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SHAVING OR CLIPPING MACHINE

Filed June 3, 1938

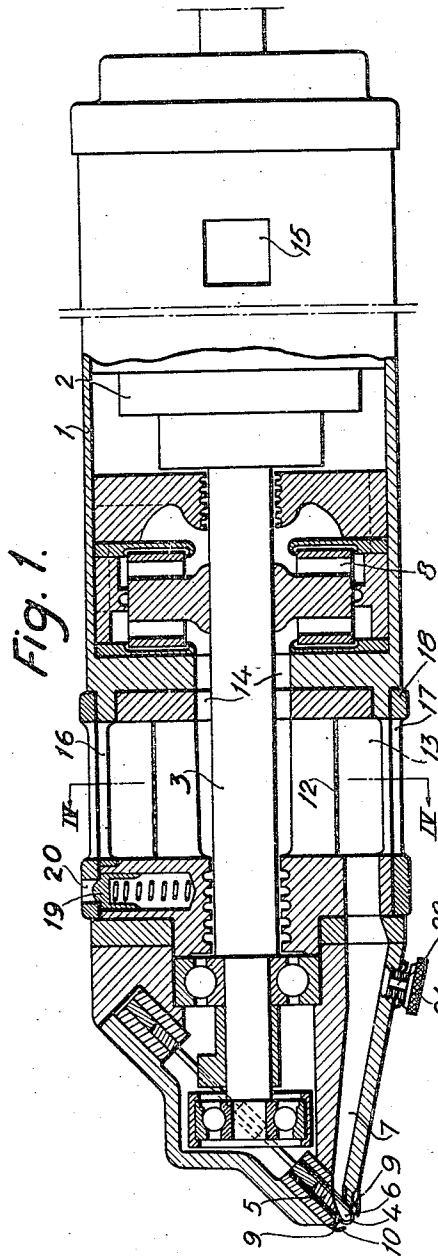

Fig. 1.

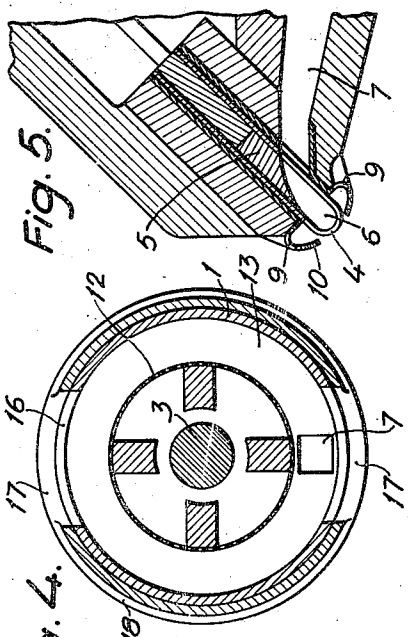

Fig. 5.

Fig. 4.

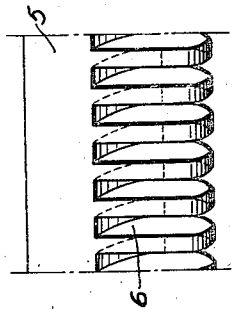

Fig. 3.

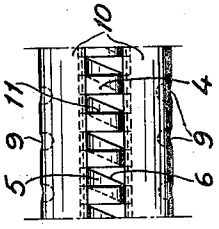

Fig. 2.

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SHAVING OR CLIPPING MACHINE

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In Sweden June 10, 1937

1 Claim. (Cl. 30—41)

The present invention relates to such shaving or clipping machines as are provided with a grooved comb plate resting against the skin when the machines are used, the said comb plate surrounding a likewise grooved knife plate, which by means of a drive device located in the casing forming the handle of the machine and supporting the comb plate is adapted to be set into reciprocating motion, the clipping taking place by the cooperation of the grooved edges of the plates. Yet the old machines of this kind have not given the desired result as they do not rest sufficiently tight against the skin although various attempts have been made to obtain a good efficiency by a special embodiment of the grooved comb plates. However, by the present invention the problem has been solved for the first time and, from a point of view of construction, in a very simple way without the price of the machine being considerably increased, as in the handle there are mounted one or several fans, vacuum pumps or the like driven by the drive device and adapted to produce, via one or several channels, an air current going through the comb plate and causing the skin to rest against the comb plate. Thus, the machine need only be slightly moved over the skin, the skin being sucked to rest well against the comb plate. Thus, it is quite unnecessary to press the apparatus hard against the skin as has mostly been done earlier, in order thereby to obtain an increased efficiency, which increased efficiency, however, has not been forthcoming. Consequently, a good shave is obtained by the present machine without the skin being irritated.

An embodiment of the invention is illustrated in the accompanying drawing in which

Figure 1 shows a large part of the apparatus in vertical section.

Figures 2 and 3 show, on a larger scale, some details,

Figure 4 is a section on line IV—IV of Figure 1, and

Figure 5 shows the clipping members on a larger scale.

In the drawing 1 indicates the handle, the casing of which has been given a circular cross section. In the said casing there is located an electric motor 2 driving a shaft 3. 4 indicates the grooved comb plate connected with the handle, the said comb plate surrounding the likewise grooved knife plate 5, see Figure 5. By the rotation of the shaft 3 the knife plate is adapted to be set into reciprocating motion in a well-known way, hair entering between the grooved edges of the plates 4, 5 being cut off. According to the invention the grooves 6 of the knife plate 5 communicate with a channel 7, and by means of a fan 8 attached to the shaft 3 there is effected an air current going through the comb plate and causing the skin to rest against the comb plate.

As, of course, the skin must not be made to rest so hard against the comb plate 4 as to produce a firm sucking, protection strips 10 provided with holes 9 extend along the sides of the comb plate. Thus, skin portions located laterally of the sphere of operation of the knife plate 6 are prevented from being sucked to rest against the comb plate. In order to be able to adjust one and the same apparatus for various sucking force there is in the channel 7 between the tool edge and the fan 8, located a valve screw 21 provided with grooves 22. Such screw allows air to enter channel 7 from the outside to lessen suction at the cutting edge. However, when the apparatus is being used, no variation of the sucking force should take place. In order to prevent material variation of the sucking force, the grooves 6 of the knife plate 5 form such an angle with the grooves 11 of the comb plate 4, and have such a width relatively to such grooves that, as is clear from Fig. 2, there is never a complete closure of the cut-outs. In other words, air will continuously pass through the slots of the comb plate and knife plate into the channel 7.

The cut hair which, of course, follows the air current is to be collected in an annular chamber 13 formed by the outer wall of the handle 1 and a cylindrical sieve 12 is located at some distance from the said wall. The air current going through the sieve 12, the said air current being sucked into the fan through channels 14 will, thus, before leaving the handle through the hole 15 be freed from cut hair. In order to be able to free the collecting chamber from cut hair the handle is provided with openings 16, which are adapted to be opened and shut off by means of a turnable ring 18 provided with openings 17. The ring 18 is adjustable in various turning positions by means of a spring-actuated ratchet 19 adapted to cooperate with holes 20 in the ring.

Several modifications are, of course, possible within the scope of the invention. Thus, it might be possible to replace the fan by a vacuum pump, or channels might be so constructed that the suction air current going through the comb plate is effected by ejector action. Further, it might be possible to construct the collecting chamber in a great many ways, and in the embodiment

shown it might be easily possible to replace the turnable ring 18 by a ring displaceably located on the handle. The screw 21 might possibly be replaced by a register or the like controlling the outlet 15. Also other modifications than those indicated above may be made without going beyond the scope of the invention.

Having now described our invention, what we claim as new and desire to secure by Letters Patent is:

A shaving machine comprising a motor, a slotted knite plate member operatively connected to said motor and reciprocatable by the latter, a series of cutter blades on said knife plate adjacent respective slots, a slotted stationary comb plate member surrounding the outer end of said knife plate, a series of stationary cutter blades on said comb plate adjacent respective slots, adapted to cooperate with the cutter blades of said reciprocatable knife plate member, the slots in said comb plate registering with the slots in said knife plate to form openings for the reception of hairs to be sheared, the cutter blades and slots of one of said plate members being angularly disposed with respect to the cutter blades and slots of the other of said plate members, whereby the openings are maintained against closure independent of the mutual positions assumed by said plate members during reciprocation of said knife plate, means for creating a suction at said plate members, and perforated strip members along the sides of the comb plate member for preventing skin portions located laterally of the knife plate member from being drawn against the comb plate member.

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