W. F. GROSCHOPP.

SAFETY RAZOR FRAME.

APPLICATION FILED AUG. 2, 1918.

1,299,570. Patented Apr. 8, 1919.

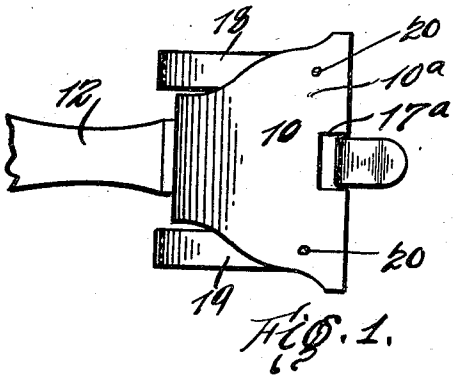


FIG. 1.

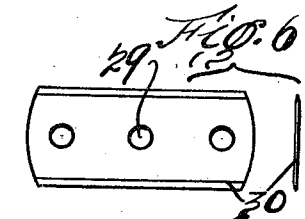


FIG. 6.

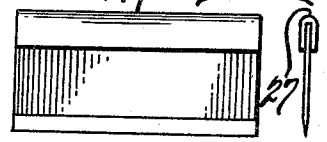


FIG. 7.

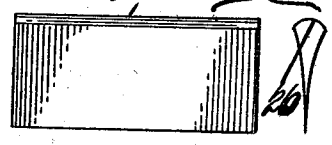


FIG. 8.

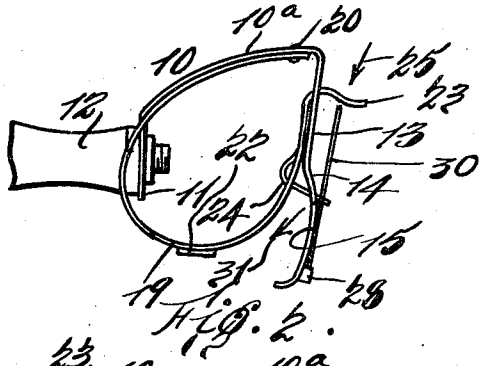


FIG. 2.

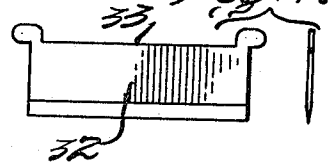


FIG. 9.

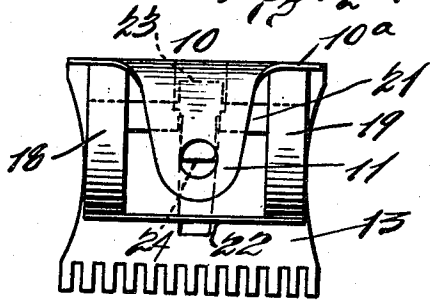


FIG. 3.

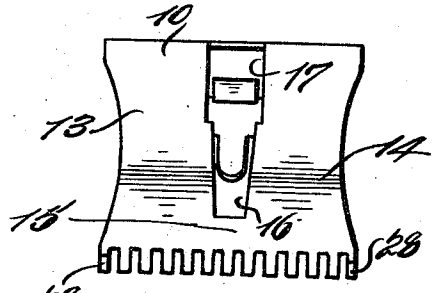


FIG. 4.

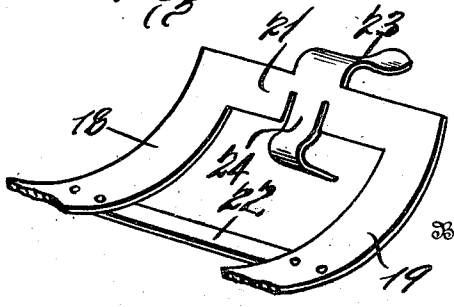


FIG. 5.

Inventor
William F. Groschopp

By Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM F. GROSCHOPP, OF BROOKLYN, NEW YORK, ASSIGNOR TO KAMPFE BROS., OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

SAFETY-RAZOR FRAME.

1,299,570. Specification of Letters Patent. Patented Apr. 8, 1919.

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To all whom it may concern:

Be it known that I, WILLIAM F. GROSCHOPP, a citizen of the United States of America, residing at Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Safety-Razor Frames, of which the following is a full, clear, and exact description.

This invention relates to improvements in safety-razor frames, one of the main objects of the invention being to provide a universal safety-razor frame that is adapted to hold various styles of blades. While my improved frame is adapted for use by the public in general, it is more especially intended for soldiers in the field or in camp. For instance, a soldier may be provided with a Gillette shaving outfit, but may not be able to obtain blades for the Gillette frame, and blades of other makes cannot be used. For instance, a "Star" safety-razor blade cannot be used in a Gillette frame, or vice versa.

My improved razor-frame is arranged to hold blades of any of the popular shaving outfits, for instance, the Gillette, the Star heavy blade, the Star wafer blade, the Gem or the Penn blades, or others of a similar type.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawing, forming part hereof, wherein—

Figure 1 is a top plan view of my improved safety-razor frame, the handle being broken away;

Fig. 2 is a side elevation thereof;

Fig. 3 is a rear view of the frame, the handle being removed;

Fig. 4 is a front view of the razor-frame;

Fig. 5 is a partial perspective view of the clamping element of the frame;

Figs. 6, 7, 8 and 9 illustrate blades of different types which my improved frame is adapted to hold.

As has been stated, my invention relates mainly to a safety razor-frame adapted to hold blades of various makes. To gain this end I provide a special clamping device and a special form of frame to support and coact with the clamp. The clamping device is provided with a plurality of clamping elements arranged to act in conjunction one with the other to hold certain blades, or to act independently of each other to hold certain other blades.

The invention may be embodied in different forms, but I prefer to provide a frame, such as 10, having a depending lip 11 to engage a handle 12, the frame consisting of a top-plate 10^a and front plate or guard 13 offset intermediate its upper and lower edges as at 14 to provide a fulcrum surface 15 for a purpose to be hereinafter described. To gain the best results I prefer to curve the surface 15 as will be explained.

For the passage and action of the clamping elements of the clamp, to be described, I provide the guard 13 with communicating openings or slots 16 and 17, the slot 17 being extended into the top-plate 10^a as at 17^a.

The clamping device consists (in this instance) of a plurality of yieldable resilient or spring members 18 and 19 curved to form a loop and secured at one end to the top plate 10^a as at 20. As can be seen in Fig. 2 the clamp members or arms 18 and 19 are curved and connected at their free ends by an end plate 21 and intermediate their ends by a cross plate 22, the cross-plate serving to act as a support for the fingers when the clamp is to be manipulated. The clamping elements proper consist of a plurality of latch-members 23 and 24 carried by the end-plate 21. The function of the latches is to engage the blades supported by the frame, while the function of the arms 19 and 20 is to impart a downward pressure upon the blades approximately in the direction of the arrow 25 in Fig. 2. Certain styles of blades will be engaged at the heel portion by the latch 23 and intermediate the heel portion and cutting edge by the latch 24. In other words, the latch 23 will rest upon the heel 26 of a Star heavy blade and the heel 27 of a Star wafer-blade (see Figs. 7 and 8), while the latch 24 will merely contact with the blade without exerting any downward pressure, the said blades being of course engaged by the stops 28 at the lower edge of the guard 13. The downward pressure of the clamping arms 18 and 19 will force the blades firmly against the stops 28. As the pressure upon the blade is approximately in the direction of the arrow 25 the tendency will be to force the heel of the blade toward the guard 13. The action will tend to move the cutting edge away from the guard or

firmly against the stops 28 owing to the fulcrum provided by the curved offset portion of the surface 15 of the guard 13. For the above mentioned style of blades the latch 24 will not be active but will merely rest against the blade.

To hold a blade of the Gillette type, the latch 24 will be inserted into the center opening 29 (Fig. 6) as indicated in Fig. 2, where a Gillette blade is indicated by 30. In this form of blade the upper latch will be inactive; in fact, it will not touch the cutting edge of the blade adjacent thereto. As will be seen, the latch 24 is inclined or diverges from the latch 23 and as it is itself yieldable and resilient it is capable of exerting pressure in the direction of the arrow 31, Fig. 2, in addition to the pressure exerted by its supporting elements, *i. e.*, the arms 18 and 19. The tendency of the pressure of the arms 18 and 19, latch 24 and inclination of the said latch will be to force the blade 30, or a Gillette blade, against the fulcrum surface 15 as well as against the stops 28, which combination will tend to firmly hold the blade.

To retain a blade of the Penn type (indicated by 32, Fig. 9) the inclined latch 24 alone will be used. As these blades are quite narrow they will be inserted in that region of the frame between the latch 24 and stops 28; in other words, these blades will be retained by the latch 24 bearing upon the heel portion 33. As all of these blades are of a standard fixed size it is possible to form a holder that will be suitable for practically all. The formation of the clamping elements as well as their action obviates the necessity of any supports for the blades, other than the latches 23 and 24, intermediate the heel and cutting edge of the blades.

To insert an imperforate blade it is but necessary to force the latches 23 and 24 upwardly by pressing upon the cross-plate 22 carried by the arms 18 and 19. After the latches have been forced upwardly a blade can be placed in position on the guard-plate and the arms 18 and 19 released so as to cause the latches to engage the blade. To position a perforated blade, such as the Gillette (Fig. 6) the latch 24 will be caused to engage the center opening 29, while the arms 18 and 19 are in the raised position, after which said arms will be released.

What I claim as my invention is:

1. A safety-razor-frame comprising a guard offset intermediate its upper and lower edges, said offset portion being curved to present a convexed outer surface, and a plurality of blade engaging latches adapted for holding a blade independently of each other, together with means common to both of said latches to force said latches downward and inward.

2. A safety-razor-frame comprising a guard, a yieldable resilient member adjacent thereto, a latch carried by said member to engage the heel of imperforate razor-blades, and a latch, also carried by the resilient member, to engage an opening in perforated razor-blades.

3. A safety-razor-frame comprising a guard having an opening therein, a top-plate, a yieldable resilient clamp secured at one end to the top-plate, and a plurality of blade engaging latches carried by the clamp at its free end and integral therewith, said latches projecting through the opening in the guard.

4. A safety-razor-frame comprising a guard having an opening therein, a top plate, a yieldable resilient clamp secured at one end to the top-plate, and a plurality of blade engaging latches carried by the clamp at its free end and integral therewith, said latches projecting through the opening in the guard, said guard being offset intermediate its upper and lower edges, the offset portion being curved to provide a convexed outer surface.

5. A safety-razor-frame comprising a guard plate, a resilient spring member secured at one end thereof to the top portion of said guard plate, said member being curved to form a loop normally tending to spring inwardly and downwardly toward the bottom edge of the guard, and a blade engaging latch carried by the spring member at its free end.

6. A safety-razor-frame comprising a guard-plate curved intermediate its top and bottom edge to form a fulcrum point, a looped resilient member secured at one end thereof to the top of said guard, the free end of said looped member tending to spring inwardly and downwardly toward the bottom edge of the guard, and a blade engaging latch carried by the looped member at its free end.

7. A safety-razor-frame comprising a guard-plate, a looped resilient member secured at one end thereof to said guard, a plurality of blade-engaging latches carried by said looped member, one of said latches being arranged to rest upon an imperforate blade at the heel portion thereof, the other latch being arranged to rest against said imperforate blade intermediate the heel portion and cutting edge thereof.

8. A safety-razor-frame comprising a guard plate, a resilient member carried thereby, a plurality of latches carried by said resilient member, one of said latches being arranged to rest upon the heel of an imperforate blade, the other latch being arranged to engage the opening in a perforated blade, the latch for the perforated blade being inoperative as a retaining element when an imperforate blade is held in the frame.

9. A safety-razor-frame comprising a guard-plate, a resilient member carried by the guard-plate, a plurality of latches carried by the resilient member and projecting therefrom, said latches being positioned one above the other, the upper latch projecting from the resilient member to a greater extent than the lower latch.

10. A safety-razor-frame comprising a guard-plate curved outwardly adjacent the lower end thereof to provide a space between a blade carried by the frame and the upper portion of the guard-plate, a resilient member carried by the guard-plate, arranged to tend to spring downwardly and inwardly toward the bottom edge of the guard-plate, a latch carried by said resilient member to engage a blade, and stops carried by the guard-plate to engage a blade at each end of the cutting edge thereof.

11. A safety-razor-frame comprising a guard-plate, a resilient member carried thereby formed into a loop and secured at one end thereof to the guard-plate, the looped member being formed to tend to spring downwardly and inwardly at its free end, a yieldable latch carried by the resilient member at its free end to retain an imperforate blade, and a second yieldable latch carried by said resilient member located adjacent the latch first named and in vertical alinement therewith to retain a perforated blade, all arranged to exert a downward and inward pressure upon any blade carried by the frame.

12. A safety-razor-frame comprising a guard-plate, a resilient member carried thereby, a plurality of resilient latches extending from said resilient member, one of said latches being arranged to engage the heel of an imperforate cutting blade, the other latch being arranged to engage the opening in a perforated blade, said latches being positioned relatively to each other, to act as retaining elements only for the blades for which they are arranged.

Signed. at New York city, N. Y., this 31 day of July, 1918.

WILLIAM F. GROSCHOPP.

Witnesses:

MAURICE BLOCK,

EDWARD A. JARVIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."