J. W. HALTERMAN.

ROTARY RAZOR.

APPLICATION FILED NOV. 2, 1916.

1,247,828.

Patented Nov. 27, 1917.

Fig. 1

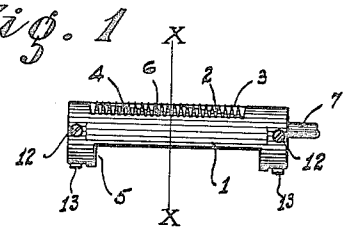


Fig. 3

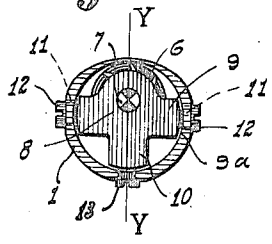


Fig. 4

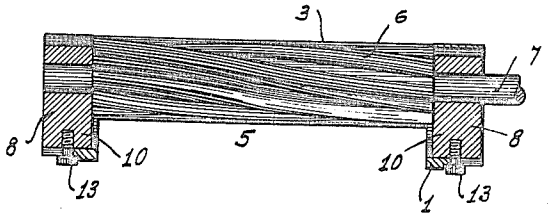


Fig. 5

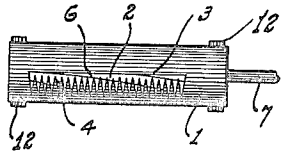
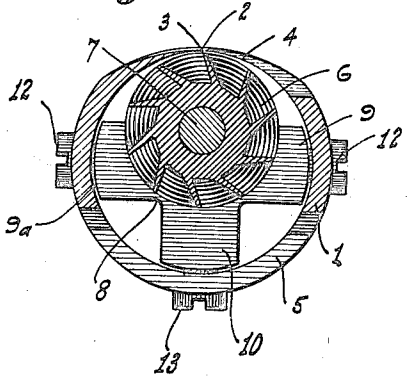


Fig. 2



WITNESS

Clarence M. Smith

INVENTOR.

John W. Halterman

BY

Percy Webster

ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN W. HALTERMAN, OF WILLOWS, CALIFORNIA.

ROTARY RAZOR.

1,247,828. Specification of Letters Patent. Patented Nov. 27, 1917.

Application filed November 2, 1916. Serial No. 129,106.

To all whom it may concern:

Be it known that I, JOHN W. HALTERMAN, a citizen of the United States, residing at Willows, in the county of Glenn, State of California, have invented certain new and useful Improvements in Rotary Razors; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the characters of reference marked thereon, which form a part of this application.

This invention relates to a rotary razor. The object of the invention is to produce a rotary razor operated by mechanical means and so designed as to perform its functions in an effective manner. After months of experimenting, careful consideration and study of the subject of mechanical razors, I have found that the reason that all of the many types of rotary razors heretofore worked upon have failed is that there has been no proper adjustment nor operative relation between the fixed blade and the cutting blade. Experience has taught me that if there is any frictional engagement between the rotary blade and the fixed blade that the entire razor is a failure for the reason that this friction wears the parts away so that they quickly lose their effectiveness. I find that five to ten minutes wear with direct frictional contact of the blades will be the limit.

To obviate the difficulties enumerated above, I have therefore designed a razor in which the outer supporting casing is one component part with a cutting blade formed at one point thereon with component guard fingers extending close to but not in direct contact with the fixed blade. The rotary blade is then mounted within the casing and provided with an adjustment means for making absolute and rigid adjustment thereof so that the rotary blade may be brought into very close proximity to but not in direct contact with the fixed blade.

By means of adjustment of the rotary blade it can be so set that there will be a continuous cutting surface presented against the fixed blade while the rotary blade will carry the hairs thereagainst so that they may be readily cut off. At the same time however, there will be no frictional engagement between the blades to wear them out and also to reduce their cutting efficiency.

I have made a careful research of the entire prior art and I have failed to find another rotary razor having the outer casing and fixed blade and guards all formed as one component rigid part with the rotary blade set rigidly inside of the same and so adjusted as to be inclose proximity to the fixed blade as aforesaid without touching the same at any point. It is this feature which I now claim to be entirely novel and upon which I wish to obtain Letters Patent.

A still further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of the parts as will fully appear by a persual of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of the razor approximately full-size.

Fig. 2 is a sectional view taken on a line X—X of Fig. 1.

Fig. 3 is an end view of the razor.

Fig. 4 is a sectional view taken on a line Y—Y of Fig. 3 showing the rotary cutter in full.

Fig. 5 is a top plan view of the razor.

Referring now more particularly to the characters of reference on the drawings the numeral 1 designates the outer casing or holder of the razor. This is formed in one component member of hard metal and is provided in one side with an open slot 2. One edge of this slot 2, as at 3, forms the fixed blade of the device which is at all times maintained as a component part of and rigid with the casing 1.

The opposite edge of the slot 2 is divided into a plurality of guard members or teeth 4 which project nearly across the slot 2 to a point in very close proximity to the cutting edge 3, but not so close as to prevent the admission of the hairs to be shaved at any point along the edge 3.

These guards 4 are likewise formed as component parts of and rigid with respect to the casing 1. It will be seen that the casing 1 embodies both the inclosure for the rotary blade and at the same time carries as a direct rigid part thereof both the stationary cutting blade and the guards.

This casing 1 is substantially cylindrical

in cross section but is cut away on its under side for a portion of its length, as at 5, to form an opening or outlet for the hairs as they are cut.

The numeral 6 designates the rotary cutting blade which is preferably helical in form, although other shapes may be used if found desirable. This cutter is mounted on a shaft 7 which is supported in a bearing 8 near each end of the casing 1.

Each bearing 8 is provided with a pair of projecting arms 9, the ends of which, as at 9^a, are curved and slightly spaced from the inner circumference of the casing 1. An arm 10 projects downwardly from the arms 9 at right angles thereto. The lower end of the arm 10 does not quite touch the bottom of the casing 1 for a purpose as will presently be apparent.

The sides of the casing 1 adjacent the arms 9 are provided with slots 11 through which project set screws 12 which set screws 12 thread into the arms 9. Set screws 13 project through the bottom of the casing 1 and into the arms 10. By loosening the set screws 12 the set screws 13 may then be operated to move the bearings 8 in one direction or the other. This movement is allowed of by reason of the movement of the set screws 12 through the slots 11 and likewise by reason of the fact that the ends of the arms 9 and 10 are slightly spaced from the inner circumference of the said casing 1.

By the adjustment means just described the bearings 8 can be so positioned that the rotary cutter 6 may be brought into very close proximity to the fixed cutter 3 but not so close as to frictionally engage the same. When the desired position is reached it can be rigidly maintained by tightening the screws 12.

I cannot lay too much stress on the fact that this is the most essential part of the invention, namely, the rigidity of the adjustment and likewise the rigidity of the two cutters with respect to each other. To have a successful razor of the type here described it is absolutely necessary that when the two cutters are set relative to each other that they maintain their set positions absolutely and with no chance of any deviation therefrom. If from any chance the two cutters should come into direct frictional contact with each other the efficiency of the entire razor would be destroyed.

From the foregoing description it can readily be seen that I have produced such a device as substantially fulfils the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention as defined by the appended claim.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

A rotary razor comprising a casing provided with a slot, with a cutting edge formed along one edge of the slot, guards projecting from the opposite side of the slot to a point immediately adjacent the cutting edge, the cutting edge and the guards being rigid with respect to the casing, a rotary cutter within the casing arranged to co-act with such cutting edge, such rotary cutter being provided with an adjustment means whereby it may be set at a point in close proximity to the first named cutting edge but not in frictional contact therewith, such means comprising bearings within the casing, such bearings each having a pair of projecting arms, the casing being provided with a slot adjacent each arm, set screws projecting through the slots and into the arms, another arm projecting from each pair of arms at right angles thereto, and set screws projecting through the casing and into the last named arms.

In testimony whereof I affix my signature.

JOHN W. HALTERMAN.