

[54] **HAIR DRYER WITH RELEASE MECHANISM**

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292/254

[51] Int. Cl. **A45d 20/00, E05c 13/04**

[58] Field of Search **34/90, 91, 96-101;**
292/254, 87

[56]

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[57]

ABSTRACT

A hair dryer that may be collapsed for carrying and storage and erected for operation, including a base assembly, a rigid hood assembly to be positioned about the head of the user for distributing heated air to the head, and a strut for supporting the rigid hood assembly elevated from the base assembly. A latch release mechanism is provided that releases the hood assembly from the base assembly to allow the hood assembly to be raised simultaneously to its operational position, all with one hand.

8 Claims, 4 Drawing Figures

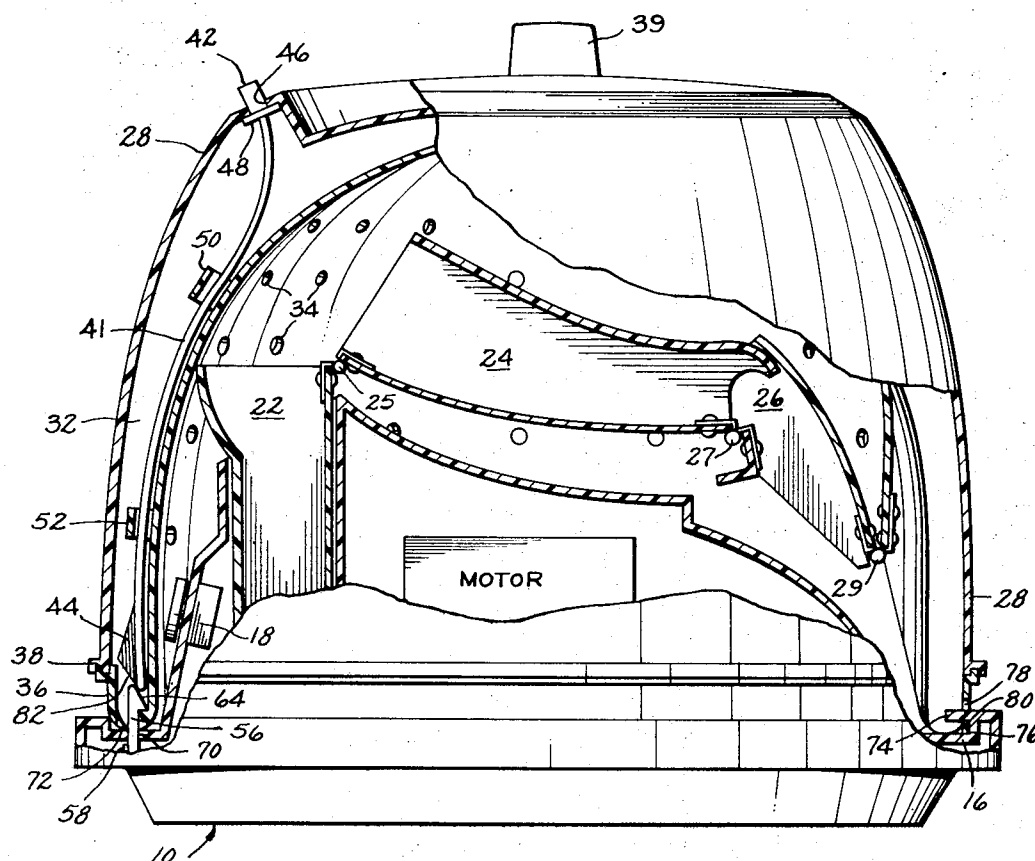


Fig. 1.

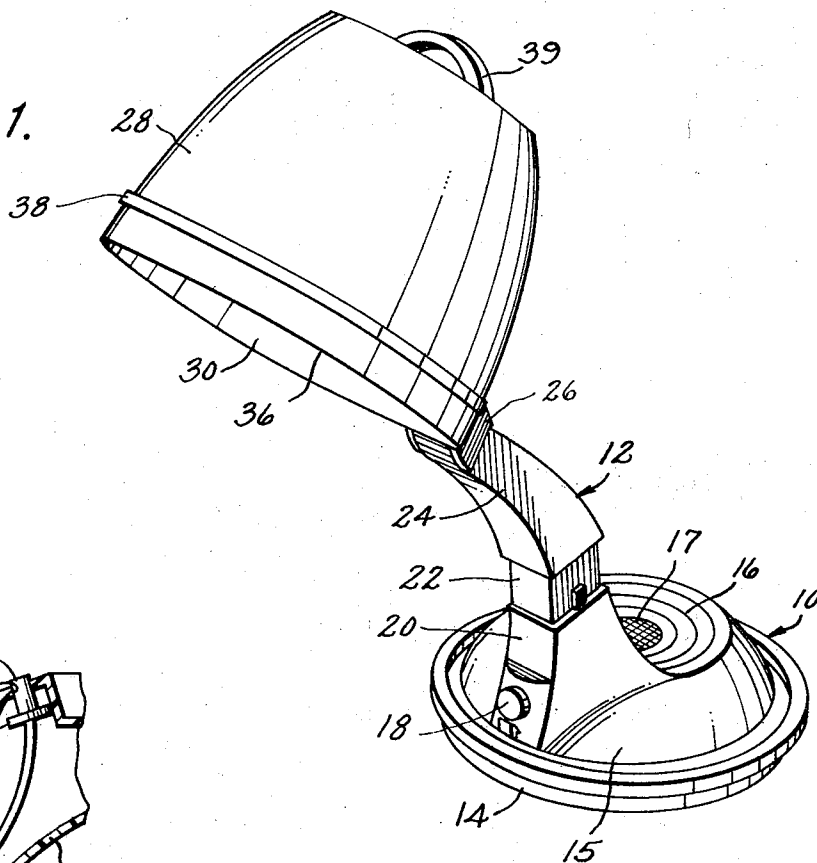


Fig. 2.

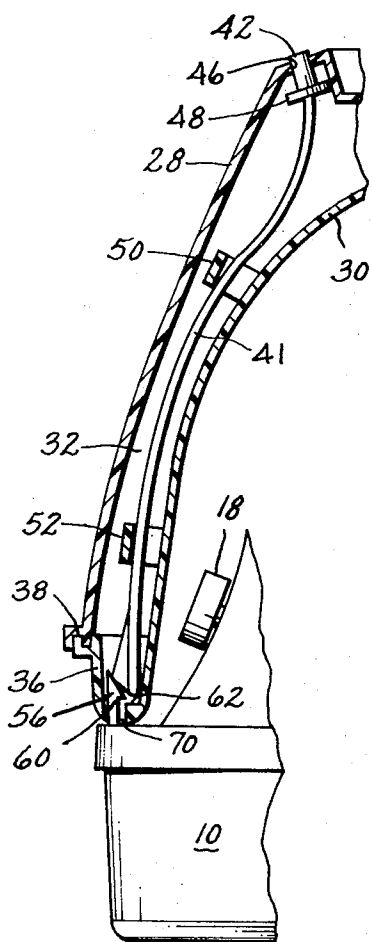


Fig. 3.

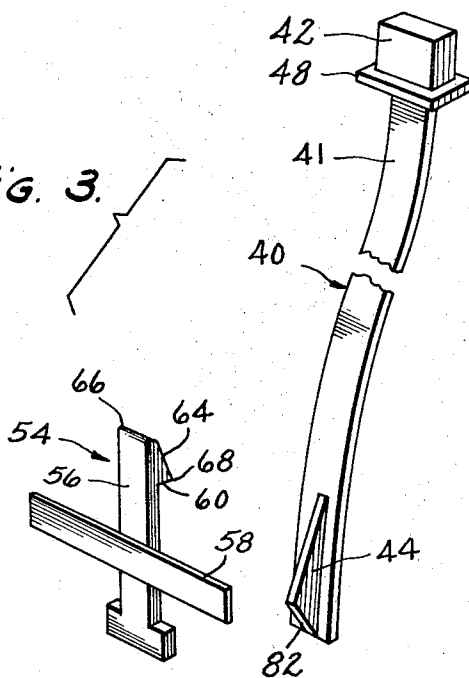
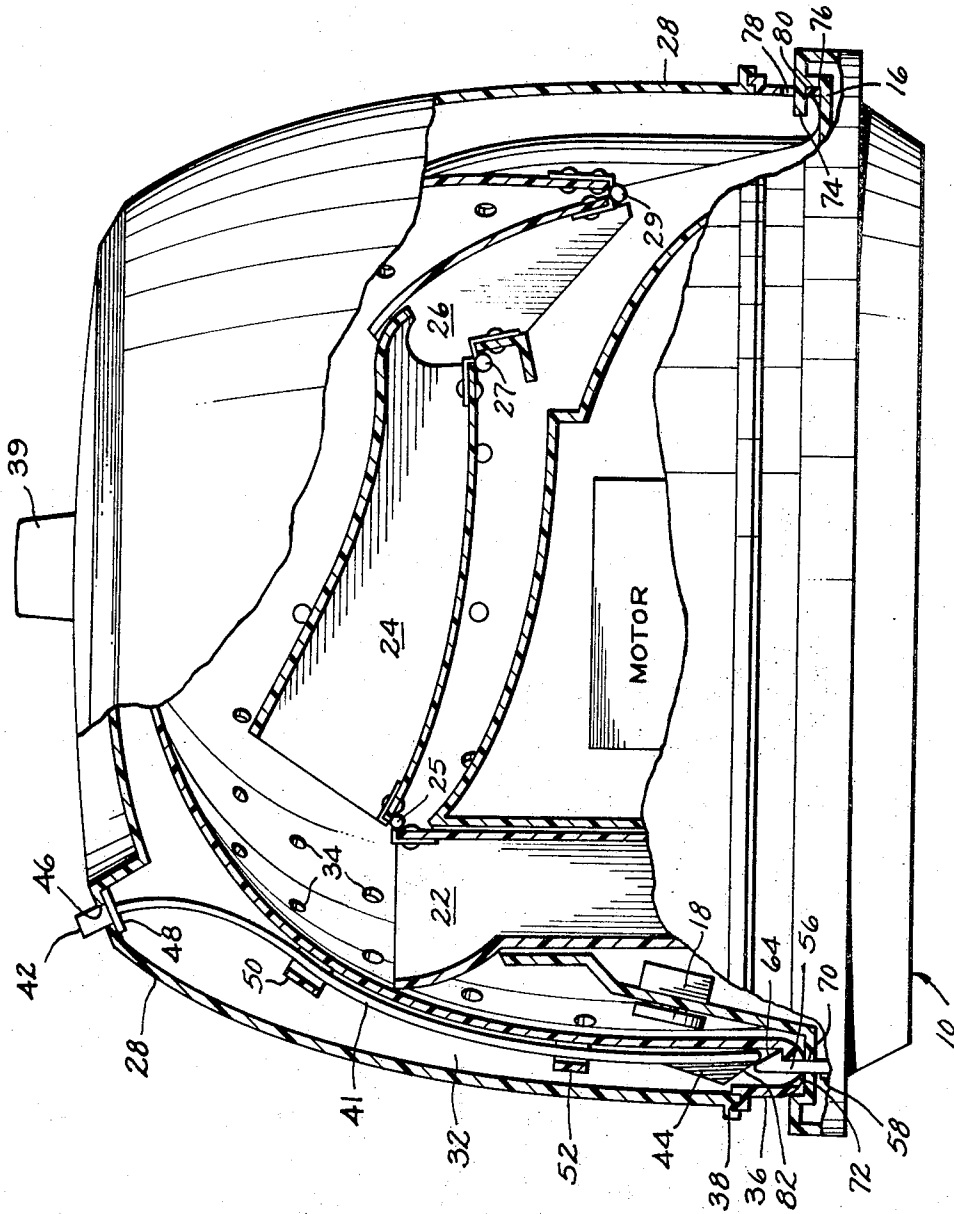


Fig. 4.



HAIR DRYER WITH RELEASE MECHANISM**BACKGROUND OF THE INVENTION****1. Field of the Invention:**

This invention relates to hair dryers and, more particularly, to hair dryers having a rigid hood.

2. Description of the Prior Art:

Hair dryers generally fall into two types - namely, those which are usually permanently installed in beauty parlors, and those of the household type which are small portable appliances. The professional type is massive, costly, and does not lend itself to feasible utilization in the home. This invention relates particularly to household type hair dryers that utilize a rigid hood.

Household rigid hood hair dryers should be capable of easy storage and easy erection for operational use. One common type of rigid hood household hair dryer has a hood that closes down upon the base with a folding air duct interconnecting the hood and base enclosed within the hood. This makes a compact hair dryer that may be easily stored and carried. In such household rigid hood hair dryers, one problem is to provide a satisfactory means for releasing the hood from the base so that it can be easily erected for operational use. Many hair dryers of this construction utilize two latches on opposite sides of the hair dryer which must be released by the user and then the hood raised by a top handle to the erected or operational position. The problem is that the hood should be raised simultaneously with the release of both latches. This, of course, is very difficult as it takes both of the user's hands to simultaneously release the latches. Moreover, the latches are located down where the rigid hood sits on the base and the handle is at the top of the hood, making it even more difficult to accomplish the opening and erecting procedure.

By my invention, there is provided a rigid hood hair dryer that has means for releasing the latch mechanism between the hood and the base and simultaneously raising the hood to the operational position, all with one hand.

SUMMARY OF THE INVENTION

In accordance with this invention, there is provided a hair dryer having a rigid hood assembly to be positioned over the head of the user for distributing air to the hair, a base assembly, means for producing a flow of heated air to be distributed to the hair by the hood assembly, and a strut for supporting the rigid hood assembly elevated from the base assembly. There is a means which includes the strut for lowering the hood assembly onto the base assembly and for raising the hood assembly to an elevated position for operational use of the hair dryer. The hair dryer incorporates a hood latch for securing the hood assembly to the base assembly for storage and carrying and latch release means including an elongated member having a push button at one end and a cam surface at the other end cooperating with the hood latch to release the latch by cam action when the push button is activated.

It is an object of this invention to provide a hair dryer that has a hood that may be conveniently and easily raised to its operational position by the user.

It is also an object of this invention to provide a hair dryer with a rigid hood assembly that may be released from attachment to a base assembly as for storage and

carrying and raised to its operational position simultaneously with one hand.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of my hair dryer in its operational position ready for use.

FIG. 2 is a fragmented, partial cross-sectional view of my hair dryer showing the latch release mechanism in its releasing position.

FIG. 3 is a perspective view of a portion of the hair dryer latch release mechanism.

FIG. 4 is a partial cross-sectional view of the hair dryer in the collapsed condition for carrying or storage with the latch release mechanism in its latched position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, FIG. 1 illustrates my hair dryer in erected condition ready for operational use, such as in the home, and it generally includes a base assembly 10, a rigid hood assembly 11 to be placed over the head of the user, and a strut in the form of a connecting air conduit between the hood assembly and base assembly that includes a hollow air duct assembly 12 which may be selectively adjustable as by telescoping the sections to position the hood at a height comfortable to the user. The hair dryer may be the type shown in FIG. 1 where it is contemplated to be used by placing the entire hair dryer on a table or similar appropriate counter top support and the user sits on a chair and positions her head within the rigid hood assembly 11. It is to be understood, however, that other rigid hood type hair dryers may also be employed in my invention and that the hair dryer shown in the drawings is merely illustrative of one embodiment of my invention.

The base assembly 10 includes a housing which contains the usual means for producing a flow of heated air. That is, the housing contains an electrical heating means for heating air, electrically operated impeller means for causing the heated air to flow, and regulating means for both the heating and impeller means including a manually operated selector switch accessible from the exterior of the housing. There are also suitable air passages formed in the housing including an ambient air inlet and an integral heated air outlet which communicates with the air duct assembly 12.

The housing of the base assembly 10 includes a base member 14 and a cover 15 which are secured to each other in any convenient manner. The base member and cover may be of rigid plastic material of any suitable known type. The top of the cover 15 forms a deck 16. Centrally, on the upper side of the deck is an air inlet grill 17. An air outlet tubular section 20 is molded integrally with cover 15. A selector switch operating knob 18 is mounted on the deck 16 and is accessible to the user for manually operating the hair dryer. The air duct assembly 12 between the base and hood assemblies comprises three sections of air ducts - lower duct 22, upper duct 24, and hood duct 26. These ducts may be made of the same rigid plastic material as that from which the base housing is made. The ducts are hollow tubular members that are generally rectangular in cross-section. The lower duct 22 is slightly smaller in lateral cross-section compared to air outlet tubular section 20, so that it can be telescopically slidably dis-

posed inside air outlet tubular section 20. The telescopic movement is used for adjusting the height of the hood assembly 11 relative to the base assembly 10. A hinge 25 is provided between the lower duct 22 and upper duct 24, and there is a hinge 27 between hood duct 26 and hood assembly 11. Hinge 29 secures the air duct assembly to the hood assembly. These hinges provide the means for raising the hood assembly for operational use and lowering it onto the base assembly for storage and carrying.

The hood assembly 11 comprises two main rigid plastic molded head receiving members 28 and 30. They are nested with respect to each other in spaced relationship to define an air distributing space or manifold 32 therebetween. The outer shell 28 is air tight, whereas the inner liner 30 has a plurality of air distributing apertures 34 formed throughout the surface thereof for the purpose of directing heated air into the hair of the user. The inner liner 30 has an outwardly and upwardly directed peripheral flange 36 formed integrally therewith which engages the bottom edge of the outer member 28 along a meeting line 38 that may be covered by a trim member if desired. The top of the outer shell 28 has a handle 39 for carrying the hair dryer when it is in its collapsed carrying and storage position. The handle is also used to raise the hood to its operative position as will be described later.

Turning now to FIGS. 2, 3, and 4, a detailed description of the components of the hair dryer hood release mechanism and their arrangement with respect to each other to provide easy erection of the hair dryer to its operational position will be discussed. The latch release means includes a remote release control 40 comprising an elongated member 41 having at one end a push button 42 and at the other end a cam element 44. The entire remote release control 40 is located between the outer shell 28 and the inner liner 30 in the manifold 32 at the front of the hood assembly 11. The push button 42 projects through an opening 46 in the outer shell 28 at the forward top of the hood assembly but is prevented from completely passing through opening 46 by stop means comprising a stop element 48 having a diameter larger than opening 46. The stop element 48 abuts the inside periphery of the hole 46 during upward movement of the remote release control 40. The elongated member 41 is flexible yet sufficiently rigid so that by pushing on one end the other end is moved correspondingly and it may be a cable or made from suitable plastic that performs and functions as a cable. Retention of the elongated member 41 within the manifold 32 in its proper position may be accomplished by an upper bracket 50 and a lower bracket 52 both of which are secured to the inner liner 30. The entire remote release control 40 is by this arrangement movable up and down within the manifold 32 within the structural limits provided and only a small amount of movement is needed for the remote release control to operate.

With reference to FIG. 3, the hood latch mechanism 54 that holds the hood assembly 11 at its front or forward end in position upon the base assembly 10 consists of a hook-shaped latch 56 pivotally secured to the base assembly in any suitable manner and is spring biased inwardly of the hair dryer. The spring biasing may be accomplished by inherent resilience of the material from which the hook-shaped latch 56 is made or by some spring means. The drawings show a leaf spring 58 which is secured to the inside of the base assembly. The

leaf spring 58 exerts constant force against the hook-shaped latch 56 to continuously urge it inwardly. The hook-shaped latch 56 has a shoulder portion 60 disposed horizontally that engages a horizontal shoulder 62 molded into the inner liner 30 so that the latch shoulder 60 and liner shoulder 62 cooperate with each other to retain the forward end of the hood assembly on the base assembly. The hook-shaped latch 56 has a cam surface 64 extending from the top 66 of the latch to the outer edge 68 of the latch shoulder 60. The hook-shaped latch 56 extends from the base assembly 10 through an opening 70 in the base assembly and for the hood assembly to receive the upwardly projecting hook-shaped latch 56 and opening 72 is provided in the bottom of liner 30 in the peripheral flange 36.

The latching arrangement on the opposite or rear portion of the hair dryer is shown in FIG. 4. The deck 16 has molded in it an inwardly directed engaging element 74 spaced a distance above lower section 76. The rear portion of outer shell 28 has an opening 78 which is slightly larger than the engaging element 74 so that the engaging element can project through the opening 78 in the outer shell during the closing operation. It should be noted that a small section 80 of the outer shell below the opening 78 is provided and is dimensioned to be received within the space between the inwardly directed engaging element 74 and the lower section 76 of deck 16. This small section 80 is therefore retained in the hook-shaped configuration of the above-described latching means and will retain the rear of the hood assembly in its closed position upon the base assembly. The closing movement of the hood assembly onto the base assembly, as from that shown in FIG. 1 to that shown in FIG. 4, permits the rear portion of the hood assembly to engage the rear latching arrangement prior to engagement of the forward latching assembly. The forward latching assembly is engaged by slight downward force so that the edge of opening 70 upon contacting latch cam surface 64 overcomes the spring bias force afforded by leaf spring 58 until the latch shoulder 60 passes through opening 70 and the spring forces the latch 56 to engage liner shoulder 62.

To erect the hood assembly to its operative position from the closed position shown in FIG. 4, the user merely grips the handle 39 and exerts thumb pressure on the outwardly exposed push button 42 thereby forcing the elongated member 41 carrying cam element 44 downwardly. Cam element 44 has a cam surface 82 which engages cam surface 64 of the hook-shaped latch 56 and upon continued thumb pressure and downward movement of the remote release control 40 cam surface 82 forces spring biased hook-shaped latch 56 outwardly of the hair dryer, as shown in FIG. 2, thereby causing disengagement of shoulder 60 of the latch and shoulder 62 of the liner 30. In this position then the hook-shaped latch 56 is now disengaged from holding the forward portion of hood assembly 11 onto the base assembly 10 and the user merely lifts the hood assembly simultaneously by means of the handle 39 whereupon the hook-shaped latch 56 is withdrawn from inside manifold 32 of the hood assembly and passes through opening 72 in the liner 30. Continued movement of the hood assembly to the erected position also accomplishes disengaging the rearward latch by withdrawing inwardly directed engaging element 74 through rearward opening 78 in the outer shell thereby releasing the hood assembly from the base assembly ex-

cept for the hinged air duct assembly 12 interconnecting the hood and base assemblies which when unfolded is arranged and constructed to support the hood assembly and lock the hood assembly elevated relative to the base assembly.

To lower the hood assembly onto the base assembly for storage and carrying the user simply unlocks the hood from the air duct assembly 12 support and while gripping the handle closes the hood assembly onto the base assembly while folding the air duct assembly within the hood. The rear latch and front latch engages the hood assembly as described previously. Since there is no thumb pressure on push button 42 at this time the remote release control 40 is cammed upwardly by the inwardly directed spring force exerted on hook-shaped latch 56 having latch shoulder 60 so that the remote release control 40 is positioned ready to be actuated the next time the hood assembly is to be erected for operational use. If desired, the remote release control could have a separate spring arranged to move it back to its position as before actuation.

The foregoing is a description of the preferred embodiment of the invention and variations may be made thereto without departing from the spirit of the invention, as defined in the appended claims.

I claim:

1. A hair dryer comprising:

- a. a base assembly including a spring biased latch,
- b. means for producing a flow of heated air,
- c. a rigid hood assembly arranged to be positioned about the head of the user, said assembly including an outer shell, an inner perforated liner spaced from the outer shell, and a latch receiving means,
- d. a strut connecting the base and hood assemblies,
- e. means including the strut for lowering said hood assembly onto said base assembly and for raising the hood assembly to an elevated position relative to the base assembly for operating the hair dryer, and
- f. latch release means including an elongated member having a push button at one end and a cam surface at the other end, said cam surface cooperating with the hood latch to release the latch from the hood latch receiving means by cam action when said push button is actuated.

2. The hair dryer of claim 1 wherein the spring biased

force on the latch causes the elongated member to return to its position as before actuation.

3. The hair dryer of claim 1 wherein the latch release means is located in the space between the outer shell and inner liner and the push button projects through an opening in the outer shell at the forward top of hood assembly.

4. A hair dryer comprising:

- a. a base assembly housing means for producing a flow of heated air and including a pivotally secured spring biased hood latch having a cam surface,
- b. a rigid hood assembly arranged to be positioned about the head of the user, said assembly including an outer shell, an inner perforated liner spaced from the outer shell, and a latch receiving means,
- c. air conducting means for directing heated air from said producing means to said hood assembly, said air conducting means including a hollow air duct assembly hingedly secured to the hair dryer between the hood assembly and base assembly,
- d. means including the air duct assembly for lowering said hood assembly onto said base assembly for carrying the hair dryer and for raising the hood to an elevated position relative to the base assembly to an operative position, and
- e. latch release means including an elongated member having a push button at one end and a cam surface at the other end, said cam surface cooperating with the cam surface of the latch to release the latch from the latch receiving means by cam action when said push button is actuated.

5. The hair dryer of claim 4 wherein the latch has a horizontal shoulder and the latch receiving means has a horizontal shoulder both of said shoulders engaging each other when the hood assembly is positioned on base assembly.

6. The hair dryer of claim 4 wherein a rear latching arrangement is included to secure the hood assembly onto the base assembly at two locations.

7. The hair dryer of claim 4 wherein the hood assembly has a handle at the top.

8. The hair dryer of claim 4 wherein the latch release means is located in the space between the outer shell and inner liner and the push button projects through an opening in the outer shell.

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