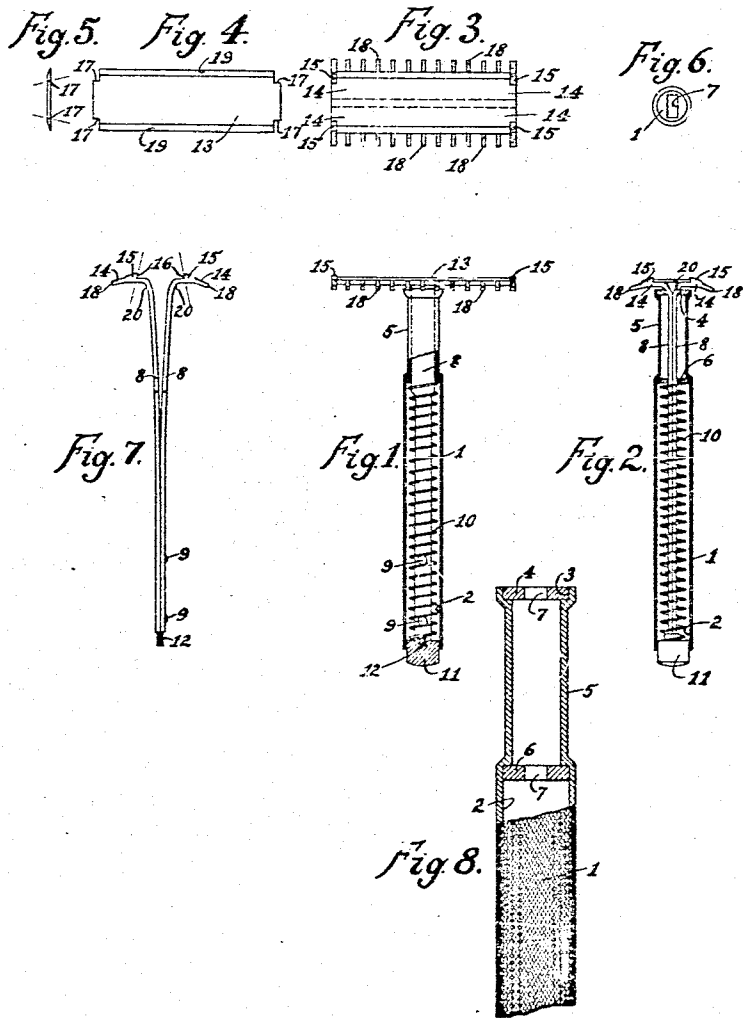


A. F. BALS.
SAFETY RAZOR.
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949,255.

Patented Feb. 15, 1910.



WITNESSES:

S. M. Jeffery
Maudie Ball

INVENTOR:

ANTHONY F. BALS,
BY Frederick R. Parker
ATTORNEY.

UNITED STATES PATENT OFFICE.

ANTHONY F. BALS, OF CHICAGO, ILLINOIS.

SAFETY-RAZOR.

949,255.

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To all whom it may concern:

Be it known that I, ANTHONY F. BALS, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Safety-Razor, of which the following is a specification, reference being had to the accompanying drawings, illustrating same.

The principal objects of my invention are, to provide improved means for readily clamping and holding a razor blade in place, in a safety razor, and for readily releasing the blade as desired; and to provide other improvements in the construction of such a razor.

Other objects will be apparent from the following specification.

In the drawings Figure 1 is a side view of the razor of this invention, with portions shown in cross-section to show the interior construction thereof; Fig. 2 is an edge view of the razor of this invention, with portions shown in cross-section to show the interior construction thereof; Fig. 3 is a plan view of Fig. 1; Fig. 4 is a plan view of the razor blade used in the razor of this invention; Fig. 5 is an end view of the razor blade of Fig. 4; Fig. 6 is a top end view of the handle portions shown in Figs. 1 and 2; Fig. 7 is an edge elevation of the pair of clamping members used for clamping the razor blade in place; and Fig. 8 is a longitudinal cross-sectional view of a portion of the handle of the razor, with a portion shown in elevation, showing the interior construction of the handle portion.

Like characters refer to like parts in the several figures.

In the drawings, 1 is the handle portion of the razor, which is counterbored from one end as at 2, and at the other end as at 3 to accommodate the washer 4. The handle portion 1 is also preferably turned down as at 5 to give a neat appearance to the razor. Washers 4 and 6 are tightly placed in the handle portion 1 as shown in Fig. 8, and may be further secured in place by any suitable means. Each of the washers 4 and 6 has a rectangular hole 7 therein as shown in Figs. 6 and 8. A pair of flat strips 8 8, preferably riveted together as at 9 9, are carried within the handle portion 1 as shown in Figs. 1 and 2, these strips 8 8 extending

through the holes 7 7 in the washers 4 and 6. Around the strips 8 8 and inside of the handle portion 1, is placed a coil spring 10, acting between washer 6 and cap nut 11, which nut is preferably screwed onto the threaded end portion 12 of the pair of strips 8 8 as shown. The spring 10 normally forces the pair of strips 8 8 down into the handle portion 1 as far as they will go. The upper ends of the strips 8 8 extend along the entire length of the razor blade 13 as shown at 14 14. At each end of each portion 14 is provided a lug 15 which has an inner tapered surface 16 adapted to engage a tapered surface 17 at the end of the razor blade 13, preferably as shown, to substantially hold the razor blade in place. Along the outer edge of each of the portions 14 is provided a series of teeth 18 18 preferably as shown. The razor blade 13 is sharpened along each longitudinal edge 19 19 preferably as shown. The teeth 18 18, it will be readily understood, serve as guards for the sharp edges 19 19, to keep the razor from cutting where it is not desired to cut. Each of the strips 8 8 is provided at its upper end with a tapered portion 20, which tapered portions 20 20 co-operate with the hole 7 in washer 4, as shown in Fig. 2, whereby the coil spring in forcing the strips 8 8 down into the handle portion 1, causes the sides of the hole 7 in washer 4 to engage the tapered portions 20 20 and thereby draw the portions 14 14 toward each other and thus cause the lugs 15 15 to substantially clamp the tapered end portions 17 17 of the blade 13 to securely hold the blade 13 in place.

It will be readily understood that the tapered portions 20 20 may be made to taper as much as desired, but the taper is preferably made so that depressing the nut or button 11 into the handle portion 1 until the outer end thereof is flush with the end of the handle portion 1, forces the strips 8 8 out of the opposite end of the handle portion until they are spread apart, due to their own springiness, sufficiently to allow the blade 13 to be readily removed therefrom. Thus the tapered portions 20 20 must be made so that they will normally cause the blade 13 to be clamped in place, but will release it upon the small movement of the nut or button 11. When it is desired to remove the blade 13, it is only necessary to depress the button 11

against the action of coil spring 10, whereupon the clamping ends of the portions 8 8 are permitted to spread apart, by their own spring tension, and thereby release the blade

13. When it is desired to clamp a blade 13 in place in the razor, this may be readily done by simply holding the button 11 in a depressed position, laying the blade 13 in place between the lugs 15 15 as shown in Fig. 3, and then releasing the button 11 whereupon the clamping ends of the strips 8 8 are automatically drawn together and the blade 13 thereby automatically clamped in place. Thus it will be seen that this arrangement for clamping the blade 13 in place and permitting same to be removed as desired, is exceedingly simple in both its construction and its operation. If it is desired to remove the strips 8 8 from the handle portion 1, this may be done by unscrewing the nut 11 whereupon the strips 8 8 and coil spring 10 may be readily removed from the handle portion.

It will be seen that in the razor of this invention there is no portion on the outside face of the blade 13, to be removed or operated before the blade 13 can be removed from the holder. This greatly facilitates the removal of the blade.

- I do not wish to limit this invention to all of the particular details of construction herein shown, as various modifications of same may be made without departing from the scope of the appended claims.

What I claim as my invention is:

1. A razor of the character described having a blade, a handle portion, a pair of spring clamping members extending into the handle portion and tending to spring apart, a coil spring carried within the handle portion for drawing the said clamping members down into the handle portion whereby they are drawn together to clamp the said blade therebetween, and a thumb piece adapted to be depressed against the said coil spring to force the said clamping members out of the handle portion and thereby cause them to spread apart to release the said blade.

2. A razor of the character described comprising a blade having cutting edges on opposite sides thereof, a pair of springy clamping members adapted to carry the said blade and having series of teeth thereon adjacent the said cutting edges of the blade, and also lugs thereon at the ends thereof having tapered engaging relation with the ends of the said blade, a handle portion within which the said clamping members are carried, a coil spring within the said handle portion acting on the said clamping members to cause them to automatically clamp the said blade in place, and a button at the opposite end of the handle portion from the blade, adapted to be depressed into

the end of the handle portion against the action of the coil spring whereby the clamping members are caused to release the said blade.

3. A razor of the character described comprising a handle portion counterbored at each end, a washer for each of the said counterbores, rigidly secured therein, each of the said washers having a rectangular hole therethrough a razor blade, a pair of substantially flat spring clamping strips extending into the said handle portion through the holes in the said washers and adapted to clamp the razor blade therebetween, a coil spring carried within the handle portion around the said clamping strips and acting thereon to automatically draw the said strips together to clamp the said blade in place, and a thumb piece at the opposite end of the handle portion from the blade, adapted to be depressed against the action of the coil spring whereby the clamping ends of the said clamping strips are permitted to spring apart and thereby release the said blade.

4. A razor of the character described comprising a handle portion having an opening at one end thereof, a razor blade, a pair of springy clamping members extending through the said opening into the handle portion, the said clamping members having tapered portions thereon adapted to cooperate with the sides of the said opening, a coil spring carried by the handle portion for causing the cooperation of the said clamping members with the sides of the said opening whereby the said clamping members may be drawn toward each other to clamp the said blade in place, and a thumb piece carried by the handle portion for causing the cooperation of the said clamping members with the sides of the said opening whereby the said clamping members are permitted to spread apart to release the said blade, substantially as described.

5. A razor of the character described comprising a removable blade having a cutting edge on each side thereof, clamping mechanism for the blade extending longitudinally through the handle portion and adapted to engage the blade near each end thereof so that both of the cutting edges are exposed for use, spring mechanism acting on the said clamping mechanism to cause the latter to clamp the blade in place, and mechanism adapted to be operated against the action of the spring mechanism whereby the said clamping mechanism is caused to release the blade.

6. A razor of the character described comprising a handle portion, a removable blade, a pair of clamping members extending longitudinally through the handle portion and adapted to engage the blade near each end thereof to clamp same in place, spring mech-

anism acting on the said clamping members to cause them to clamp the blade in place, and mechanism adapted to be operated against the action of the said spring mechanism whereby the said clamping members are caused to release the blade.

5 As inventor of the foregoing I hereunto

subscribe my name, this 19th day of March, 1909.

ANTHONY F. BALS.

Witnesses:

MICHAEL J. STARK,
FREDERICK R. PARKER.