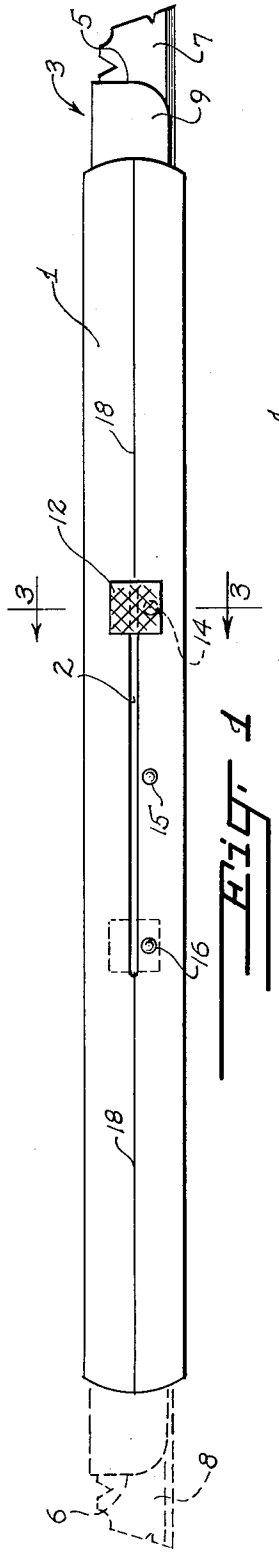


Fig. 1

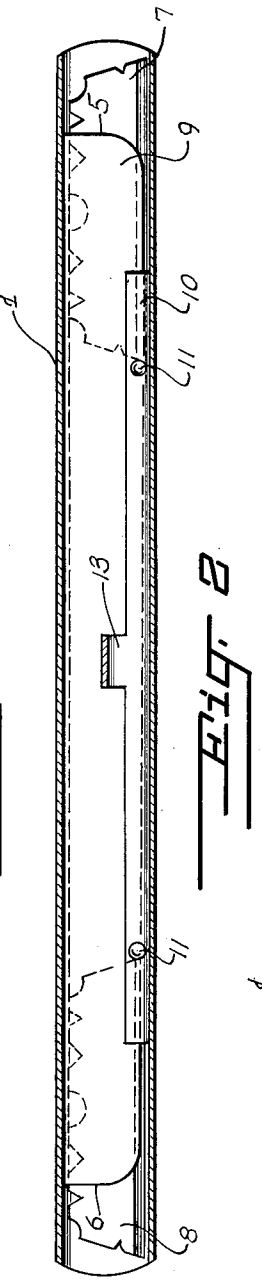


Fig. 2

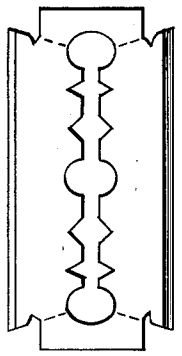


Fig. 4

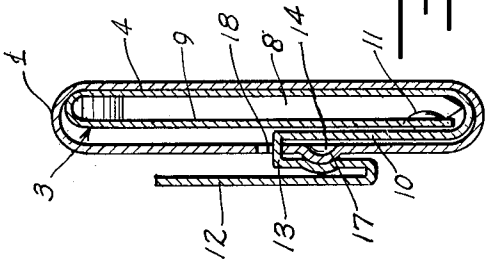


Fig. 3

INVENTOR.
James A. Armstrong
BY

McMorrow, Berman + Davidson
ATTORNEYS

United States Patent Office

2,736,960

Patented Mar. 6, 1956

2,736,960

RAZOR BLADE KNIFE

James A. Armstrong, Crown Point, N. Y.

Application January 29, 1954, Serial No. 407,015

4 Claims. (Cl. 30—162)

This invention relates to razor blade knives.

An object of the invention is to provide a light, keen-edged cutting tool useful and practical for biological dissecting, art and paper work, soft-wood carving, dressmaking, scribing metals and plastics, photography, and many other purposes.

Another object of the invention is to provide a razor blade knife in which halves of a double edged razor blade are employed as the cutting elements.

Another object of the invention is to provide a razor blade knife in which the blades are fully retractable for safety in carriage and storage.

A further object of the invention is to provide a razor blade knife which is simple in design and operation and which can be produced at low cost.

Other objects and advantages of the invention will appear from the following description considered in conjunction with the attached drawing, in which:

Figure 1 is a side elevational view of the knife of the present invention, showing in full lines, one cutting edge in operative position and showing in broken lines the other cutting edge in operative position.

Figure 2 is a side elevational view in section of the assembly of Figure 1 with both cutting edges in the retracted position.

Figure 3 is a view taken along the line 3—3 of Figure 1.

Figure 4 is a plan view of a conventional double-edge safety razor blade of the type used with the present invention.

Referring now to the drawing in more detail, numeral 1 represents a flat, tubular-shaped housing open at both ends. The housing 1 has, intermediate its ends, a closed slot 2 extending longitudinally therealong. A blade carrier 3, positioned longitudinally of and wholly within the housing 1, is connected to the housing 1 for extensile and contractile movement of each end of the carrier with respect to the adjacent open end of the housing 1. The carrier 3 embodies a sheet of resilient material bent upon itself to form a flat open-ended tubular member 4, each open end 5 and 6 of the tubular member 4 being adapted to embracingly engage an end portion of a half section 7 and 8 of a double-edged safety razor blade. As shown in Figure 3, one bent portion 9 of the tubular member 4 embracingly engages the blade half sections 7 and 8 and another bent portion 10 overlies the extremity of the bent portion 9. Means, consisting of a lug 11, interiorly of and on the tubular member 4 adjacent each open end 5 and 6, is engageable with the end edge of an end portion of the razor blade sections 7 and 8 when the sections are inserted in the open ends 5 and 6 respectively for limiting the extent of insertion of the blade end portions.

Exteriorly of the housing 1 and extending slidably through the slot 2, is hand actuable means operatively connected to the carrier 3 for effecting the movement of the carrier. The means consists of a finger piece 12 connected to the carrier 3 by means of a tab 13 which extends through the slot 2 and is integrally connected to the bent portion 10. Upon the exterior of the housing 1 adjacent

the slot 2 are a plurality of abutments 14, 15 and 16 engageable with the tab 13 for releasably securing the carrier 3 selectively in predetermined extensile and contractile movement positions. Specifically, an indentation 17 upon the inner face of the tab 13 is engageable with the abutments to hold the tab and thus the carrier 3 in a fixed position. The abutments are so positioned upon the housing 1 that when the tab 13 is in engagement with abutment 14 the carrier 3 is in the projectile movement position to the right, as shown in full lines in Figure 1, and the blade 7 is in operative position. When the tab 13 is in engagement with abutment 15, the carrier 3 is in the retractile movement position as shown in Figure 2 and both blades are in the inoperative position. When the tab 13 is in engagement with abutment 16, the carrier is in the extensile movement position to the left, as shown in broken lines in Figure 1, and the blade 8 is in operative position.

The blade used in the knife of the present invention is a conventional double-edged safety razor blade of the type shown in Figure 4. By inserting one edge of such blade in the slot 2 and bending the other edge downward the blade will break cleanly into two longitudinal sections suitable for insertion in the carrier 3. Such section is inserted within an open end of the carrier 3 until the inserted edge strikes the lug 11 limiting further inward movement. The frictional engagement of the adjacent portions of the resilient tubular member 4 is sufficient to hold the blade sections in place during use. The blade may be fractured in a similar manner along the dotted lines shown in Figure 4 to produce the sharp ends of the blade sections as shown in Figures 1 and 2.

It is to be noted that the housing 1 is formed of a length of sheet material having its side portions turned inwardly and joined at their edges in the seam 18.

From the foregoing it is apparent that the knife of the present invention provides a two-bladed, retractile cutting tool which is light and keen-edged and which is simple to operate and inexpensive to manufacture. The use of conventional safety razor blades as the cutting edges reduces the cost of the knife and insures a ready supply of replacement blades.

What is claimed is:

1. A razor blade knife comprising a flat tubular-shaped housing open at both ends, said housing having intermediate its ends a closed slot extending longitudinally therealong, a blade carrier positioned longitudinally of and wholly within said housing and connected to said housing for extensile and contractile movement of each end with respect to the adjacent open end of said housing, said carrier embodying a sheet of resilient material bent upon itself to form a flat open ended tubular member, a half section of a double edged safety razor blade frictionally engaged in and projecting longitudinally from each open end of said tubular member, means interiorly of and on said tubular member adjacent each open end thereof and engageable with the end edge of the inserted half section of the double edged razor blade for limiting the extent of insertion of said blade section, and hand actuable means exteriorly of said housing and extending slidably through said slot and operatively connected to said carrier for effecting the movement of said carrier.

2. A razor blade knife comprising a flat tubular-shaped housing open at both ends, said housing having intermediate its ends a closed slot extending longitudinally therealong, a blade carrier positioned longitudinally of and wholly within said housing and connected to said housing for extensile and contractile movement of each end with respect to the adjacent open end of said housing, said carrier embodying a sheet of resilient material bent upon itself to form a flat open-ended tubular member, a half section of a double edged safety razor blade fric-

tionally engaged in and projecting longitudinally from each open end of said tubular member, means interiorly of and on said tubular member adjacent each open end thereof and engageable with the end edge of the inserted half section of the double edged razor blade for limiting the extent of insertion of said blade section, hand actuable means exteriorly of said housing and extending slidably through said slot and operatively connected to said carrier for effecting the movement of said carrier, and a plurality of spaced abutments upon the exterior of said housing adjacent said slot and engageable with said hand actuable means for releasably securing said carrier selectively in predetermined extensile and retractile movement positions.

3. In a knife, a flat tubular housing having open ends, said housing having spaced sidewalls and edge walls extending along and between opposite edges of said sidewalls, a longitudinal slot in one of said sidewalls, a flat tubular slide within said housing, said slide being shorter than said housing and having spaced sidewalls and edge walls extending between and connecting opposite edges of the slide sidewalls, said slide edge walls being slidably engaged with the edge walls of the housing, and one sidewall of the slide being slidably engaged with the sidewall of the housing opposed to said one sidewall of the housing, the other sidewall of the slide being spaced from said one sidewall of the housing, said slide being resilient, an extension on one of the edge walls of the slide disposed between said other slide sidewall and said one housing sidewall and slidably bearing against said one housing sidewall, a tab on said extension reaching through said slot, a finger piece on said tab having a portion slidably bearing against the side of said one housing wall remote from said extension, and blades frictionally engaged in and projecting longitudinally from the open ends of the slide.

4. In a knife, a flat tubular housing having open ends, said housing having spaced sidewalls and edge walls extending along and between opposite edges of said sidewalls, a longitudinal slot in one of said sidewalls, a flat tubular slide within said housing, said slide being shorter than said housing and having spaced sidewalls and edge walls extending between and connecting opposite edges of the slide sidewalls, said slide edge walls being slidably engaged with the edge walls of the housing, and one sidewall of the slide being slidably engaged with the sidewall of the housing opposed to said one sidewall of the housing, the other sidewall of the slide being spaced from said one sidewall of the housing, said slide being resilient, an extension on one of the edge walls of the slide disposed between said other slide sidewall and said one housing sidewall and slidably bearing aaginst said one housing sidewall, a tab on said extension reaching through said slot, a finger piece on said tab having a portion slidably bearing against the side of said one housing wall remote from said extension, and blades frictionally engaged in and projecting lonigtudinally from the open ends of the slide, projections on said remote side of said one sidewall of the housing and spaced therealong, and a recess on said finger piece retainably and releasably engaged with said projection in a retracted intermediate position of the slide and in different extended positions of the slide.

References Cited in the file of this patent

UNITED STATES PATENTS

373,580	Boynton	Nov. 22, 1887
1,887,188	Ross	Nov. 8, 1932
2,043,594	Quist	June 9, 1936