

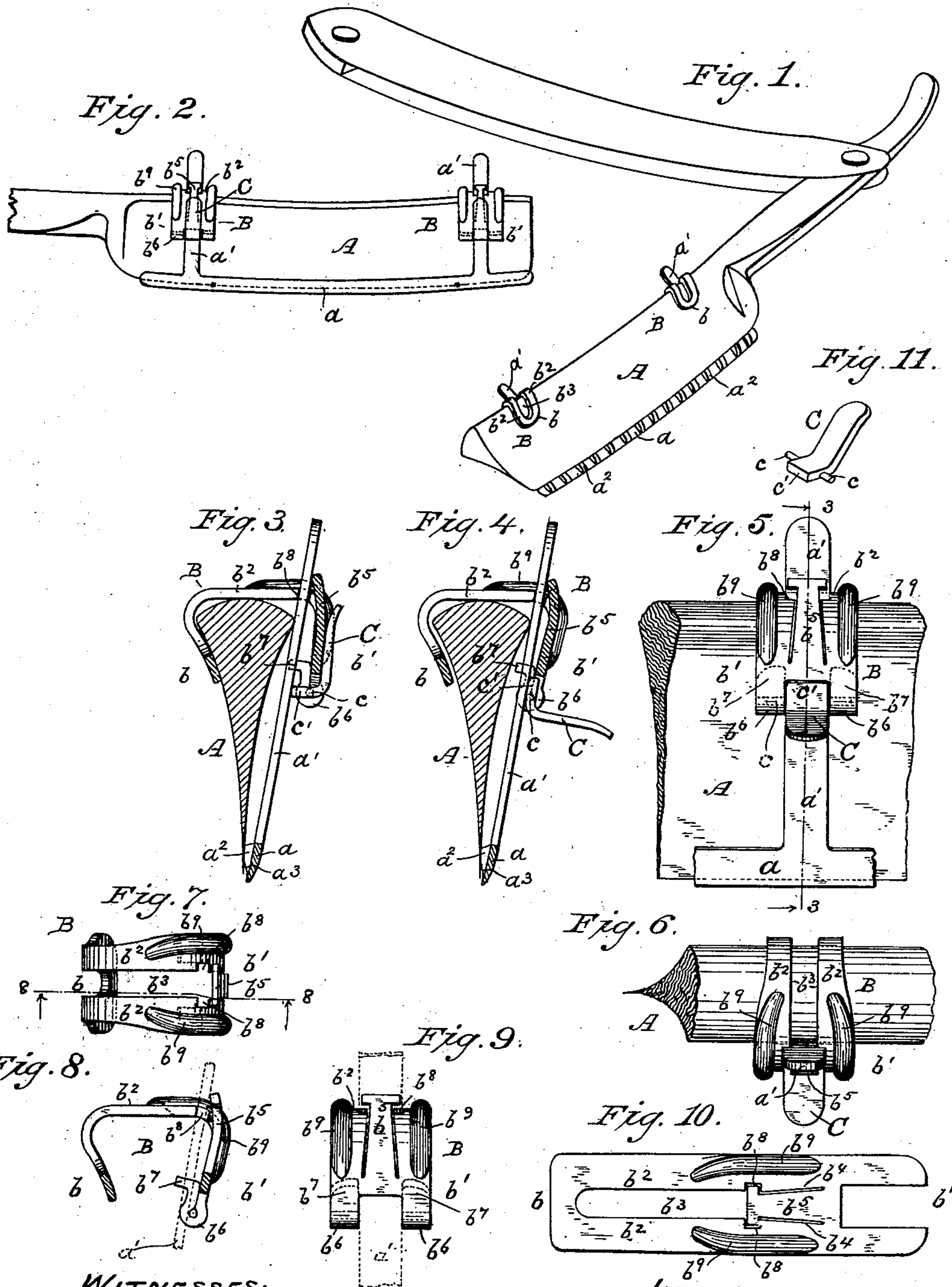
No. 712,778.

Patented Nov. 4, 1902.

J. J. DUKET & L. FLINKER.  
SAFETY GUARD ATTACHMENT FOR RAZOR BLADES.

(Application filed Dec. 2, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SAFETY-GUARD ATTACHMENT FOR RAZOR-BLADES.

SPECIFICATION forming part of Letters Patent No. 712,778, dated November 4, 1902.

Application filed December 2, 1901. Serial No. 84,374. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN J. DUKET, a resident of Toledo, in the county of Lucas, and LEON FLINKER, a resident of Columbus, in the county of Franklin, State of Ohio, have invented certain new and useful Improvements in Safety - Guard Attachments for Razor-Blades; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to safety attachments for razor-blades, and especially to improvements in the safety attachments shown in re-issued Patent No. 11,853, granted September 4, 1900, to Leon Flinker, one of the present applicants, wherein a guard-bar is adjustably secured to a razor-blade and held thereon in desired position by means of a supporting member clamping the blade.

The object of our present invention is to improve upon the guard-bar and the clamping device shown in the reissued patent referred to by such a construction of the guard-bar as will keep the edge of the razor-blade from contact therewith and by such arrangement of the clamping member as will adapt it to so engage and clamp, by spring-pressure, upon the arm extension of the guard-bar as to admit of its having a limited swinging or pivotal motion about its point of contact with the arm as well as a lengthwise adjustment along said arm extension, and, further, to change the position of the clamping-lever from the front to the back side of the member, thereby leaving that portion of the clamping member which engages the front side of the razor-blade that comes next to the face in shaving comparatively flat and free from any projections at all times.

Our invention consists of certain features of construction and combination of parts adapted to carry out our objects as illustrated by drawings and hereinafter described in this specification and specifically set forth in the claims.

The accompanying drawings show our invention in the forms and general arrangement of the parts now preferred by us; but changes might be made in some of the details

and equivalent parts substituted for those shown, within the skill of a good mechanic and not requiring the exercise of invention, without departure from the spirit of our invention as set forth in the claims at the end of this specification.

Figure 1 is a perspective view of a razor with our improved guard attached to the blade thereof. Fig. 2 is a view in side elevation of the opposite side of a razor-blade, with guard attached thereto, from that shown in Fig. 1. Fig. 3 is an enlarged sectional view of a razor-blade with our attachment clamped thereto, the section being taken on the line 3 3 of Fig. 5. Fig. 4 is a similar view with the clamp loose on the razor-blade. Fig. 5 is a side elevation of the same, showing one of the clamping members, like those of Fig. 2, except that the clamp is loose and the scale enlarged. Fig. 6 is a plan or top view of the parts shown in Fig. 5. Fig. 7 is a plan view of the clip detached and the cam-lever removed therefrom. Fig. 8 is a vertical section of the same on the line 8 8 of Fig. 7. Fig. 9 is a side elevation of the same. Fig. 10 is a plan view of the stamped sheet-metal blank from which our clip is made before it is bent into the final shape shown by Figs. 7, 8, and 9. Fig. 11 is a perspective view of the cam-lever detached.

Similar reference-letters indicate like parts throughout the several views.

Our safety attachment consists of a guard-bar and a clamp for securing the same to a razor-blade, the clamp being resilient and provided with spring-jaws which embrace the razor-blade and a portion of the guard-bar between them, one of said jaws being provided with a cam-lever which impinges against a portion of the guard-bar to set the clamp and secure the guard-bar to the blade.

A represents a razor-blade, and  $a$  the metallic guard-bar, which is preferably provided with one or more upwardly-projecting arms  $a'$ . The face of the guard-bar adjacent to the razor-blade is corrugated, preferably, by forming on the surface thereof a series of ribs or lugs  $a^2$ . These lugs are beveled, as at  $a^3$ , toward the lower edge of the bar, so that they will contact with the razor-blade only at their highest points a short distance above its edge, as shown in Figs. 3 and 4, and thus prevent



contact of any part of the guard-bar with the sharp edge of the blade.

Our improved clamping member consists mainly of a clip B, composed of resilient metal and having spring clamping-jaws  $b\ b'$ , which embrace the sides of the razor-blade and the guard-bar arm between them, said jaws being united by springy side bars  $b^2\ b^3$ , which firmly but yieldingly embrace the edges of the arm. Means are also provided for increasing the tension or grip of the spring clamping-jaws, which will be described hereinafter. The clamp member is a quarter clip or loop, preferably formed from a blank of resilient metal, such as is shown in Fig. 10, the end  $b$  of which, in the finished clip, becomes the front jaw or that impinging on the razor-blade, while the end  $b'$  becomes the back jaw, impinging on the guard-bar arm. A slot  $b^3$  extends longitudinally through the main portion of the blank, leaving side bars  $b^2\ b^2$ , which connect the front and back jaws. The front end of this slot is open, as shown, while in its rear end is formed a tongue  $b$ , which constitutes a spring for holding the jaw  $b$  against the outer face of the arm  $a$ . The rear end  $b'$  of the blank is bifurcated, as shown, leaving two prongs which are bent inwardly upon themselves to form hinge rolls or bearings  $b^6$  for the cam-lever C, and above the bearings they are bent back to form the lower guide-lugs  $b^7$  for the guard-bar arm  $a'$ , which lies between and is steadied by them. The guard-bar arm  $a'$  passes through the slot  $b^3$ , and being somewhat wider than that part of the slot through which it passes it is pinched between the side bars  $b^2\ b^2$  by the spring-pressure thereof. At the point where the arm passes through the slot the latter has notches  $b^8$  at each side to receive and guide the arm, the distance across from the bottom of one notch to the bottom of the other being normally less than the width of the arm, so that the latter is pinched between them by the springy pressure of the side arms  $b^2$ , as before described. The front and rear walls of the notch serve as shoulders to hold the arm  $a'$  in proper position in the clip B.

It is preferable that the springy yield of the clip-jaws  $b\ b'$  should be mainly at the front side near the jaw  $b$ , and in order to secure this result the rear part of the clip is stiffened by ribs  $b^9$ , which extend around the rear bend of the side bars  $b^2$  and partially along their top and rear faces, as shown.

The cam-lever C is provided with pintles  $c$ , which take into the hinge-rolls  $b^6$ , and it has a toe  $c'$ , which acts against the back face of the guard-bar arm to swing or rock the clip and cause it to clamp the arm to the razor-blade. The swinging or rocking motion of the clip takes place about the point of contact of the spring side bars with the guard-bar arm, this point in the construction shown being at the bottom of the notches  $b^8$ , the side pressure of the springy bars  $b^2$  being sufficient to hold the clip against accidental displace-

ment and yet permit of the rocking or swinging movement desired and also of the sliding adjustment of the clip along the arm on the application of a reasonable force to affect it. It will be observed that the top of the spring  $b^5$  impinges against the guard-bar arm at a point above where the arm lies in the notches  $b^8$  of the slot, the pivotal point of the clip, and that tendency of the spring is to swing the clip on this pivotal point, throwing the front jaw  $b$  away from the razor-blade and the rear jaw  $b'$  toward it, thus loosening the clamp, as shown in Fig. 4. When the cam-lever C is thrown into its clamping position, as shown by Fig. 3, its toe  $c'$ , acting against the rear face of the arm  $a'$ , rocks or swings the clip against the pressure of the spring  $b^5$  and into the position shown in said Fig. 3, thus clamping the bar to the razor-blade with a spring-pressure due to the resiliency of the clip.

Having thus described our invention, what we claim as new and useful is—

1. A safety-guard attachment for razor-blades comprising a guard-bar member, a clamping member, and means for securing said clamping member to said guard-bar member so that the said clamping member is capable of a swinging movement on said guard-bar member, substantially as described.
2. A safety-guard attachment for razor-blades comprising a guard-bar member, a clamping member, and means for securing said clamping member to said guard-bar member so that the said clamping member is capable of a swinging and sliding movement on said guard-bar member, substantially as described.
3. A safety-guard attachment for razor-blades comprising a guard-bar member having an arm extending therefrom, a clamping member, and means for securing said clamping member to said arm so that said clamping member is capable of a swinging movement on said arm, substantially as described.
4. A safety-guard attachment for razor-blades comprising a guard-bar member, having an arm extending therefrom, a clamping member, and means for securing said clamping member to said arm so that said clamping member is capable of swinging and sliding movements on said arm, substantially as described.
5. An adjustable safety-guard attachment for razor-blades comprising a guard-bar member having an arm extending therefrom and a clamping member comprising a strip of resilient material bent to form a clip, a slot formed in said clip and adapted to receive and pinch on the edges of said arm with spring-pressure, and a cam-lever pivoted on said clip and adapted to impinge against said arm, substantially as described.
6. An adjustable safety-guard attachment for razor-blades comprising a guard-bar member having an arm extending therefrom, a clamping member comprising a strip of resilient material bent to form a clip, a slot



formed in said clip and adapted to receive the said arm, the clip being adapted to swing on its points of contact with the arm, and a spring formed in the end of the said slot and arranged to hold one end of the clip close to the outer face of said arm, substantially as described.

7. An adjustable safety-guard attachment for razor-blades comprising a guard-bar provided with an arm extending therefrom and a clamping member for securing said guard-bar to the razor-blade consisting of a strip of resilient material bent to form a clip, spring side bars formed in the top of said clip and adapted to engage the sides of said arm and means for increasing the tension of the jaws of said clip, substantially as described.

8. An adjustable safety attachment for razor-blades comprising a guard-bar provided with an arm extending therefrom, and a clamping member for securing said guard-bar to the razor-blade consisting of a strip of resilient material bent to form a clip, spring side bars formed in the top of said clip and adapted to engage the sides of the said arm so that the clip may have a sliding or a swinging motion thereon, and a cam-lever fulcrumed in one of the jaws of said clip and arranged to engage the outer face of the said arm, substantially as described and for the purpose set forth.

9. An adjustable safety attachment for razor-blades comprising a guard-bar having an arm extending therefrom, and a clamping member consisting of a strip of resilient material bent to form a clip spring side bars formed in the top of said clip and notches or shoulders formed on said side bars and arranged to engage the said arm to hold it in place in the clip, substantially as described.

10. An adjustable safety-guard attachment for razor-blades, comprising a guard-bar member having an arm extending therefrom, and a clamping member comprising a strip of resilient material bent to form a clip, a slot formed in said clip adapted to receive said arm, and guide-lugs arranged on the interior of the rear jaws of said clip, substantially as described.

11. An adjustable safety-guard attachment for razor-blades comprising a guard-bar member having an arm extending therefrom, and a clamping member comprising a strip of resilient material bent to form a clip, a slot formed in the said clip and adapted to receive the said arm, a cam-lever fulcrumed in

one of the jaws of said clip and arranged to engage the outer face of the said arm and a spring arranged to hold the said jaw against the outer face of the said arm, substantially as described.

12. A safety-guard attachment for razor-blades comprising a guard-bar member and a resilient clamping member with means for so attaching it to the guard-bar member that said clamping member is capable of an independent, lateral, swinging motion substantially as set forth.

13. A safety-guard attachment for razor-blades comprising a guard-bar member and a spring-jawed clamping member so attached to the guard-bar member as to be capable of an independent, lateral swinging motion, and means for swinging the clamping member and simultaneously causing it to clamp upon the face of the razor-blade, substantially as set forth.

14. A safety-guard attachment for razor-blades comprising a guard-bar member, a clamping member bent to form a clip and so attached to the guard-bar member as to be capable of an independent lateral swinging motion, with a spring acting to press the back jaw of the clip toward the razor-blade, substantially as set forth.

15. A safety-guard attachment for razor-blades comprising a guard-bar member, a clamping member bent to form a clip having resilient jaws and so secured to the guard-bar member as to be capable of an independent lateral swinging motion, with a cam fulcrumed in the back jaw of the clip and adapted to swing the clip and force its front jaw against the razor-blade with a spring-pressure substantially as set forth.

16. A clamping member for a safety-guard attachment for razor-blades, consisting of a U-shaped clip having spring-jaws and adapted to be attached at a point between its jaws to the safety-guard bar by suitable means, with a spring-tongue made integral with one of the jaws and a cam-lever fulcrumed in the same jaw, substantially as and for the purpose set forth.

Signed at Toledo, Ohio, by us this 22d day of October, 1901.

JOHN J. DUKET.  
LEON FLINKER.

Witnesses:

H. H. WINKELJOHN,  
GEO. A. BASSETT.