The present invention provides a shaver casing made in two opposite casing sections, 1 and 2 respectively. Each casing section 1 and 2 is formed oppositely to the other of molded plastic material and has a sidewall 3 and laterally extending sidewalls 4 projecting in the same direction from sidewall 3. Sidewalls 4 on casing section 1 are constructed so that the free edges of sidewalls 4 on section 1 will engage the free edges of sidewalls 4 of section 2 in opposed registering relation. When sections 1 and 2 of the shaver case are assembled they cooperate to provide a complete shaver casing.

At one side each section of the shaver case is provided with a partition wall 5. Partition wall 5 in each section is formed with an aperture 6. Partition wall 5 separates the motor compartment 7 formed in the shaver casing from the cutter head receptacle 8 opening outwardly through one side of the shaver casing.

A shaver motor diagrammatically indicated at 9 of any conventional type is mounted in motor compartment 7 between sidewalls 3 and 4 of the casing. The motor has cutter oscillating arms 10 projecting outwardly from the motor through aperture 6 in partition wall 5 into cutter head receptacle 8. Screws or other suitable means may be used to secure the two casing sections together in a manner well known in the art in which the assembled casing sections will completely house the motor for shaver operation of the cutter head assembly mounted in cutter head receptacle 8.

Sections 1 and 2 of the shaver casing are formed at the bottom ends of cutter head receptacle 8 with seat 11 on which the lower end portion of the cutter head unit 12 is engaged in the attached position on the casing, as shown in FIGS. 1 and 4. Seats 11 are spaced outwardly from partition wall 5, as shown in FIG. 1, and casing sections 1 and 2 are formed with recesses 13 extending outwardly from the cutter head receptacle immediately above seat 11 to provide hair pockets for receiving and containing cut hair during operation of cutter head unit 12. Cutter unit 12 is composed of two cutter heads 14 secured to mounting plate 15. Mounting plate 15 has a central opening 16 formed therein registering with openings in the bottom of the stationary cutter elements through which oscillating arms 19 may pass so that the free ends engage in the loop portions of cutter drive springs 17, one in each cutter head, when the cutter unit 12 is assembled and retained on seat 11, as shown in FIGS. 1 and 4. Mounting plate 15 has latch projections 18 formed in the central portion thereof and projecting inwardly toward each other in opening 16. The free ends of latch projections 18 are offset to one side of plate 15 in a direction opposite to the cutter heads mounted thereon, as shown in FIGS. 1 and 2, in order to project toward partition wall 5 when the cutter head unit is mounted on seat 11 in cutter head receptacle 8.

Casing section 1 of the shaver case, as shown in FIGS. 1 and 4, has partition wall 5 and the side portion 4 of the shaver case section formed with a channel indicated at 19 in FIG. 4 for slidably receiving the flat strip portion 20 forming part of the latch construction for retaining cutter head unit 12 in cutter head receptacle 8. This channel 19 extends from opening 6 along the portion of partition wall 5 at the inner end of cutter head receptacle 8 through the adjacent portion of casing sidewall 4 into push-button recess 21 slidably housing push-button 22 detachably mounted on the end of latch strip 20. Push-button recess 21 has portions of the side walls 1 and 2 of the shaver casing while partition wall 5 has the portions on both sections of the shaver casing formed with portions of channel 19 cooperating to slidably receive mounting strip 20 for slidable movement in partition 5 upon movement by push-button 22 which has the outer...
of the casing section in cutter head receptacle 8, as shown in FIG. 4. Suitable adjusting mechanism for adjusting the position of a supporting plate 31 on sidewall 3 is operated by button 32, one for each sidewall for adjusting one of the plates 31. The details of construction of this roller support and adjusting mechanism are not shown since they do not form part of the present invention. The structure is illustrated for the purpose of showing that the sides and ends of the cutter head unit are substantially covered by the casing walls 3 and 4 and plates 31 with rollers 30, except for the outer cutting surface or skin engaging surface of the cutter heads. With this type of shaver construction where the sides and ends of the cutter unit are enclosed, it will be clear that some difficulty would be experienced in manually removing the cutter head unit from cutter head receptacle 8 in the side of the casing. The present invention therefore provides a construction to secure ready removal of the cutter head unit from the shaver casing. This is obtained by the above described construction in which the latch construction, including latch projection 23, normally holds the cutter head unit engaged on seat 11 in receptacle 8 in operative position for shaving. Latch projection 23 engagement is obtained by mounting latch projection 23 on mounting plate 15 in obtaining this mounting of the cutter head unit on the shaver. When the head unit is assembled into the position shown in FIG. 1 in latched operative position on the shaver, it will be noted that during application of the cutter head unit to the shaver, the ends of the flanges of the latch projections 23 are inserted in the push-button recess 21, see FIG. 3. The inner end of push-button 22 is slotted and provides a shoulder portion at the end projecting outwardly beyond sidewall 4, as shown in FIG. 1. The inner end of latch strip 20 is formed with a hooked end forming a latch finger 23. Latch finger 23 projects in angular relation and into the bottom end of cutter head receptacle 8 in the central portion thereof for engaging between the ends of adjacent projections 23 through opening 16 for subsequent movement to engage the end of latch projection 23 over the end of one of latch projections 18 for detachably retaining cutter head unit 12 firmly engaged on seat 11 in operative position on the shaver shown in FIGS. 1 and 4. The latch strip, push-button and latch projections are normally operated in one direction by compression spring 24 adjacent to the outer end of latch strip 20 between the inner end of push-button recess 21 and the inner end of push-button 22, as shown in FIG. 1. This movement of the latch mechanism, including latch strip 20 and latch projection 23, retains latch projection 23 in a position to normally override one of the latch projections 18 on mounting plate 15 for firmly retaining cutter head unit 12 in operative position in cutter head receptacle 8. Push-button 22 is normally retained with the outer end projecting outwardly beyond the outer side of sidewall 4 of the shaver casing, as shown in FIG. 1, in a position to be pressed inwardly by manual operation, as shown in FIG. 2, to release or disengage latch projection 23 from engagement with latch projections 18 so cutter head unit 12 can be removed from receptacle 8. Movement of latch projection 23, as shown in FIG. 2 and push-button 22 is limited by having stop projections 25 formed on, and projecting outwardly from the sides of push-button 22, as shown in FIGS. 1 and 2, for engagement with shoulders 26 formed at the outer end of the enlarged portion of push-button recess 21. In this way, the outward movement of the latch mechanism obtained by compression spring 24 is limited so that push-button 22 and latch projection 23 are located in proper positions to have latch projection 23 retain cutter unit 12 in the receptacle and push-button 23 project outwardly to extend sufficiently for manual operation to release latch 23 from projection 18. Partition wall 5 of shaving casing section 1 has the inner edge portion under latch strip 20 formed with a projection 27 and the inner edge portion of partition wall 5 of casing section 2 has the partition wall cut away opposite projection 27 to accommodate the projection so that the upper surface of projection 27 at the bottom of channel 19 provides a support throughout the width of latch strip 20. Retaining clip 28 is of U-shaped construction, having an enlarged plate section engaged over the top portion of latch strip 20 and the adjacent outer wall portion of partition wall 5 in casing section 1 while the remainder of the U-shaped retaining clip is in the form of a narrow strip extending around the inner edge of partition wall 5 and engaging the opposite surface of the partition wall for slidably retaining the inner end of latch strip 20 engaged in channel 19. The portion of partition wall 5 of shaving casing section 2 opposite to latch strip 20 and clip 28, as above mentioned, receives both projection 27 and clip 28 so these parts are retained in properly assembled position when the casing sections are secured together. The plate section on retaining clip 28 has one end adapted to lie adjacent to the inner sidewall 4 of casing section 1 forming one end of the cutter head receptacle 8 at the side provided with push-button recess 21. This construction of the clip facilitates its insertion over partition wall 5 in proper position to retain latch strip 20 slidably engaged in channel 19. It will be noted that sidewalls 3 of both casing sections 1 and 2 extend upwardly and form the outer side of cutter head receptacle 8, as shown in FIG. 4. Combining rollers 30 are provided at each side of the cutter head unit, as shown in FIGS. 1 and 4. Each combing roller is rotatably mounted at opposite ends on the arms of supporting plate 31 slidably mounted on the inside of one sidewall 3.
inner end of the slot to receive the angled end as shown in FIG. 3 in engagement with the shouldered portion for retaining push-button 22 and latch strip 20 rigidly inter-engaged with one another for movement of latch strip 20 upon operation of push-button 22. Coil spring 24 engages the inner end of push-button 22 at one side of latch strip 20, as shown in FIG. 3, and has a portion of the spring lying in cutout portion 35 as illustrated. This construction facilitates the assembly of the push-button 22, coil spring 24 and latch strip 20 on the shaver casing. Assembly of these parts is obtained when the casing sections are disassembled and separated from one another. 

Latch strip 20 is assembled in channel 19 in casing section 1 while spring 24 and button 22 assembled on latch strip 20 are engaged in the portion of push-button recess 21 formed in casing section 1, as shown in FIGS. 1 and 2. When these parts are engaged in position in casing section 1, retaining clip 28 is then slipped over latch strip 20 into the position shown in FIGS. 1 and 3 for retaining the latch mechanism in assembled position on section 1. Then, when the motor is assembled in the casing in the position indicated, the casing sections can be assembled together by placing casing section 2 in its position against casing section 1 at which time the casing section 2 will receive latch button 22 and latch strip 20 in the channel and push-button recess and retain the parts in assembled relation when secured to casing section 1 to form a complete shaver casing enclosing the motor and latch mechanism.

It will be understood that whenever the cutter head unit is removed from cutter head receptacle 8, the hair cuttings contained in hair pocket recesses 13 may be cleaned out by blowing or by use of a brush.

The invention claimed is:

1. In an electric dry shaver, (a) a casing having a cutter unit supporting seat disposed interiorly of the casing, (b) a cutter unit having a portion disposed on said supporting seat and having a cutting surface substantially flush with the exterior walls of the casing, (c) resilient means biasing said cutter unit in a direction away from said supporting seat and outwardly of the casing, (d) a first latch member on said cutter unit, (e) a second latch member mounted for translatory movement in said casing to engage said first latch member on said cutter unit and restrain said cutter unit from movement in a direction outwardly of said casing when engaged with said first latch member, (f) spring means for retaining said second latch member engaged with said first latch member, (g) and manually operable means to move said second latch member against the effect of said spring means to unlatched position, (h) said second latch member in unlatched position disengaging said first latch member and permitting operation of said resilient means to effect movement of said cutter unit in a direction away from said supporting seat.

2. In an electric dry shaver, (a) a casing formed with a cutter head receptacle having a supporting seat at the inner end thereof, (b) a cutter unit having cutter elements, (c) a mounting plate supporting said cutter elements, (d) said cutter unit disposed in said cutter head receptacle with said mounting plate engaging said supporting seat, (e) resilient means biasing said cutter unit in a direction outwardly of said cutter head receptacle, (f) a latch projection on said mounting plate, (g) a channel formed in the shaver, (h) a latch member formed of an elongated strip mounted for translatory movement in said channel, (i) one end of said strip being formed to engage the said latch projection on said mounting plate and restraining said cutter unit from movement in an outward direction, (j) the opposite end of said strip projecting outwardly relative to one side of said casing, (k) an operating button mounted on said opposite end of said strip for effecting manual operation of said latch member strip to latched and unlatched positions, (l) and spring means retaining said latch member in latched position, (m) said latch member in unlatched position permitting operation of said resilient means to effect movement of said cutter unit in said outward direction from said cutter head receptacle.

3. The electric dry shaver of claim 2 wherein the slidable latch member and the casing are provided with complementary parts cooperating to limit translatory movement of said slidable latch member relative to said casing upon movement of said latch member.

4. The electric dry shaver of claim 2 wherein a U-shaped clip is provided having a first arm detachably engaged with the casing and having a second arm embracing the strip portion of said slidable latch member to detachably retain said slidable latch in slidable relation on said casing.

5. The electric dry shaver of claim 2 wherein the said opposite end of the slidable latch member and said operating button are formed with complementary interengaging detachable portions for attaching said operating button to said slidable latch member, and said spring means engaged between said operating button and said casing to retain said slidable latch member in engagement with said latch projection.

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