April 21, 1942. J. OSTER 2,280,348

HAIR CLIPPER

Filed Nov. 2, 1940

Fig. 1.

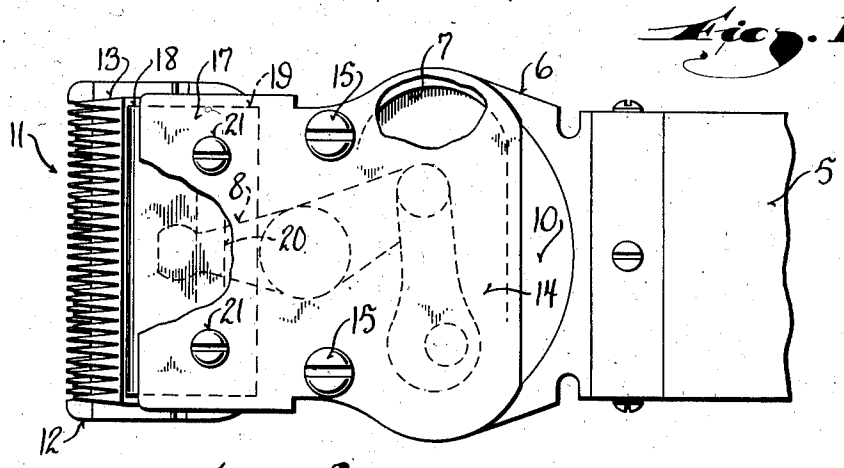


Fig. 2.

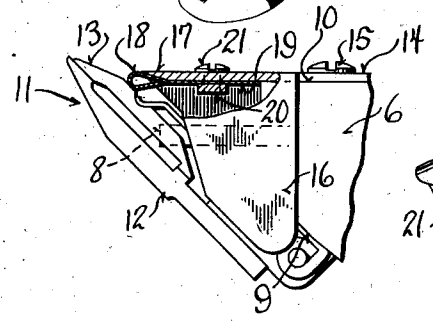


Fig. 3.

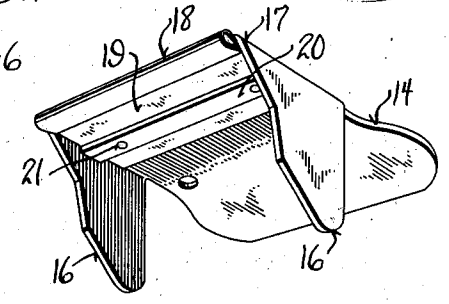


Fig. 4.

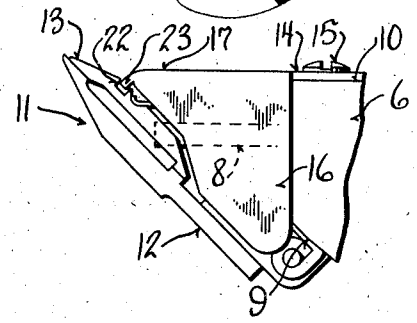
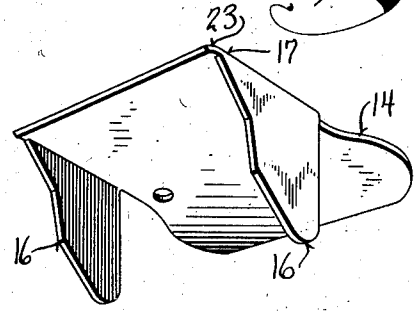


Fig. 5.



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Patented Apr. 21, 1942 2,280,348

UNITED STATES PATENT OFFICE

2,280,348

HAIR CLIPPER

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Application November 2, 1940, Serial No. 364,058

2 Claims. (Cl. 30—196)

This invention relates to improvements in hair clippers and refers particularly to clippers of the type shown in Patent No. 1,956,042 issued to John Oster April 24, 1934.

In clippers of this type the body provides a housing for the motor and the driving instrumentalities as well as a handle for the clipper. The cutter assembly, which consists of cooperating toothed movable and stationary blades, is mounted on the front end of the body with its movable blade innermost so as to be connectible to the pivoted driving lever which projects from the body.

For convenience in handling the clipper during use, the cutter assembly is disposed at an angle to the axis of the body.

The driving instrumentalities through which the motor is connected with the pivoted driving lever are housed within a cavity in the forepart of the body. The open top of this cavity is closed by a cover plate which projects forwardly to form a guard having its front edge closely adjacent to the back face of the cutter assembly.

The cutting edge or toothed portion of the blades projects beyond the plane of this cover plate and by virtue of the angle at which the cutter assembly is mounted, a shallow pocket is formed in which the hair accumulates as it is cut.

Manufacturing tolerances necessitate the maintenance of a substantial clearance space between the front edge of the cover plate and the movable blade. Hence, the hair accumulating in this pocket tended to pack and wedge between the cover and the blade and as a consequence, an appreciable quantity of hair would pile up on top of the blades to obstruct the operator's view of the cutting edge.

While the accumulated hair could be brushed off or removed, the necessity for constantly stopping to clean away the obstruction was obviously objectionable.

It is, therefore, an object of this invention to provide simple practical means for preventing the objectionable accumulation of hair by precluding the "damming" action responsible for its accumulation.

More specifically it is an object of this invention to provide means for precluding the wedging or packing of hair between the front edge of the cover and the adjacent rear surface of the blade assembly without requiring closer tolerances and without in anywise altering the accepted design of the clipper.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates two complete examples of the physical embodiment of the invention constructed in accordance with the best modes so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a top view of the forepart of an electric hair clipper illustrating the application of this invention thereto;

Figure 2 is a side view thereof with parts broken away and in section;

Figure 3 is a perspective view of the cover plate per se;

Figure 4 is a side view similar to Figure 2 but showing a slightly modified version of the invention; and

Figure 5 is a perspective view of the cover plate employed in the modified construction shown in Figure 4.

Referring now more particularly to the accompanying drawing in which like numerals indicate like parts, the numeral 5 designates the main body of the clipper, which, as is customary, provides a housing for the electric motor and forms a handle by which the clipper is grasped. The forepart 6 of the housing has a cavity 7 opening to its top surface to provide a gear case in which driving instrumentalities (not shown) are housed to connect the motor with a driving lever 8. This lever is fulcrumed in the forepart of the housing and projects beyond its front wall 9 for driving engagement with the movable blade of the cutter assembly.

The front wall 9 of the housing is inclined to the planar top wall 10, and the cutter assembly, indicated generally by the numeral 11, is hingedly mounted on this fulcrumed front wall in a manner illustrated in Patent No. 2,182,597 issued to John Oster December 5, 1939. It is sufficient to note here that the cutter assembly is so mounted that its stationary blade 12 is fixed to the housing while its movable blade 13 is connected to the driving lever 8 and held under pressure against the stationary blade by a tensioning spring 12' which has its free edge disposed in a groove 13' parallel to the cutting edge of the blade assembly so as to guide the

movable blade for reciprocatory motion, and that the cutting edge portion of the assembly projects beyond the plane of the top wall 10.

The open top of the cavity 7 is closed by a cover plate 14 secured to the top wall 10 by screws 15. In addition to closing the open top of the cavity 7, this cover plate extends forwardly to provide a guard for the vibratory driving lever, and to augment its function in this respect, flanges 16 extend down from its sides.

The front edge 17 of the cover plate terminates close to the adjacent surface of the movable blade 13, but, as will be readily appreciated, cannot be brought into direct contact with the blade due to the necessity for maintaining manufacturing tolerances.

As a consequence, there has always been a clearance space between the front edge of the cover plate and the movable blade. This space, being located at the juncture of the two angularly disposed pocket walls formed by the cover plate and the toothed portion of the blade assembly, is so positioned that the packing of hair into the space was inevitable. Such lodging of the hair at the bottom of the pocket dammed the flow of hair and caused an appreciable accumulation with the result that the operator's view of the cutting edge was obstructed.

To overcome this objection a novel barrier is provided which closes the clearance space without necessitating closer tolerances and without altering the accepted design of the clipper and especially the cutting blade assembly. The barrier perferably consists of a self-adjusting loop 18 of thin highly resilient sheet metal at the gap between the front edge 17 of the cover and the adjacent surface of the movable blade. This loop is arranged to contact substantially the entire width of the top surface of the movable blade 13 along a line lying between the teeth thereof and the groove 13' for the free end of the tensioning spring with a light pressure so as not to interfere with reciprocation of the movable blade but sufficient to positively prevent hair from entering said gap. This loop of sheet metal may be secured in different ways, but is preferably fixed to the undersurface of the cover plate by clamping a rearward extension 19 thereof between the undersurface of the cover plate and a clamping bar 20. Screws 21 passed through the aligned apertures in the cover plate and this rearward extension and threaded into the clamping bar secure the same in place.

Another expedient manner of preventing hair from wedging between the front edge of the cover plate and the movable blade is illustrated in Figures 4 and 5. In this embodiment of the invention the movable blade has a longitudinal groove 22 formed therein into which a downturned flange 23 on the front edge of the cover plate projects.

The arrangement of the parts is such that although running clearance is maintained, an abrupt wall surface is presented to the hair sliding across the top of the movable blade to deflect the same outwardly and, thus, prevent the objectionable packing action.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art that this invention provides a valuable improvement in hair clippers as it eliminates the objectionable view obstructing accumulation of hair on top of the cutter blades.

What I claim as my invention is:

1. In a clipper of the character described: a body having a cavity in its forepart in which the blade driving instrumentalities are disposed and from which a blade driving lever projects forwardly; a cover plate closing the open top of the cavity; a cutter assembly comprising stationary and movable blades; combined tensioning and guiding means acting on the movable blade inwardly of its toothed edge for maintaining the cutter assembly under cutting tension and for constraining the movable blade to reciprocatory motion in a direction parallel to its toothed edge; means mounting the cutter assembly on the forepart of the body with the movable blade connected to its driving lever and closely adjacent to the front edge of the cover plate, said cover plate and the cutting edge portion of the cutter assembly being disposed at an obtuse angle to each other and forming a shallow pocket in which hair tends to accumulate during the cutting action; and a thin flexible metal bridging member carried by the cover plate and having a self-adjusting portion snugly engaging the adjacent surface of the movable blade between its toothed edge and said tensioning means to prevent accumulating hair from packing and wedging into the clearance space between the cover plate and the movable blade.

2. In a clipper of the character described: a body having a cavity in its forepart in which the blade driving instrumentalities are disposed and from which a blade driving lever projects forwardly; a cover plate closing the open top of the cavity; a cutter assembly comprising stationary and movable blades; combined tensioning and guiding means acting on the movable blade inwardly of its toothed edge for maintaining the cutter assembly under the proper degree of cutting tension and for constraining the movable blade to reciprocation in a direction parallel to its toothed edge; means mounting the cutter assembly on the forepart of the body so that the cover plate overlies said combined tensioning and guiding means and with the movable blade connected to its driving lever and closely adjacent to the front edge of the cover plate, said blade assembly having its cutting edge extending outwardly past the forward edge of the cover plate to define an obtuse angle with the cover plate and so as to form a shallow pocket in which hair tends to accumulate during the cutting action; and a metal bridging member carried by the cover plate and having a flexible self-adjusting looped portion snugly engaging the adjacent surface of the movable blade between its toothed edge and said tensioning means, said looped portion engaging the top surface of the movable blade with a light spring tension so as not to interfere with reciprocation of the movable blade but sufficient to prevent accumulating hair from packing and wedging into the clearance space between the cover plate and the movable blade.

JOHN OSTER.