

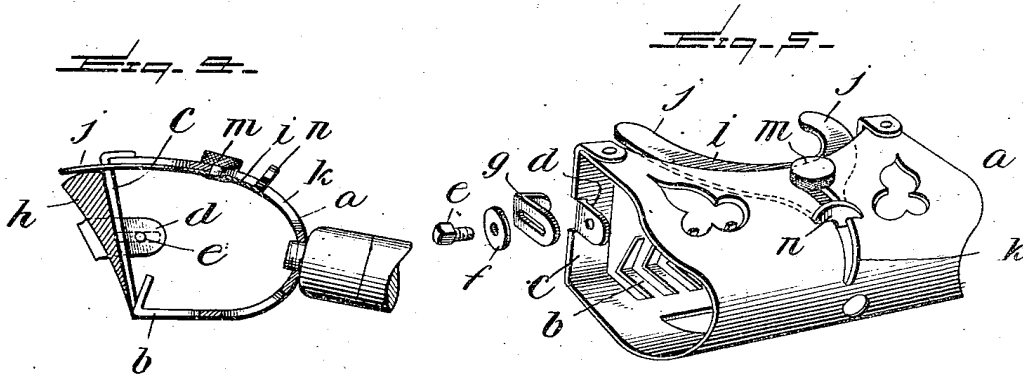
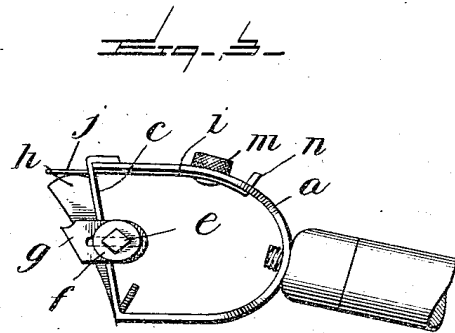
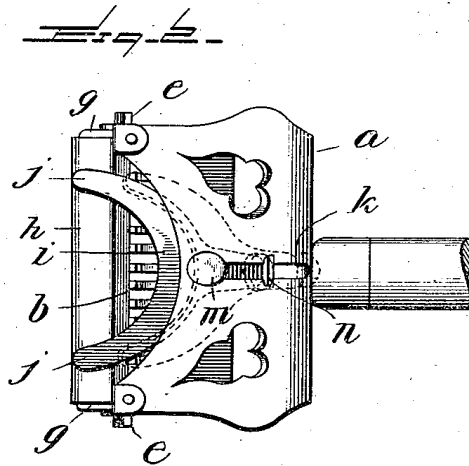
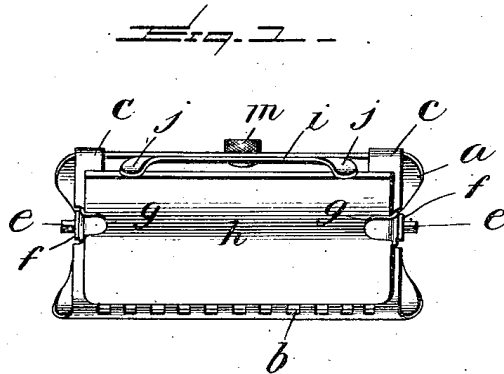
No. 690,380.

Patented Dec. 31, 1901.

J. TURNER.  
SAFETY RAZOR.

(Application filed Apr. 30, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH TURNER, OF WORCESTER, MASSACHUSETTS.

## SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 690,380, dated December 31, 1901.

Application filed April 30, 1901. Serial No. 58,116. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH TURNER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object to provide a safety-razor of such construction that the blade may be conveniently inserted into or removed from its frame or holder and which will also permit the blade to be adjustably secured in said frame or holder, so that the cutting edge of the blade may be brought into proper position relative to the guard-comb. To this end the frame or blade-holder is provided with a sliding blade-retainer, preferably comprising two spring-arms, which when the said blade-retainer is in one position will rest upon the back edge of the blade to secure it in place in its holding-clips, but which when shifted to another position permits the blade to be readily inserted or removed from the frame or holder. The blade when in working position is held against the front face of the frame or holder by two clips, which are capable of slight adjustment to bring the edge of the blade into proper position relative to the guard-comb, but which may be adjusted to compensate for wear of the blade.

In the accompanying drawings, Figure 1 is a front side view of the blade-holder with the blade in position. Fig. 2 is a plan view of the same. Fig. 3 is an end view of the same. Fig. 4 is a central cross-section of the blade-holder and blade. Fig. 5 is a perspective view of the frame or blade-holder.

Referring to the drawings, *a* denotes the frame or blade-holder, preferably formed from a single piece of sheet metal and integral with which is a guard, preferably in the form of a comb *b*. The bars *c*, forming part of the frame *a*, are provided with small backwardly-turned lugs *d*, which are tapped for the reception of screws *e*, beneath the heads of which are washers *f*, bearing against clips *g*, having slots through which the said screws pass, so as to be capable of a slight adjustment, said clips *g* having rectangular lips in

front of the bars *c*, and between which lips and bars the blade *h* is held. To retain the blade in position in the clips *g*, I provide a sliding blade-retainer consisting, preferably, of a plate *i*, having two forwardly-projecting spring-arms *j*, adapted to rest upon the back edge of the blade *h* when the arms are in the position shown in full lines in Fig. 2, but which blade-retainer may be shifted to the position shown in dotted lines in said figure to permit the said blade to be inserted into or removed from the holder. The frame or holder *a* is provided with a slot *k*, through which projects a headed pin *m*, riveted to the plate *i*, and a portion of the said plate is also preferably projected upward through the said slot in the form of a tailpiece *n*, so that the said pin and tailpiece serve as guides for the plate *i* as the latter is slid forward or backward in the frame to bring it into or remove it from its blade-retaining position. Thus when it is desired to insert the blade in the frame or holder the plate *i* is shifted backward to the position shown in dotted lines in Fig. 2, thus removing the spring-arms *j* from over the blade *h*, and when the blade has been inserted in place the said plate is shifted forward into the position shown in full lines in Fig. 2, so that the spring-arms *j* will press gently upon the top or back of the blade *h*, and thus press the same into the clips *g*, and thereby securely retain the said blade in place in the holder.

The portion of the frame or blade-holder *a* on which the sliding blade-retainer is mounted is curved, and the said blade-retainer, comprising the plate *i* and the spring-arms *j*, is also curved, (before the parts are assembled,) but preferably on the arc of a circle of slightly greater radius than the frame to insure a proper frictional hold of the blade-retainer and the frame, and thus as the said blade-retainer is slid into or out of its blade-holding position it moves in a curved path, causing the arm *j* to press on the back of the blade *h* when the blade-retainer is moved forward, but causing said arms to be lifted away from the said blade as the retainer is moved backward, the friction between the sliding blade-retainer and frame having a tendency to hold said retainer in its operative position.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a safety-razor, the combination with a frame or holder provided with a guard and with means for holding the blade in proper position relative to said guard, of a sliding blade-retainer mounted on the said frame or holder and comprising the plate *i* mounted on said frame or holder independently of the handle of the device and provided with two forwardly-projecting spring-arms which may be shifted into position to engage the back of the blade and thereby retain the same in place in the holder.

2. In a safety-razor, the combination with the frame or holder *a* provided with a guard and with front bars *c* having lugs *d*, of clips *g* adjustably secured to said lugs and having lips to engage the front face of the blade and

hold it against the said bars *c*, and a sliding blade-retainer mounted on said frame or holder and having spring-arms adapted to be brought into position to engage the back of the blade and thus retain it in position in said clips and against said bars.

3. In a safety-razor the combination with the frame *a* provided with a guard-comb *b*, front bars *c* and a slot *k*, of the clips *g* for holding the blade against the said bars *c*, and the sliding plate *i* having spring-arms *j* and provided with a guide-pin *m* and tailpiece *n* projecting through the said slot.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH TURNER.

Witnesses:

HENRY CALVER,  
GEO. W. REA.