July 11, 1967 S. E. RODGERS ETAL 3,330,048

HAIR DRYER

Filed June 14, 1965 2 Sheets-Sheet 1

Fig. 1

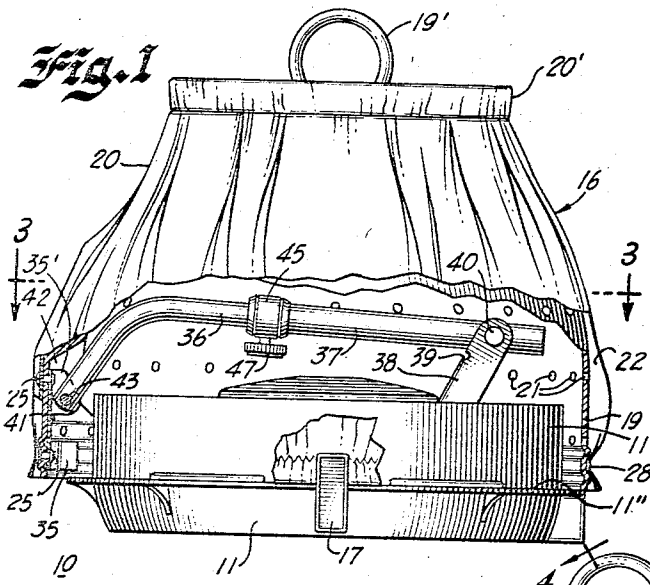


Fig. 5

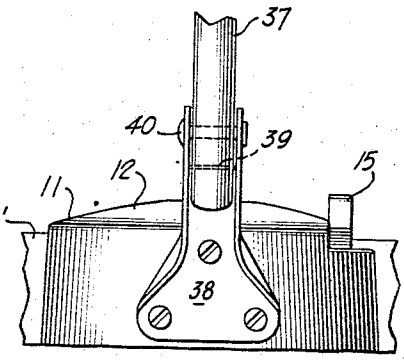


Fig. 7

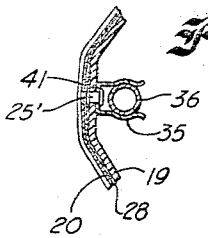


Fig. 2

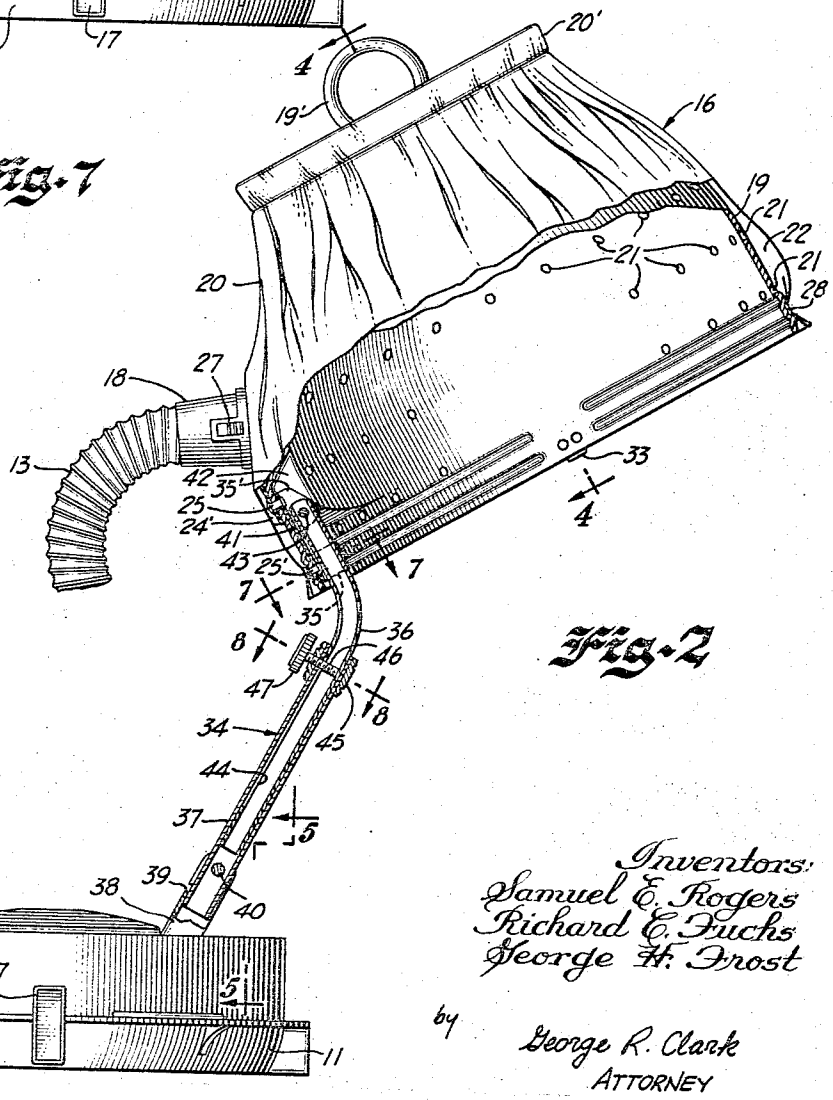
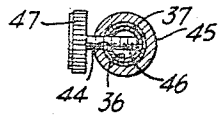


Fig. 8



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Filed June 14, 1965 2 Sheets-Sheet 2

Fig. 3

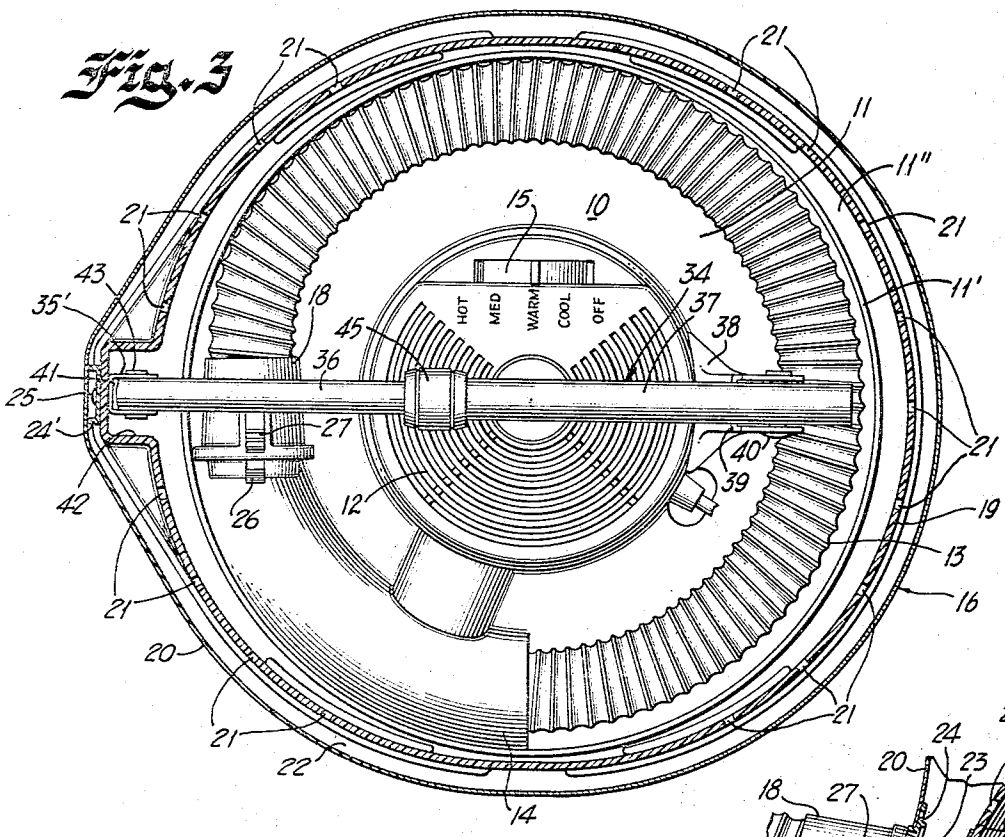


Fig. 4

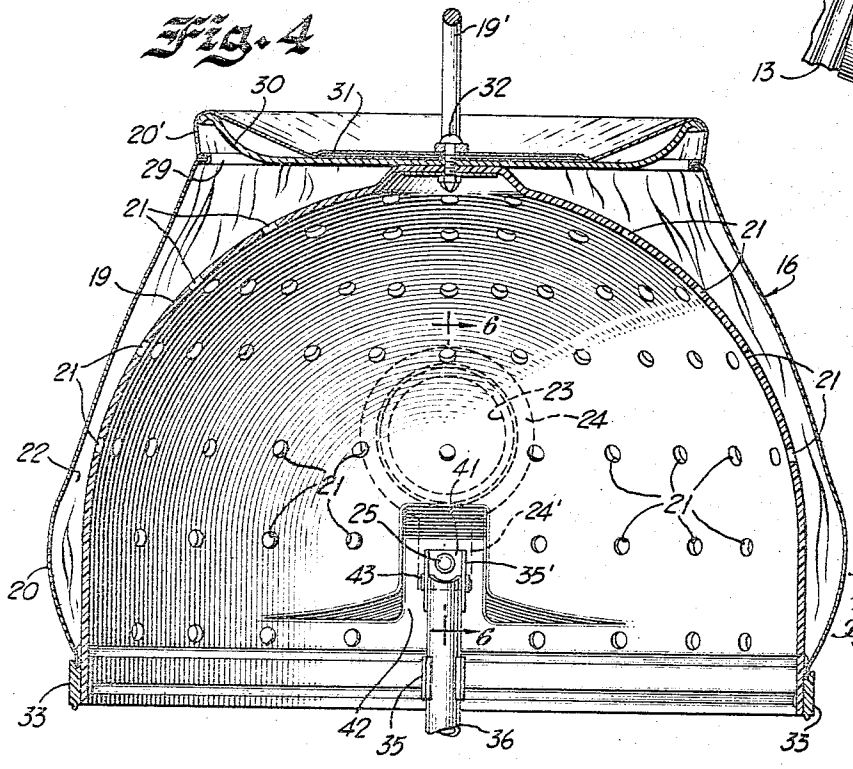
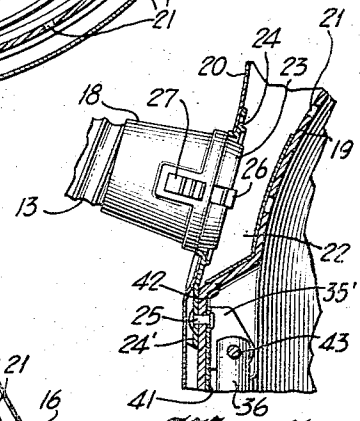


Fig. 5



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HAIR DRYER

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5 Claims. (Cl. 34—99)

ABSTRACT OF THE DISCLOSURE

The support structure for supporting the hair drying helmet off the base unit makes it possible to set up and knock down the helmet with a single motion.

This invention relates to a hair dryer, and more particularly, to a portable home hair dryer having a hard helmet-type hair drying hood.

It is an object of this invention to provide a low cost, easy to operate, compact, and portable home hair dryer having a hard helmet-type hair drying hood.

Briefly, in the invention the existing motor-fan-heater unit of a current commercial home hair dryer is provided with a hard helmet-type hair drying hood which serves as a cover for the motor-fan-heater unit so that the device is compact, portable and low cost. Ease of operation is attained by providing a collapsible support or strut between the motor-fan-heater unit and hood which in one stroke or a single motion sets up the hood in operative position. The same is true of closing the hair dryer. In addition, the collapsible support or strut is made adjustable so that the elevated position of the hood can be readily adjusted to suit the individual requirements of different users.

The features of the invention which are believed to be novel are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and operation, together with further objects thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings.

In the drawings:

FIG. 1 is a broken away side elevation view of one form of the invention showing the device in closed position;

FIG. 2 is a view similar to FIG. 1 but showing the device in open position and with the air hose connected up;

FIG. 3 is an enlarged sectional view taken along the section line 3—3 of FIG. 1;

FIG. 4 is an enlarged sectional view taken along the section line 4—4 of FIG. 2;

FIG. 5 is an enlarged sectional view taken along the section line 5—5 of FIG. 2;

FIG. 6 is a sectional view taken along the section line 6—6 of FIG. 4;

FIG. 7 is an enlarged sectional view taken along the section line 7—7 of FIG. 2; and

FIG. 8 is an enlarged sectional view taken along the section line 8—8 of FIG. 2.

In the invention the hair dryer has a base assembly **10** which is the existing motor-fan-heater unit of a current commercial form of hair dryer. The motor-fan-heater unit **10** is of the type shown in Madl design patent Des. 196,475 assigned to the same assignee as the instant patent application. Its mechanical and electrical details are fully described in pending Jepson et al. patent application Ser. No. 185,625 filed Apr. 6, 1962, now U.S. Pat. No. 3,220,119, and assigned to the parent company of the assignee of the instant patent application. Said details will not be repeated herein since they are not necessary for a clear understanding of the instant invention. Briefly,

the unit or base assembly **10** comprises a molded plastic housing **11** which contains a not shown motor driven fan and heater subassembly. An upper grill work **12** comprises the air inlet, and a flexible air hose **13** is connected to an air outlet or passageway **14**. The hose **13** can be stored in coiled position on the top of housing **11** between the raised grill work **12** and the spaced side wall **11'**. A switch button **15** is located along the grill **12** for controlling the hair dryer.

The parts so far described are conventional. These parts are intended to be closed by a hair dryer hood **16**. Latches **17** are provided for latching the hood **16** to base **10**. The top of hood **16** is provided with a carrying handle or ring **19'** so that the device is portable.

The inner end of hose **13** is permanently connected to unit **10** whereas its outer end is removably connected to the hood **16**. For this purpose a connector **18** is provided at the outer end of the hose **13**. The details of connector **18** are described in Chambers et al. Patent 3,168,382, also assigned to the parent company of the instant assignee.

The hood **16** comprises a rigid inner molded plastic helmet **19** and an outer plastic sheet material cover **20**. Helmet **19** is perforated. That is to say, it's provided with hair drying air distributing holes **21**. The outer cover **20** is spaced from helmet **19** by a space **22** which comprises an air manifold. The air impervious or imperforate cover **20** can be constructed from fabric as well as plastic sheet material. An advantage of the outer soft cover **20** is that it is low cost and readily available in a multiplicity of different designs or ornamental patterns for purposes of making the portable hair dryer attractive to a prospective purchaser as well as the user.

At the rear of the hood the cover **20** is provided with an air inlet opening **23** (see FIG. 6) which is bounded by a connector ring **24**. Ring **24** is rigidly supported off the helmet **19** and in spaced relationship with respect to the helmet by a support finger or strap **24'** and a rivet or the like **25**. Finger **24'** is integral with the ring **24** and rivet **25** extends through finger **24'** and helmet **19**. Since ring **24** is rigidly spaced from helmet **19** the connector **18** can be readily inserted into and latched to ring **24**. The latches for connecting connector **18** to ring **24** are indicated by reference numeral **26**. Latches **26** are released by depressing latch release buttons **27** on connector **18**.

Cover **20** at its bottom edge is stitched to an elastic band **28** (see FIG. 7) which in turn is glued to the bottom edge of helmet **19**. At its upper end cover **20** is connected to a piece of fabric **20'** (see FIG. 4) which can have the same or a different pattern than fabric **20**. Fabrics **20** and **20'** are connected together by stitching them together and to an elastic band **29** which gathers the material **20** and **20'** to give them a ruffled effect. The fabric **20'** is clamped to the helmet **19** between two discs **30** and **31**. A bolt or the like **32** extends through the parts **19**, **30**, **20'** and **31** as well as the carrying handle **19'** to complete the upper assembly.

When hood **16** is in the closed position shown in FIG. 1 its bottom edge rests on a circular ledge **11''** extending around the unit **10**. Opposite latch lugs **33** (see FIG. 4) are connected to the lower edge of the hood adjacent to latches **17**. Latches **17** are conventional toggle-type luggage latches and they grip the lugs **33** to hold the hood **16** closed with respect to base unit **10** with the hose **13** being stored therebetween in coiled position for true portability of the hair dryer.

In order to set up the hair dryer for use the latches **17** are first disengaged. Then the handle **19'** is raised. Raising handle **19'** results in swinging movement of the hood **16** from its FIG. 1 position to its FIG. 2 position by virtue of a pivoted strut mechanism **34** interconnecting the hood **16** and base **10**. At its lower end the strut mechanism **34** is pivotally connected to the right hand side of the base

10 when viewing FIGS. 1–3. At its upper end the strut mechanism 34 is pivotally connected to the left hand side of the hood 16. In collapsed position the strut 34 is completely housed between the base 10 and hood 16 in the manner shown in FIGS. 1 and 3. In its upright position the upper end of strut 34 is grasped by a U-shaped clamp 35 to tilt the hood 16 upwardly at a slight angle from the horizontal as shown in FIG. 2. Movement of the helmet 16 from its FIG. 1 to its FIG. 2 position is accomplished by the single motion of pulling up on handle 19'.

Actually the strut mechanism 34 comprises two telescopic tubes 36 and 37 with the inner and upper tube 36 being positioned within the outer and lower tube 37. The lower end of tube 37 is pivotally connected to a U-shaped member 38 fixed to base 10. The upper end of the back of member 38 has a cut-out or notch 39 so that strut 34 can swing from right to left. However, in the raised position the bottom of strut 34 abuts that part of the back of member 38 below the notch 39 to releasably hold the strut in upright or elevated position. The lower end of tube 37 is pivotally connected to member 38 by a pivot pin or the like 40.

The upper end of tube 36 is pivotally connected to the lower rear portion of helmet 19 by a bracket 41 having two spaced U-shaped portions 35 and 35'. Bracket 41 is connected to helmet 19 by rivet 25 and another rivet 25'. Bracket 41 is positioned in an out of the way location by being located in a recess 42 formed in the lower rear portion of helmet 19. The upper end of tube 36 is pivoted to part 35' by a pivot pin or the like 43. The part 35 of bracket 41 is the previously mentioned clamp for gripping the strut 34 to hold the hood 16 tilted upwardly slightly.

Tubes 36 and 37 are adjustable lengthwise with respect to each other so that hood 16 can be raised or lowered depending upon the sitting height of the hair dryer user. The adjusting means for the strut 34 comprises a lengthwise slot 44 in tube 36, a collar 45 on the upper end of tube 37, and a stud 46 extending through one side of collar 45 and through slot 44 into abutting relationship with the side of tube 36 opposite to that of slot 44. The outer end of stud 46 has a thumb wheel 47. When the wheel 47 is turned to move stud 46 to the right this results in clamping of tubes 36 and 37 together to hold them in their adjusted position. When the stud 46 is loosened the tube 36 is free to slide down into tube 37 to the position shown in FIG. 2. That is to say, in this position the strut mechanism 34 is axially or lengthwise collapsed. When the handle 19' is raised to elevate the strut 34 after strut 34 is upright the lower left hand side of the hood (when viewing FIG. 2) is pushed toward the right to cause the clamp 35 to grip the strut 34. When closing the hair dryer the right hand side of the hood 16 is pushed to disengage the clamp 35. Thereafter, when the handle 19' is pulled to the left the hood is automatically self-lowering to its FIG. 1 position. The slot 44 is closed at its upper and lower ends. Its closed lower end limits the height to which the hood 16 can be raised and prevents accidental disassembly of the strut mechanism 34. The closed upper end of slot 44 limits downward movement of tube 36 into tube 37. When the stud 46 reaches the upper end of slot 44 the strut mechanism 34 is shortened lengthwise just sufficiently to be collapsed from its elevated position to its generally horizontal position within the hood closed motor-fan-heater unit or base 10. Additionally, since the tube 36 is freely slidable within tube 37 after thumb wheel 47 is loosened there's sufficient freedom of movement between the base side walls 11' and the surrounding edge of helmet 19 to facilitate easy alignment of the lugs 33 and their latches 17.

While there has been shown and described a particular embodiment of the invention, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention, and that it is intended by the appended claims to cover all such changes

and modifications as fall within the true spirit and scope of the invention.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. In a hair dryer comprising a base assembly and a rigid hair drying helmet superposed on said base assembly to cover the same, a support interconnecting said base assembly and helmet for supporting the helmet in elevated position, said support comprising a strut, said strut being generally horizontally disposed between said helmet and base assembly when said helmet is superposed on said base assembly, one end of said strut being pivotally connected to said base assembly along one side thereof, the opposite end of said strut being pivotally connected to the helmet along the opposite side of said base assembly, whereby manual lifting of said helmet pivots said strut with respect to said base assembly and helmet to position said helmet in elevated position outboard said one side, and means for releasably fixing said helmet with respect to said opposite end of said strut.

2. In a hair dryer as in claim 1, wherein said strut opposite end is pivotally connected to said helmet inside said helmet above the bottom edge thereof, and said last mentioned means comprising a releasable latch disposed inside said helmet below the pivotal connection between said strut opposite end and helmet, and means on said base assembly adjacent the pivotal connection between said strut one end and base assembly for releasably retaining said strut in elevated position when said helmet is lifted off said base assembly to its elevated position.

3. In a hair dryer comprising a base assembly and a rigid hair drying helmet superposed on said base assembly to cover the same, a collapsible support interconnecting said base assembly and helmet for supporting the helmet in elevated position, said support comprising two telescoped tubular members, said members being generally horizontally disposed between said helmet and base assembly when said helmet is superposed on said base assembly, one end of one member being pivotally connected to said base assembly along one side thereof, the opposite end of the other member being pivotally connected to the helmet along the opposite side of said base assembly, whereby manual lifting of said helmet pivots said telescoped members with respect to said base assembly and helmet to position said helmet in elevated position outboard said one side, means for selectively fixing the telescoped position of said two members, and means for releasably fixing said helmet with respect to said opposite end of the other member.

4. In a hair dryer as in claim 3, wherein said rigid helmet comprising a rigid plastic perforate inner member and an imperforate flexible plastic outer member, said plastic members being spaced and sealed with respect to each other to define an air manifold therebetween, an air inlet opening formed in said imperforate member, an air hose connected to said base assembly and said air inlet opening for delivering drying air to said manifold, and said hose being flexible and releasably connected to said opening for coiled storage of said hose on said base assembly.

5. In a hair dryer comprising a base assembly and a rigid hair drying helmet superposed on said base assembly to cover the same, releasable latch means interconnecting said base assembly and helmet to retain said helmet superposed on said base assembly, and a carrying handle connected to the top portion of said helmet for hand carrying said hair dryer; a support mounted on said base assembly for supporting said helmet in elevated position off said base assembly during a hair drying operation, said support comprising a generally elongated support strut, said strut being generally horizontally disposed between said helmet and base assembly for storage therebetween when said helmet is superposed on said base assembly, a pivotal connection between one end of said strut and the base assembly, said pivotal connection being

positioned along one side of said base assembly, another pivotal connection between the other end of said strut and the helmet, said another pivotal connection being positioned along the opposite side of said base assembly and inside said helmet, whereby manual lifting of said helmet by pulling on said carrying handle after release of said latch means pivots said strut with respect to said base assembly and helmet to position said helmet in elevated position outboard said one side, and means on said base assembly adjacent the first mentioned pivotal connection for releasably retaining said strut in elevated position and means adjacent the second mentioned pivotal connection for releasably fixing said helmet with respect to said other end of said strut when said helmet is lifted off said base assembly to its elevated position.

References Cited

UNITED STATES PATENTS

2,738,593	3/1956	Fox	34—99 X
3,168,382	2/1965	Chambers et al.	34—99
3,220,119	11/1965	Jepson et al.	34—99
3,267,587	8/1966	Niemiec et al.	34—99

FOREIGN PATENTS

911,667	3/1946	France.
1,175,135	11/1958	France.
1,369,604	7/1964	France.

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