

R. SCHWENZFEIER.
SAFETY RAZOR.
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979,100.

Patented Dec. 20, 1910.

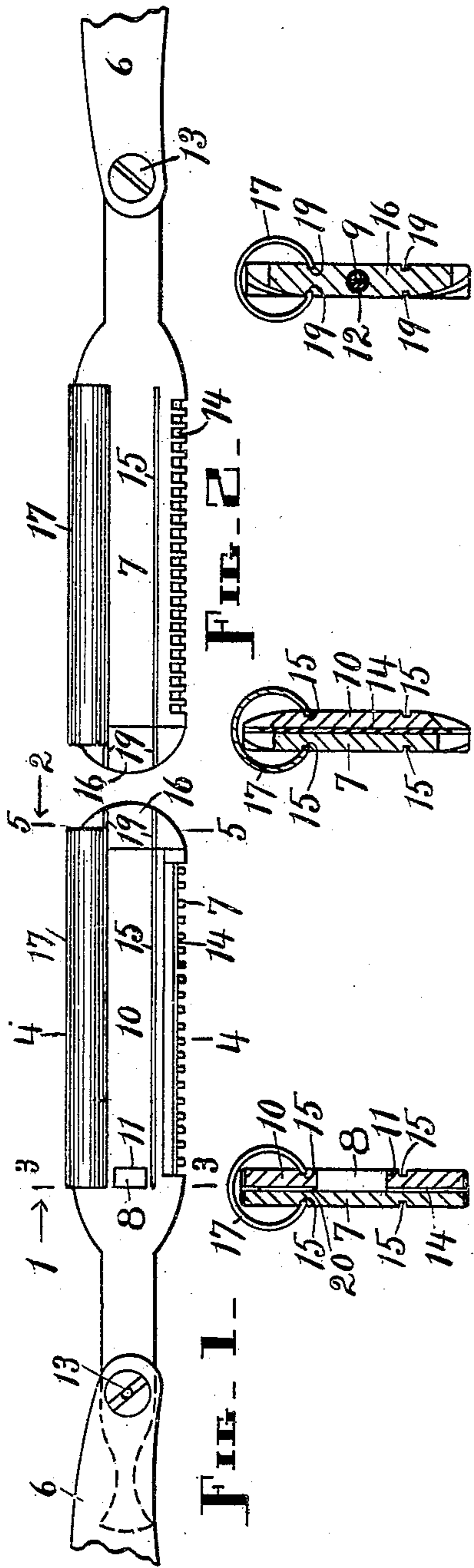


FIG. 1 -

FIG. 2 -

FIG. 3 -

FIG. 4 -

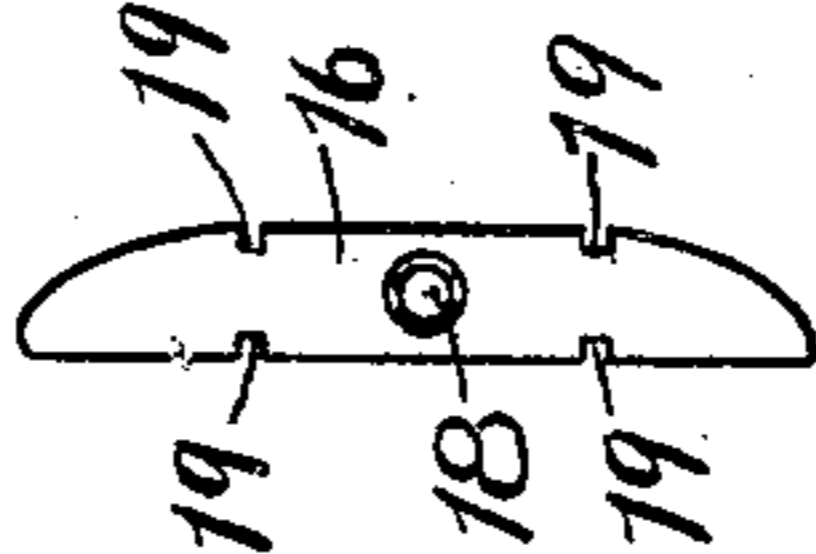


FIG. 5 -

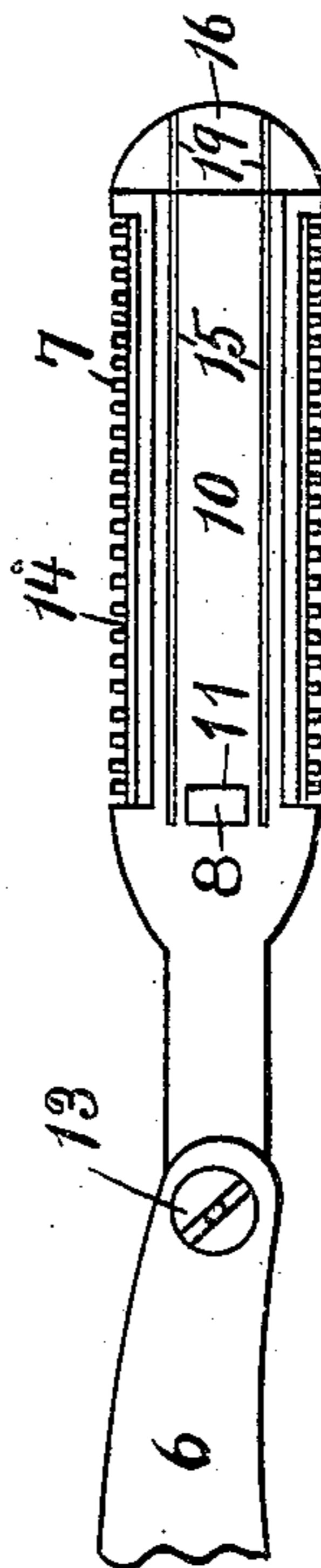


FIG. 6 -

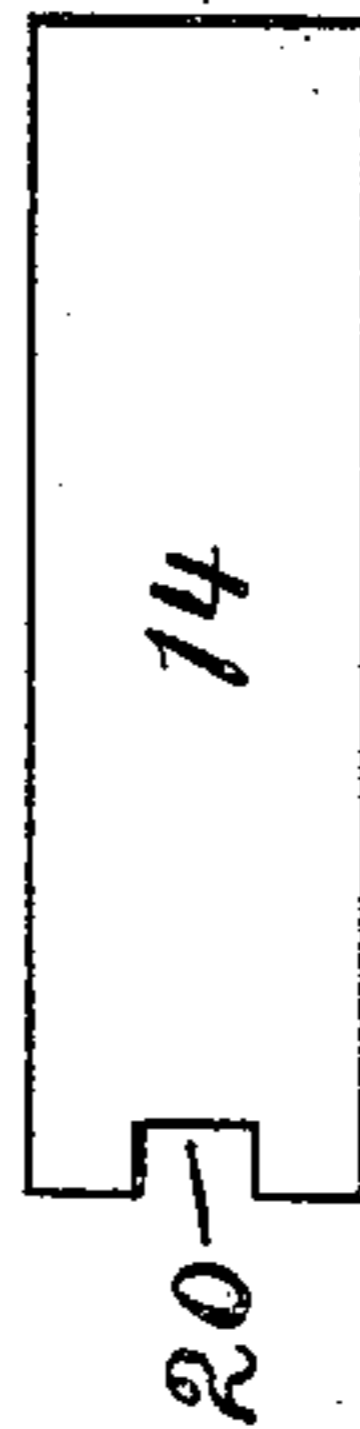


FIG. 7 -

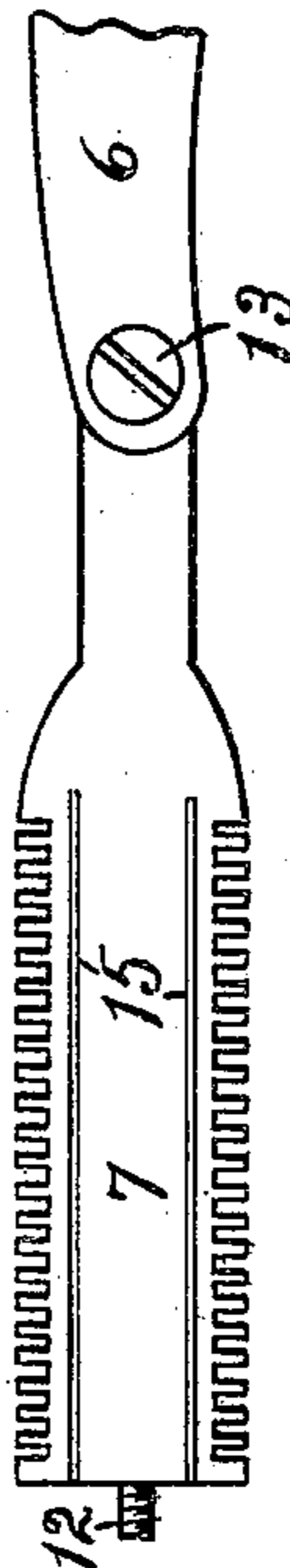


FIG. 8 -

WITNESSES:

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SAFETY-RAZOR.

979,100.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROMAN SCHWENZFEIER, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Safety-Razor, of which the following is a specification.

My invention relates to improvements in safety razors, and consists essentially of certain peculiar means for holding the blade in place and for releasing it, as hereinafter set forth.

The object of my invention is to produce a comparatively simple and inexpensive razor of this class in which a double-edged blade can be easily and quickly inserted and securely held and from which it can be as readily removed, and in which provision is made for permitting either cutting edge of said blade to be used, without removing the latter, by changing the position of a single part only. The term "double-edged" refers, of course, to the cutting edges of the blade.

A further object is to provide positive locking means for the blade-holding parts, so that they cannot work loose or accidentally get out of place.

Other objects will appear in the course of the following description.

I attain these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a practical form of my razor, complete with the exception of a portion of the handle which is broken off in this and in several of the other views; Fig. 2, a rear elevation of said razor; Fig. 3, an enlarged vertical section on lines 3—3, looking in the direction of the arrow 1, in Fig. 1; Fig. 4, a similar section on lines 4—4, looking in the same direction, in the first view; Fig. 5, an enlarged vertical section on lines 5—5, looking in the direction of the arrow 2, in the same view; Fig. 6, a front elevation of the razor without the clip; Fig. 7, an enlarged inner end elevation of the nut; Fig. 8, a rear elevation of the holder without the nut or clip, also without the blade, and, Fig. 9, a side elevation of the blade.

Similar figures refer to similar parts throughout the several views.

The device comprises a blade holder and

other members to be described in detail presently, which holder is provided with a handle of any suitable character, a portion of such a handle appearing at 6 in a number of the views.

The blade holder consists of a back plate or guard plate 7 provided with a forwardly-projecting lug 8 in the center between the longitudinal edges of said plate and intermediate of the ends of the plate, and further provided with a half-round screw-threaded stem 9 at its free terminal in the center, and of a face plate 10 having an opening 11 therein to receive said lug, and provided with a half-round screw-threaded stem 12 at its free terminal. The plates 7 and 10 are prolonged at their terminals opposite the half-round stems 9 and 12 to form shanks, and these shanks are together pivoted at 13 to the handle 6. The plates 7 and 10 are comparatively thin and substantially flat, and they have the same general outline excepting that the plate 7 is provided with the usual serrations or guard teeth on both edges and the plate 10 is cut away adjacent to such serrations or teeth. When the lug 8 is in the opening 11, the two plates and their half-round stems are in exact parallelism and said plates are adapted to receive between them a thin double-edged blade 14 and permit both cutting edges of said blade, when the latter is properly secured in position in the manner presently to be explained, to be exposed beyond the cut-away portions of the plate 10 in front of the guard teeth on the plate 7, as clearly shown in Figs. 1, 2, 3, 4 and 6. Parallel with the longitudinal edges of each of the aforesaid plates and a short distance in from such edges are two grooves 15. Said grooves are formed in the outer faces or exposed sides of the two plates, and each groove is the same distance above or below the immediately adjacent edge of its plate as every other groove, hence corresponding grooves in the plates are in the same horizontal plane.

In addition to the holder just described, there are a substantially flat nut 16 and a clip 17 in the form of a roll. The nut 16 has an opening 18 tapped into its inner edge to receive the half-round screw-threaded stems 9 and 12, and there are four grooves 19 in the sides of said nut so located that they are in line with the four grooves 15 in the plates 7 and 10 when the nut is screwed

tightly against the free ends of said plates, the screw-threads in and on the parts being cut with this end in view and said nut being about as thick as the combined thickness of the plates and the blade 14. The office of the nut 16 is to unite and disconnect the free ends of the plates and thus assist in holding and releasing the blade 14. The clip 17 is a resilient roll of such size, shape and length that it fits over either longitudinal edge of the blade holder with its longitudinal edges in the grooves 15 and 19 which are adjacent to such edge of the holder. Thus the clip assists in clamping the plates 7 and 10 on the blade 14, securely locks the nut 16 so that it cannot become loose, covers and protects the cutting edge of said blade that is not in use, and incases in the serrated and cut-away portions of the holder along the longitudinal edge thereof that is unemployed and so prevents such edge from causing any inconvenience by scratching or scraping the nose and other parts of the face as the razor is manipulated in the act of shaving, since said clip can be brought into contact with the flesh with impunity owing to the smooth convexity of its outer surface.

There is an indentation 20 in the center of one end of the blade 14 to receive the lug 8.

The plates 7 and 10 are resilient, and it may therefore be possible to spring them apart sufficiently to free the lug 8 from the plate 10, when one or both of said plates can be swung on the pivot 13 until the inner face of the plate 7 is clear; then the blade 14 can be laid on such face or taken therefrom and a new one substituted, after which the plates must be restored to their former positions and condition; but this method of inserting and changing the blade is not usually necessary, and the simple method described below is generally to be preferred.

Having, now, described in detail the construction of my razor and explained the functions of the several members thereof, I will next describe more fully the manner of assembling said members and the operation of the same, the device being considered as a whole.

Rather than separate the plates 7 and 10 to the extent previously described for the insertion between them of the blade 14, I prefer, assuming that the nut 16 and the clip 17 are both detached, to spring apart said plates only enough to permit said blade to be introduced into the space thus made, with the indented part 20 of the blade in engagement with the lug 8. The blade is then adjusted, if necessary, to straighten it relative to the holder, and the plates 7 and 10 are pressed against said blade with the thumb and fingers until the nut 16 can be screwed onto the half-round stems 9 and 12, which the operator proceeds to do at this time.

The nut 16 is screwed onto the stems 9 and 12 until it is tight against the adjacent ends of the plates, with which ends the contiguous edge of said nut now conforms or is in exact alinement, as before pointed out. The blade is thus held securely in operative position between the guard plate 7 and the face plate 10, and said blade is so held by reason of its engagement with the lug 8 and because said plates, being resilient, are closely connected at one terminal by the pivot 13 and firmly drawn and retained against the blade by the nut at the other terminal. The blade 14 is thin and light, hence the force of the frictional engagement of the holder plates, fastened together as they are, with said blade is ample to retain it in position. After seating the nut 16, the clip 17 is forced onto said nut and the plates 7 to 10 over the working edge of the holder which is not to be used. The clip locks the nut, affords additional security for the blade by assisting to clamp the resilient plates thereon, and serves the other purposes for which it is intended, as already particularly mentioned. Said clip is kept in place transversely by the sides of the grooves 15 and 19 which it engages, and the frictional contact therewith prevents end-wise movement on the part of the clip without the putting forth of some little force, it being understood, of course, that the clip is so constructed that the longitudinal edges of the same are further separated or opened wider, against the resiliency of the clip, when the latter is placed on the holder, and that it is necessary to employ force in mounting and dismounting the clip. In the event that it be desired to use the edge of the holder covered by the clip 17, or the corresponding cutting edge of the blade 14 without taking out said blade, turning it over and replacing it in said holder, said clip is drawn off and inserted in the opposite pairs of grooves 15 and 19, thus exposing the required working edge of the razor and covering the working edge previously in service. To release the blade 14 for the purpose of removal, dismount the clip 17 and remove the nut 16. After being thus released the blade can be taken from the holder plates without difficulty.

This safety razor is used for shaving like an ordinary razor.

More or less change in shape, size, and minor details of construction may be made without departing from the nature of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a safety razor, of two blade-holding plates connected at one terminal and provided with nut-receiving stems at the opposite terminal, means to retain said plates in parallelism, an elongated

nut mounted on said stems, and means mounted on said plates engaging said nut, thereby preventing it from turning.

2. The combination, in a safety razor, 5 with two blade-holding plates connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, of an elongated nut mounted on said stems, 10 and a clip mounted on said plates and said nut to lock the latter in place, the nut being long enough to be engaged by said clip when in place on the plates.

3. The combination, in a safety razor, 15 with a suitable guard plate and a suitable face plate connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, of a nut mounted on 20 said stems, and a clip mounted on said plates and said nut to lock the latter in place, the outer faces or sides of the plates and nut

having alining engaging means for the longitudinal edges of said clip.

4. The combination, in a safety razor, 25 with a suitable guard plate and a suitable face plate connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, such means compris- 30 ing a lug on one of such plates and an opening to receive said lug in the other of such plates, of a blade receivable between said plates and engaging said lug, a nut mounted on said stems, and a clip mounted on said 35 plates and said nut to lock the latter in place, the outer faces or sides of the plates and nut having alining engaging means for the longitudinal edges of said clip.

ROMAN SCHWENZFEIER.

Witnesses:

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A. C. FAIRBANKS.