Feb. 1, 1966 C. FISHER 3,232,300

ADJUSTABLE HAIR ROLLER

Filed Oct. 30, 1961

FIG. 1

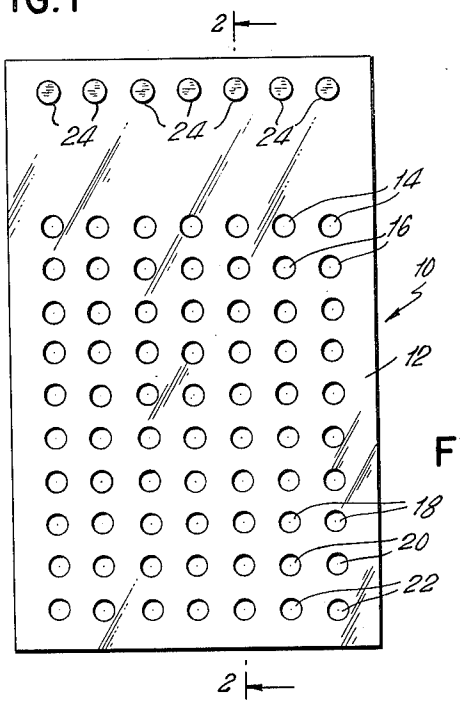


FIG. 2

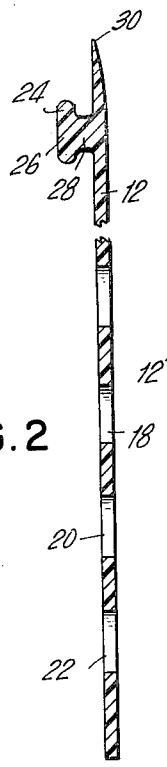
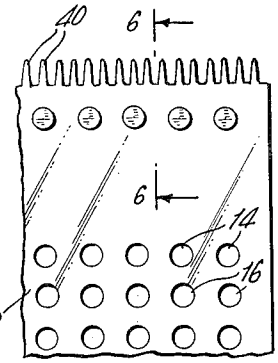


FIG. 5



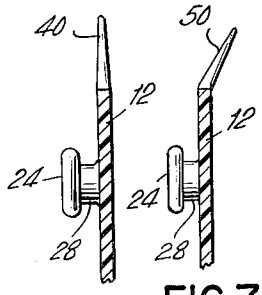


FIG. 6

FIG. 7

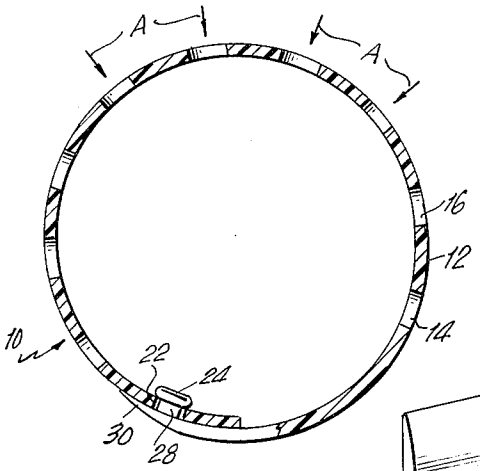


FIG. 3

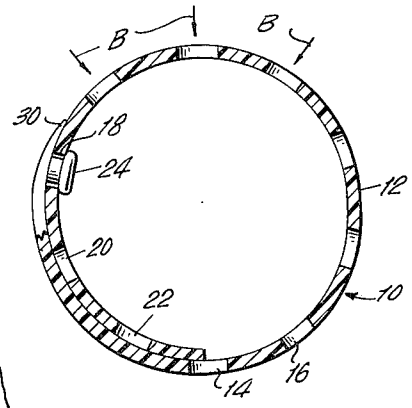


FIG. 4

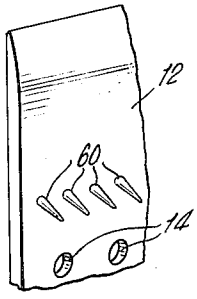


FIG. 8

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ADJUSTABLE HAIR ROLLER

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1 Claim. (Cl. 132—39)

This invention relates to a cosmetic appliance and more particularly to a novel hair curler.

Various types of hair curlers have heretofore been devised which employ a cylindrical member upon which a lock or strand of hair is wound to form a curl. However, these hair curlers are not adjustable in size and therefore the curls which are formed on such hair curlers are usually of a predetermined size. It is therefore one of the objects of the present invention to provide a hair curler which is easily adjustable for use in forming in a convenient manner, various size curls which curls may be either loose or quite tight.

The hair curlers of the prior art which are of a cylindrical shape, usually require extremely large amount of space for storage. Inasmuch as a number of such curlers must be used to achieve the desired effect in creating hairdos, the storage of the hair curler becomes a serious problem. In accordance with the concept of the present invention, the hair curlers employed may be stored in a flat position whereby a large number of such hair curlers may be stored in a very small space.

Various materials have heretofore been utilized in forming hair curlers. Sheet metal, plastics, and the like are generally employed. However, the prior art hair curlers are generally of an imperforate configuration whereby it is often difficult to properly apply hair waving or curling lotion to all parts of the hair wrapped about the hair curler. In accordance with the present invention, a plurality of rows of perforations or holes are formed in the hair curler which may be employed for two purposes. First of all, the rows of apertures may be used as part of the locking means for adjustably securing the hair curler in its desired shape and size. Further, the perforations may be used to conduct and pass hair waving solutions and other treatment fluids to all parts of the hair wrapped around the curler.

Still further objects and features of this invention resides in the provision of a hair curler that is simple in construction, capable of being readily manufactured from various synthetic materials such as polystyrene, polyethylene, polyurethane, or polyvinyl chloride, as well as sheet metal and other plastic material, and which is adapted for mass production methods of fabrication.

These, together with the various ancillary objects and features of the invention, which will become apparent as the following description proceeds, are attained by this hair curler, preferred embodiments of which have been illustrated in the accompanying drawing, by way of example only wherein:

FIG. 1 is a plan view of a hair curler constructed in accordance with the present invention;

FIG. 2 is a vertical sectional view taken along the plane of line 2—2 in FIG. 1;

FIG. 3 is a transverse sectional view of the hair curler shown adjusted for use in forming a relatively large curl;

FIG. 4 is a view similar to FIG. 3 but showing the hair curler in a further adjusted position for forming a relatively tight curl;

FIG. 5 is a partial plan view of a modified form of the invention;

FIG. 6 is an enlarged sectional view taken along the plane of line 6—6 in FIG. 5;

FIG. 7 is a view similar to FIG. 6, but showing a modified form of the invention having serrated teeth extending at an acute angle relative to the plate; and,

FIG. 8 is a partial perspective view of an additional modification of the invention.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** is used to designate one embodiment of the hair curler comprising the present invention.

The hair curler **10** includes a sheet **12** formed of a flexible material. The sheet **10** is relatively thin and is adapted to be stacked so that the hair curlers can be stored in a very small space and therefore these hair curlers are even adaptable for travel.

In order that the hair curlers can be relatively comfortable so that the user may sleep with the hair curlers in place, the material from which the sheet **12** is fabricated may be polyethelene or polyurethane, relatively soft plastics. However, if softness is not a particular factor, other materials such as sheet metal, polystyrene, polyvinyl chloride, or other plastics may be employed. Because of the thinness of the sheet **12**, it can be readily cut by the user to any desired size using a shears or other similar hand tools. Of course, the material from which the sheet **12** is made may be of a type that is easy to clean and which may be non-combustible or non-flammable. Further, the hair curler **10** is very light in weight.

Enhancing the lightness in weight of the hair curler **10** are a series of rows or perforations **14, 16, 18, 20, 22,** etc. which are formed in the sheet **12**. Also integrally formed in the sheet **12** are a plurality of projecting knobs **24**. The knobs **24** are of a shape as to have free ends as at **26** which are of an enlarged size with the reduced neck portions **28** of the knobs **24** being integrally joined to the sheet **12**. The edge **30** of the sheet **12** adjacent the knobs **24** may be tapered as may be seen best in FIG. 2.

As shown in FIG. 3, when it is desired to employ the hair curler to form a relatively large curl, the sheet **12** is arranged in a cylindrical form with the projecting knobs **24** extending through and engaged within the apertures **22**. Because of the shape of the knobs **24**, the enlarged end portions **26** will lock the knobs **24** in place, and a resilient cylindrical hair curler will be formed. As shown by the arrow A, hair treatment fluid such as waving lotions or the like can readily penetrate the interior of the hair curler thus enabling all parts of the lock of hair entwined around the hair curler to be covered with the fluid. The tapered edge **30** of the hair curler maintains the substantial cylindrical shape without any abrupt shoulders rendering the device more comfortable to use.

As shown in FIG. 4 when a somewhat smaller hair curl is desired, the projecting knobs **24** can be positioned so as to extend within other of the rows of apertures such as the row of apertures **18**. This will form a much smaller hair curl. The treatment fluid still can penetrate the interior of the curler for spreading of the treatment fluid to the best degree as shown by the arrows B.

Referring now to FIGS. 5 and 6, there is illustrated a modified form of the invention in which in lieu of the tapered edge **30**, serrated teeth **40** may be employed. These teeth extend in substantially the same plane as the sheet **12** and are adapted to grip the strand or lock of hair and retain the same therebetween so as to afford a means of attaching the curler to the free end of a lock of hair preliminary to winding the hair on the curler. In addition, it is possible to arrange the teeth in a manner such as shown in FIG. 7. In FIG. 7 the teeth **50** are bent at an acute angle relative to the plate **12**.

In the form of the invention shown in FIG. 8, the hair curler is substantially identical to the embodiments shown in FIGS. 1 through 4 with the exception that a plurality of integrally formed teeth are provided at **60**, the teeth **60** extending normal to the sheet **12** and in an opposite

direction to the projecting knobs 24. These teeth are for the purpose of engaging the strand for winding the strand or lock of hair about the hair curler.

It is to be recognized that the hair curlers can be displayed and packaged in a flat position or alternatively one or more hair curlers can be arranged in the cylindrical shape within a transparent package or any other suitable display or merchandising arrangement in a convenient manner.

Further, the hair curlers can be made by any suitable mass production method such as pressing or stamping, molding or the like.

A latitude of modification, change and substitution is intended in the foregoing disclosure and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claim be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

What I claim is:

A hair curler comprising a cylinder formed from a sheet of flexible material, said sheet having an edge in overlapping relationship with said sheet, said sheet having a plurality of rows of circular apertures therein, a row of cylindrical locking knobs on said sheet extending outwardly therefrom, said locking knobs being spaced inwardly from one of said edges in alignment with said circular apertures, said knobs having circular enlargements thereon, said locking knobs being force fitted through one of said rows of circular apertures to hold said edges of said sheet in said overlapping relationship to form said cylinder, said sheet being of tapered configuration along said one edge forward of said locking knobs to form a smooth outer surface when said sheet is curved into a cylindrical configuration with said locking knobs engaged in one of said rows of apertures, and a plurality of integrally formed teeth projecting perpendicularly to said sheet in the opposite direction from said locking knobs, said teeth being spaced inwardly from said edges.

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