July 15, 1930. G. DALKOWITZ 1,770,604

RAZOR

Filed Oct. 3, 1928

Fig. 1

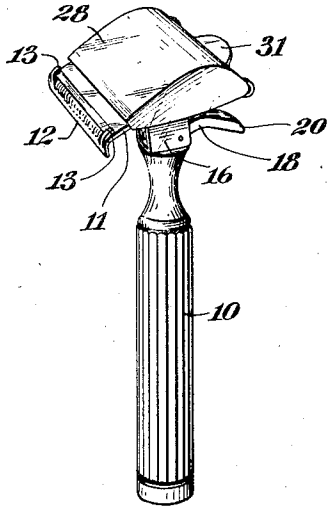



Fig. 2

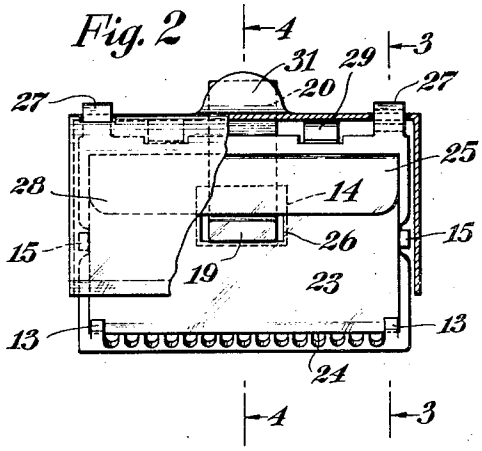



Fig. 3

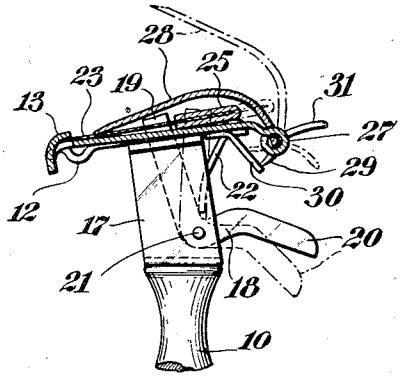



Fig. 4

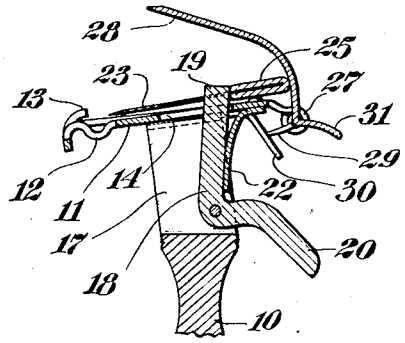



Fig. 5

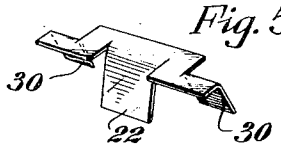



Fig. 6

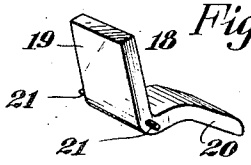



Fig. 7

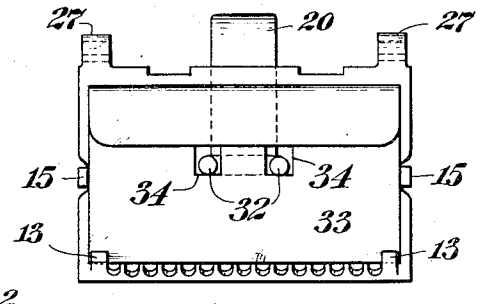
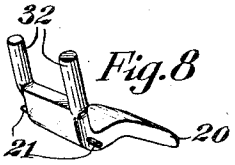



Fig. 8




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# UNITED STATES PATENT OFFICE

GODFREY DALKOWITZ, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN SAFETY RAZOR CORPORATION, OF BROOKLYN, NEW YORK, A CORPORATION OF VIRGINIA

## RAZOR

Application filed October 3, 1928. Serial No. 309,915.

My present invention relates generally to razors and has particular reference to safety-razors.

In the type of razor to which my present invention relates, a blade seat is provided with a guard edge, the latter with spaced blade stops, and means are provided for abutting the cutting edge of the blade for shaving purposes. Although I have illustrated and shall hereinafter describe my invention associated with a razor designed primarily for use with a single-edged blade, nevertheless it will be understood that certain phases of my invention will have a broader application in connection with the double-edged type of blade.

It is a general object of my invention to provide a device wherein the every-day employment thereof is greatly facilitated, particularly in respect to the proper initial application and subsequent withdrawal of a blade.

A more particular object lies in providing means operable upon a midportion of the blade for facilitating the initial approximate location of the blade upon the seat, and also for thereupon advancing the blade to effect the abutment between the cutting edge and the blade stops.

A particular feature lies in providing a device which is so constructed that the operation thereof requires a minimum of manual manipulation. It is accordingly a feature of my invention to provide means which automatically advance the blade toward the guard edge after it has been initially located in approximately proper position. I provide this means in the form of a movable member which is constantly urged toward the guard edge and which is adapted to engage a midportion of the blade; and I provide manually controllable means for retracting said member in an expeditious manner for purposes of initial engagement and final disengagement of the blade.

It is a feature of my invention to provide a movable member with a portion adapted to project upwardly from the plane of the blade seat, said portion being so constructed and arranged with respect to a properly constructed blade that the latter will be capable of quick and proper initial location and engagement in a suitably centered and aligned position.

In accordance with the general objects of my invention, I provide a cover whose opening and closing is of an extremely simple nature, cooperating in an efficient manner with the blade-advancing and retracting means referred to. More particularly, it is a feature of my invention to provide a construction and arrangement whereby the manipulation of a single control element will serve simultaneously to retract the blade for purposes of withdrawal, and at the same time to open the cover. In one form, I mount the cover in such a manner that the pressure upon the interior thereof by a portion of the retracted blade will automatically function to open the cover.

A particular feature of my invention lies in providing a blade with a medial aperture within which the upwardly projecting member may engage for the dual purpose of initially positioning the blade and thereupon advancing the same.

For the attainment of the foregoing objects and such other objects as may hereinafter appear or be pointed out, I have illustrated several forms of my invention in the accompanying drawings in which—

Figure 1 is a perspective view of a complete razor device constructed in accordance with the present invention;

Figure 2 is a plan view of the same with a portion of the cover broken away;

Figures 3 and 4 are cross-sectional views respectively taken along the lines 3—3 and 4—4 of Figure 2;

Figure 5 is a perspective view of one element of the device;

Figure 6 is a perspective view of the movable member;

Figure 7 is a view similar to Figure 2 illustrating a modification; and

Figure 8 is a view similar to Figure 6 illustrating the modification of Figure 7.

Mounted upon the usual handle 10 I provide a blade seat 11 having a guard edge 12 and blade stops 13 associated with the latter

at opposite ends thereof. The blade seat is provided with the medial opening 14 and may also be provided with the upward lateral projections 15.

The mounting of the seat 11 upon the handle 10 comprises the two spaced walls 16 and 17 between which the movable member 18, more fully illustrated in Figure 6, is mounted for pivotal movement.

Referring to Figure 6, it will be seen that this member comprises the upstanding portion 19 and the angularly disposed rearwardly extending portion 20, the latter positioning itself as shown in Figure 1 at the rear of the blade seat and being manipulable by a finger of the user. Projecting from opposite sides of the member 18 are the journals 21 which engage respectively within suitable openings prepared in the walls 16 and 17. The mounting of the member 18 is such as to permit the portion 19 to project upwardly from the plane of the blade seat (through the medial opening 14), and to permit movement of the member 18 between the full line and the dot and dash line positions of Figure 3.

Suitably mounted upon the underside of the seat 11 is a spring 22 adapted to bear against the rear surface of the portion 19 to constantly urge the latter forwardly into the full line position of Figure 3. The spring 22 is so constructed and arranged that pressure downwardly upon the finger grip portion 20 will permit retraction of the portion 19 into the position of Figure 4 against the yielding action of the spring 22.

In the form illustrated in Figures 1–7, the portion 19 is substantially rectangular in cross-section. A blade of suitable construction for employment with this device is shown most clearly in Figure 2. More particularly, the provided blade 23 is of the single-edged variety having a cutting edge 24 and a rear reinforced edge 25. A medial aperture 26 is provided in the blade to permit passage therethrough of the portion 19. The aperture 26 is of suitable rectangular shape to permit the desired engagement therethrough of the portion 19.

Before describing the other details of construction in connection with the cover, I will point out that with the cover thrown back the blade may be applied or withdrawn by simply pressing downwardly upon the finger grip 20 and thereupon applying the blade to the seat with the portion 19 passing through the aperture 26. The non-circular shape of the portion 19 serves at once to center the blade and also to align the same in approximate position upon the seat. Furthermore, accidental displacement of the blade is prevented by virtue of the engagement of the midportion thereof by the member 18. By merely releasing the pressure upon the portion 20, the spring 22 will act to advance the portion 19, the latter thereby bearing against the forward wall of the aperture 26 to advance the blade into the position of Figure 2. It is to be noted that the edge 24 is automatically brought into firm engagement with the blade stops 13. No possible dislocation of the blade can now be effected except by purposeful manipulation of the portion 20.

The projections 15 serve to facilitate the guidance of the blade upon the seat but are not absolutely essential. To withdraw the blade it is merely necessary to press down upon the portion 20 and thereupon lift the blade from engagemnt with the portion 19.

It will be noted that a cover is not absolutely necessary for purposes of employing the device in the manner above described. Good workmanship will call for a cover, however, and it is therefore a feature of my invention to provide a cover in the efficient cooperating manner now to be described.

The rear edge of the blade seat 11 is provided with the aligned bearings 27, and a cover 28 is provided with journal portions which engage within the bearings 27 to permit pivotal movement of the cover from the fully closed position of Figure 1 to a fully opened position lying rearwardly of the dot and dash representation of Figure 3. The cover is so mounted and associated with resilient means that it will pass through a "dead center" in its movement between the fully closed and fully opened positions.

More particularly, the cover is provided with the spaced downwardly extending projections 29, and a pair of downwardly extending springs 30 are mounted on the underside of the seat for engagement by the portions 29. Referring particularly to Figure 3, I will point out that when the cover 28 is fully closed, the springs 30 press outwardly against the portions 29 to keep the cover closed. An initial pivoting of the cover toward the dot and dash line position of Figure 3 will cause the springs 30 to yield until the portions 29 have passed beyond a dead center position wherein they are accurately perpendicular to the springs 30. As soon as this dead center position has been passed, the springs 30 will press outwardly to force the portions 29 toward the dot and dash line position of Figure 3, thereby causing the opening of the cover.

Although not essential, I prefer to provide a finger tab 31 as an integral rear extension of the cover 28, whereby pressure downwardly upon this tab will initiate the opening of the cover.

In accordance with the present invention, the tab 31 need not be manipulated after a blade has been in use. The cover 28 is so shaped and arranged with respect to the accommodated blade that when the latter is retracted as heretofore described (by pressure upon the portion 20), the rear edge 25 of the blade will press against the inside of the

cover to initiate the opening thereof. As a result, the manipulation of the portion 20 alone is sufficient to open the cover and retract the blade. Obviously, the opening of the cover, when no blade is in the razor, may be expeditiously accomplished by manipulation of the tab 31.

In Figure 5 I have illustrated a preferred method of constructing and providing the springs 22 and 30. It will be seen that an integral blank has been suitably cut and shaped to provide these springs, and I will point out that such blank may be satisfactorily soldered or attached to the underside of the seat 11.

In Figures 7 and 8 I have illustrated a modification wherein the portion 19 is composed of the two spaced portions 32. These portions are adapted to extend upwardly through one or more openings in the seat similar to the opening 14, and they are adapted to engage respectively in one or more apertures in the blade similar to the aperture 26. In Figure 7 I have shown the blade 33 provided with the spaced apertures 34.

It is to be noted that the portions 32 are arranged along a line substantially parallel to the guard edge, and that they need not necessarily be of non-circular cross-section. The provision of two aligned portions in place of the single portion 19 enables such portions to be circular, if desired, without detracting from the proper initial centering and aligning of the applied blade.

It will thus be seen that I have provided a device of extreme simplicity, the operation of which is highly efficient and devoid of complicated manipulations. The application of a blade is an extremely simple matter and the mere release of pressure from a manually controllable means is sufficient automatically to advance the blade into proper shaving position. Where a cover is employed, a mere pressure upon the same will complete the assembly for shaving purposes. And where the cover is constructed as illustrated and described herein, the final withdrawal of the blade is efficiently accomplished by the mere pressure upon the same manually controllable means.

It will be obvious that changes in the details herein described and illustrated for the purpose of explaining the nature of my invention may be made by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims. It is therefore intended that these details be interpreted as illustrative and not in a limiting sense.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is—

1. In a safety-razor, an apertured blade seat provided with a guard edge, blade stops on said guard edge, an apertured blade applicable to said seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting through the aperture in said seat and engageable in the aperture of the blade, yieldable means for constantly urging the projecting portion of said member toward the guard edge, and manually controllable means for retracting said member against the action of said yieldable means.

2. In a safety-razor, an apertured blade seat provided with a guard edge, blade stops on said guard edge, a blade having a non-circular aperture therethrough applicable to said seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting through the aperture in the seat and engageable in the blade aperture, said member having a complementary non-circular cross section.

3. In a safety-razor, a blade seat provided with a guard edge, blade stops on said guard edge, an apertured blade applicable to said seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting from the plane of said seat and engageable in said aperture, said member comprising two spaced portions arranged along a line substantially parallel to said guard edge.

4. In a safety-razor, a blade seat provided with a guard edge, blade stops on said guard edge, an apertured blade applicable to said seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting from the plane of said seat and engageable in said aperture, said member having an on-circular cross-section, a spring for constantly urging said member toward the guard edge, and manually controllable means at the rear of the blade seat for retracting said member against the action of said spring.

5. In a safety-razor, a blade seat provided with a guard edge, blade stop on said guard edge, an apertured blade applicable to said seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting from the plane of said seat and engageable in said aperture, yieldable means for constantly urging said member toward the guard edge, and manually controllable means for retracting said member against the action of said yieldable means; a cover for the blade seat, and means for mounting the cover so that pressure upon the interior thereof by the rear of a retracted blade will automatically open the cover.

6. In a safety-razor, a blade seat provided with a guard edge, blade stops on said guard edge, an apertured blade applicable to said

seat, and means for initially positioning and also advancing the blade upon and along said seat, said means comprising a movable member projecting from the plane of said seat and engageable in said aperture, yieldable means for constantly urging said member toward the guard edge, and manually controllable means for retracting said member against the action of said yiedable means; a cover for the blade seat, and spring means for mounting the cover to permit movement thereof through a dead center between a fully open and a fully closed position, said cover being so mounted that pressure upon the interior thereof by the rear of a retracted blade will automatically open the cover beyond said dead center.

7. In a safety-razor, a blade seat having a medial opening and provided with a guard edge, blade stops on said guard edge, a blade applicable to said seat and having a medial aperture therethrough, and means for initially positioning the blade in approximate position and also advancing the blade toward the guard edge, said means comprising a movable member having a portion projecting through said medial opening and adapted to engage within said medial aperture, spring means for constantly urging said portion toward the guard edge, and manually controllable means for moving said member to retract said portion against the action of said spring means; said portion comprising two integral spaced projections arranged along a line substantially parallel to the guard edge, whereby the blade will be centered and aligned during the engagement and advancement thereof.

8. In a safety-razor, a blade seat provided with a guard edge, blade stops on said guard edge, a blade applicable to said seat, a cover pivotally mounted on said seat, means operative upon a midportion of the blade for initially positioning the blade in approximate proper position upon the seat and also advancing the blade along said seat to abut the cutting edge thereof with said blade stops, said means comprising a movable member projecting from the plane of said seat and engageable with said midportion, yieldable means for constantly urging said member toward the guard edge, and manually controllable means for simultaneously initiating pivotal movement of the cover to open the same, and retracting the blade.

In witness whereof I have signed this specification.

GODFREY DALKOWITZ.