United States Patent

Regas

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[54] **HAIR DRESSING APPLIANCE**

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[52] **U.S. Cl.** **132/9**

[51] **Int. Cl.** **A45d 1/00**

[58] **Field of Search**.....132/9, 46, 47, 50, 52, 7, 36.2, 132/36 R

[56] **References Cited**

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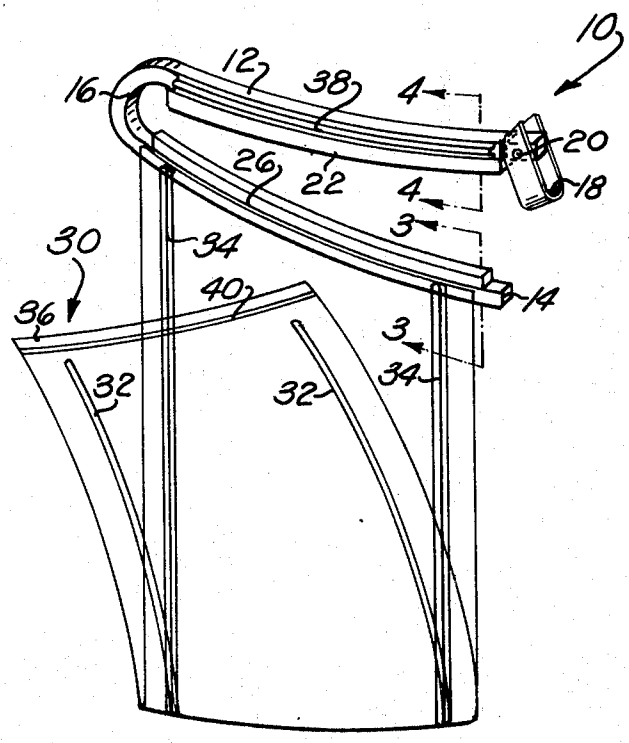
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Assistant Examiner—Gregory E. McNeill
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[57] **ABSTRACT**

A hair dressing appliance for use in practicing hair dressing procedures such as frosting and hair straightening, comprising a hair clamp to which is attached either permanently or releasably, hair isolating means, which may be in the form of a plastic bag, or one or more plastic sheets.

6 Claims, 9 Drawing Figures



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SHEET 1 OF 2

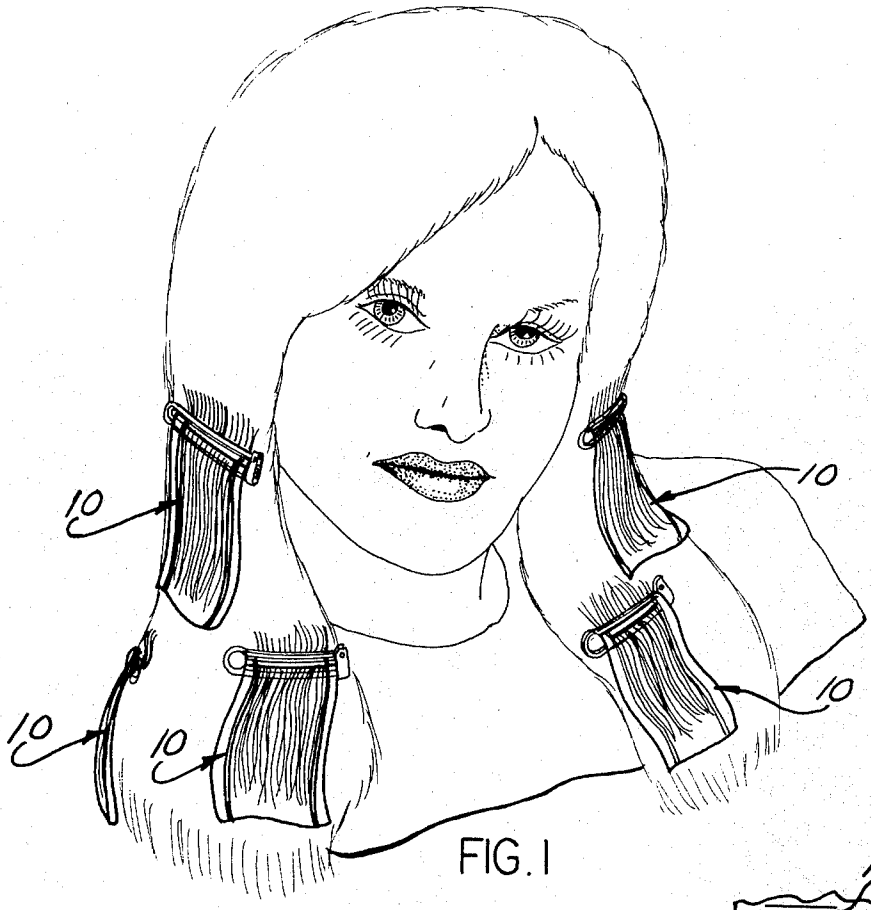


FIG. 1

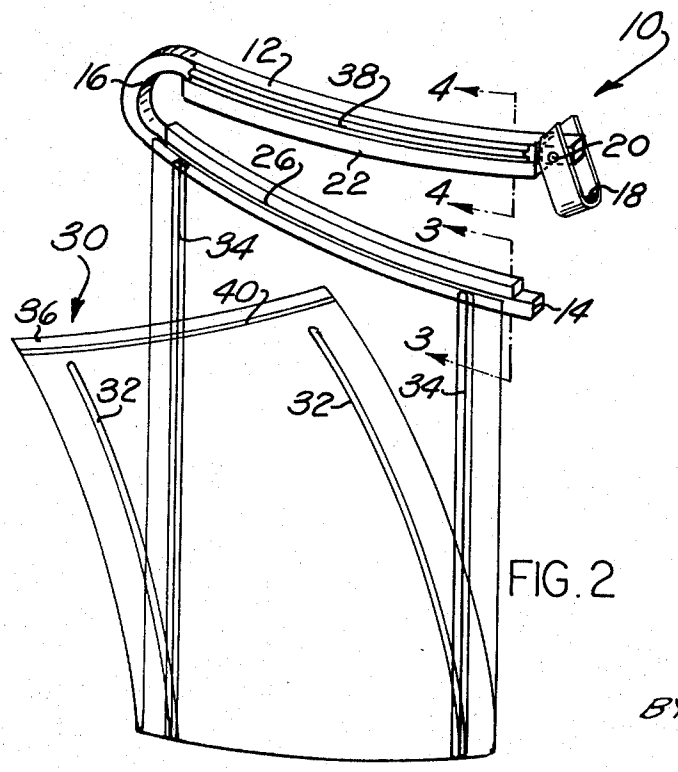


FIG. 2

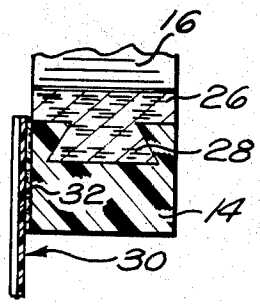


FIG. 3

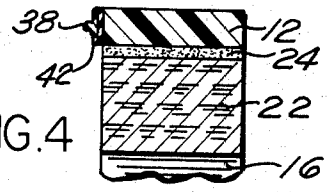


FIG. 4

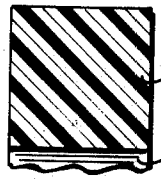
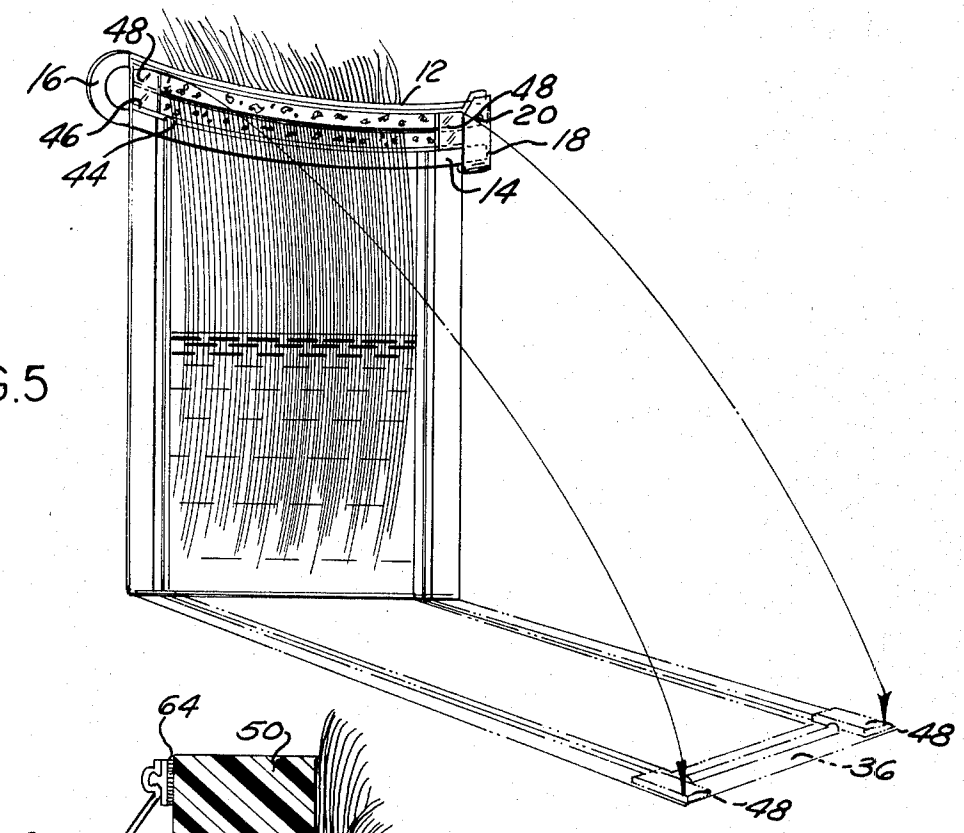


FIG. 4a

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FIG. 5



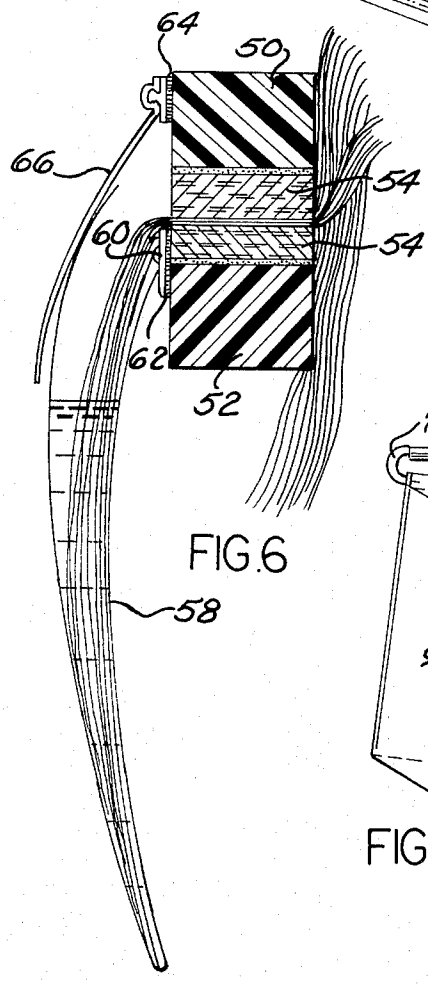


FIG. 6

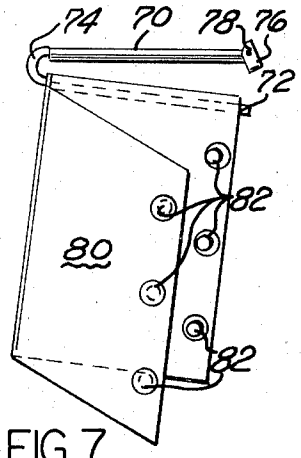


FIG. 7

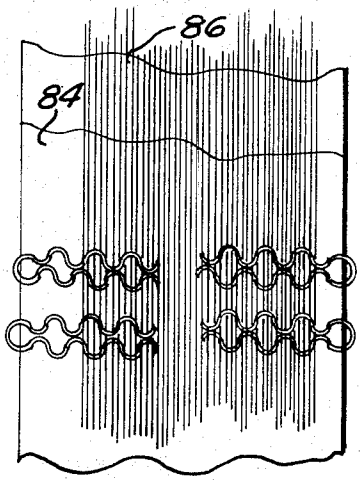


FIG. 8

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HAIR DRESSING APPLIANCE

This invention relates to the art of hair dressing, and, more particularly, to a hair dressing appliance.

The appliance of the present invention is particularly suitable for practicing hair straightening and "frosting" operations and will be described with particular reference thereto; however, it will be appreciated that the invention has broad applications and may be used in the performance of other hair dressing operations.

As those skilled in the hair dressing art are aware, "frosting" is an operation in which selected tufts of hair are segregated from the surrounding body of hair, treating with a lightening agent, such as bleach, or the like, and then returned to the surrounding body of hair. When the hair is combed out the tufts of lightened hair are combed along with the untreated hair, creating an attractive heterogeneous mixture of contrasting hues of hair. The relatively smaller portion of lighter hair tufts create the appearance of a frosting on the relatively larger proportions of untreated darker hair.

The hair dressing operation of frosting, as practiced by the prior art, frequently involves covering the head with a tightly fitting cap provided with a series of distributed apertures. Tufts of hair are drawn through the apertures and outside of the cap by the use of a crochet needle or some similar device. The tufts of hair drawn through the cap are then treated with a lightening agent, as by brushing the agent on the hair, or dipping the hair in the agent.

This prior art practice suffers a number of disadvantages. First, the individual whose hair is being frosted endures a substantial amount of discomfort by wearing a tightly fitting cap for a prolonged period of time until the tufts of hair are treated and the treating agent dries. Second, from the beautician's point of view, the tightly fitting cap frequently produces less than entirely satisfactory results, since it limits the operator's selection of tufts of hair to those adjacent the apertures in the cap. Further, the cap does not provide any positive means for limiting the exposure of the lightening agent to only those hairs in the tuft pulled through the cap. It frequently happens that the treating agent is drawn by capillary action, careless application or both, into the cap causing a lightening of adjacent hair where such was not desired. This can result in a blotchy, lightening effect which can be quite unattractive.

Hair straightening, as the name implies, is concerned with removing unwanted or undersired natural curl in hair. This, then, is the opposite of a permanent wave operation. Hair straightening is accomplished by treating the hair with a substance which removes the natural set, and then maintaining the hair under tension while treating agent is in contact with the hair. It is essential that tension be maintained while the hair is drying, since hair tends to shrink upon drying and will revert to its naturally curly condition unless the tension is maintained until the hair is dry. According to conventional prior art practices, tension is maintained by rolling the hair up on very large diameter rollers. This is time consuming and laborous procedure. Rolling the hair produces layer upon layer of damp hair, and this excludes normal air circulation, thus prolonging the drying time.

It will be apparent from the foregoing remarks that there is a need for an improved hair dressing appliance

for use in straightening and frosting hair, as well as for performing other, similar hair dressing operations. The present invention is addressed to filling this need.

In accordance with one aspect of the present invention, there is provided a hair dressing appliance comprising elongated upper and lower jaw members connected at one end for pivotal movement to open and close the jaw members. The appliance further comprises means for releasably locking the jaw members in a closed position. Further, the appliance comprises connecting means extending lengthwise along the side of at least the lower jaw member, operative to secure to the lower jaw member a marginal portion of depending hair isolating means.

In accordance with another aspect of the invention, there is provided a hair dressing appliance of the type described, which further includes hair isolating means attached to and depending from at least the lower jaw member. In accordance with certain preferred embodiments of the invention, the hair isolating means comprises a sheet member having a first marginal portion attached lengthwise along the side of the lower jaw member.

In accordance with a specific embodiment of the invention, particularly well adapted for use in frosting operations, the hair isolating means comprises a sheet member formed of a relatively flexible, liquid impermeable material.

In accordance with another specific embodiment of the invention, particularly well suited for use in hair straightening, the hair isolating means comprises a sheet member formed of a relatively rigid material.

It is therefore an object of the present invention to provide an improved hair dressing appliance for use in practicing frosting, hair straightening and other hair dressing operations.

A further object of the invention is to provide a hair dressing appliance which obviates certain disadvantages of the prior art appliances.

Still a further object of the invention is to provide a hair dressing appliance comprising a pair of hair clamping jaws, in combination with a permanently secured, or releasably connectable and disposable, depending hair isolating means.

These and other objects and advantages of the invention will become apparent from the following detailed description when read in conjunction with the accompanying drawings wherein:

FIG. 1 is a schematic, pictorial representation of a plurality of hair dressing appliances mounted in a woman's hair;

FIG. 2 is a schematic, pictorial representative of a first embodiment of the invention;

FIG. 3 is a section view taken on line 3—3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is a schematic section view taken generally along line 4—4 of FIG. 2, looking in the direction of the arrows;

FIG. 4*a* is a schematic section view which is a modification of the section illustrated in FIG. 4;

FIG. 5 is a schematic, pictoral view of a second modification of the invention;

FIG. 6 is a schematic, section view of another modified embodiment of the invention;

FIG. 7 is a schematic, pictorial view of a further modified embodiment of the invention; and,

FIG. 8 is a schematic fragmentary pictorial view of a further modified embodiment of the invention.

Referring now to the drawings wherein the showings are for the purpose of illustrating preferred embodiments of the invention only, and not for the purpose of limiting the same, FIG. 1 shows a plurality of hair dressing appliances, designated generally as 10, mounted in a woman's hair. From this drawing it will be seen that the hair dressing appliances of the present invention are far less cumbersome than the prior art appliances described hereinabove.

FIG. 2 shows one embodiment of hair dressing appliance in accordance with the present invention, comprising elongated upper jaw member 12, and elongated lower jaw member 14, connected at one end for pivotal movement to open and close the jaw members. In the embodiment illustrated, the pivotal movement is accomplished by integral hinge portion 16, although it will be appreciated that pivotal action may be accomplished by directly pinning the upper and lower jaw members together, or by connecting each jaw member to a third element which serves as a hinge.

Also provided are means for releasably locking the jaw members in a closed position, which in the embodiment illustrated take the form of clevis 18, secured to upper jaw member 12 with pin 20. Clevis 18 is designed to envelope the right hand extension, as viewed in the drawing, of lower jaw member 14. Other means for releasably locking the jaw members will readily occur to those skilled in the art. While the means illustrated in FIG. 1 are shown as separate elements, it will be appreciated that the releasably locking means may be formed integrally with either the upper or lower jaw members.

Operatively associated with upper jaw member 12 are hair gripping means, which in the embodiment illustrated take the form of a strip of cork 22. As best seen in FIG. 4, the strip of cork 22 is secured to upper jaw member 12 through a layer of adhesive 24.

Operatively associated with lower jaw member 14 is complementary hair gripping means which in the embodiment illustrated takes the form of a strip of cork 26. As best seen in FIG. 3, strip 26 is provided with truncated base 28 which fits within a suitably dimensioned channel formed in lower jaw member 14. This arrangement obviates the need for the use of an adhesive, and facilitates the replacement of cork strip 26 should it become damaged or worn out through usage. The strip can be removed from the jaw by simply moving it longitudinally until truncated base 28 is free of the channel and the jaw.

For purposes of this discussion different specific mounting arrangements for the hair gripping means on the upper and lower jaw members have been illustrated in the drawings. It will be appreciated, however, that in any given appliance the mounting arrangement for the hair gripping means may be, and probably would be, identical.

FIG. 4a illustrates a modification of the embodiment illustrated in FIG. 4. In this modified arrangement, the hair gripping means as a separate element is eliminated, and a surface of upper jaw member 22*a* is used for this purpose. This modified structure operates satisfactorily where the material from which the upper jaw member is formed possesses properties analogous to those of cork in terms of gripping ability, and its ability to conform closely to the hair being gripped so that liquid cannot pass beyond the jaws. Obviously the lower jaw member may also be formed with integral hair gripping means.

Referring again to FIGS. 2 and 3, it will be seen that lower jaw member 14 is operatively associated with the marginal portion of depending hair isolating means designated generally as 30. As best seen in FIG. 3, hair isolating means 30 is operatively secured to lower jaw member 14 by connecting means extending lengthwise along the side of the lower jaw member, which connecting means in the embodiment illustrated takes the form of a layer of adhesive 32. This adhesive may constitute a permanent bond between hair isolating means 30, or it may be a reusable pressure sensitive adhesive which permits the removal and replacement of the hair isolating means.

As best seen in FIG. 2, hair isolating means 30 is formed of a liquid impermeable material in the shape of a trough, having a closed bottom and open sides. The marginal portion secured to lower jaw member 14 defines the outer surface along the upper edge of one side of the trough.

Extending along the open sides of hair isolating means 30 are means for releasably closing the open sides, which in the embodiment illustrated take the form of complementary lands 32 and grooves 34. When the lands are inserted in their respective grooves, hair isolating means 30 becomes a liquid impermeable envelope. This arrangement is similar to that found on commercially available Zip-strip packaging. For purposes of sealing the envelope, a second marginal portion 36, defining the inner surface along the upper edge of the other side of the trough from that secured to lower jaw member 14, is provided with means for releasably securing it lengthwise along the side of upper jaw member 12. As illustrated in FIGS. 2 and 4, this last mentioned means is defined by land 38 secured to upper jaw member 12, and groove 40 formed in second marginal portion 36. FIG. 4 shows land 38 secured to upper jaw member 12 by means of adhesive layer 42. It will be appreciated, however, that land 38 may also be formed integrally with upper jaw member 12. Further, the locations of the land and groove as illustrated, may be reversed.

The embodiment illustrated in FIG. 5 is substantially the same as that illustrated in FIG. 2, with two modifications which will be explained presently. FIG. 5 shows hair isolating means 30 in its closed position in full lines, and in its opened position in phantom lines. In this modified embodiment the means for attaching hair isolating means 30 to jaw member 14 comprises land 44 formed on hair isolating means 30, and groove 46 attached to and extending lengthwise along the side of lower jaw member 14. This arrangement facilitates the replacement of hair isolating means 30.

The other modification in this embodiment comprises the provision of liquid absorbing means disposed in opposite corners of second marginal portion 36 to prevent leakage of liquid outside of hair isolating means 30. In the embodiment illustrated the liquid absorbing means takes the form of small pads 48 which may be felt, plastic foam rubber foam or the like.

FIG. 6 shown another embodiment of the invention wherein the hair dressing appliance comprises upper

and lower jaw member **50**, **52** respectively, each provided with hair gripping means, comprising a strip of cork **54**.

Secured to lower jaw member **52** is hair isolating means, which in the embodiment illustrated takes the form of bag **58**. This bag which is made of liquid impermeable material, has a closed bottom and closed sides, with a first marginal portion **60**, defining a section of the outer surface along the upper edge of the bag. Marginal portion **60** of the bag it secured to lower jaw member **52** by means of a two part complemental fibrous connecting assembly designated generally as **62**. Such as assembly is sold commercially under the trademark Velcro. Such fibrous connecting assemblies are formed of synthetic fibers material, having complemental parts which adhere to each other when pressed together. One part is secured to lower jaw member **52**, and the other part to bag **58**. This arrangement permits bag **58** to be replaced as a disposable item or to be removed for cleaning and reuse.

Secured to upper jaw member **50** by means of complemental two part fibrous connecting assembly designated generally as **64**, is flap **66**, which is adapted to extend downwardly over the opening in bag **58**. Flap **66** tends to reduce the amount of vapors emanating from bag **58**.

The embodiments illustrated if FIGS. **2** through **6** are particularly well adapted for use in performing frosting operations. Here, it is desirable that the hair isolating means be formed of a liquid impermeable material, and also be liquid tight. However, it is quite permissible for the hair isolating means to be flexible. A wide variety of useful materials will readily suggest themselves to those skilled in the art. In general, however, synthetic plastics are preferred because of their availability and low cost. Polyethylene, polyvinylchloride, and copolymers of polyvinylchloride with polyvinylacetate are particularly suitable.

The upper and lower jaw members and locking means may be formed from a variety of materials, including metals, wood, plastic and rubber. Preferably, the entire assembly is molded from a single piece of plastic. Polypropylene is particularly suitable, since it has excellent resistance to fatigue through flexing, and this is of advantage where the assembly includes an integral hinge portion. Because of its hardness, polypropylene provides a satisfactory, but not outstanding, gripping surface for hair. On the other hand, certain harder elastomeric materials provide very satisfactory gripping surfaces so that the use of separate hair gripping inserts can be obviated.

With reference to FIGS. **7** and **8**, and the embodiments illustrated in these figures, are particularly well adapted for use in hair straightening operations.

FIG. **7** shows a hair dressing appliance comprising upper jaw member **70**, lower jaw member **72** connected at **74** for pivotal movement therebetween. Releasable locking means in the form of clevis **18** secured by pin **78** to upper jaw member **70** is provided to lock the jaw members in a closed position.

Secured to and depending from lower jaw member **72** is hair isolating means, which in the embodiment illustrated takes the form of sheet member **80** in the shape of a bi-fold having one closed side, one open side and an open top and bottom. A first marginal portion of sheet member **80**, defining a section of the outer surface along the upper edge of the top thereof, is secured to the side of lower jaw member **72**. The appliance further comprises means for releasably closing the open side of sheet member **80**, which as illustrated comprises a series of snap fasteners **82**.

Sheet member **80** is preferably formed of a rigid material so that the hair will be maintained in a straight condition while drying.

In operation, a tuft of hair is placed between upper and lower jaw members **70**, **72** and is clamped therebetween by securing clevis **76** to lower jaw member **72**. The hair is then inserted between the folds of sheet member **80**, and hair setting composition is applied. When the hair is wet, it will remain straight so that it is not necessary to hold the hair under tension while snapping fasteners **82**. By virtue of the stiffness of sheet member **80**, the hair will remain straight and under tension while it is drying. Since sheet member **80**, when closed, forms a pocket having an open top and an open bottom, there is adequate provision for air circulation around the hair as it dries. However, since it is not necessary for sheet member **80** to be liquid impermeable, it is also within the contemplation of the invention to employ perforate sheet material. High density polyethylene, polypropylene, and polyvinylchloride are some of the common plastics from which the relatively stiff hair isolating means may be formed.

FIG. **8** shows a modified embodiment of the invention wherein the hair isolating means is defined by two separate sheet members **84**, **86**. Sheet member **86** is secured to a lower jaw member, and sheet member **84** to an upper jaw member. The two sheets are held in close proximity to each other by the use of clips **88**.

Sheets **84**, **86** should be formed of fairly rigid material so as to maintain the hair under tension while it is drying. If desired, these sheets may be made of perforate material to increase the contact of the drying hair with air and thus reduce the drying time.

The present invention has been described in conjunction with certain structural embodiments; however, it will be appreciated that various structural changes may be made in the illustrated embodiment without departing from the intended scope and spirit of the present invention.

Having thus described my invention, I claim:

1. A hair dressing appliance comprising elongated upper and lower jaw members, connected at one end for pivotal movement to open and close said jaw members, means for releasably locking said jaw members in a closed position and fastening means extending lengthwise along at least one of said jaw members, said fastening means comprising one part of a two part fastening assembly.

2. The hair dressing appliance as defined in claim **1** further comprising hair isolating means having a marginal portion provided with a fastening assembly part complementary to said one part, the two parts of said fastening assembly being in fastening engagement with each other.

3. The hair dressing appliance as defined in claim **1**, wherein said last mentioned means extends lengthwise along the same side of both said upper and lower jaw members.

4. A hair dressing appliance comprising elongated upper and lower jaw members connected at one end for pivotal movement to open and close said jaw members, means for releasably locking said jaw members in a closed position, and fastening means extending lengthwise along said lower jaw member comprising one-half of a land and groove fastening assembly.

5. The hair dressing appliance as defined in claim 4 further comprising hair isolating means having a marginal portion provided with the complementary half of a land and groove assembly to that extending lengthwise along said lower jaw member, the two halves of said assembly being in fastening engagement with each other.

6. A hair dressing appliance comprising elongated upper and lower jaw members connected at one end for pivotal movement to open and close said jaw members, means for releasably locking said jaw members in a closed position, and hair isolating means having a marginal portion supported by and depending from said lower jaw member, said hair isolating means comprising a liquid impermeable sheet member in the form of a bag having an open top, a closed bottom and closed sides, said hair isolating means further comprising a flap of liquid impermeable sheet material having one edge supported by said upper jaw member, the flap being adapted to extend downwardly over the opening of said bag.

* * * * *