Jan. 6, 1953 A. GIORGI 2,624,113

COMB ATTACHMENT FOR HAIR CLIPPERS

Filed Feb. 11, 1947

Fig. 1.

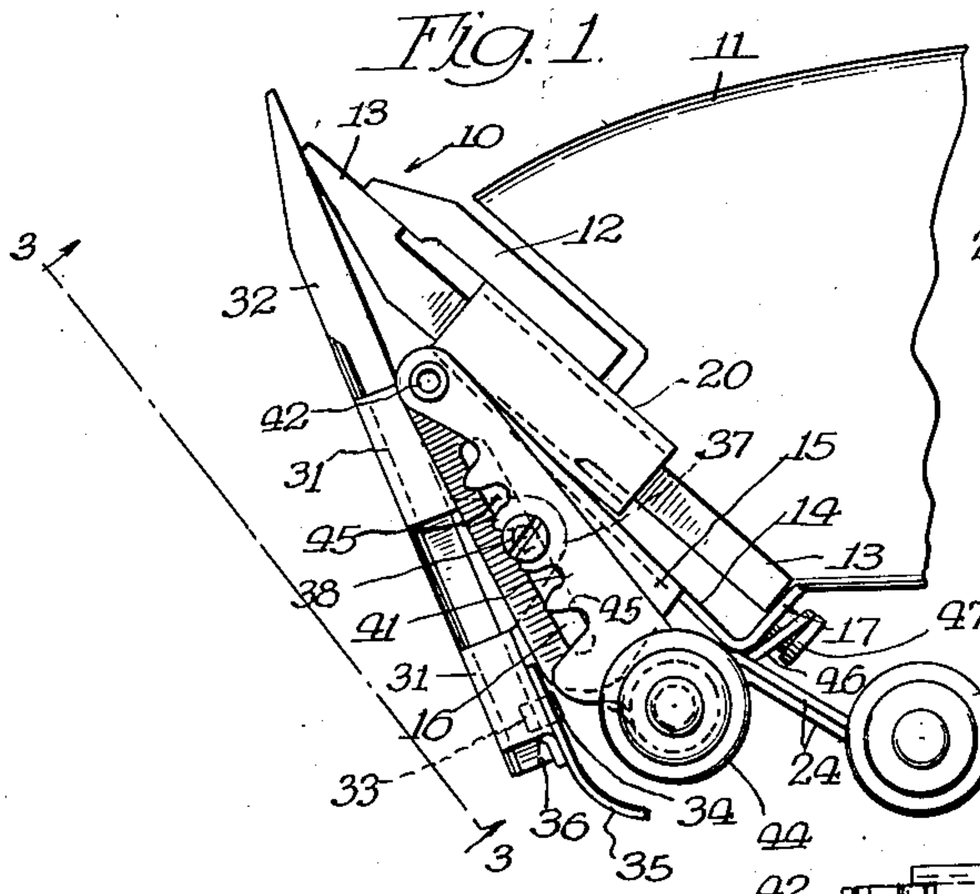


Fig. 7.

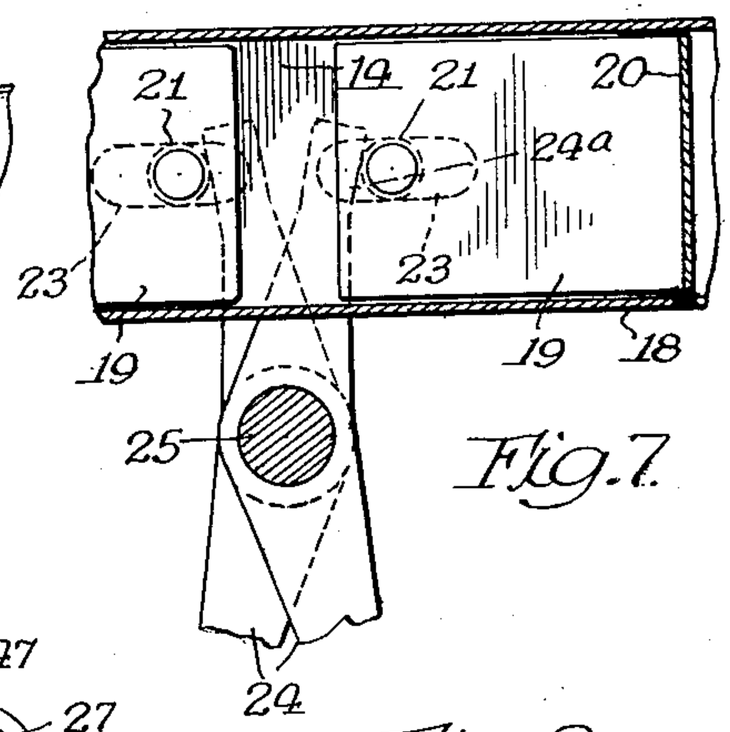


Fig. 3.

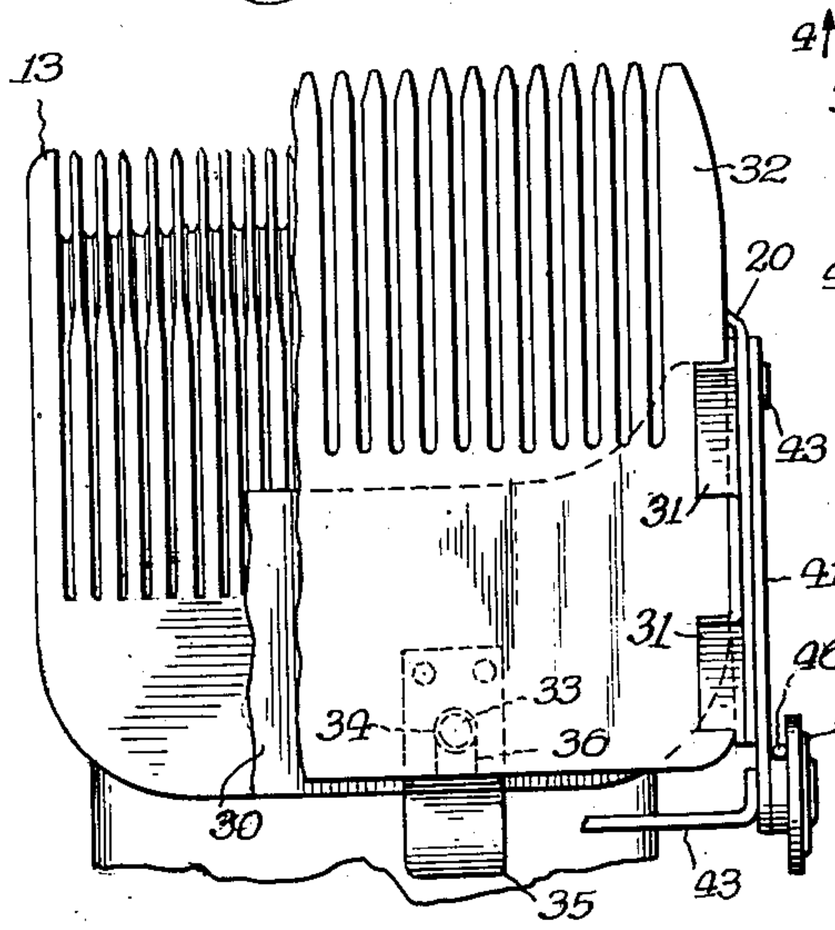


Fig. 2.

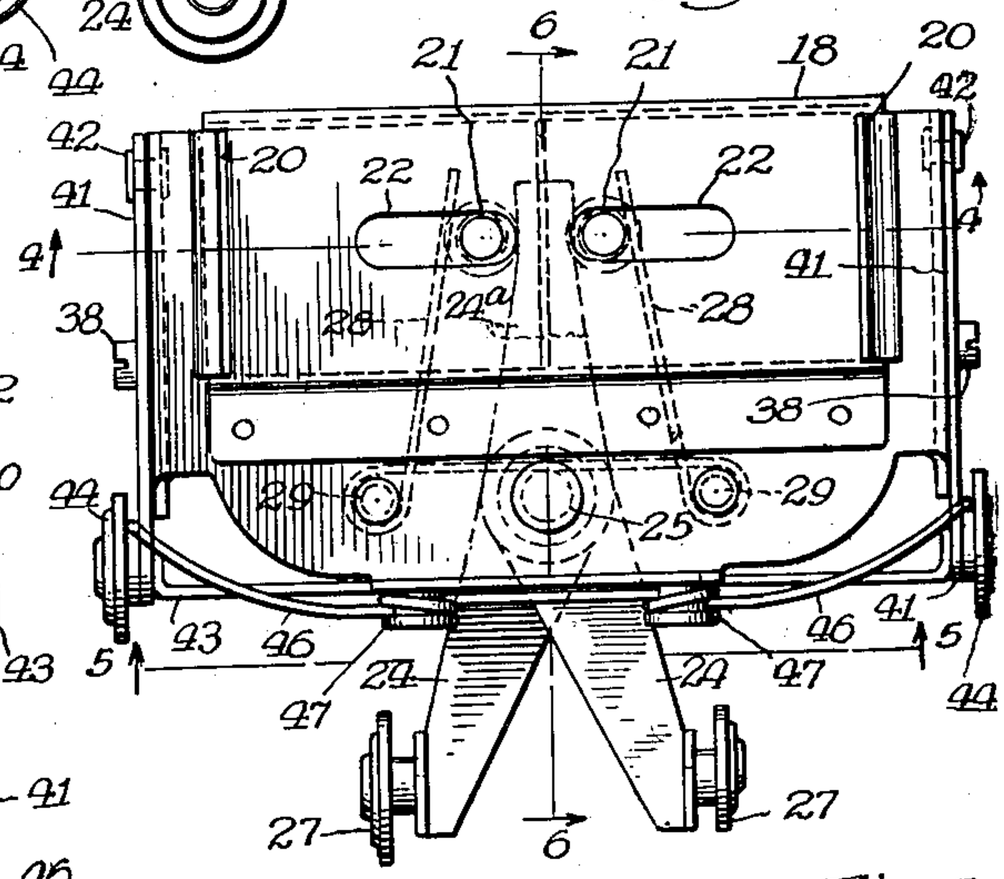


Fig. 5

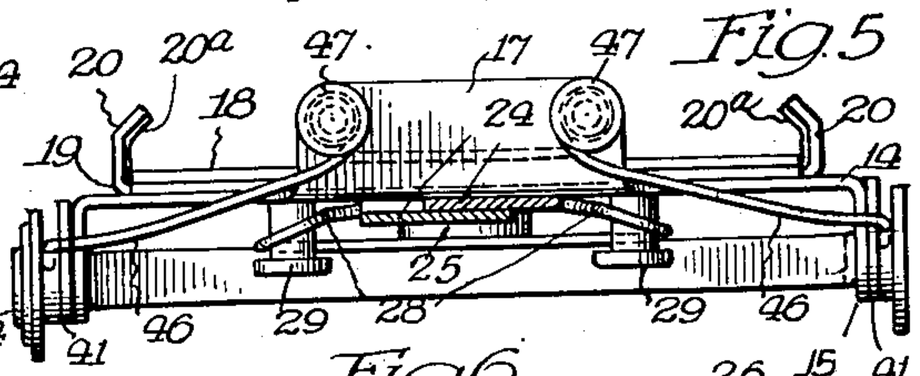


Fig. 4.

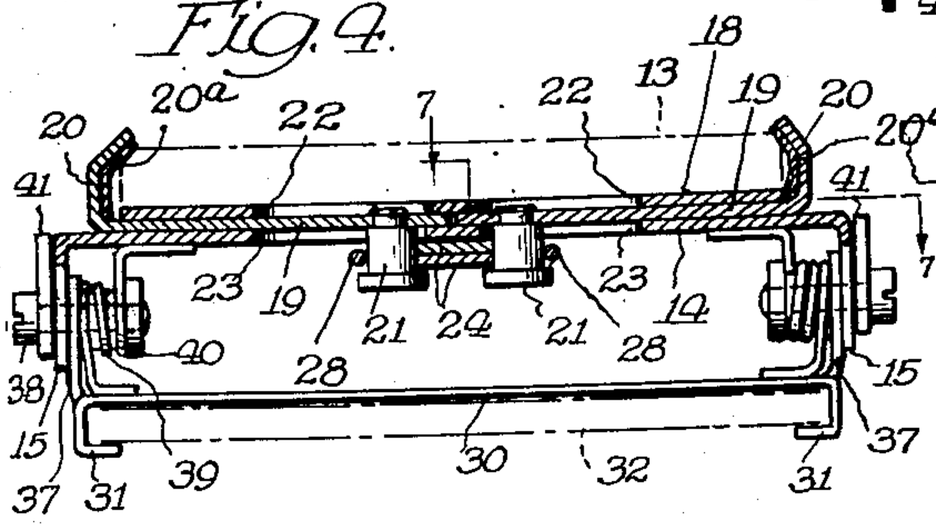
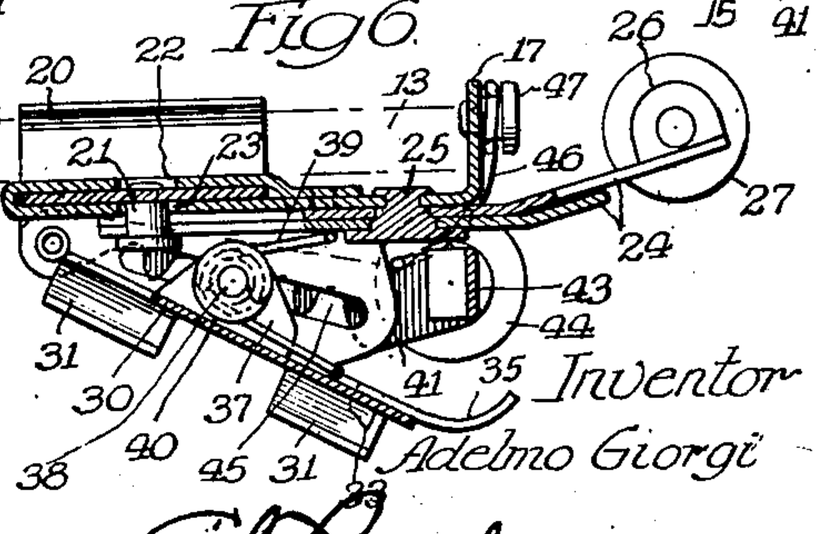


Fig. 6.



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COMB ATTACHMENT FOR HAIR CLIPPERS

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Application February 11, 1947, Serial No. 727,824

9 Claims. (Cl. 30—201)

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The present invention relates to a comb mounting attachment for hair clippers and constitutes an improvement of the arrangement shown in my Patent No. 2,381,046, issued August 7, 1945. In the present arrangement the comb attachment is so constructed and arranged that it may be mounted on hair clipper heads of a variety of types.

Hair clippers, as is well known to the trade and barber profession, have cutter heads that differ as to their shapes and dimensions. This is particularly true respecting the width of the fixed comb plate in the clipper head across which the cutter plate oscillates with a rapid vibratory motion for effecting the cutting operations. Hence, a comb attachment which is sold to the trade generally, should possess effective and easily operated means to render it capable of ready installation on a variety of hair clippers produced and distributed by different manufacturers. To this end I have invented a removable comb mounting structure that is characterized by its adaptability for quick assembly with the clipper heads which are generally available on the market.

It is therefore the primary object of my present invention to improve the construction of a comb attachment for hair clippers, and to amplify the efficiency, operation and dependability of an attachment of this character.

Also, it is a principal object hereof to provide mounting means for attaching a supplementary comb on a hair clipper, which means are capable of maximum adjustability of its means for securing it detachably to cutter heads of clippers having different widths. Differently stated, I have provided a comb attaching structure having universal adjustment.

Another object is to provide dependable and easily operated means whereby the auxiliary comb may be quickly and dependably shifted to various positions relative to the comb plate of the clipper head, and be positively maintained in any adjusted position without liability of slippage.

A further object hereof resides in the provision of an adjustable comb attachment of such character that it does not interfere with the usual working parts of the clipper head to which it is attached.

Also the present improvements provide a comb mounting structure that is constructed of sturdy parts so that, at all times, it will operate in a dependable manner and will not readily get out of order. Furthermore, the present arrangement

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is such that the parts may be produced in the form of metal stampings, and which may be assembled in an economical manner, with the result that the attachment may be sold for a reasonable price to retail trade.

Additional objects, aims and advantages of the improvements contemplated herein will be apparent to persons skilled in the art after the construction and operation of the comb attachment is understood from the within description.

It is preferred to accomplish the numerous objects of my present invention, and to practice the same, in substantially the manner hereinafter fully described and as more particularly pointed out or defined in the appended claims. Reference is now made to the accompanying drawings that form a part of the specification.

In the drawings:

Fig. 1 is a side elevation of my improved comb attachment shown assembled with the cutter head or distal portion of a hair clipper, and drawn to an enlarged scale;

Fig. 2 is a top plan of the attachment removed from the clipper head;

Fig. 3 is a face view looking at the structure on the plane of line **3—3** on Fig. 1, portions being broken away for clearness;

Fig. 4 is a section taken along the plane of line **4—4** on Fig. 2;

Fig. 5 is a section taken along the plane of line **5—5** on Fig. 2;

Fig. 6 is a transverse section on Fig. 2, taken along line **6—6** thereon; and

Fig. 7 is a fragmentary sectional view along the plane of line **7—7** on Fig. 4.

The drawings are to be understood as being more or less of a schematic character for the purpose of disclosing a typical or preferred form of the invention contemplated herein. In said drawings, like reference characters identify the same parts in the different views.

The work performing end or distal portion of the hair clipper illustrated in Fig. 1, includes a head assembly **10** at the cutting end of a conveniently shaped housing or body **11** that encloses a small electric motor unit of any desired type for operating the vibratory cutter **12** in an oscillatory movement along or across a comb plate **13** which may be securely anchored for intimate cooperation with the cutter. As seen, the ends of the comb plate **13** project beyond or slightly overhang the side walls of the housing body, and so far as I am aware, this is a characteristic of a majority of the well-known makes of hair clippers at present available. These clip-

per combs usually have a variety of widths and are differently shaped according to the design of the manufacturer.

The improved arrangement which I have invented is especially devised for the purpose of detachably mounting an auxiliary comb on hair clippers which have different types of clipper combs. The attachment is capable of considerable latitude of adjustment which adapts it to be fitted to various makes of clipper units without altering the unit. With the use of this attachment the clipper body and cutting head may be bodily tilted with respect to the scalp during the cutting of the hair, which permits the length of the severed hair to be varied. Also the tilting may be progressively increased or diminished during the cutting operation, according to the judgment of the operator and the type of haircut being given to individual customers.

The structure for mounting the auxiliary comb on the clipper is in the form of a composite unit which comprises a main plate or base member 14 of a generally rectangular or oblong shape having tapered side flanges 15 the height of which diminish towards the forward edge of plate 14. These side flanges 15 have inclined slots 16 preferably paralleling the outer edges of said flanges so that they are oblique to the plane of the plate 14, the purpose of these slots will later be explained. At the rear of said plate there is a stop or abutment 17 adapted for engagement with the rear edge of the clipper comb 13 as seen in Fig. 1 to assist in desirably positioning the assembly and maintain it on the clipper head.

There is an elongated rectangular shallow walled guide 18 at the forward region of the main plate 14, said guide being of hollow form which is open at its ends so that it accommodates the elongated flat portions of a pair of oppositely movable clamp members 19 which have sliding movement in said guide 18. The ends of clamp members 19 protrude through the open ends of guide 18 and are bent transversely in the form of flattened L-shaped jaws 20 which have their inwardly projecting portions in planes oblique to the planes of the upstanding portion. Yieldable cushions or pads 20*a*, preferably of rubber or the like, are cemented or otherwise secured to the inner faces of jaws 20 to absorb vibration as well as to insure a firm gripping of the jaws against the ends of the clipper comb plate of a variety of thicknesses. This arrangement comprises an important feature of the improvement for it is apparent that to provide a device having universal adjustability, the clamps should be of a character which adapts them to engage different types of clipper head members.

As seen more clearly in Figs. 2, 4 and 6, the proximate inner regions of clamps 19 have studs 21, 21, secured to them, and the upper and lower walls of guide 18 are slotted as at 22 and 23 respectively to accommodate the upset ends and shanks of said studs. The studs 21 comprise portions of an operating mechanism which is adapted to move the clamp members 19 reciprocably in guide 18. This operating mechanism also includes a pair of rocking levers 24, 24 arranged in superimposed relation to each other beneath body plate 14 and are fulcrumed intermediate their ends on a headed pivot pin 25 projecting downward from the rear portion of plate 14 in the manner shown in Fig. 6. The rear portions of levers 24 project beyond the rear edge of plate 14 where they are deflected obliquely as shown,

and have ears 26 at their ends which are provided with finger grasping buttons 27. The other or forward portions of rocker levers 24, 24 (which are identified as 24*a*), taper towards their ends which are positioned against the studs 21 on the sliding clamps 19. It will be seen that each lever takes the general form of a bell-crank, with the forward portion at an oblique angle to the rear portion, and are fulcrumed at the junctions of these angles.

By reason of the construction and arrangement above-described, the clamp operating members are of a scissors type wherein the rear arms of the levers are urged in spaced apart relation by yieldable means such as spring members 28 which are anchored to pins 29 on plate 14 and have their free ends bearing against studs 21 of the sliding clamps 19. Said spring members 28 are of sufficient tension to urge clamps 19 towards each other in a manner to cause the jaws 20 of the clamps to firmly engage the sides of the clipper comb 13 and prevent dislodgement of the attachment while in use. Furthermore, the arrangement described adapts the attachment for being dependably mounted on hair clippers having comb plates or other members of a variety of lengths. The operation of mounting this attachment to a hair clipper is a very simple one which requires merely the pressing of the finger buttons 27 towards each other which moves the clamps 19 in an outward direction far enough to permit placement of the clipper comb or other member between the jaws 20, whereupon by releasing the manual finger pressure the jaws will be retracted by springs 28 into firm engagement with the portion of the clipper to which the attachment is releasably secured.

The portion of this assembly which carries the auxiliary comb for coaction with the comb of the clipper head 10 preferably takes the form of a slide which is adapted to be locked in a plurality of selected positions, and while in any of these positions the clipper head may be tilted with respect to the auxiliary comb to predetermine the length of hair removed by the clipper. This auxiliary comb carrier preferably comprises a generally rectangular holder 30 each side margin of which has at least two spaced L-shaped lugs 31 arranged with their lateral portions turned inward towards the lugs at the opposite edge of holder 30 as best seen in Fig. 4 wherein the auxiliary comb 32 is shown in broken lines. The backbone of comb 32 has a recess 33 adjacent its margin into which is projected a latch pin 34 on a flat spring 35 anchored to holder plate 30 (Figs. 1 and 3), and leading to recess 33 there is an inclined groove 36 for guiding pin 34 to said recess when the comb 32 is inserted edgewise into lugs 31. Thus the comb is releasably held in position in holder 30 to permit its ready removal for cleaning or replacement whenever desired.

Holder 30 has ears 37 at its sides preferably lying against the inner surfaces of the slotted side flanges 15 on the main plate or base member 14 and have a generally triangular or tapered contour. Headed pivots 38 pass through ears 37 to provide fulcrums for comb holder 30 and have their shanks slidably engaged in the inclined slots 16 hereinbefore mentioned. The pivots 38 have long shanks which project inward of ears 37 and are surrounded by the convolutions of spring members 39 having diverging arms which respectively engage the inner faces of holder 30 and main plate 14, the convoluted portions of said springs being maintained on the pivot shanks by

retainer washers 40 as shown in detail on Fig. 4. These springs yieldably urge the leading edge of holder 30 and the toothed portion of the comb 32 towards the cutter portion of the clipper head in the manner shown in Figs. 1 and 6. This arrangement is effective to permit yielding tilting movement between the comb attachment and the hair clipper during the hair cutting operation, such tilting movement being for the purpose of determining the length of hair removed as will be later explained.

In addition providing this aforesaid tiltability the assembly has means whereby the comb holder 30 may be moved bodily in the guide slots 16 for the purpose of projecting or retracting the tips of the comb teeth with relation to the clipper head comb 13, said means being adapted to releasably lock the comb holder 30 in any of its adjusted positions. These means comprise latch arms 41 located alongside the flanges 15 on the ends of holder plate 14, said latch arms being fulcrumed at their forward ends on pivot pins 42 projecting outward from flanges 15. At their rear ends these arms are joined by a flat cross bar 43 which reinforces said arms and permits simultaneous movement thereof. Finger washers or buttons 44 are secured to the free ends of latch arms 41 and said arms are serrated to provide a plurality of notches or recesses 45 along their outer edges for latching engagement with the pivot pins 38 alongside the heads of said pins. The latch arms 41 are urged towards pivot pins 38 by springs 46 the outer regions of which press against said latch arms while the other ends of said springs 46 are anchored to a convenient portion of the assembly preferably to studs 47 the abutment or stop flange 17 at the rear of the main plate 14 above the levers 24. This permits movement of the latch arms in a direction away from pivots 38 thereby releasing the comb holder 34 so that it may be bodily moved outwardly of the clipper head 10 or retracted therefrom the distance desired for cutting the hair. In any of these adjusted positions the comb holder may be latched to prevent relative sliding movement with respect to the portion of the attachment which is directly but releasably mounted on the clipper head.

While this invention has been herein described in detail in its present preferred form or embodiment, it will be apparent to persons skilled in the art, after understanding the improvements, that various changes and modifications may be made therein without departing from the spirit or scope thereof. I propose in the appended claims to cover all such changes and modifications.

What I claim is:

1. In combination with a hair clipper which includes a plate having well defined side edges; a comb attachment for said clipper comprising a support; retractable clamp means reciprocably mounted on said support and releasably engaged with the side edges of said plate; a structurally independent toothed comb and a carrier for mounting said comb on said support with the toothed portion of the comb in coactive relation with the outer margin of said clipper plate, said carrier being fulcrumed on said support whereby to permit tilting movement between the carrier and the clipper during cutting operations.

2. In combination with a hair clipper having severing means which includes a fixed plate with well defined side edges; a comb attachment for said clipper comprising a support; movable clamp members on said support and releasably engaged with said plate side edges; spring means urging said members towards engaging positions; a carrier pivotally mounted on said support; a hair comb removably mounted on said carrier and having a toothed portion in coactive relation with the severing means of the clipper; and yieldable means operative to urge said carrier on its pivot in a direction towards said severing means, whereby to permit relative tilting movement of said clipper with respect to said carrier and comb in opposition to said yieldable means.

3. In combination with a hair clipper head which includes a guard plate; a comb attachment therefor, comprising a support having clamp means for releasable engagement with said guard plate; and a carrier for mounting a hair comb on said support, said carrier comprising a member having means for removably receiving a hair comb; fulcrum means for tiltably mounting said carrier on said support; means slidably connecting said fulcrum means to said support; and manually operable latch means releasably engaged with said fulcrum means for restraining said fulcrum means against sliding movement on said support.

4. The arrangement defined in claim 3, wherein the latch arms are yieldably urged into engagement with the fulcrum and have a plurality of recesses for engagement therewith.

5. In combination with a hair clipper head; a comb attachment therefor comprising a support detachably engaged with said clipper head, said support having parallel slots therein; and a carrier for mounting a hair comb on said support, said carrier comprising a member having opposed comb receiving means; pivots on said carrier member slidably engaged in said slots thereby to permit tilting movement of said carrier member with respect to said support; and latch arms fulcrumed on said carrier member and engageable with said pivots in a plurality of locations in said slots for restraining said carrier against sliding movement with respect to said support.

6. The arrangement defined in claim 5, wherein the latch arms are yieldably urged into engagement with the pivots and have a plurality of recesses for engagement therewith.

7. In combination with a hair clipper head; a comb attachment for said clipper comprising a support; retractable clamp jaws movably mounted on said support and releasably engaged with the said clipper head, said support having parallel slots therein; manually actuated levers on said support for operating said clamp jaws; and a carrier slidably mounted on said support; a hair comb on said carrier and arranged with its toothed portion in coactive relation with the outer margin of said clipper head, said carrier comprising a member having comb receiving means; pivots on said member slidably engaged in said slots, said carrier being thereby effective to tilt with respect to said support; latch arms fulcrumed on said carrier member; serrations on said latch arms for selective engagement of said arms with said pivots; and spring means engaged with said latch arms and releasably urging said latch arms into engagement with said pivots and thereby restrain said carrier against sliding movement with respect to said support.

8. In combination with the clipper head of a hair clipper; a comb attachment therefor comprising a support; spaced flanges on said support defining guide means; yieldable clamps slidable in said guide means for removably mounting said

support to said clipper head; manually operable levers pivoted on said support for moving said clamps; a tiltable carrier fulcrumed on said support and having comb receiving means; and a comb mounted in said receiving means on said carrier for sliding adjustment thereon toward and from the tip of said clipper head and being effective to guide the hair to the clipper head during clipping operations, and said hair clipper being tiltable with respect to said comb during clipping operations.

9. In combination with the cutting head of a hair clipper having a guard member, a comb attachment therefor comprising a support; guiding means on said support; reciprocable members movable in said guiding means; grippers at outer regions of said members for detachably engaging the side edges of said guard member; manually operable levers pivoted on said support for moving said reciprocable members to release said grippers; a carrier pivotally mounted on said support for both tilting and sliding movement

thereon; comb receiving means on said carrier; and a comb mounted in said receiving means on said carrier for sliding adjustment thereon; and guiding the hair to the cutting head during clipping operations, and said hair clipper being adapted to tilt with respect to said comb during such clipping operations for varying the length of the cut.

ADELMO GIORGI.

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