L. S. NORDSKOG.

SAFETY RAZOR.

APPLICATION FILED JAN. 21, 1919.

1,342,028. **Patented June 1, 1920.**

Fig 3

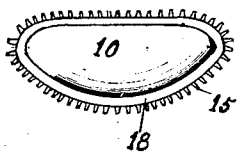


Fig 1

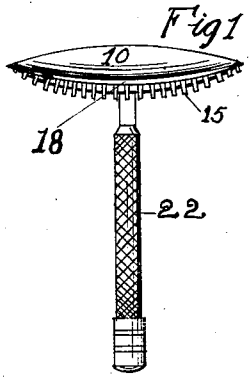


Fig 2

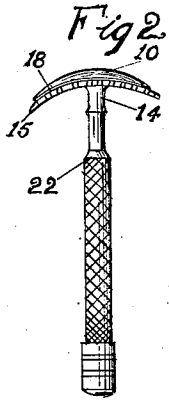


Fig 8

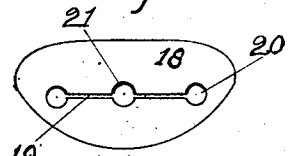


Fig 5

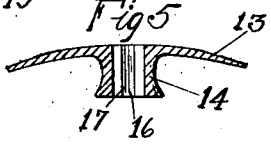


Fig 4

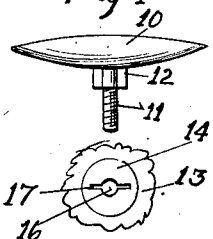
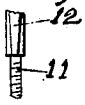


Fig 6

Fig 7



WITNESS

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UNITED STATES PATENT OFFICE.

LAWRENCE S. NORDSKOG, OF DES MOINES, IOWA.

SAFETY-RAZOR.

1,342,028. Specification of Letters Patent. Patented June 1, 1920.

Application filed January 21, 1919. Serial No. 272,384.

To all whom it may concern:

Be it known that I, LAWRENCE S. NORDSKOG, a citizen of the United States, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a certain new and useful Safety-Razor, of which the following is a specification.

The object of my invention is to provide a safety razor of simple, and inexpensive construction particularly designed for shaving ordinary inaccessible parts of the body, and having the protective features of a safety razor.

Still a further object is to provide in such a razor blade a blade holder and a guard, the parts being so constructed and arranged that the razor has substantially the shape of a portion of the surface of a sphere.

Still a further object is to provide in such a razor novel and efficient means for holding the blade and springing it to proper shape when installed in the holder.

Another object is to provide such a razor and blade so constructed that the blade may be made flat, but may be readily bent to proper position for fitting the holder and guard when installed in the completed razor.

Still a further object is to provide in such a structure, simple and convenient means for locking the blade in position and holding it against rotation, while permitting some adjustment of the guard with relation to the blade for securing a so-called more or less "close" shave.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim and illustrated in the accompanying drawings, in which:

Figure 1 shows a front elevation of a razor embodying my invention.

Fig. 2 shows an end elevation of the same.

Fig. 3 shows a top or plan view of the same.

Fig. 4 shows a front elevation of the blade holder.

Fig. 5 shows a vertical, sectional view through the guard.

Fig. 6 shows an inverted plan view of the central portion of the guard, the outer part thereof being broken away.

Fig. 7 shows an end elevation of the stem of the blade holder.

Fig. 8 shows a plan view of the blade.

With the ordinary safety razor, even with those having the corners somewhat rounded, there is difficulty in shaving certain parts of the body, as for instance, under the arms, on account of the shape of the blade, which leaves prominent or projecting corners with which the user is likely to cut him or herself.

My razor is so constructed as to permit such shaving with a minimum likelihood of injury.

In the accompanying drawings I have shown in Figs. 1 to 8 inclusive what I may call the preferred form of my invention.

In this form of my invention I have used the reference numeral 10 to indicate generally the blade holder, which, on its under side has a projecting screw 11 provided for a part of its length adjacent to the blade holder with laterally extending side wings 12 which are slightly tapered toward their outer ends, as illustrated in Figs. 4 and 7.

For coacting with the blade holder 10 there is provided a guard 13 having on its under surface a downward projection 14.

The guard 13 is provided with the ordinary narrow teeth 15 all around its edge.

Extending through the guard and the extension 14 is a hole 16 on opposite sides of which are narrow grooves 17.

In the assembling of the razor, the screw 11 is projected through the hole 16 with the wings 12 received in the grooves 17.

The blade 18 has a sharp edge around its entire periphery, and has a longitudinally elongated slot 19 terminating at its ends preferably in round holes 20, and having at its central portion a round hole 21.

In the form of the device shown in Figs. 1 to 8 inclusive, I preferably shape the guard and blade holder in the form of a portion of the surface of a sphere. In outline the guard and holder and the blade also are irregular, as illustrated particularly in Figs. 3 and 8; the parts being preferably so shaped that the blade 18 may have one comparatively long, almost straight edge, and an opposite curved edge as illustrated in Fig. 8, with the ends curved as shown.

In the assembling of my razor, the blade is placed adjacent to the under side of the holder 10 with the screw 11 extended

through the opening 21 and the wings 12 received in the slot 19 on opposite sides of the hole 21.

The guard is then slipped on to the screw until the wings 12 extend into the grooves 17.

I provide for use in connection with the parts just mentioned a handle 22, having a laterally internal-screw-threaded end designed to receive the lower screw-threaded portion of the screw 11.

The blade 18 is made flat for the reason that this is by far the most convenient and easy way of making, tempering and sharpening the blade.

In order to make the razor most convenient for its purpose, as hereinbefore set forth, the parts are arranged so as to bend the blade, when it is installed in the razor with the holder and guard, into such shape that its cutting edge rests substantially in the surface of a sphere.

This makes it possible to accomplish the purpose of this razor with the least possible injury to the user.

It may be mentioned that when the razor is assembled, the blade may be tightened to slightly different positions with relation to the guard by adjusting the handle 22 on the screw 11, and, of course, the shape of the blade will vary somewhat depending upon the adjustment.

The handle is loosened somewhat when it is desired to secure a close shave, and is tightened to bring the blade close to the guard when a close shave is not desired.

One of the problems involved in the mechanical structure of a razor of this type arises from the fact that in practical manufacture it is necessary to make the blade flat.

An ordinary flat blade cannot be bent into the form of a portion of a sphere without breaking the blade. Something is therefore necessary to make it possible to bend the blade into the desired shape from its flat shape without injury to the blade. This desirable structure I have accomplished by forming the blade with the slot 19 and the holes 20 at the ends of the slot. Where the slot and holes are employed, the blade can be bent readily into proper shape between the holder and the guard without injury to the blade.

I have found that if the slot alone is used, the blade is bent along lines projected from the ends of the slot and tends to ultimately break on the line of the slot. Where, however, the holes 20 are formed in the blade, the tendency to break the blade along the lines just indicated is not near so strong and the blade can be used many times without breaking.

I find for practical work that the form of blade substantially like that shown in Figs. 1 to 8 inclusive is preferable.

It is obvious that the substantially straight side of the blade may, if desired, be used for ordinary shaving, while the shape of the blade is such that access can be had to practically any part of the body with some part of the blade.

By making the razor substantially in the shape of a portion of the surface of a sphere, I find that best results can be had with the least injury to the user.

It will be understood that the razor may be made in a variety of shapes for accomplishing its purpose, and that various kinds of handles may be employed.

For all purposes I prefer, however, the shape shown in Fig. 3.

Changes may be made in the construction and arrangement of the parts of my improved razor without departing from the essential features and purposes of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within its scope.

I claim as my invention:

In a device of the class described, a blade holder having a concave surface, a guard having a convex surface, a flexible blade designed to be yieldingly held between said holder and said guard, whereby said blade will form to such a position between said holder and said guard, that it will be concave-convex in cross section, a cutting edge around said blade, said guard having outwardly extending guard teeth which are adapted to extend beyond the cutting edge of said blade, said blade being larger than the holder and smaller than the guard, said blade having a series of openings therein connected together by longitudinal slots, whereby additional flexibility of said blade is provided to allow said blade to easily conform to the contour of said guard and holder, said holder having a downwardly projecting portion, said projecting portion having laterally extending wings, said projecting portion having its lower end externally screw-threaded, said laterally extending wings being designed to register with the slots in said blade, whereby pivotal movement of the blade is prevented, said guard having a central opening therein and slots extended laterally from said opening, whereby said screw-threaded portion and said side wings of the holder may register with and extend through the openings formed in the blade and guard, a handle member having a central screw-threaded opening near its upper end adapted to receive the screw-threaded portion of said holder, whereby said handle member will hold the guard, blade and holder in proper relationship to each other.

Des Moines, Iowa, January 8, 1918.

LAWRENCE S. NORDSKOG.