

Sept. 27, 1938.

W. W. CHANDLER

2,131,498

SAFETY RAZOR

Filed Dec. 24, 1935

2 Sheets-Sheet 1

Fig. 1

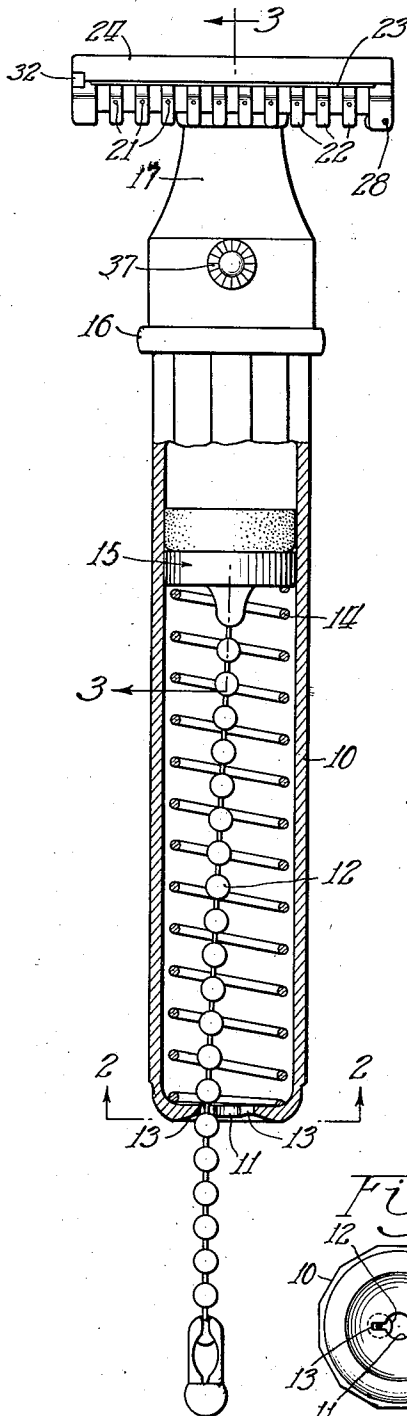


Fig. 3

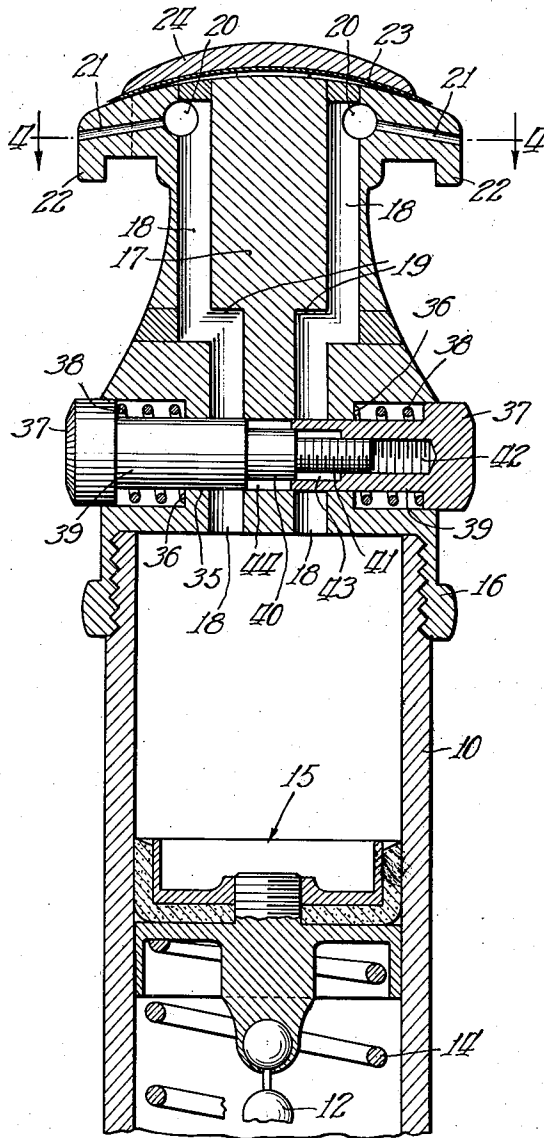
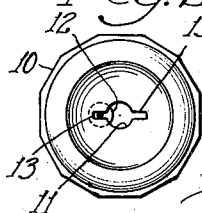


Fig. 2



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Fig. 4

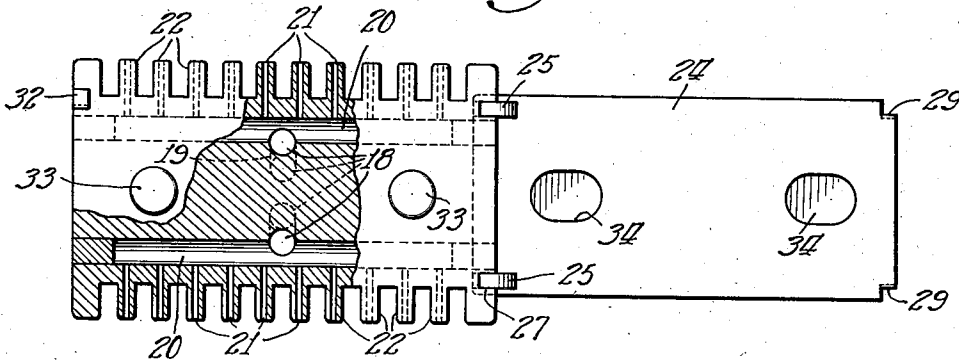


Fig. 6

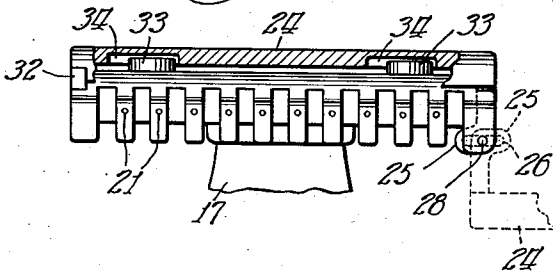


Fig. 5

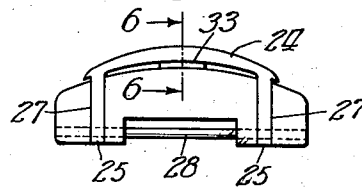


Fig. 7

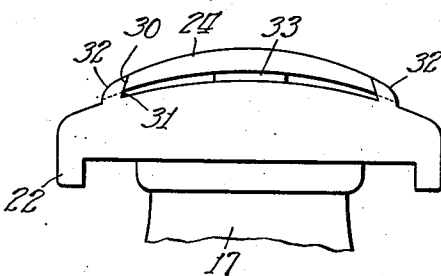
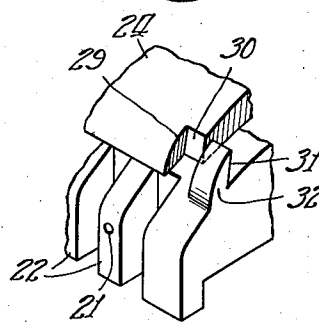


Fig. 8



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UNITED STATES PATENT OFFICE

2,131,498

SAFETY RAZOR

William W. Chandler, Hammond, Ind., assignor
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Application December 24, 1935, Serial No. 56,059

8 Claims. (Cl. 30—41)

My invention is concerned with safety razors, and it is primarily designed to produce one in which shaving cream can be placed in the handle and automatically fed to the bearded portion during the operation of shaving so that the need for a shaving brush and mug of lather is entirely done away with.

It is further concerned with such a device in which the automatic feed will only be to the side of the holder which is next to the face.

It is further concerned with such a device in which the rate of the feed of the cream can be adjusted proportionally to the thinness of the particular cream being used.

It is further concerned with such a device in which, while the cream is always under pressure, it can only flow out when it is in use.

It is finally concerned with the novel construction and mounting of the cap-plate whereby it is loosely hinged to the guard plate and can be secured in its clamping position by simply swinging it into position and sliding it a fraction of an inch to lock it.

To illustrate my invention, I have annexed hereto two sheets of drawings in which the same reference characters are used to indicate identical parts in all the figures, of which

Fig. 1 is an elevation of my improved razor with the handle portion in central vertical section;

Fig. 2 is an end view of the handle;

Fig. 3 is a central vertical section on a much enlarged scale;

Fig. 4 is a view partly in section on the line 4—4 of Fig. 3 with the blade removed;

Fig. 5 is an end elevation of the holder proper;

Fig. 6 is a side elevation of the same in partial section on the line 6—6 of Fig. 5;

Fig. 7 is an end elevation of the holder seen from the other end from that shown in Fig. 5 and on a larger scale; and

Fig. 8 is a perspective view of a portion of the same showing a portion of the locking mechanism.

In carrying out my invention in its preferred form, I employ for the body of the handle a tube 10 closed at its lower end except for the opening 11, which, as seen in Fig. 2, has the central portion large enough to permit the passage of the balls of the chain 12 and the smaller offset portions 13 of the proper size to permit the chain being swung to the position shown in Fig. 1 where it is held in any desired position against the pressure of the helically coiled expanding spring 14 interposed between the bottom of the handle and

the plunger or piston 15, which has the chain 12 secured to its under side as seen in Fig. 3. The upper end of the tube 10 is threaded as seen in Fig. 3 and is secured tightly into the internally screwed lower end 16 of the shank of the holder. With the construction shown it will be observed that the handle can be unscrewed and the plunger 15 drawn down to its lowermost position against the pressure of the spring, and the handle filled full of any desired shaving cream after which it is screwed back in place.

This shank 17 has extending upwardly there-through the pair of parallel passages 18, which are shown as having the offset portions 19 caused by the method of construction but forming no essential part of the invention. At their upper ends these passages 18 are intersected by the longitudinal horizontal passages 20 formed in the guard plate proper, and from these passages 20 extend upwardly, as shown, the much smaller passages 21, one for each of the teeth 22, assuming that such teeth are used as is customary with this type of razor. The blade 23 will be held in place in the customary manner by the cap plate 24, which, as seen in Figs. 4, 5 and 6, is preferably provided with the hinge ears 25 having the slots 26 therein and held in the grooves 27 formed in the end of the guard plate by the pin 28 passed through said grooves and the slots 26. The end of the cap plate has right angular notches 29 formed therein with the surface 30 beveled to fit underneath the overhanging surface 31 of the pair of projections 32 extending upward from the top of the guard plate, and preferably constructed so they exactly fill the space formed by the notches 29 when the cap plate 24 is slid into locking position as seen in Figs. 6 and 7. The guard plate may have the customary lugs 33 projecting upwardly therefrom to pass through the customary apertures in the blade 23 and position it, and in this case the underside of the cap plate 24 will be provided with the elongated recesses 34 to receive the lugs 33 and to permit the cap plate being slid into locking position.

The structure as so far described would permit a constant flow of cream out through the passages 21 as long as the chain 12 was unlocked and the piston 15 free to move. It is desired, however, to prevent this flow when the razor is not in use even if the chain 12 should be caught as shown in Fig. 1, and for this purpose I provide the valve mechanism shown in Fig. 3 where it will be seen that a transverse bore 35 is made through the shank of the guard plate and this bore is enlarged at its ends, forming the offsets 36

therein between which and the heads 37 the helically coiled expanding springs 38 are confined to hold the valve in its closed position. Heads 37 have the body portions 39 of the proper diameter to slide in the bore 35, and one of these body portions 39 has the reduced portion 40 and beyond it the still more reduced threaded portion 41 which is screwed into the internally threaded portion 42 of the other body, which other body has instead of the projection 40, the circular recess 43 into which the portion 40 passes as the heads 37 or one of them is screwed to bring them nearer together and to reduce the size of the annular passage 44 formed between the united portions of the valve. This passage 44 normally stands in the position shown in Fig. 3 so that none of the cream can pass from the handle through the passages 18, but it will be obvious that when one head 37 is pressed in, the passage 44 will register with the opposite passage 18 so as to permit the flow of the cream through said passage and to that side of the guard plate. When the other head 37 is pressed in, the opposite effect will be secured. It will also be noted that by screwing the valve members in or out, the area of the passage 44 may be diminished or increased as desired and as will be needed if the shaving creams vary in thickness, as obviously a thin cream will need a narrow passage 44, and a thick cream a wider passage so that it can flow freely despite its greater thickness.

In using my razor, all that is necessary, preferably after first washing the face and leaving the beard moist, is to use it just as an ordinary safety razor, pressing the head 37 on the side away from the face and the cream will be applied in advance of the blade and will be removed thereby together with the beard. If it is desired to apply the cream without the shaving action, as would be desirable if the face has not just been washed, it can be done by stroking the razor over the bearded surface in the opposite direction from the shaving stroke.

By my invention I am enabled to shave quickly and neatly without the possibility of getting the cream on the clothing or anywhere else that it is not wanted, and when the shaving is finished, if necessary, the razor can be put unprotected in a pocket as it cannot accidentally leak.

While I have shown and described my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it is capable of modifications and I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim is new and desire to secure by Letters Patent of the United States is:

1. In a safety razor, the combination with a blade holder having a plurality of operating edges, of a reservoir for softening material, means for automatically forcing said material from the reservoir to an operating edge, and a spring pressed valve controlling the movement of the material, which valve in neutral position prevents its flow at any of the edges and which when moved in one direction therefrom permits its flow to one edge only, and in another direction to another edge only.

2. In a safety razor, the combination with a blade holder, of a reservoir for softening material, means for automatically forcing said material when desired only, with an even and continuous pressure through a passage from the reservoir to an engaging surface of the blade holder, a pair of parallel passages from the reservoir through the blade holder, and a transverse bore through the shank of the blade holder intersecting the passages, and a spring-pressed valve in said bore in its normal position closing both passages, and in an abnormal position opening either one.

3. In a safety razor, the combination of a blade holder, of a reservoir for softening material, means for automatically forcing said material through a pair of parallel passages from the reservoir to two engaging surfaces of the blade holder, and a valve intersecting said passages and consisting of two parts threaded together and forming at their junction an annular groove for the material which may be widened or narrowed by screwing the two parts.

4. A safety razor as described in claim 3 in which the valve is located in a bore having enlarged ends, and said parts of the valve have heads fitting in said enlarged ends, and helically coiled expanding springs are interposed between the heads and the seats formed by the enlarged ends.

5. In a safety razor, the combination with a guard plate having means for positioning a blade thereon, of a cap plate hinged thereon by a slot to permit of the plate being slid a short distance parallel to the guard plate, and means for locking the cap plate in its blade securing position, consisting of a pair of overhanging abutments on the end of the guard plate to engage the end of the cap plate.

6. In a safety razor, the combination of a guard plate having a means for positioning the blade thereon, of a cap plate hinged thereto by slotted hinge member, and a pair of overhanging abutments on the end of the guard plate, the corners of the free end of the cap plate being cut away to form locking notches, and the adjacent end of the guard plate having aforesaid a pair of overhanging locking projections designed to be complementary to and just filling the cut-away corners of the cap plate.

7. In a safety razor, the combination with a blade holder, of a reservoir for softening material, a spring pressed plunger in the reservoir, and a chain attached to the plunger and extending through an aperture in the reservoir, said aperture having a reduced portion in which the chain can be caught in any desired position.

8. In a safety razor, the combination with a blade holder, of a reservoir for softening material, means for automatically forcing said material when desired only, with an even and continuous pressure through a passage from the reservoir to an engaging surface of the blade holder, and a valve whose position is adjustable and normally closed to prevent the passage of material from the reservoir to the holder, and movable to regulate as far as is possible under the selected adjustment the rate of its flow when the valve is opened.

WILLIAM W. CHANDLER.