June 9, 1936. F. J. QUIST 2,043,594

RAZOR BLADE KNIFE

Filed July 19, 1934

Fig. 1.

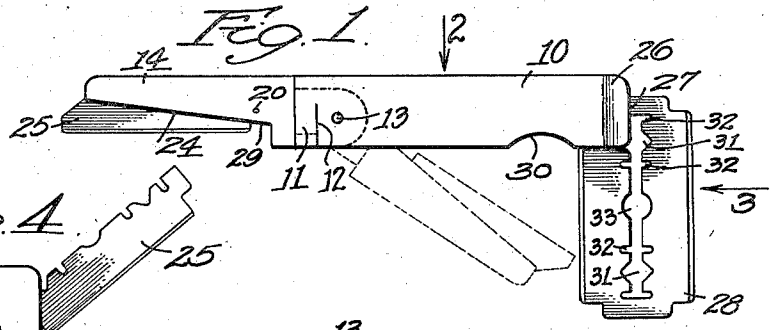


Fig. 4.

Fig. 3.



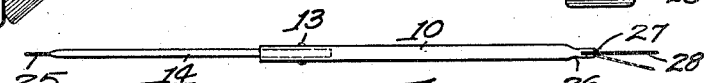
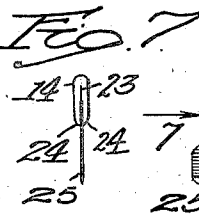


Fig. 2.

Fig. 7.



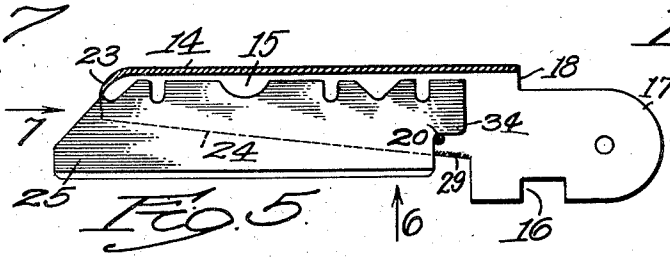
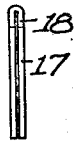


Fig. 5.

Fig. 8.



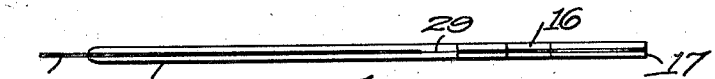


Fig. 6.

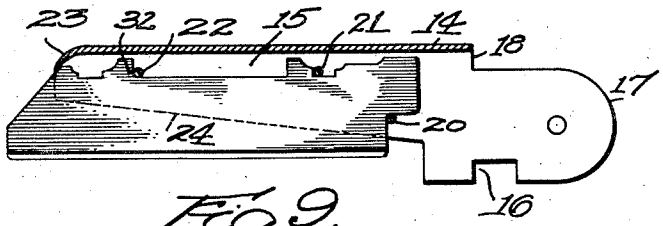


Fig. 9.

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RAZOR BLADE KNIFE

Frank Julius Quist, Holden, Mass.

Application July 19, 1934, Serial No. 736,056

1 Claim. (Cl. 30—9)

This invention relates to a knife of the jack knife type comprising a blade holder adapted to be provided with a blade formed from a safety razor blade.

The principal objects of the invention are to provide a neat, simple and inexpensive holder to which a razor blade, formed from the usual type of double edged flexible blade, can be inserted very readily to serve as the blade of the knife; to provide simple means for holding the blade holder in its extended operative position or at least for affording a sufficient resistance to prevent the accidental shutting of the blade holder; to provide a handle of sheet metal of sufficient strength for the ordinary purposes and yet thin, light and neat; to provide a pivoted blade holder with a construction such that the blade can be used for ordinary whittling operations and there will be no chance for the shavings to get caught in the holder; to provide the holder in such form as to hold the flexible blade in a rigid condition along a line from one end to the other; to provide the holder with simple and effective means for accurately holding the blade in position after it has once been inserted, and to provide the handle with integral means for use in breaking a double edged flexible safety razor blade to trim it to any desired shape, or make two cutting blades out of it, which means will constitute a part of the handle and not materially increase the length of the handle and also will serve to receive the end of a flexible blade when the blade is enclosed within the handle.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which:

Fig. 1 is a side view of a knife constructed in accordance with this invention with a cutting blade in position and showing an ordinary safety razor blade in position to be cut in two at one end;

Fig. 2 is an edge view of the same with the blade open;

Fig. 3 is an end view showing the breaking in two of a double edged razor blade;

Fig. 4 is a side view showing the trimming off of a corner of a blade;

Fig. 5 is a side view of the blade with its holder partly in section;

Fig. 6 is an edge view of the blade holder as indicated by the arrow 6 in Fig. 5;

Figs. 7 and 8 are opposite end views as indicated respectively by the arrows 7 and 8 of Fig. 5, and

Fig. 9 is a side view of another form of blade holder with the front side removed to show the way of fixing the blade in position.

It has been proposed heretofore to place a single edged razor blade in a holder to provide a knife of the jack knife type but that would not involve any means for using the flexible blades having two edges.

This invention is designed to make two blades out of an ordinary double edged safety razor blade and to provide means for trimming it to such shape as may be desired for the purpose intended. Razor blades of this type of different manufacturers have certain features in common. They are perforated along the center to enable them to fit in the holders, for which they are provided, and some of them to fit holders of several different types. This invention when embodied in a definite shape will accommodate the blades of several different makes because of this feature.

A knife constructed in accordance with this invention is capable of innumerable uses. Either a new or used razor blade can be used and, in the former case, the blade is still a razor blade and the knife can be used for the shaving of the scalp or other parts of the body preparatory to surgical operations or the like. As the whole device is metal it can be sterilized very easily and used for certain types of surgical operations and it can be used for ripping by tailors and dressmakers. It can be used even for a heavy cutting operation because the destruction of the blade is a small matter, as a new one can be substituted for it with very little effort and at practically no expense. It can be used for whittling wood or other soft material. The holder for the blade is especially constructed to facilitate the operation of whittling.

This knife is made with a handle formed of sheet metal doubled on itself with the two sides 10 spaced apart. The open blade end of this handle is cut square across and springs 11 are formed on opposite sides by means of slits 12 to hold the blade open to avoid accidental closing of the blade. At this end is a pivot stud 13 to which a blade holder 14 is pivoted. This blade holder also consists of a piece of sheet metal doubled on itself to form sides 15 and it is provided with a notch 16 in each side to engage the springs 11 of the handle. It is provided with a semi-circular part 17 at one end for the usual purpose and with a heel 18 near it for limiting the opening action of the blade holder.

An important feature of this blade holder is

the fact that it is provided with a pin 20 and also in Fig. 9 with pins 21 and 22. The pin 20 cooperates with either one of these pins, 21 or 22, if they are used and, if not, with a solid end 23 which appears in both forms of the holder for holding the blade, as will appear. Furthermore, the sides 14 of this blade holder gradually slant from a point adjacent the pin 20 to a point adjacent the back and an edge 24 from one point to the other is slanted. This edge of the blade holder on both sides is bent inwardly so that these two edges 24 are not only slanting but they grip the blade 25 throughout their length and practically throughout the length of the blade.

At the other end of the handle 10 it is provided with an extension 26 formed of the sheet metal of the handle on both sides. The two sides are forced together to form a thin slit 27 at right angles to the length of the handle between the sides. The purpose of this slit is to provide for the conversion of an ordinary thin flexible double edged razor blade into two blades 25 of such shape as may be desired.

The first operation to be performed in converting a double edged razor blade 28, such as that shown in Fig. 1, is to place it in this slit with the central line between the razor blades at one end in registration with the edge of the slit. Now the free side or edge of this blade 28 can be bent as indicated in Fig. 3 and such bending will break the blade along the edge of the slit 27 because of the brittleness of the steel. The blade 28 is then turned to exactly the opposite position and broken again at that end, which results in the production of two knife blades 25 out of the single double edged razor blade 28. Now, if it is desired to break off the end of the blade at an angle, the blade 25 is again put into the slit 27 at such an angle as indicated in Fig. 4 and bent until it breaks along the edge of the slit 27. This breaking is very accurate and, of course, in almost a straight line. Only a little bending is required, as indicated in dotted lines in Figs. 2 and 3.

The handle is also provided with a notch 30 and when the blade 25 is in place and turned back to the dotted line position it operates very well as a cigar cutter.

It will be noticed that in the type of double edged blade shown in Figs. 3, 4 and 5 there are two openings 31 for receiving fastening devices for the razor frame and there are also four square shoulders 32 for cooperation with other parts of the razor frame. Also there is a central opening 33 and shoulders 34 are provided. These parts are taken advantage of to hold the half razor blade in the holder. The blade is put into the holder in Fig. 5 for example, by slipping the shoulder 34 under the pin 20 by an angular movement and then turning what appears in that figure as the top of the blade back until a portion of it engages the solid part 23. The anchorage between the pin 20, shoulder 34 and the two parts at 23 holds the blade in position. The edges 24 of the blade holder have been described as fitting close against the blade, thus serving more fully to hold the blade and prevent its accidental dislodgment. The blade holder is also closed at the point 29 by pressing the edges together, thus making the blade holder more rigid and strong.

In the form shown in Fig. 9 the pins 20, 21 and 22 are made use of in connection with the shoulder 32 and in this case the closed end of the holder 23 is not needed. On account of well known characteristics, only the pin 20 and one other of the pins 21, 22 or the point 23 is necessary to hold the blade firmly in position.

One object of bending the edges 14 inwardly so that they grip the blade 25 and slanting them from a position near the handle to a position near the point of the blade is to render the device useful as a jack knife for cutting and whittling wood and other soft materials. On account of the pressure of the edges 24 against the blade, there is no chance for the shavings to get in between the blade and holder and furthermore, the slanting off of this edge 24 serves to clear the shavings from the knife as it is used. This shape also permits of the deeper penetration of the point of the knife than the rest of it.

It will be seen that the blade is perfectly anchored in the holder so that it can be used for whittling as just stated and so that it can be used for cutting harder materials and, in fact, for very rough cutting operations. This is practical because the holder is strong and durable and the matter of breaking or injuring the blade is of no moment. Ordinarily the blade is formed of a used safety razor blade which otherwise would be thrown away and which, when no longer useful for shaving purposes, still has a very good edge for a jack knife or the like.

This knife is entirely of metal. Therefore, it can be sterilized and used for minor surgical operations or, in fact, any surgical operation to which its shape and size are suited. Ordinarily, if used for that purpose, a new unused razor blade would be employed instead of a discarded one. In that case also the device can be used as a razor more handily than some of the razors on the market to assist surgeons in shaving hair from the scalp or other parts of the body preparatory to other surgical operations.

In short, the knife is of use for all purposes for which an ordinary jack knife is employed and in many instances where a jack knife could not be used. It can be used for ripping and cutting by tailors, for cutting leather, rubber and various insulating materials, cardboard of various thicknesses and with many folds and, if used merely as a point, it could be used for cutting paper and the like. The uses to which it may be put are innumerable.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

A jack knife comprising a resilient sheet metal handle having its sides spaced apart, a blade holder pivoted thereto near one end, a blade removably mounted in the blade holder, said handle having an integral portion thereof partially separated from it along a transverse line at the end toward the blade holder to form a spring arranged at right angles to the length of the handle, the blade holder having a projection adapted to register with said spring when the blade holder is opened and abut against the spring, whereby the spring will hold the blade holder open.

F. JULIUS QUIST.