E. D. CHADWICK.

SAFETY RAZOR.

APPLICATION FILED DEC. 23, 1918.

1,357,221.

Patented Nov. 2, 1920.

2 SHEETS—SHEET 1.

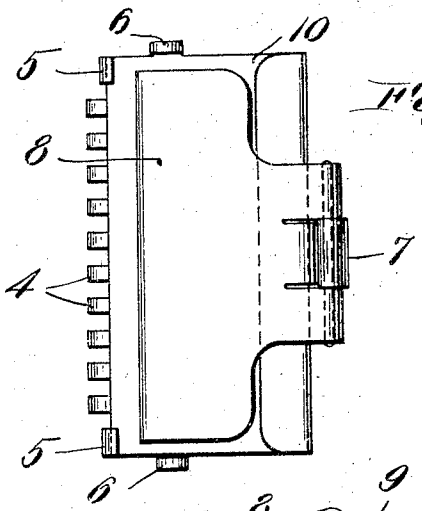


Fig. 2.

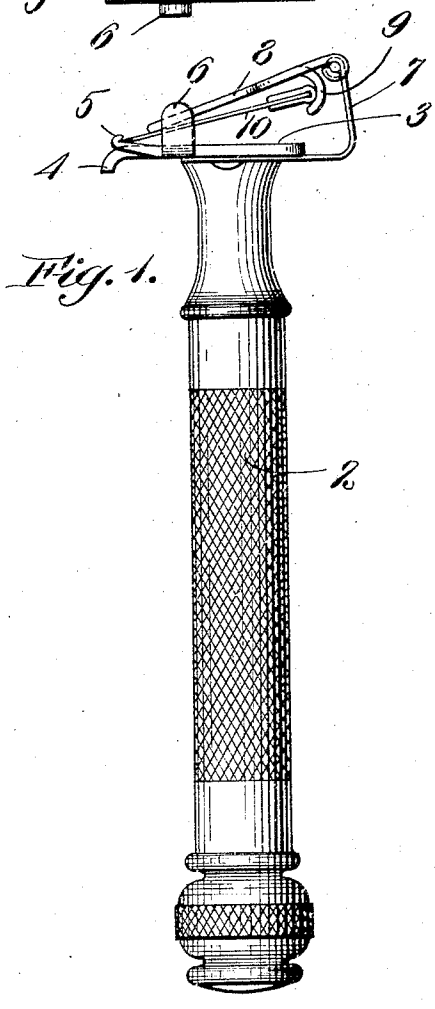


Fig. 1.

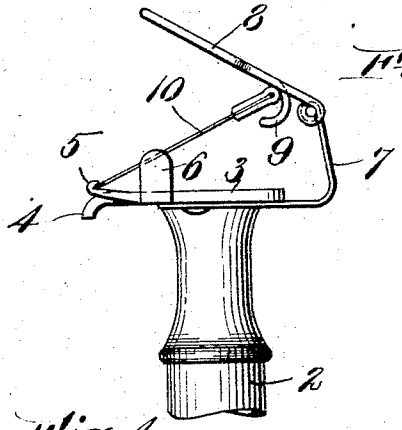
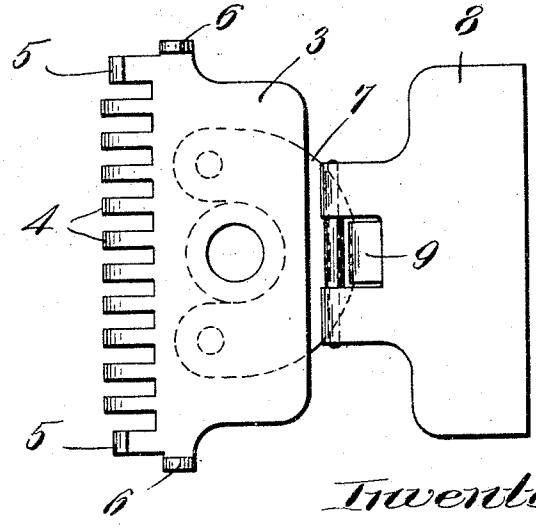


Fig. 3.

Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 6.

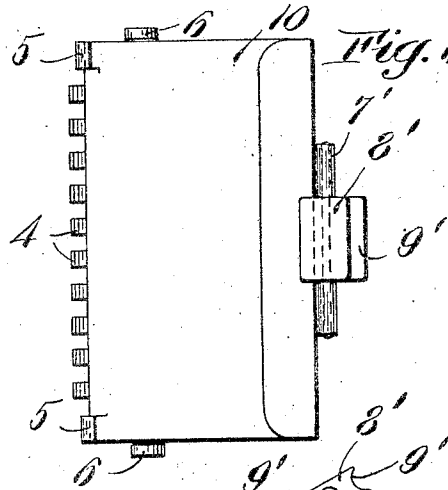
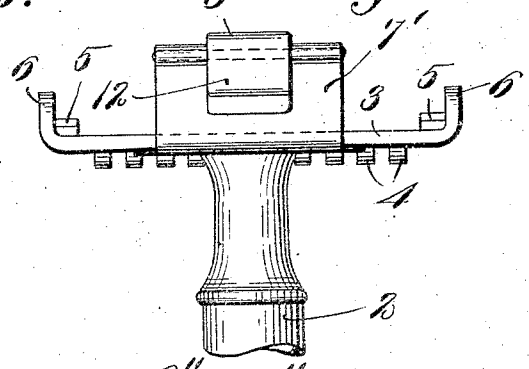


Fig. 8.



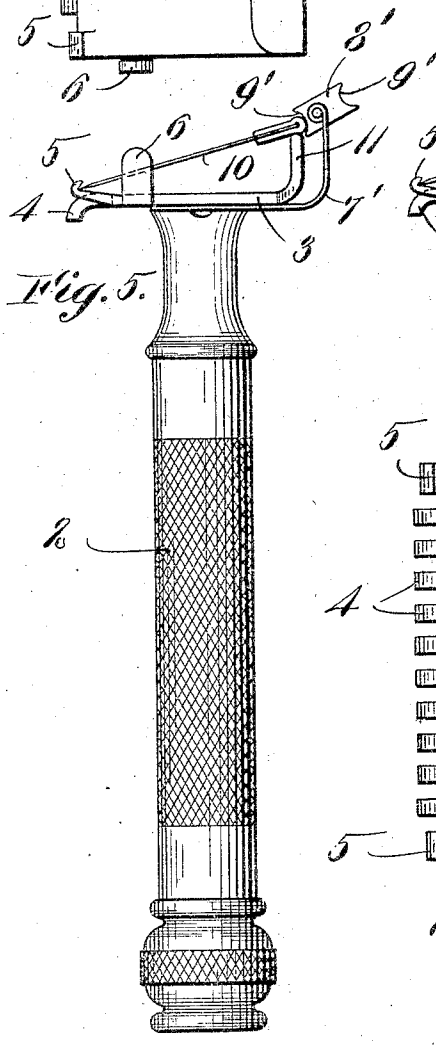


Fig. 5.

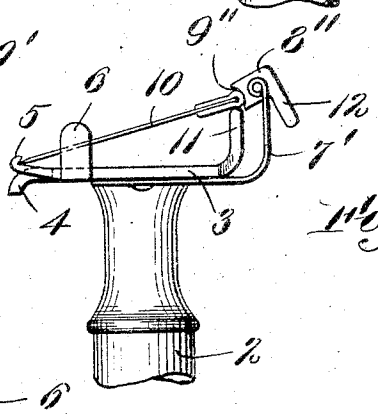


Fig. 7.

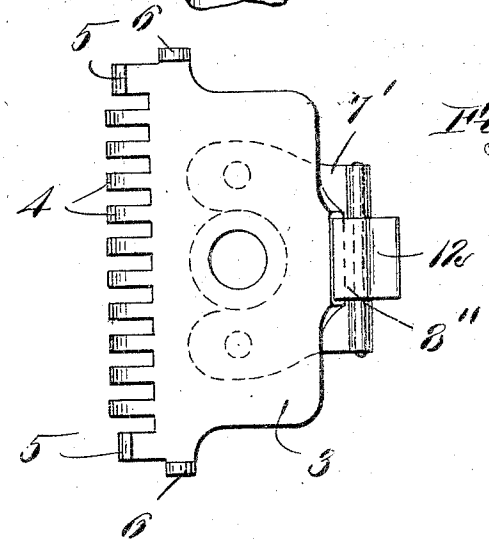


Fig. 9.

Inventor:

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UNITED STATES PATENT OFFICE.

EVERETT D. CHADWICK, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO GILLETTE SAFETY RAZOR COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF DELAWARE.

SAFETY-RAZOR.

1,357,221. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed December 23, 1913. Serial No. 267,399.

To all whom it may concern:

Be it known that I, EVERETT D. CHADWICK, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention relates to safety razors in which single-edged blades are employed, and resides in certain features of construction and arrangement hereinafter described in connection with the accompanying drawings, in which:—

Figure 1 is a side elevation illustrating one form of razor embodying my invention, with the parts in position for use;

Fig. 2 is an end view of the same;

Fig. 3 is a side elevation illustrating the parts in a different position;

Fig. 4 is an end view with the holder in open position and the blade removed;

Fig. 5 is a side elevation illustrating a modified form of the razor;

Fig. 6 is an end view of the same;

Fig. 7 is a side elevation illustrating another modification;

Fig. 8 is a rear view of the parts shown in Fig. 7, with the blade removed; and

Fig. 9 is an end view of the parts shown in Fig. 8.

The razor illustrated in Figs. 1 and 2 comprises a handle 2, a blade-supporting head 3 secured to one end of the handle and extending transversely thereto, a guard 4 formed on the front edge of the head 3, a pair of stops 5 located at opposite ends of the guard and adapted to engage the front or cutting edge of the blade and hold it in proper relation to the guard, and a pair of lugs 6 extending upward from the ends of the head 3 and adapted to position the blade in an endwise direction. In addition to these parts, which are not materially different from those found in prior razors, I employ a spring 7 secured to the head 3 with its free end extending upward above the head, and a blade-engaging member 8 which is hinged to the spring 7 on an axis extending parallel with the guard and is provided with a seat 9 adapted to receive and support the rear edge of the blade, shown at 10. The blade is inserted while the other parts are in about the position shown in Fig. 2, by engaging the front or cutting edge of the blade with the stops 5, placing its rear edge on the seat 9, and swinging the member 8 downward until the blade passes through and slightly beyond a dead-center position with respect to the pivotal axis of the member 8, whereupon such movement is arrested by a stop consisting in this form of razor of the free end of said member 8, which brings up against the top of the blade. The parts are so proportioned and arranged that when in this position, shown in Fig. 1, the upper end of the spring 7 exerts a forward pressure on the blade whereby the latter is held firmly against the stops 5 and the free end of the member 8 is also held down upon the blade, which is thereby maintained in operative position in the holder until released by swinging the member 8 upward.

The shape of the member 8 shown in Figs. 1 to 4 inclusive is such that its free end extends substantially the entire length of the blade and bears upon the latter a short distance back of its cutting edge when in operative position, this arrangement being particularly intended for use in connection with blades which are so thin that it is necessary or advantageous to provide a supporting backing located adjacent to the cutting edge. Such a backing is afforded by the free edge of the member 8 above described, which can be caused to exert upon the blade as strong a pressure as may be desired by employing a sufficiently stiff spring 7. This spring should in any case be stiff enough to hold the blade securely against the stops 5, the opening and closing of the holder being easily effected regardless of the stiffness of the spring by reason of the favorable leverage available for operating the member 8. In case the blade employed is so rigid that it does not require a backing near its cutting edge the member 8 may obviously have any size and contour consistent with its engaging the blade when swung downward beyond the dead-center position of the latter.

In the form of razor illustrated in Figs. 5 and 6 the parts 2, 3, 4, 5 and 6 are constructed as already described but the forwardly-projecting end portion is omitted from the blade-engaging member, which in this case consists of a bar 8′ pivotally

mounted in a recess in the upper end of the spring 7′ and provided on each of its opposite longitudinal edges with a seat 9′ adapted to receive the rear edge of a blade. These two seats are located at different distances from the pivotal axis of the bar 8′, which can be turned over to present either seat in operative position, so that blades of different widths can be used interchangeably in the holder. To insert a blade its cutting edge is engaged with the stops 5, its rear edge is placed in one or the other of the seats 9′, according to the width of the blade, while the plane of the latter is above its dead-center position with reference to the pivotal axis of the bar 8′, and the blade-engaging edge of the latter is then swung downward until the blade passes slightly beyond the dead-center position, whereupon it engages and rests upon the upper end of a stop 11 extending upwardly from the head 3, where it is maintained by the action of the spring 7′. To release the blade it suffices to turn the bar 8′ by pressing downward on its outer edge until the blade moves above the dead-center position, whereupon the action of the spring 7′ will eject the blade from the holder.

In the construction illustrated in Figs. 7, 8 and 9, the blade-engaging member 8″ has a blade-receiving seat 9″ on its front edge only and is provided at its opposite edge with an extension 12 which projects downward into a convenient position for operation by the user to eject the blade. Otherwise the parts are constructed as shown in Figs. 5 and 6 and the blade is inserted, retained and ejected in the same way.

The principal advantages of the razor above described reside in the simplicity and durability of the construction, in the adaptability of the holder for use with various commercial blades and in the facility with which the blades can be inserted in the holder and removed therefrom. The details of construction can obviously be modified in various ways without losing these advantages, or departing from my invention.

I claim:—

1. In a safety razor, the combination of a handle, a guard, stops for positioning the cutting edge of the blade with respect to the guard, a blade-engaging member pivotally mounted on an axis parallel with the guard and provided in front of its axis with a seat adapted to support the rear edge of the blade above a dead-center position with respect to said axis and to carry the blade downward through said dead-center position while its cutting edge is engaged by said stops, a spring arranged to press the blade-engaging member toward the guard, and means for arresting the pivotal movement of said member after the blade supported thereby has passed through said dead-center position.

2. In a safety razor, the combination of a handle, a guard, stops for positioning the cutting edge of the blade with respect to the guard, a spring carried by the handle, a blade-engaging member pivotally mounted on the spring on an axis parallel with the guard, said member being provided in front of its axis with a seat adapted to support the rear edge of the blade above a dead-center position with respect to said axis and to carry the rear edge of the blade downward through said dead-center position while its cutting edge is engaged by said stops, and means for arresting the pivotal movement of said member after the blade supported thereby has passed through said dead-center position.

3. In a safety razor, the combination of a handle, a guard, stops for positioning the cutting edge of the blade with respect to the guard, a blade-engaging member pivotally mounted on an axis parallel with the guard and provided in front of its axis with a seat adapted to support the rear edge of the blade above a dead-center position with respect to said axis and to carry the blade downward through said dead-center position while its cutting edge is engaged by said stops, and a spring arranged to press the blade-engaging member toward the guard, said member being provided with a forwardly-extending free end adapted to rest on the blade when in operative position.

Signed at Boston, Mass., this 20th day of December, 1918.

EVERETT D. CHADWICK.