R. H. PARKER.

SAFETY RAZOR.

APPLICATION FILED DEC. 23, 1918.

1,353,609.

Patented Sept. 21, 1920.

2 SHEETS—SHEET 1.

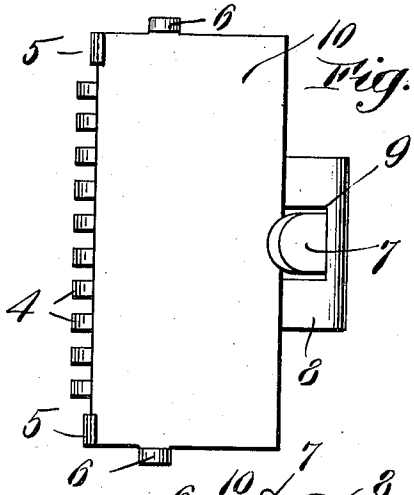


Fig. 2.

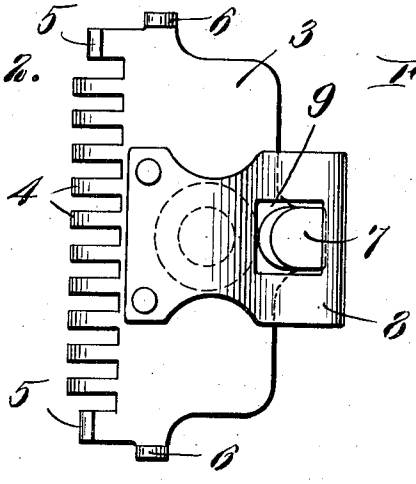


Fig. 3.

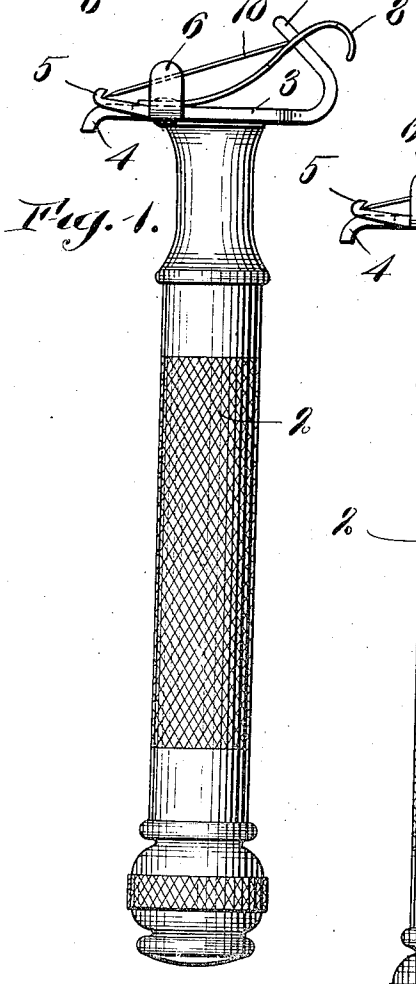


Fig. 1.

Fig. 4.

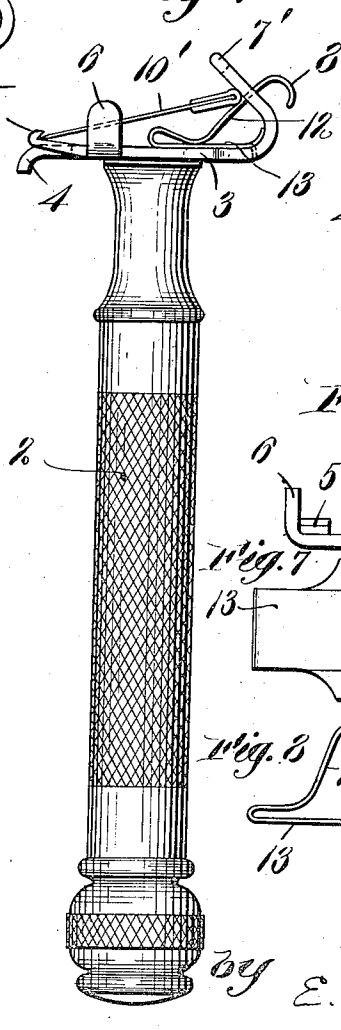


Fig. 5.

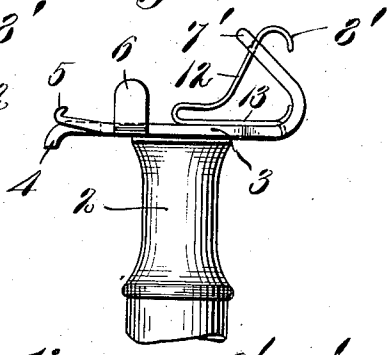


Fig. 6.

Fig. 7.

Fig. 9.

Fig. 8.

Inventor:

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2 SHEETS—SHEET 2.

Fig. 12.

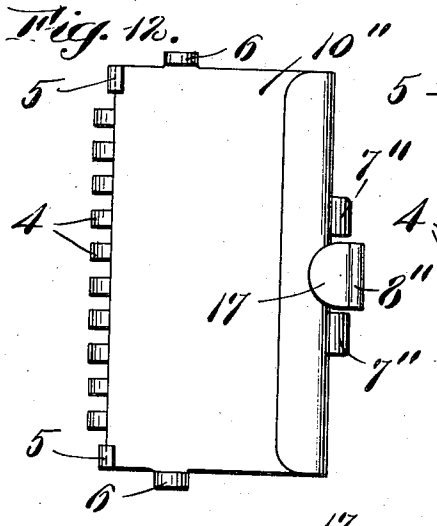


Fig. 11.

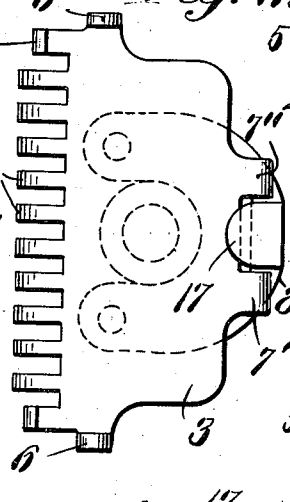
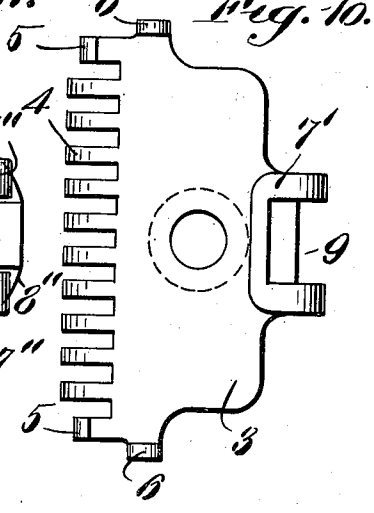


Fig. 10.



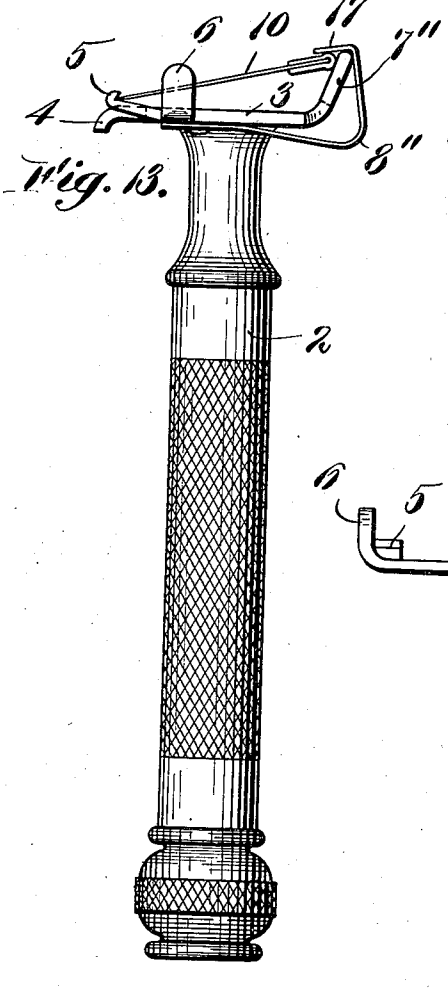


Fig. 13.

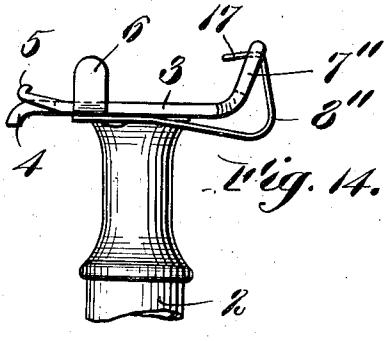
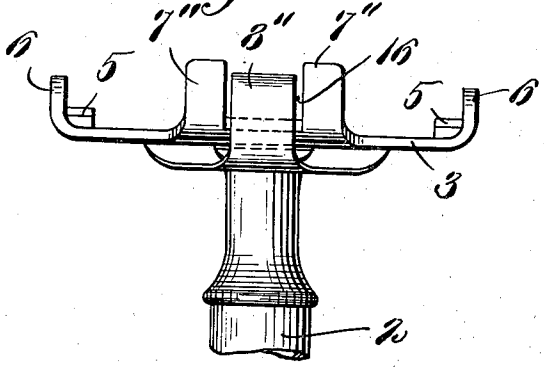


Fig. 14.

Fig. 15.



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UNITED STATES PATENT OFFICE.

RILEY HERBERT PARKER, OF WINTHROP, MASSACHUSETTS, ASSIGNOR TO GILLETTE SAFETY RAZOR COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF DELAWARE.

SAFETY-RAZOR.

1,353,609. Specification of Letters Patent. Patented Sept. 21, 1920.

Application filed December 23, 1918. Serial No. 267,886.

To all whom it may concern:

Be it known that I, RILEY HERBERT PARKER, a citizen of the United States, residing at Winthrop, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention relates more particularly to the blade-holding parts of safety razors, and is intended to provide a simple and inexpensive razor having certain advantageous characteristics hereinafter described. The underlying feature of the invention resides in the employment, in combination with stops for engaging the front or cutting edge of the blade and positioning it with respect to the guard, of an abutment which crosses the plane of the blade when the latter is in operative position in the holder, and a spring whereby the blade is forced into engagement with the abutment and so maintained during use. As a result of this arrangement the blade, although retained in the holder by the action of the spring, is rigidly held in operative position by the opposed jaws provided by the stops and the abutment above referred to, and by giving a suitable formation to the abutment and spring, as explained below, the holder is adapted to take blades of different widths with equal facility, thus enabling commercial blades of various makes to be used interchangeably in the same holder.

In the accompanying drawings,

Figure 1 is a side elevation of one form of razor embodying my invention, showing a blade in place in the holder;

Fig. 2 is an end view of the same;

Fig. 3 is a similar view with the blade removed;

Fig. 4 is a side elevation illustrating a modification of the holder, with a blade in place therein;

Fig. 5 is a side elevation similar to the upper portion of Fig. 4 with the blade removed;

Fig. 6 is a rear elevation of the parts shown in Fig. 5;

Figs. 7, 8 and 9 show respectively a bottom view, a side view and a front view of a spring illustrated in Figs. 4, 5 and 6;

Fig. 10 is an end view of the holder shown in Figs. 5 and 6, with the spring removed;

Fig. 11 is an end view illustrating another modification of the holder, with the blade removed;

Fig. 12 is a similar view showing the blade in place in the holder;

Fig. 13 is a side elevation of the construction shown in Fig. 12;

Fig. 14 is a similar view of the holder shown in Fig. 11, with the lower portion of the handle omitted; and

Fig. 15 is a rear elevation of the parts shown in Fig. 14.

Each of the razors illustrated 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 a 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 there is in each razor a rigid abutment extending upward from the head 3 and adapted to engage the rear edge of the blade, and a spring acting transversely to the plane of the blade and serving to force the rear edge of the latter against the abutment and maintain it in engagement therewith during use.

In Figs. 1 and 2 the abutment above referred to consists of a finger 7 formed integral with the head 3 and slanting upward and forward with respect to the same, and the spring consists of a leaf spring 8 secured to the head 3 near the guard and extending upward and rearward therefrom to a point at the rear of the finger 7, being provided with a slot 9 through which the finger passes. The blade is shown at 10, and is placed in operative position in the holder by first pressing the spring 8 downward, then inserting the rear edge of the blade beneath the finger 7 and moving it backward until its cutting edge can drop behind the stops 5, then engaging the cutting edge with the stops and then releasing the spring, which thereupon lifts the rear edge of the blade and forces it against the under surface of the finger 7. This surface slants at such an angle that the action of the spring on the blade wedges the latter tightly between the stops 5 and the finger

7, whereby the blade is firmly held in place during use. To release the blade it is merely necessary to press the spring downward, whereupon the blade can be moved backward and lifted from the holder.

In the construction illustrated in Figs. 4 to 10 inclusive, the abutment consists of a finger 7′ which slants upward and forward over the head 3 like the finger 7 but is provided with a slot 11 through which the blade-engaging portion of the spring 8′ passes. This spring is made of a strip of sheet metal doubled upon itself and so shaped as to form a blade-engaging upper portion 12, a flat lower portion 13 adapted to rest on the head 3, a lip 14 extending downward from the free end of the lower portion 13, and lateral extensions 15 located above the lip 14 and curving upward at their rear ends, as shown in detail in Figs. 7, 8 and 9. The spring is inserted in the holder by compressing it and then sliding it rearwardly along the top of the head 3 until the lateral extensions 15 bring up against the side portions of the finger 7′, whereupon the lip 14 drops behind the rear edge of the head at the bottom of the slot 11. The upper portion 12, when released, bears against the finger 7′ at the upper end of the slot as shown in Fig. 5, the lower portion 13 being then held in contact with the flat top surface of the head 3 by the action of the spring itself and being prevented from moving forward or backward on the head by the lip 14 and the extensions 15 respectively. The spring can be removed, however, by lifting the rear end of the lower portion 13 sufficiently to disengage the lip 14 from the head 3 and then depressing the upper portion 12 and sliding the spring forward, the advantage gained by employing this form of spring being that in case a spring breaks it can be readily replaced by another. Fig. 4 shows a blade 10′ in operative position in the holder, in which it is inserted and held in place and from which it is removed in the same manner as in the construction shown in Figs. 1, 2 and 3.

In the modification illustrated in Figs. 11 to 15, inclusive, the abutment consists of two fingers 7″ slanting upward and rearward from the head 3 and having an open space 16 between them, and the spring 8″ is secured at one end to the under side of the head and extends thence rearward and upward to a point behind the fingers 7″, where it is provided with a blade-engaging portion 17 which extends forward through the space 16, the spring action being such as to draw the portion 17 downward between the fingers when there is no blade in the holder, as shown in Figs. 14 and 15. In this case the blade, shown at 10″ in Fig. 13, is inserted by pushing the free front end of the spring upward, then inserting the rear edge of the blade under the end portion 17 of the spring, then engaging the cutting edge of the blade with the stops 5 and then releasing the spring, the end portion 17 of which thereupon draws the rear edge of the blade downward against the slanting front surface of the fingers 7″ and thereby wedges the blade firmly between said fingers and the stops 5.

It will be seen that any of the holders above described will receive and hold with equal security various blades differing in width to an extent depending on the length of the abutment and the range of action of the spring. This capacity is illustrated in Figs. 1 and 4, in which blades of different widths are shown, and constitutes an important feature of my invention. Other features reside in the simplicity and durability of the construction employed, in the facility with which the blade-controlling spring can be manipulated to release the blade by means of the thumb of one hand while the handle is held in the same hand, and in the rigidity with which the blade is held in operative position during use, although retained in the holder by spring action. In case the holder is intended to take blades of a single predetermined width only the abutment can evidently be modified considerably in respect to its dimensions and contour, so long as it provides a rigid seat adapted to be engaged by the blade when subjected to the pressure of the spring.

I claim:—

1. In a safety razor, the combination with a guard of relatively fixed opposed jaws adapted to engage simultaneously a blade placed between them and comprising stops at the ends of the guard and an abutment crossing the plane of the blade when in operative position, and a spring operating on the blade transversely to the plane of the latter for moving it into engagement with the abutment and maintaining such engagement during use.

2. In a safety razor, the combination with a guard and stops at its ends to engage and position the front edge of a blade, of a fixed abutment provided with a blade-engaging surface slanting across the plane of the blade when in operative position, and a spring arranged to engage the blade and wedge it against the slanting surface of the abutment.

3. A safety razor comprising a handle, a transversely-extending head carried thereby and provided with a guard and with stops at the ends of the latter to engage and position the front edge of the blade, a fixed abutment carried by the head and provided with a blade-engaging surface slanting across the rear edge of the blade when in operative position, and a spring arranged to engage the rear edge of the blade and wedge it

against the slanting surface of the abutment.

4. A safety razor comprising a handle, a transversely-extending head carried thereby and provided with a guard and with stops at the ends of the latter to engage and position the front edge of a blade, a fixed abutment carried by the head and provided with a blade-engaging surface slanting across the plane of the blade when in operative position, and a detachable spring having means for positioning it with respect to the head and adapted to maintain itself in engagement therewith by the action of its free portion on the abutment, said free portion of the spring being arranged to engage the rear edge of the blade and wedge it against the slanting surface of said abutment.

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

RILEY HERBERT PARKER.