

Dec. 18, 1923.

1,477,689

W. H. BURNS

COMBINATION HAIR TRIMMER AND SAFETY RAZOR

Filed June 20, 1921

Fig. 1.

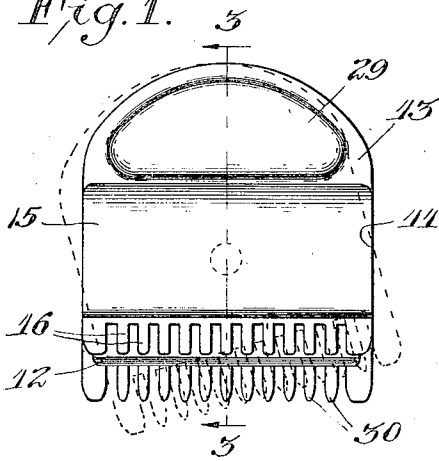


Fig. 2.

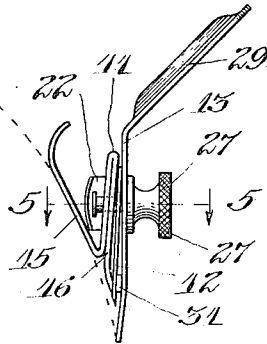


Fig. 3.

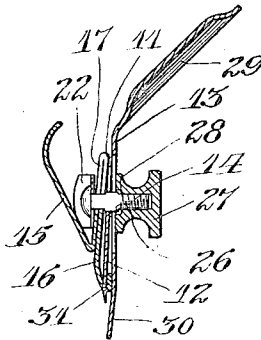


Fig. 4.

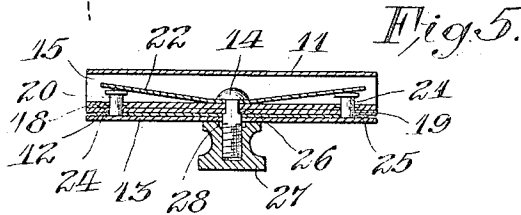
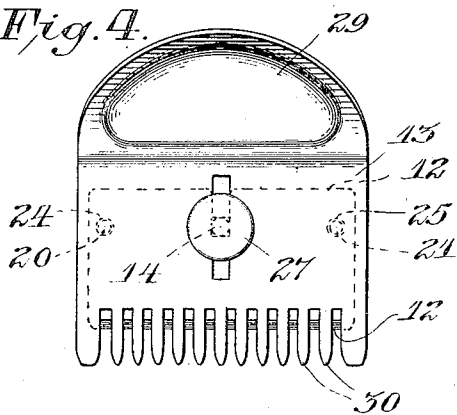


Fig. 5.

Fig. 7.

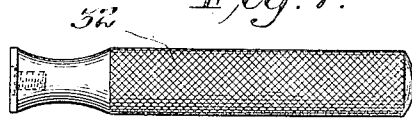


Fig. 8.

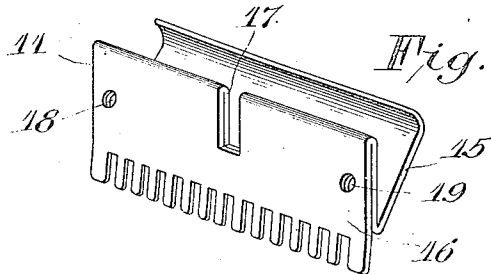


Fig. 6.

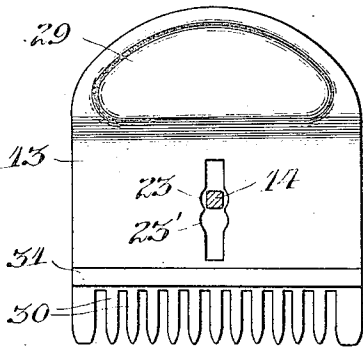


Fig. 9.



Inventor.  
William H. Burns,

By Henry Savage  
Att'y.

# UNITED STATES PATENT OFFICE.

WILLIAM H. BURNS, OF CHICAGO, ILLINOIS.

COMBINATION HAIR TRIMMER AND SAFETY RAZOR.

Application filed June 20, 1921. Serial No. 473,962.

*To all whom it may concern:*

Be it known that I, WILLIAM H. BURNS, a citizen of the United States, residing at Chicago, in the county of Cook, and State of Illinois, have invented certain new and useful Improvements in Combination Hair Trimmers and Safety Razors, of which the following is a full, clear, and exact specification.

This invention relates to a combined hair trimmer and safety razor and is an improvement on the device disclosed in my previous Patent No. 1,224,444, May 1, 1917.

One of the objects of my improved device is to reduce the number of parts and to thereby simplify the construction and decrease the cost of manufacture.

Another object is to provide for an angular adjustment of the main supporting plate or holder with respect to the frame and blade so that a tapering cut may be given to the hair over the ears and on the neck.

Another object is to provide a main support plate free from protuberances and openings so that it will not catch or retain hair and lather but may be readily cleaned and kept in a sanitary condition.

Still another object is to provide a means for accurately locating the blade on the frame, the means being adapted to yield as the clamping nut is tightened to securely clamp all the parts in operative relation.

Yet another object is to provide a slotted frame, blade and plate cooperating with a screw having a squared shoulder and clamping nut to securely hold the parts in operative relation.

Still another object is to form a guard and comb from a single piece of sheet metal, the combined guard and comb forming the frame of the instrument.

A still further object is to provide a rest or support for the blade in a safety razor and hair trimmer which cooperates with another member to securely grip the blade near its cutting edge.

Another object is to provide a device which can, with slight adjustment, be transformed from a hair trimmer into a safety razor, and vice versa.

With the above and other objects in view, as will be apparent to those skilled in the art as the specification proceeds, reference will now be had to the accompanying drawings for a detailed description of one embodiment of my invention.

Figure 1 is a rear elevation showing the side of the instrument that is disposed toward the head or face of the user.

Figure 2 is an edge elevation.

Figure 3 is a section taken substantially on the line 3—3 of Figure 1.

Figure 4 is a front elevation showing the side opposite that disclosed in Figure 1.

Figure 5 is a section substantially on the line 5—5 of Figure 2.

Figure 6 is a front elevation of the supporting plate showing the widened portions of the slot which permit angular adjustment of the plate.

Figure 7 is a side elevation of the handle that is substituted for the clamping nut when the instrument is to be used as a razor.

Figure 8 is a perspective view of the frame or body portion.

Figure 9 is a detail view showing the position of the holder when the device is used as a razor.

My improved hair trimmer has four principal parts, namely, the frame or body portion 11, the blade 12, the supporting plate or holder 13, and clamping screw 14. The frame is made from a single piece of sheet metal bent to form the guard 15 and comb 16, the comb and one side of the guard being slotted at 17 to snugly receive a squared shank on the clamping screw 14 and perforated at 18, 19 to receive yieldable centering pins 20, 21 which are pressed outwardly by a flat spring 22, which is slotted to slip over the screw 14 and is engaged by the head of the screw between the two wings of the guard as best shown in Figures 3 and 5. The supporting plate and blade are slotted as shown in Figures 3, 4 and 6 to closely fit the squared shoulder or shank on the clamping screw, the slot in the supporting plate being enlarged at one or more points 23, 23' to permit the plate to be angularly adjusted with respect to the blade and comb when it is desired to give a tapering cut to the edges of the hair. The blade is also provided with a pair of openings 24, 25 to receive the pins 20, 21 to accurately position the blade on the frame.

An inspection of Figures 3 and 5 will disclose that the slots in the comb, guard and spring are slightly narrower than the slots in the blade and supporting plate, and that the portion of the squared shank of the screw fitting therein is correspondingly smaller than the portion cooperating with

the blade and holder, thereby providing a slight shoulder 26 at the junction of the two squared portions. Beyond the squared portion the screw is threaded to receive a clamping nut 27 which is slightly counter bored at 28 so as to free the outer end of the squared shank.

Referring to Figures 2, 3 and 5, the upper edge of the supporting plate 13 is provided with a dished handhold 29, and at its lower edge with comb teeth 30 which are slightly inclined with respect to the plane of the plate. At the root of the teeth I provide a rest 31 which is brazed or otherwise fixedly secured to the plate. The teeth of the comb 16 are slightly bent or curved toward the main plate and their tips are slightly below the rest 31 so that as the blade 12 is clamped therebetween it will be slightly bent toward teeth 30 to increase the cutting angle. This affords a support for the cutting edge and prevents springing or bending of the blade while it is being used. It will also be apparent that the cutting angle of the blade may be increased or decreased by regulating the tightness of the clamping nut or handle which will vary the pressure of the teeth of the comb 16 on the blade and deflect it more or less toward the teeth 30.

When my invention is to be used as a hair trimmer, the parts are adjusted as shown in Figures 1, 2 and 3, the cutting edge of the blade being close to the rest 31 and spaced from the comb teeth 30 so as not to cut too close to the scalp, but leave the hair relatively long, the outline of the head being indicated by the curved dotted line in Figure 2. When it is desired to give a tapering cut to the edges of the hair over the ears, the main plate is angularly adjusted, as shown in dotted line in Figure 1, this adjustment being possible by reason of the enlargements 23, 23'.

In assembling my improved hair cutter, the frame is held in the hand with the pins 20, 21 projecting through the openings 18, 19 and above the face of the comb, the screw 14 being in the slot 17, which it fits tightly and is not usually removed therefrom. The blade 12 is then placed on the frame with the holes 24, 25 passing over the centering pins and the slot engaging the squared shank on the screw. The main supporting plate 13 is then placed in position and the nut 27 tightened, which forces the plate against the blade and frame, clamping them firmly together and forcing the pins inward against the pressure of the spring 22. While I prefer to use the pins 20, 21 to center the blade, their use is not essential and they may be omitted, in which case the squared shank of the clamping screw and the slot in the blade will serve to accurately locate the blade on the frame.

When the device is to be used as a razor,

the nut 27 is replaced by the handle 32, Figure 7, and the supporting plate is moved upward until the teeth 30 very closely approach or even contact with the blade 12, as shown in Figure 9. This permits the cutting edge of the blade to be brought very close to the face of the user and gives a close smooth shave. The elongated slot in the supporting plate or holder permits it to be shifted with respect to the cutting edge of the blade to regulate the length of the hair-cut and closeness of the shave by varying the distance from the edge of the blade to the ends of the teeth 30.

While I have shown and described one specific embodiment of my invention, it is understood that I do not desire to be limited thereto, since many modifications and variations will suggest themselves to those skilled in the art, and I claim as my invention all such modifications and variations as may fall within the scope of my claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, the combination of a frame formed from a single piece of sheet metal bent to V-shape with one leg of the V bent back upon itself, a supporting plate, a blade, and means for clamping the blade in operative relation between the frame and supporting plate.

2. In a device of the class described, the combination of a V-shaped guard formed from a single piece of sheet metal, one side of the V being bent back upon itself and projecting beyond the apex of the V, the projecting portion being serrated to form a comb, a supporting plate, a blade, and means carried by the guard and comb for clamping the parts securely together.

3. In a device of the class described, a guard and a comb having registering slots, a clamping screw having a squared shoulder fitting in the slots and extending beyond the comb, a slotted blade and a slotted supporting plate engaging the shoulder, and means cooperating with the clamping screw to hold the parts together.

4. In a device of the class described, the combination of a V-shaped guard, a comb adjacent one side of the guard, the guard and comb having registering perforations, yieldably mounted centering pins in the perforations and extending beyond the comb, a perforated blade engaging the pins, a holder, and means for clamping the guard, comb, blade and holder in operative relation.

5. In a device of the class described, the combination of a frame formed from a single piece of sheet metal bent to form a guard and comb, a clamping screw carried by the frame, centering pins yieldably supported in perforations in the frame and projecting beyond the comb, a blade engag-

ing the screw and pins, a supporting plate engaging the screw, and means cooperating with the screw to clamp the frame, blade and plate together.

5 6. In a device of the class described, the combination of a frame comprising a guard and comb having an open ended slot and a perforation on each side of the slot, a clamping bolt in the slot, spring pressed pins in the perforations and extending beyond the comb, a slotted and perforated blade engaging the bolt and pins, a supporting plate having a slot engaging the bolt, and screw-threaded means engaging the bolt to hold the parts together.

10 7. In a device of the class described, the combination of a frame, a screw carried thereby and having a squared shoulder projecting from the frame, a slotted blade engaging the shoulder, a supporting plate having comb teeth on one side and a central elongated slot engaging the shoulder, the slot having a widened portion whereby the plate may be angularly adjusted with respect to the blade and frame, and means engaging the screw to clamp the parts together.

15 8. In a device of the class described, the combination of a frame made from a single piece of sheet metal shaped to form a guard and comb, a clamping screw having an angular shoulder carried by the frame, a pair of centering pins carried by the frame and projecting therefrom, a spring secured by the screw and yieldably supporting the pins, a perforated blade engaging the pins, a slotted holder engaging the shoulder on the screw, the slot having a widened portion intermediate its ends, whereby the holder may be angularly adjusted, and a nut engaging the screw to clamp the holder in adjusted position.

20 9. In a device of the class described, the combination of a frame having comb teeth, a supporting plate having inclined teeth on one edge and a rest adjacent the root of the teeth, a blade supported on the frame, and means for clamping the blade adjacent its cutting edge between the teeth on the frame and the rest.

25 10. In a device of the class described, the combination of a frame having outwardly inclined comb teeth, a holder having inwardly inclined comb teeth, a rest on the holder adjacent the teeth, a blade positioned between the holder and frame with its cutting edge adjacent the comb teeth on the frame, and means for clamping the blade between the outwardly inclined comb teeth and the rest.

30 11. In a device of the class described, the combination of a frame having an outwardly turned edge, a holder having inwardly inclined comb teeth, a rest adjacent the root of the teeth, a blade between the frame and

holder disposed with its cutting edge adjacent the said outwardly turned edge, means for adjusting the rest with respect to the blade, and means for clamping the blade between the frame and holder, whereby the outwardly turned edge will bear on the blade adjacent the rest and adjust the cutting angle of the blade.

35 12. In a device of the class described, the combination of a frame formed from a single piece of sheet metal bent to V-shape with one leg bent back upon itself to provide a double thickness of metal, securing means supported in the double thickness of metal and having a squared portion extending therebeyond, a blade fitting over the squared portion and resting on the bent-back leg, a supporting plate fitting over the squared portion and engaging the blade, and means engaging the securing means to clamp the frame, blade and supporting plate together.

40 13. In a device of the class described, the combination of a frame formed from a single piece of sheet metal bent to V-shape with one leg bent back upon itself to provide a double thickness of the metal and extending beyond the apex of the V, the extending portion having comb teeth, securing means supported in the double thickness of metal and having a squared portion extending therebeyond, a blade fitting over the squared portion and engaging the comb teeth, a supporting plate fitting over the squared portion and engaging the blade and having comb teeth opposite the first mentioned comb teeth, and means engaging the securing means to clamp the frame, blade and supporting plate together.

45 14. In a device of the class described, the combination of a frame formed from a single piece of sheet metal bent to V-shape with one leg of double thickness provided by doubling the metal back, a clamping screw carried by the leg of double thickness, a blade, means for maintaining the blade in fixed relation to the frame and screw, a support angularly and laterally adjustable with respect to the blade and frame, and means engaging the screw to clamp the frame, blade and support in fixed relation.

50 15. In a device of the class described, a guard and a comb having registering slots, a clamping screw having a square shank with a reduced portion adjacent the head of the screw fitting in the slots and extending beyond the comb, a slotted blade and a slotted supporting plate engaging the shank beyond the reduced portion, and means cooperating with the clamping screw to hold the parts together.

55 16. In a device of the class described, a supporting member having comb teeth and a rest adjacent the root of the teeth, a frame member having its lower edge curved

inwardly toward the rest, a cutting blade between the supporting member and frame member, means for clamping the supporting member and frame member together with the rest and curved lower edge engaging the blade to support the cutting edge, and means for adjusting the relative positions of the supporting member and frame member whereby the rest and curved edge will engage the blade at different points to deflect the cutting edge. 10

In testimony whereof I affix my signature.

WILLIAM H. BURNS.