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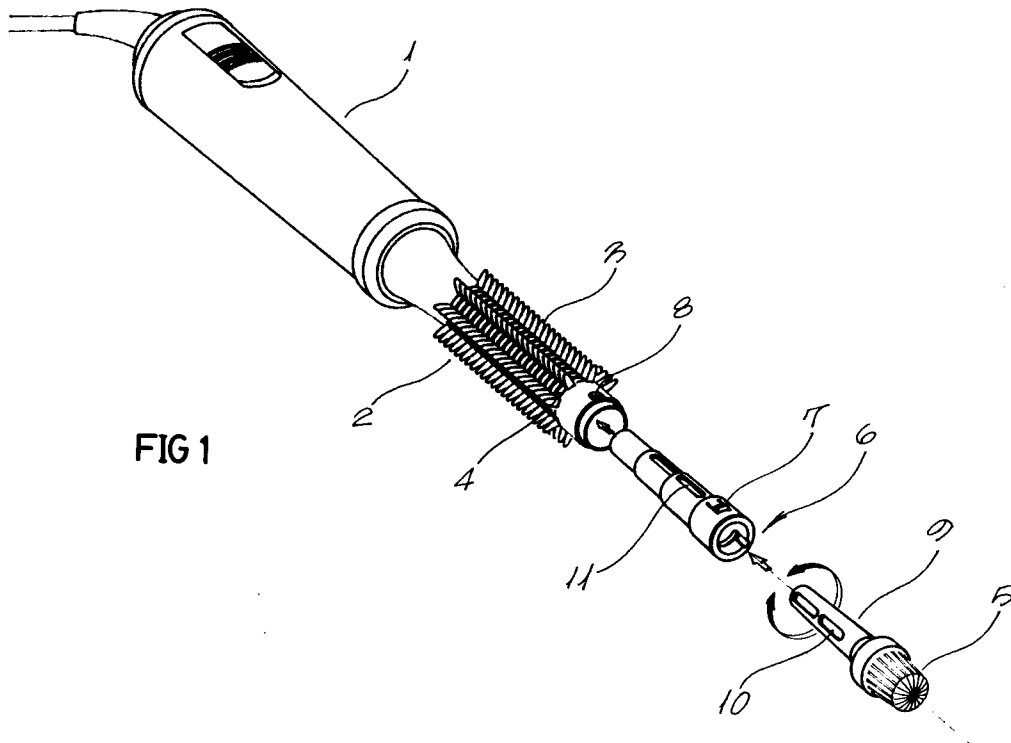
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**Hair care appliance including mechanism for applying fragrance to the hair.**

An electrically powered hand held hair care appliance of the type which directs a stream of warm air towards the hair includes an enclosed fragrance

store and a release mechanism for selectively releasing fragrance from the store.



**FIG 1**

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### Field of the Invention

The present invention relates to hair care appliances which in use direct a stream of air towards the hair, for example warm air brushes, hair dryers, warm air curling irons, air diffusers and air concentrators, and relates in particular to appliances of this type which include a mechanism for entraining fragrance in the stream of air so that the fragrance is applied to the hair.

### Prior Art

US Patent Specification No. 2,827,060 to Marty describes an air discharge nozzle and brush appliance for hair waving, and teaches that a mesh bag containing cotton, a pad or the like saturated with perfume may be dropped into the nozzle through a slot so as to lie in the path of warm air travelling through the nozzle, so that the perfume becomes entrained in the warm air. The arrangement proposed by Marty suffers from a number of disadvantages and drawbacks. Firstly the cotton or pad obstructs the air flow along the nozzle. Secondly during use of the nozzle there is no way of controlling fragrance release. Thirdly the use of cotton or a pad in this manner involves the user in dispensing the fragrance with the consequent risk of spilling the fragrance, for example on clothing. Fourthly when the nozzle is not in use fragrance will continue to evaporate from the cotton or pad.

US Patent Specification No. 4,615,347 to Schooley discloses an attachment for a hair dryer which adds a scent or perfume to the warm air blowing out of the hair dryer. The attachment is fitted over the mouth of the hair dryer and consists of an open mesh supporting an array of beads of scent. This arrangement suffers from various drawbacks. Firstly the attachment obstructs the flow of air through the hair dryer. Secondly the volume of scent must be kept small so as to minimize the obstruction of the air. Thirdly once the foil is removed and the attachment is put in place the release of fragrance cannot be controlled. Fourthly the charge of fragrance which can be included in the beads is very small. Finally, fragrance is released at temperatures over 40°C, and accordingly the attachment cannot be used with cold air, and more importantly if used with modern hair dryers which operate at a much higher temperature the small charge of fragrance will evaporate very rapidly.

### Object and Summary of the Invention

An object of the present invention is to provide an improved appliance of the type described. A particular object of the invention is to provide an

appliance in which the release of fragrance can be controlled during use, and prevented when the appliance is not in use, is easy to operate, and does not involve the user in dispensing fragrance.

The invention provides a hair care appliance which in use thereof directs a stream of air towards the hair, comprising an enclosed fragrance store for containing a charge of fragrance, and a fragrance release mechanism operable by the user for selectively releasing fragrance from the store into the air stream as required.

In a preferred construction the fragrance release mechanism comprises an aperture in the enclosed housing which allows communication between the interior of the housing and the path of the air stream, and a shutter for opening and closing the aperture, so that in use of the appliance the shutter may be operated to open the aperture and allow fragrance to be evaporated or vaporized and entrained in the air stream.

Preferably the shutter may be moved manually between the open and closed position.

The invention also provides an attachment for an existing hair care appliance, the attachment having the features mentioned above, so that when the attachment is used in combination with the existing appliance, fragrance may be applied to the hair.

The invention further provides a fragrance store in the form of a modular unit which is readily attachable to and detachable from a hair care appliance or attachment in accordance with the invention, so that when the user wishes to change fragrance or when the charge of fragrance becomes exhausted, the user may remove the modular unit and replace it with another unit.

### Brief Description of the Drawings

Figure 1 is an exploded perspective view of a warm air brush in accordance with the invention; Figure 2 is a similar view of a curling iron in accordance with the invention;

Figure 3 shows an exploded perspective view of attachment in accordance with the invention for use in connection with a conventional hair dryer which is also illustrated in the drawing;

Figures 4, 5 and 6 show alternative uses of the attachment illustrated in Figure 3;

Figures 7 and 8 show an attachment in accordance with the invention including a modular unit according to the invention;

Figures 9a, b, c, d, e and f show various views of the modular unit shown in Figures 7 and 8;

Figures 10 and 11 show perspective views assembled and exploded respectively of an alternative modular unit in accordance with the invention;

Figures 12a, 12b and 12c show underneath, side and front views of an attachment which may be fitted with a modular unit in accordance with Figures 10 or 11 and then attached to a conventional hair dryer;

and Figure 13 shows an exploded perspective view of a hair dryer in accordance with the invention.

#### Detailed Description

Referring initially to Figure 1, the warm air brush comprises a handle 1 including a heater blower mechanism (not shown) which generates a stream of warm air, a hollow barrel 2 along which the warm air flows, brush teeth 3 on the hollow barrel, perforations 4 for distributing the warm air to the hair, and an end cap 5.

All of the foregoing components are known in the art. The air brush further comprises an air flow divider 6 located within the hollow barrel 2 at the outer end thereof. The diameter of the air flow divider 6 increases towards the outer end of the hollow barrel 2, and the divider 6 serves to guide air which is approaching the outer end of the hollow barrel 2 in a generally radially outward direction, thus ensuring smooth flow and preventing any back pressure or turbulence at the outer end of the hollow barrel 2. The air flow divider 6 is fixed in position in the hollow barrel 2 by the co-operation between the lug 7 in the divider and the slot 8 in the hollow barrel.

The air brush further comprises a fragrance store and fragrance release mechanism. The store comprises a housing 9 integrally formed with the end cap 5. The housing 9 contains a wick of acetate material (not shown) impregnated with a liquid fragrance. The housing 9 is located within the hollow air flow divider 6 at the outer end thereof. The housing 9 is retained in position by a lug (not shown) on the housing which co-operates with a slot (not shown) in the air flow divider 6. The slot is elongated in the circumferential direction, allowing the housing 9 and cap 5 to be rotated together relative to the air flow divider 6.

In use of the warm air brush of Figure 1, fragrance may be selectively released or not, as required. To release fragrance, the end cap 5 is manually rotated to bring apertures 10 in the housing into register with apertures 11 in the air flow divider so that the interior of the housing 9 communicates with the interior of the hollow barrel 2. Warm air flowing along the hollow barrel 2 causes evaporation of the liquid fragrance and entrains the vaporized fragrance. To prevent release of fragrance, the end cap 5 is manually rotated in the opposite direction so that the apertures 10, 11 are mutually out of register thus containing the fra-

grance within the housing 9. Intermediate settings are also possible to allow slow release of fragrance. Usually the store is kept closed during the initial stage of drying and brushing the hair, is opened during the final stages so as to apply fragrance, and the store is then always closed when the air brush is not in use.

If the user wishes to change fragrance, the air flow divider 6, the housing 9 and the end cap 5 may be detached from the air brush as a modular unit, and replaced by another unit charged with a different fragrance. When the charge of fragrance becomes exhausted, the modular unit may be discarded and replaced by another modular unit.

The air brush shown in Figure 1 is of particularly advantageous construction. It will be appreciated that fragrance may be applied under completely controlled conditions as and when required. When not being applied, the fragrance does not interfere with the operation of the appliance, in particular does not block the air flow. The user is not required to handle or dispense fragrance. When not in use, no fragrance is lost. The user may easily change from one fragrance to another.

Figure 2 shows a curling iron 20 including a hollow barrel 21, a tongue 22 for holding hair in position on the hollow barrel 21, and a spring loaded lever 23 for operating the tongue 22. These components are known in the art. The curling iron is provided with a modular unit which is essentially the same as that shown in Figure 1 and will therefore not be described further.

Figure 3 shows a hair dryer 30 of conventional type and an attachment 31 for the hair dryer, the attachment consisting of a fragrance store and a fragrance release mechanism. The attachment consists of a two part annular housing 32, 33 which contains a wick 34 of acetate material impregnated with a liquid fragrance and includes a number of apertures 35 in the inner wall of part 32 and a series of corresponding apertures 36 in part 33. The attachment is a snap fit on the outer end of the hair dryer barrel so that part 33 is fixed against rotation relative to the hair dryer, but part 32 may be rotated relative to the hair dryer. In use part 32 may be rotated relative to part 33 to bring the two sets of apertures 35, 36 into or out of register with one another as required, so as to allow or prevent release of fragrance. The sets of apertures 35, 36 may also be brought into partial register.

Figure 4 shows an alternative use of the attachment 31 of Figure 3. A hair dryer (not shown) is connected by means of a universal connector 40 to a hood 41 for applying warm air to the hair. The connector 40 allows a hair dryer and a hood of different diameters to be connected to one another. The attachment 31 of Figure 3 is interposed between the connector 40 and the hood 41.

Figure 5 shows an alternative use of the attachment of Figure 3, with the attachment 31 interposed between a hair dryer 51 and a hood 41.

Figure 6 shows an alternative use of the attachment 31 of Figure 3, with the attachment interposed between a connector 40 and a diffuser 60.

Figures 7 and 8 show an attachment 70 in the form of an air diffuser. The diffuser 70 comprises an air inlet 71 which may be attached to the nozzle of a hair dryer, a perforated plate 72 for diffusing the air from the hair dryer, comb teeth 73 for use in combing the hair, and a central aperture 74 for receiving the modular unit 75.

Figures 9a, 9b, 9c, 9d, 9e and 9f show the modular 75 unit in more detail. The modular unit 75 consists of a hollow cylindrical housing for containing a wick (not shown) charged with fragrance, the hollow cylindrical housing comprising two components 75a, 75b each including a series of apertures 76a, 76b the components 75a, 75b being mutually relatively rotatable about their common axis so as to allow the apertures 76a, 76b to be moved into or out of register with one another, with component 75b being provided with a handle 75c for effecting such rotation, and being provided with a flange 75d which is a snap fit into the diffuser 70 of Figures 7 and 8.

Referring now to Figures 10 and 11 there is shown an alternative form of modular unit 80. This unit 80 is shaped similarly to a horseshoe and comprises a housing 81, a wick 82, and a cover 83 provided with apertures 84 to allow release of fragrance, and lugs 85 for locating the modular unit on an appliance as best described with reference to Figures 12a, 12b and 12c.

Referring to Figures 12a, 12b and 12c there is shown an air brush attachment 90 which may be snap fitted onto the nozzle of a conventional hair dryer (not shown).

The air brush attachment 90 includes a neck portion 91 provided with a series of apertures 92. The modular unit 80 of Figures 10 and 11 is fitted over the neck portion 91 so that lugs 85 engage in slots 93 and can then be moved in rotation relative to the neck portion 91 to bring the aperture 84 in the modular unit 80 into or out of register with the apertures 92 on the attachment 90.

Referring to Figure 13, there is shown a hair dryer 100 incorporating a fragrance store and release mechanism. The store consists of an annular housing 101 containing a wick 102 charged with liquid fragrance. The release mechanism consists of a set of apertures 103 in the sidewall of the hair dryer 100 and a set of apertures 104 in the housing 101 which may be brought into or out of register with one another by rotation of the housing 101.

1. A hair care appliance which directs a stream of air towards the hair, comprising an enclosed fragrance store for containing a charge of fragrance, and a fragrance release mechanism operable by a user for selectively releasing fragrance from the store into the air stream as desired.
2. A hair care appliance according to claim 1 in which the fragrance release mechanism comprises an aperture in an enclosed housing which allows communication between an interior of the housing and a path of the air stream, and a shutter for opening and closing the aperture, so that in use of the appliance the shutter can be operated to open the aperture and allow the fragrance to be evaporated or vaporized and entrained in the air stream.
3. A hair care appliance according to claim 2 in which the shutter can be moved manually between the open and closed position.
4. An attachment for a hair care appliance which directs a stream of air towards the hair, the attachment comprising an enclosed fragrance store for containing a charge of fragrance, and a fragrance release mechanism operable by a user for selectively releasing fragrance from the store into the air stream as desired.
5. A fragrance store for use in connection with a hair care appliance in accordance with claim 1 or an attachment according to claim 4, the fragrance store being in the form of a modular unit which is readily attachable to and detachable from the hair care appliance or attachment so that when the user wishes to change fragrance or when the charge of fragrance becomes exhausted, the user may remove the modular unit and replace it with another unit.
6. The hair care appliance of claim 1, wherein said fragrance store comprises a modular unit releasably attached to said hair care appliance.
7. The attachment of claim 4, wherein said fragrance store comprises a modular unit releasably attached to said attachment.

## Claims

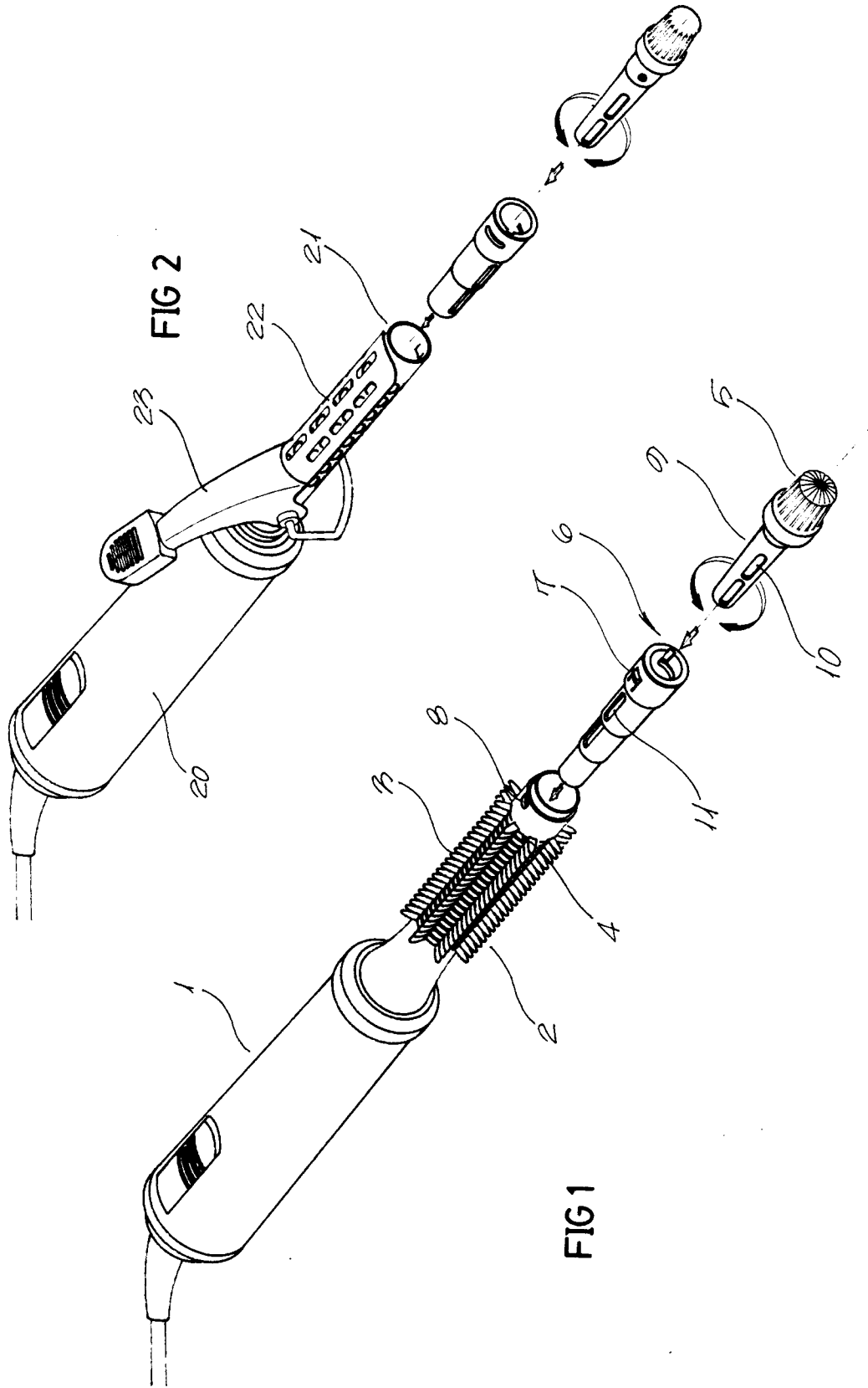


FIG 2

FIG 1

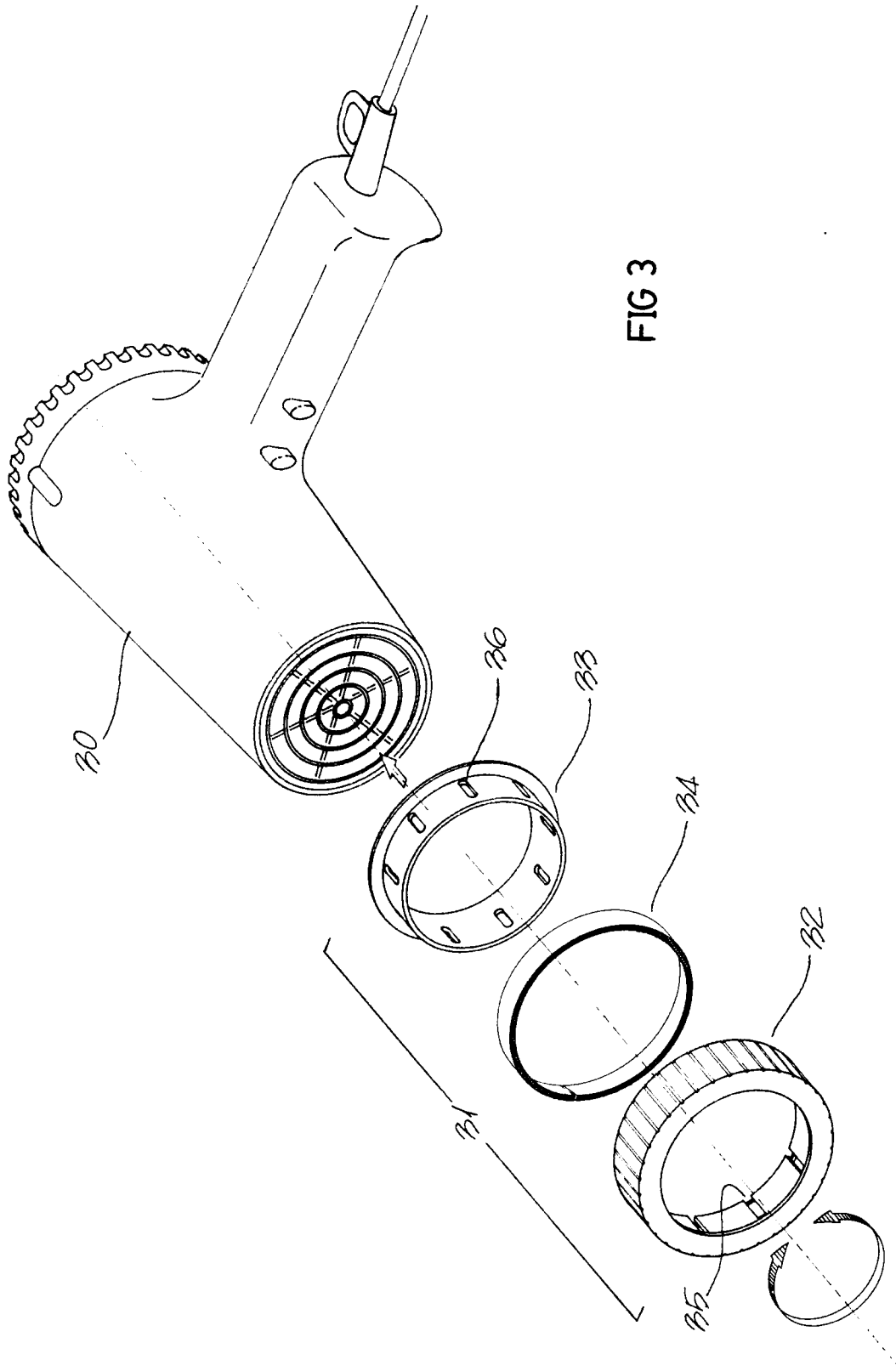
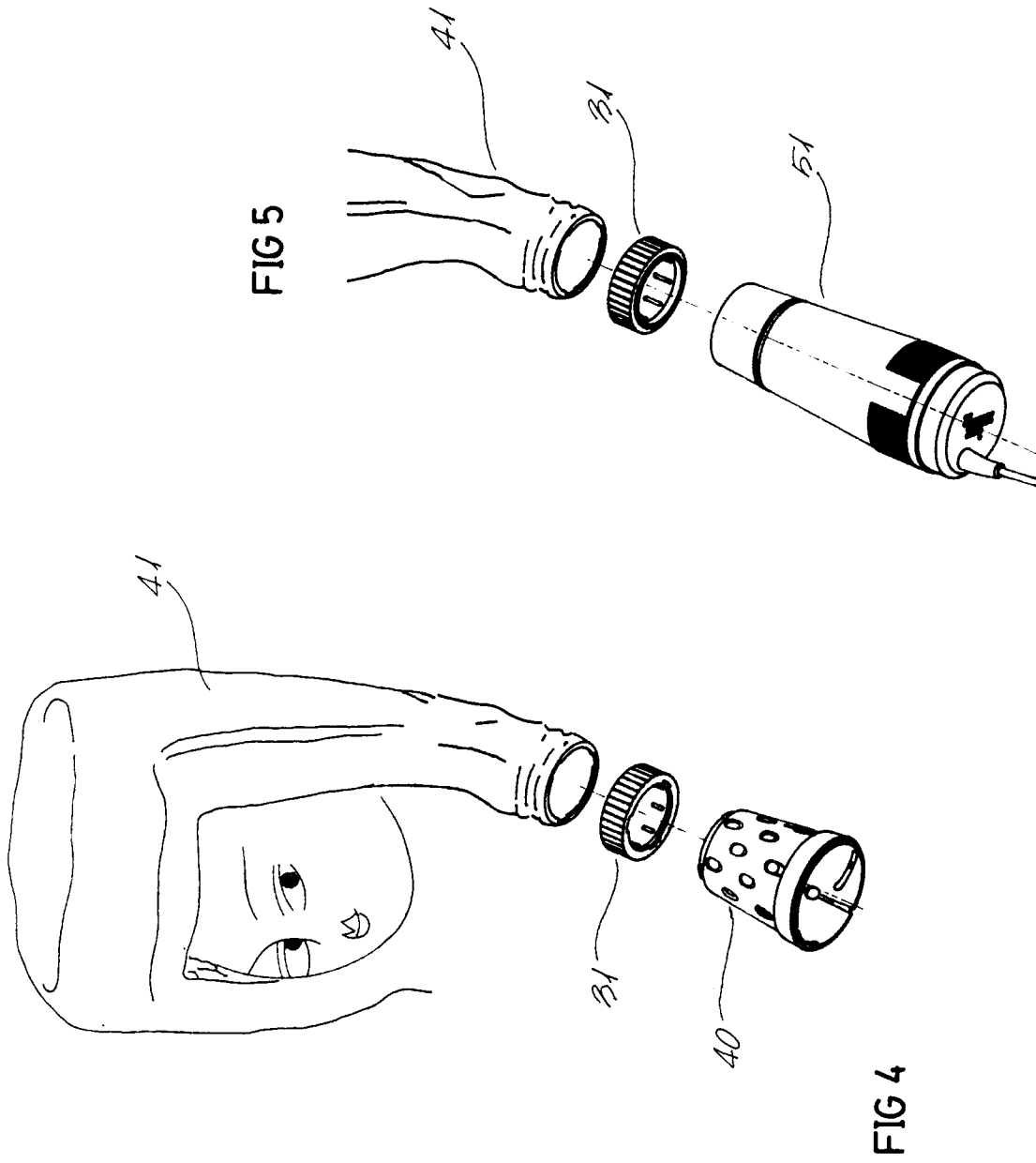
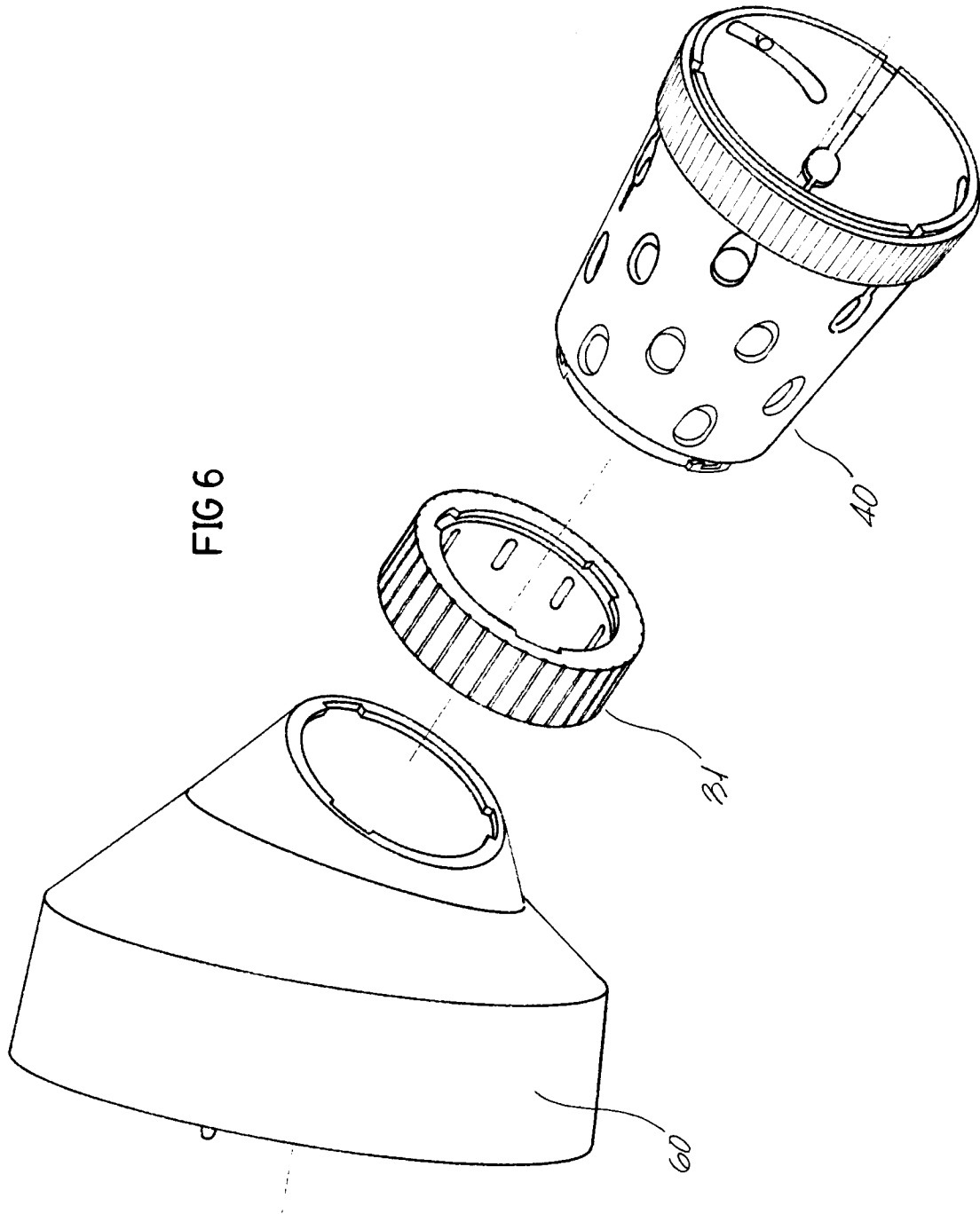


FIG 3







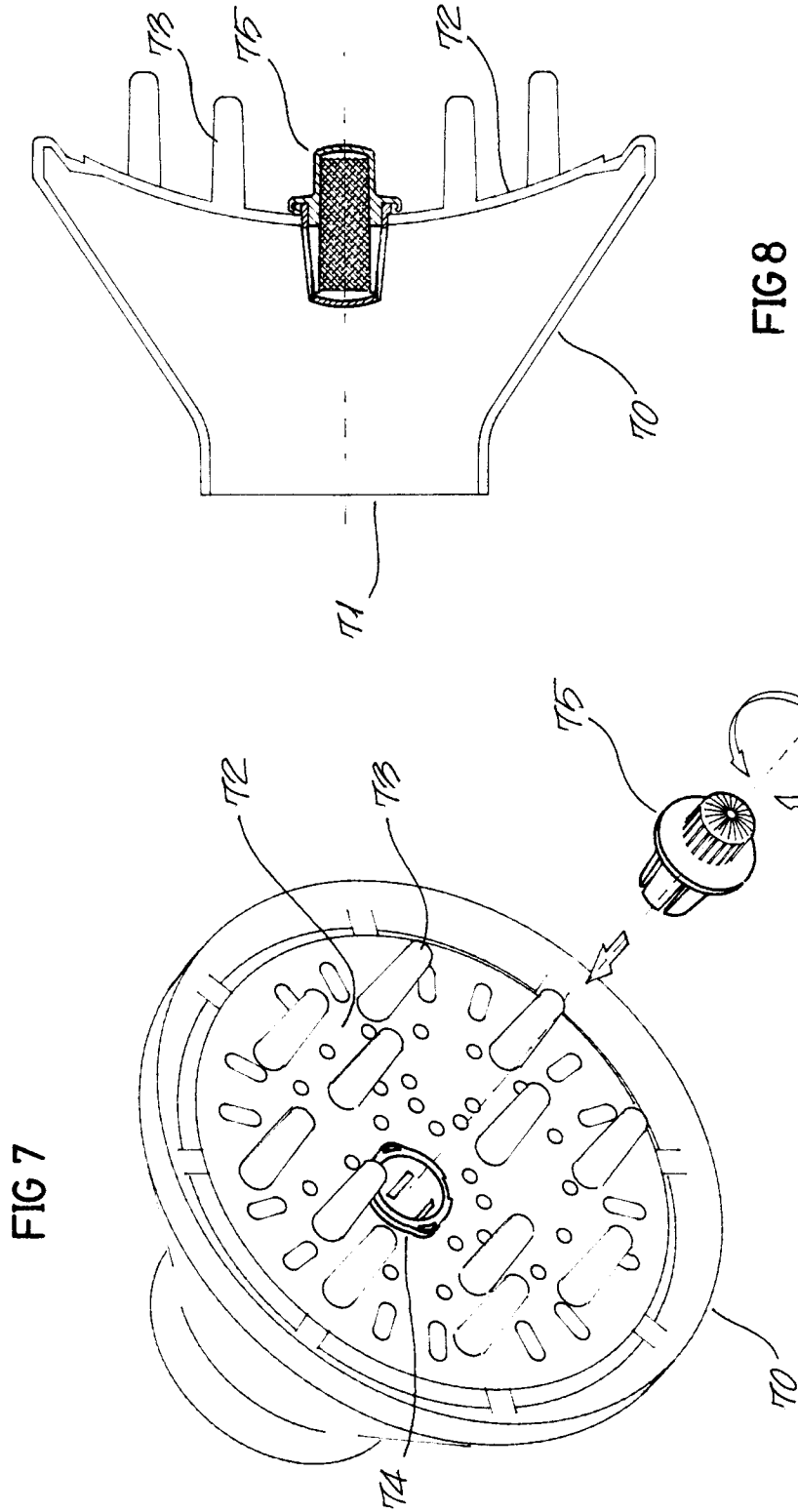
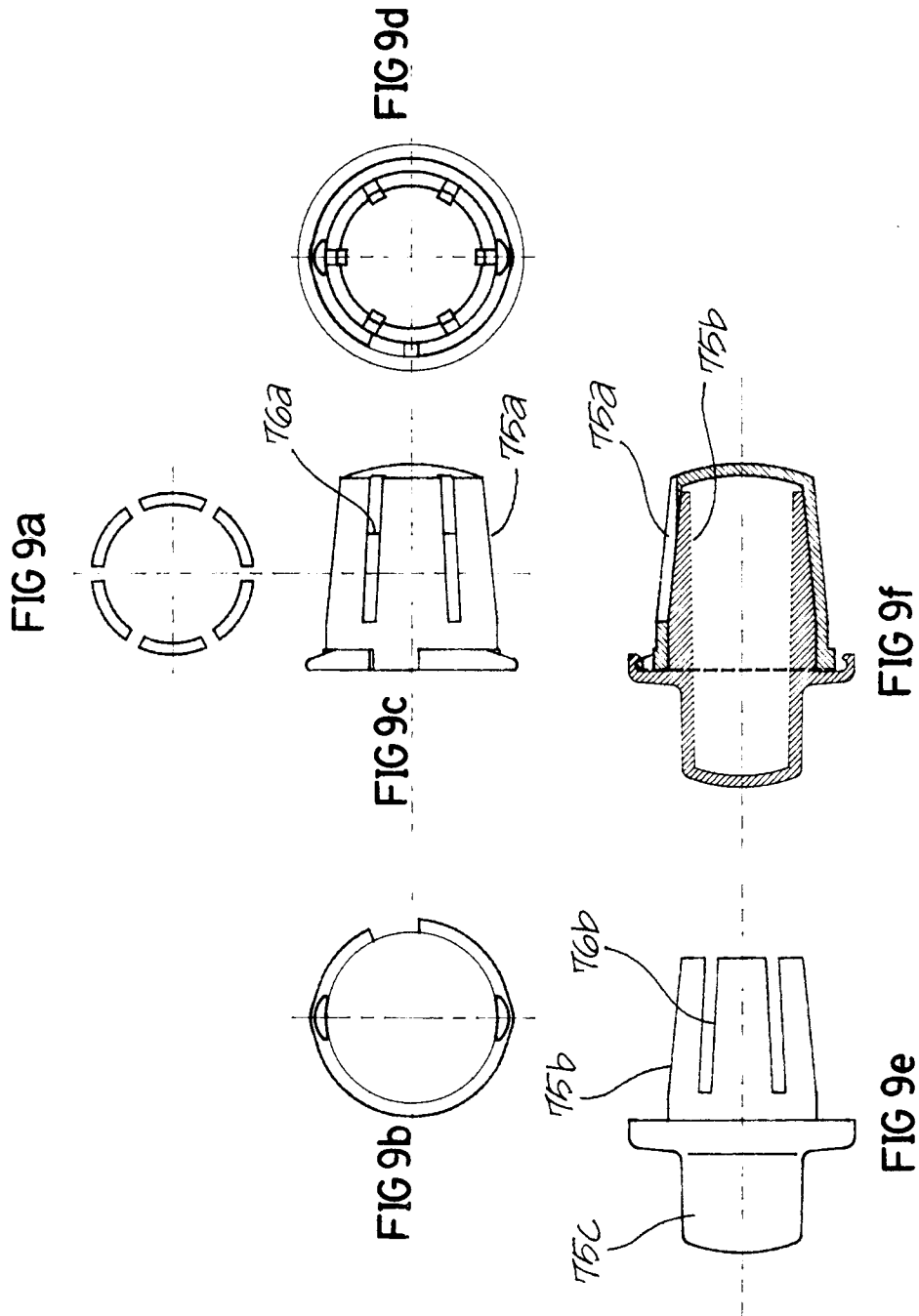


FIG 7

FIG 8



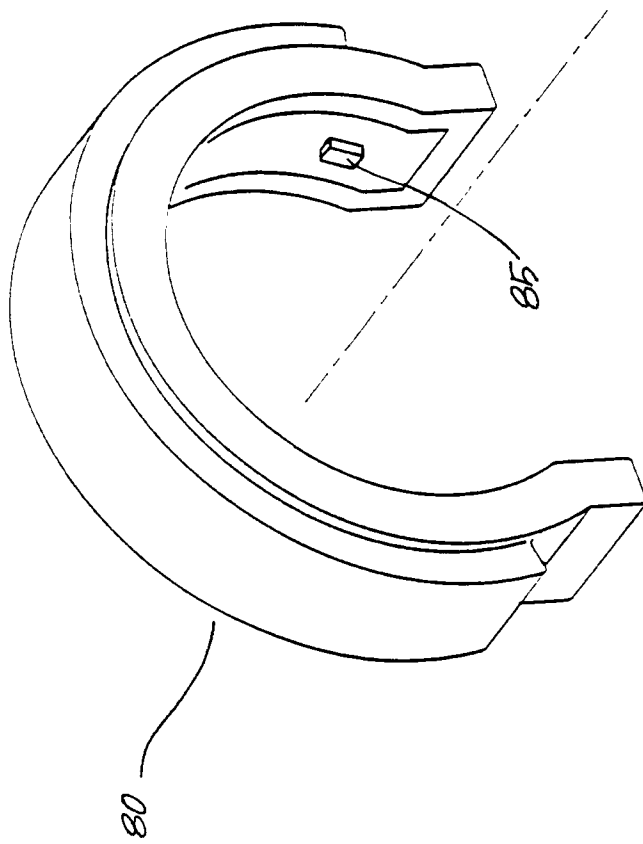


FIG 10

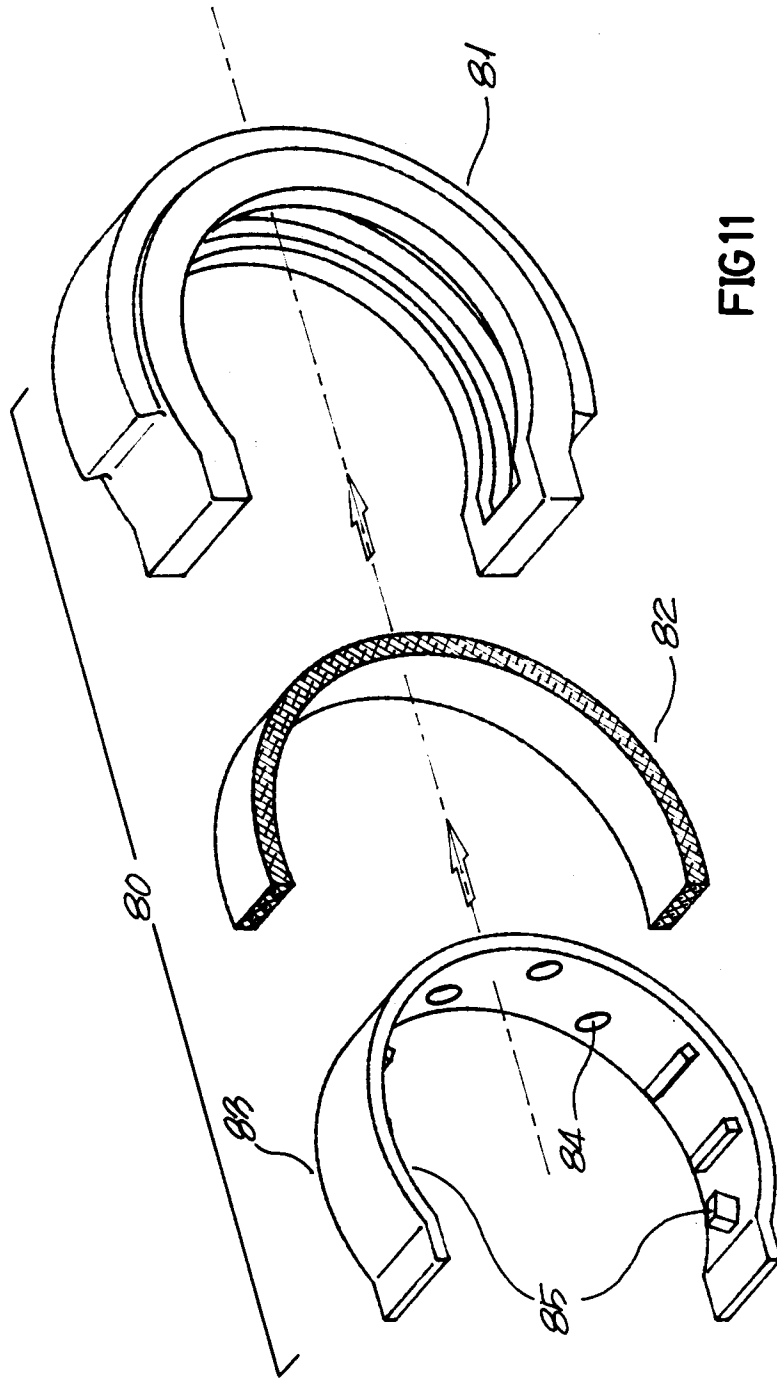
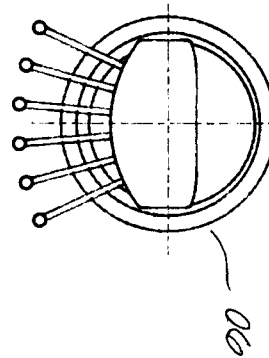
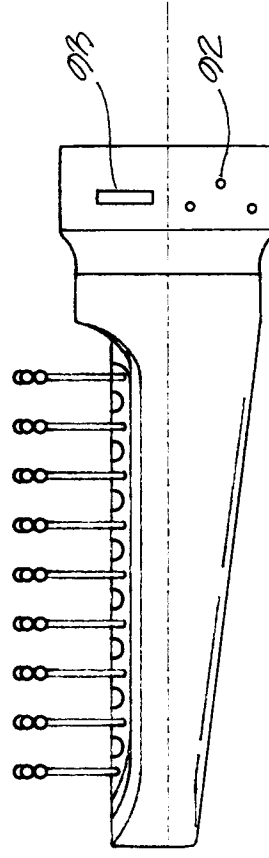
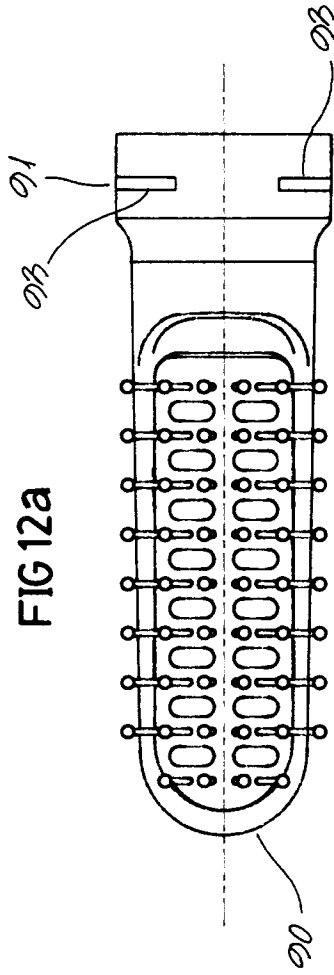


FIG 11



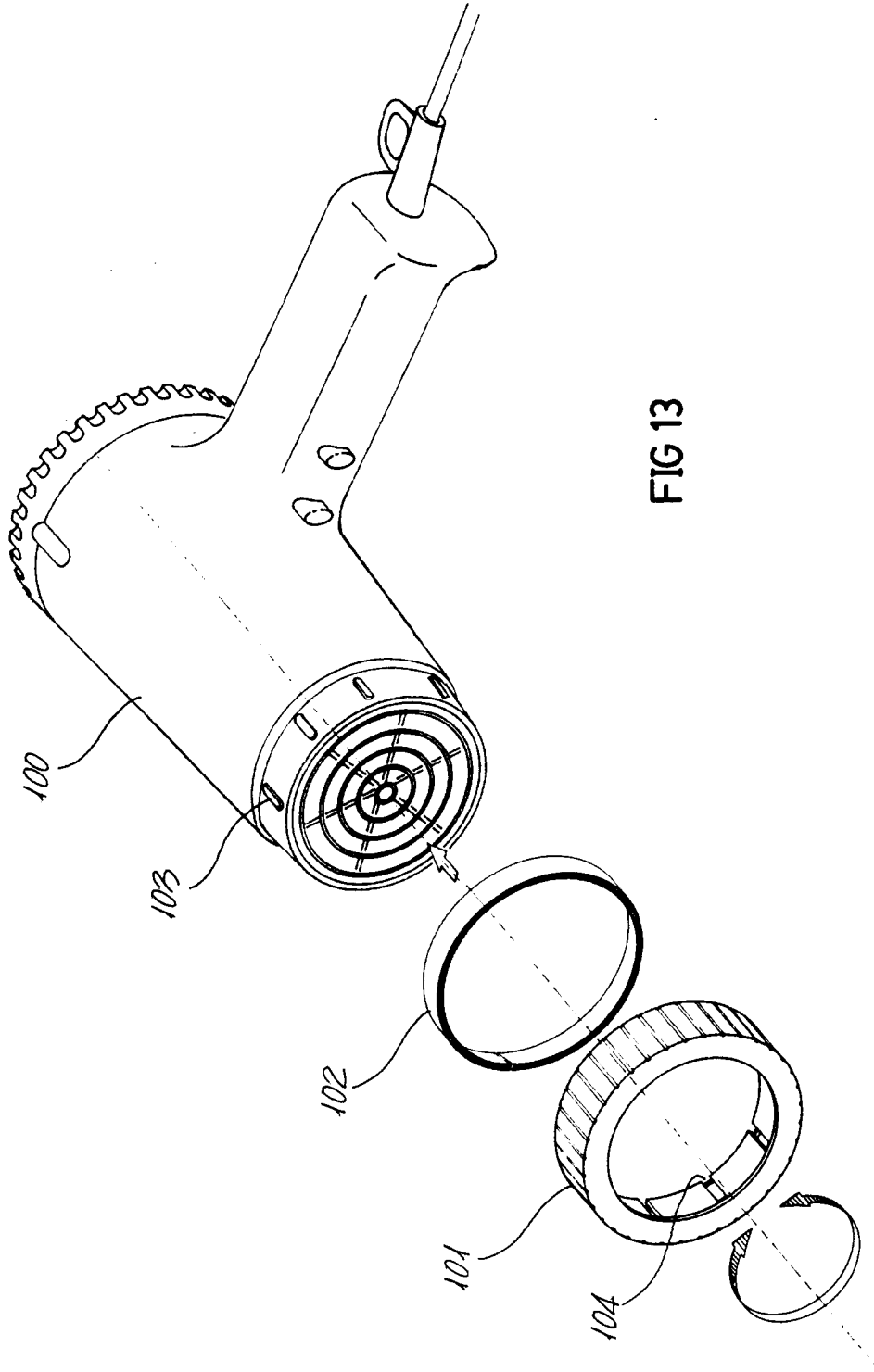


FIG 13



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	DE-A-2 908 420 (KLUGHARDT) * the whole document * ---	1, 2, 3, 4, 5, 6, 7	A45D20/12 A45D20/50 A45D20/18
X	FR-A-2 273 492 (L'OREAL) * page 13, line 26 - page 15, line 24 * * page 18, line 10 - page 19, line 13; figures 8, 18 * ---	1, 4	
A	GB-A-270 491 (COOPER) * the whole document * ---	1	
X	FR-A-1 471 557 (MATTIUZZO) * the whole document * ---	1, 4	
A	AU-A-1 666 376 (KENNETH IBBOTT) * the whole document * ---	5, 6, 7	
A	US-A-4 835 879 (EGELSTAD) ---		
A	US-A-3 524 266 (HANISCO) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A45D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 OCTOBER 1992	Examiner VERDOODT S.J.M.
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