May 11, 1954 S. J. EIGENRAUCH 2,678,049

HAIR-CURLING DEVICE AND ORNAMENT

Filed May 31, 1951

Fig. 1.

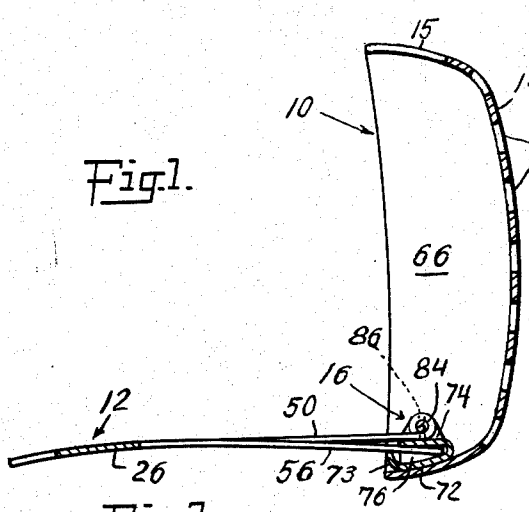


Fig. 5.

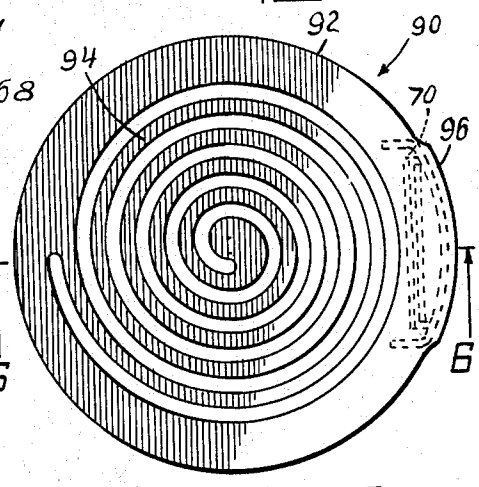


Fig. 2.

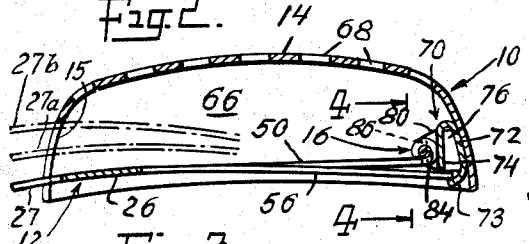


Fig. 6.

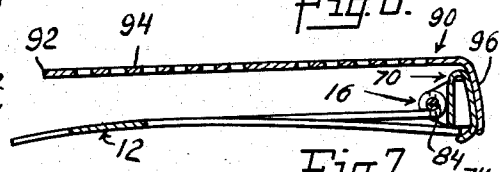


Fig. 7.

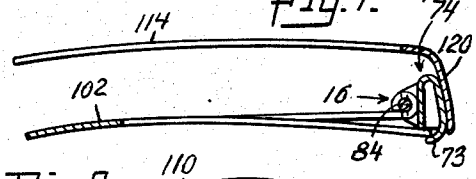


Fig. 3.

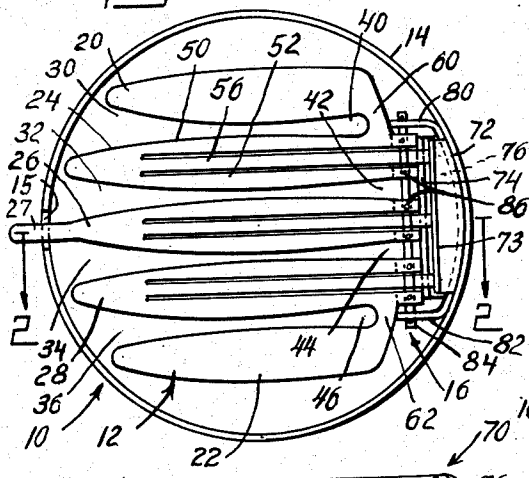


Fig. 8.

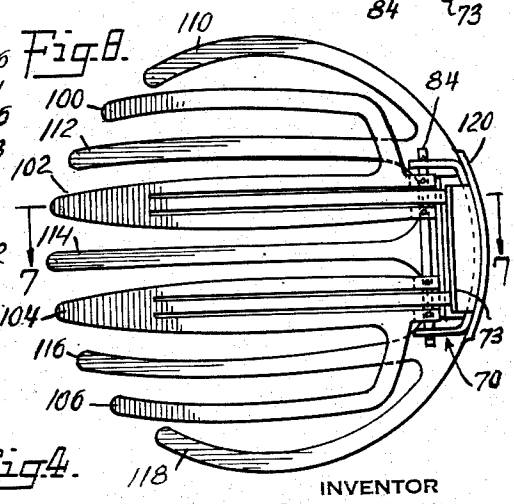
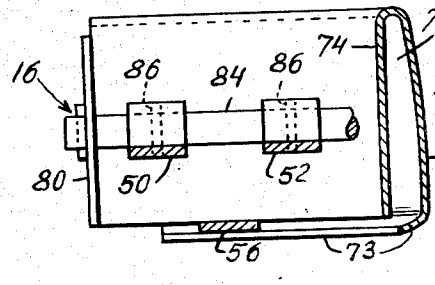


Fig. 4.



INVENTOR
SUE J. EIGENRAUCH
BY
Pennie, Edmonds, Morton, Barrow & Taylor
ATTORNEYS

Patented May 11, 1954

2,678,049

UNITED STATES PATENT OFFICE

2,678,049

HAIR-CURLING DEVICE AND ORNAMENT

Sue J. Eigenrauch, Bronxville, N. Y.

Application May 31, 1951, Serial No. 229,220

15 Claims. (Cl. 132—46)

1

This invention relates to improvements in hair curling devices and ornaments.

Before retiring for the night, after washing their hair, and at any other time, many women "put up" their hair with a plurality of spaced bobby pins, to assure a curl. To this end, a fairly small lock of hair is coiled around a finger tip; the coil is flattened out and removed from the finger adjacent the scalp; and a "bobby pin" is used to hold the flattened coil in place, one of its prongs being placed below and the other prong being placed across the top of the coil. On larger curls, an additional bobby pin is placed, in similar fashion, across the coil of hair as well as across the first bobby pin, but at an angle, say at right angles, to the first bobby pin.

Such a bobby pin arrangement has a number of disadvantages. There are four thicknesses of metal at the cross points of the pins, which are felt by the wearer when trying to fall asleep on them, and between which stray hairs are caught and pulled. Also, the pressure of the bobby pins on the coil of hair is localized across the one or two thin lines, thus leaving the coil quite loose outside of this line or lines. Since tightness of the coil is what makes the curl and determines its life, wide variations in tightness in turn induce wide variations in the character of the curl. Furthermore, the bobby pins tend to come off during the night, or to pull so sharply at the scalp that the wearer removes the outer one of the two in order to sleep. On heavy hair, the bobby pins tend likewise to become sprung and thus loosen their grip on the coil. It becomes necessary, therefore, to bend them back together, one by one, before using each time. Too, when a bobby pin is to be inserted on a curl, it must be opened with two hands, even though the left hand is at the time partly occupied in holding down the coil, and must be held open. As is well known, the whole arrangement is a rather ludicrous sight, one that is often portrayed by cartoonists to obtain their desired humorous effect.

A number of substitutes for the conventional bobby pin have been proposed. Among them is a metal clip formed of a base and a top, each having a pair of rather widely spaced prongs. The base and the top are hinged inwardly of their rear ends, so that the rear ends form a handle or grip for opening and closing the forward ends of the prongs. The clip resembles a conventional indoor clothesline clip to hang up wet clothes for drying or a conventional clip used by photographers to hang up wet prints for drying. Such

2

clips are even less desirable than the bobby pins because of the protruding sharp or angular handles or grips, which add considerable bulk to the hair coil arrangement, and bear against the scalp beyond the coil of hair, proving highly uncomfortable to the wearer.

My investigations have led to the discovery that a hair curling device may be provided which, for the most part, overcomes all of the disadvantages mentioned; and others, as well. It is readily attached to a coil of hair, provides equal pressure on the coil at all points, tends to stay in position, does not give the wearer any discomfort, has no sharp projections to scratch a fellow sleeper, and is not only not displeasing in appearance but even is, in itself, an ornament, and is designed to be used, independently of the curling function, as a jewel, as well, dependent only upon the form and materials used in the cover. The fact that the device remains in a right-angular position, ready for simplest insertion in the hair, with no assistance from the hands of the user, greatly increases its facile convenience. Its uniform pressure on all areas of the curl will minimize the present necessity to dampen the hair. (This widespread habit of dampening the hair for pin curls is very harmful to it, dries it, robs it of lustre, causes brittleness and breakage.)

Nor, with the device of the invention will it be necessary to wear an unsightly hairnet, or even to stay at home or in the beauty shop until the curl is complete.

The curling device of the invention will be better understood by referring to the accompanying drawing, taken in conjunction with the following description, in which:

Fig. 1 is a cross-sectional view of a hair-curling device illustrative of a practice of the invention, showing the device in open position and ready to be fitted onto a coil of hair;

Fig. 2 is a similar cross-sectional view, on the line 2—2 of Fig. 3, showing the device in its closed position;

Fig. 3 is a bottom view, also showing the device in closed position;

Fig. 4 is an enlarged fragmentary sectional view on the line 4—4 of Fig. 2, showing a preferred hinge arrangement between the base and cover of the device;

Fig. 5 is a plan view of a modified form of construction, showing a hair-curling device with a cover that is adapted adjustably and resiliently to fit over a coil of hair;

Fig. 6 is a sectional view of the same on the line 6—6 of Fig. 5;

Fig. 7 is a cross-sectional view on the line 7—7 of Fig. 8; and

Fig. 8 is a bottom view of a modified form of construction, showing a hair-curling device formed of a base and a cover, each having a plurality of prongs and the prongs being arranged alternately to each other.

Referring to the curling device 10 shown in Figs. 1 to 4, inclusive, it will be noted that it comprises a base 12, a cover 14 suitably spaced from one another (Fig. 2) to accommodate a coil of hair, and a hinge 16.

As shown in Figs. 1 and 2, base 12 is curved, advantageously, better to fit adjacent the wearer's scalp; and, as shown in Fig. 3, the base comprises a pair of outer prongs 20 and 22, a plurality of inner prongs 24, 26 and 28, rather closely spaced from each other along their intermediate portions. Each prong is tapered at its ends to provide forward open spaces 30, 32, 34, and 36 between their forward or free ends and rearward open spaces 40, 42, 44, and 46 between their rearward ends. The prongs function very much like the teeth of a comb and are preferably blunt to avoid injury to the wearer. Due to the distinctive shape of the prongs, they are adapted to be inserted easily under a coil of hair. The forward ends of the prongs separate the hair, so that each free space between the adjacent forward ends of the prongs accommodates a portion of the hair. As the prongs are pushed forward under the coil, the portion of hair in each forward free space is pushed between the narrow spaces between the intermediate portions of the prongs until some of the hair reaches the rearward free spaces between the prongs. The net result is to fasten the base of the device securely to the under portion of the coil of hair.

Still referring to Fig. 3, it will be noted further that each of the intermediate prongs is essentially divided into a pair of outer longitudinal edge portions 50 and 52 with a central longitudinal portion 56. The base is preferably made of metal that has a substantial amount of spring. In the case of the intermediate prong, the central longitudinal portion is cut in the form of a narrow band of spring metal extending completely from the rear end toward, but not completely to, the forward end of the prong. The function of this central spring portion will be described below.

In the particular construction shown, outer prongs 20 and 22 are integrally secured to the adjacent side portions of the adjacent intermediate prongs at their rearward ends by means of laterally extending supports 60 and 62, so that outer prongs 20 and 22 will always move simultaneously with intermediate prongs 24 and 28.

Cover 14 is cupped, preferably, in the manner shown in Figs. 1 and 2, to provide a space 66 (Fig. 2) between the cover and the base to receive and hold intact the coil of hair. The curvature of the cover advantageously parallels that of the base so that both, in turn, parallel the curvature or contour of the wearer's head. The base or cover, or both, however, may be flat. In the construction shown, the cover is circular in shape (Fig. 3), at least in plan view. It may, of course, be oval or in any other desired shape. Also, as shown in Fig. 3, all of the prongs of the base extend practically to the peripheral edge portion of the cover. The net result is a rather compact arrangement, the prongs being permitted to move inwardly of the cover to effect a stronger grip on the coil of hair.

One or more of the forward ends of the prongs, however, may extend completely under and outwardly of the peripheral edge portion of the cover. This would permit the wearer to press a finger of one hand on the protruding tip of the prong to hold the base in position while gripping the cover with the fingers of the other hand to swing the cover backwardly away from the base around hinge 16. Such an arrangement is shown in Figs. 1–3, base center prongs 26 being provided with a tip extension 27 which extends outwardly of the cover. It fits in a slot 15 in the forward portion of the cover. The tip is shown in Fig. 2 in positions 27A and 27B to illustrate how it may rise and fall in the slot, depending on the amount of coil under the cover. In the absence of such a tip extension, a slot may be provided that is adapted to receive the tip of a finger, to hold the prong while the cover is lifted.

It is customary for the user to wet her hair with a suitable liquid solution, usually water, in order to obtain a better curl. As shown in Figs. 1 and 2, the cover is provided with a plurality of spaced openings 68. They permit moisture to escape from the coil of hair and permit ingress of air thereto.

While various hinges may be employed, to swing base 12 and cover 14 with respect to each other, hinge 16 shown serves the purpose in an excellent manner. It comprises a support 70, advantageously formed of spring metal, integrally secured to the rear portion of the cover. In the particular construction shown, the support is shaped like an inverted U to provide a rear leg 72, having a forwardly bent foot 73, attached to the cover and a forward leg 74 spaced therefrom to provide a recess 76. The support terminates at its ends in standards 80 and 82 through which extends a shaft 84. Outer longitudinal edge portions 50 and 52 of each inner prong are bent at their rear ends to form an eye through which the shaft is extended when assembling the device. A pin 86 extends through each eye portion to secure it integrally to the shaft. In this manner the base as a whole is integrally attached to the shaft so that all of the prongs move simultaneously in their normal plane.

As indicated above, central longitudinal spring portions 56 of the inner prongs serve a special purpose. Their rear ends protrude beyond the shaft and are adapted to be swung upwardly into and downwardly out of inverted U-shaped recess 76, between legs 72 and 74 of support 70. As shown in Fig. 1, the free end of the central spring portion of the inner prong extends completely into the recess when the device is in its open position; and moves outside of the recess when the device is in its closed position as shown in Fig. 2. Fig. 4 gives a sectional view of the latter arrangement.

Inner leg 74 operates as a stop and guide for the rear end of the central spring portions of the inner prongs. All of the inner prongs, preferably, are provided with such spring ends to assure a strong spring action. The construction shown permits a snap hinge action, allowing the device to remain locked in its closed or open, but not at an inbetween, position until the base and cover are moved relatively to each other an appropriate distance to dissipate the lock effect. In either its closed or open position, the springs are under tension, and the base and cover need be moved only beyond a neutral point between them to cause

them to spring together or spring apart. The spring ends, preferably, are in sliding contact always with foot 73 of outer leg 72 to minimize the chance of any hair being caught therebetween. To this end, the lower edge portion of the leg may be brought slightly under the outer edge portion of the spring ends, or the outer edge portion of the spring may be brought upwardly against the inner surface of the leg, or both.

The modification shown in Figs. 5 and 6 has to do primarily with the cover, the base being like the one shown in Figs. 1 to 4. Cover 90, like cover 14, is generally circular in contour, at least in plan view. As shown, its top is flat, although it could be cupped, if desired. The cover consists of a continuous outer annular band 92, which may be, although not necessarily, essentially imperforate, and an inner helical portion 94. It is made preferably of metal having a substantial amount of springiness. Whereas cover 14 is not adapted to yield within itself, the helical mid-portion of cover 90 permits it to yield outwardly as a coil of hair is compressed thereunder. The helical nature of the cover gives it a substantial amount of resiliency, at least toward its center, which allows it to conform, to a substantial extent, to the coil of hair. The amount of pressure exerted by the helical mid-portion depends on the strength or degree of springiness of the material from which it is formed. It will be noted that an open space is provided around the peripheral portions of the base and cover, except for rear annular rim portion 96 of the cover, to which the hinge is secured (Fig. 6).

Referring to the modification shown in Figs. 7 and 8, the base construction is somewhat similar to that of the other two modifications, but differs in certain details. As shown, the base is formed of a plurality of prongs 100, 102, 104, and 106. The rear ends are secured to the hinge in the same way that the base prongs are secured to the hinge in the other two modifications. The cover is formed of a plurality of spaced prongs 110, 112, 114, 116 and 118, the rear ends of which are integrally secured to rear annular rim portion 120. As in the case of the preceding modification, it will be noted that an open space is provided around the peripheral portions of the base and cover, except for the rear annular rim portion of the cover (Fig. 7).

It will be noted also that the base prongs are well spaced from one another, that the cover prongs are well spaced from one another, and that the spaced relationship is such that the cover prongs extend laterally over the spaces between the base prongs. In other words, the base prongs and the cover prongs are in alternate relationship to each other. This arrangement permits the cover prongs to bear downwardly on the portions of the coil of hair disposed across the spaces between the base prongs. This is more comfortable to the wearer than would be the case if the cover prongs were disposed directly above the base prongs. If desired, however, the latter superposed arrangement of the base and cover prongs may be employed. The alternate arrangement of prongs has the further advantage of holding the coil more securely and thus helping to keep the device from becoming loose or slipping away.

The over-all shape again is circular, although not necessarily so. This result is obtained by curving base prongs 100 and 106 and cover prongs 110, 112, 116 and 118 in the manner shown.

As in the case of helical mid-portion 92 of cover 90 in the second modification, the cover prongs preferably are constructed of spring metal so that they are adapted to yield, at least to a slight extent, when a coil of hair is compressed between them and the base prongs. This, too, adds to the comfort of the wearer.

In their presently preferred construction, the spring action of the hinge is adapted to bring the base prongs in contact with the cover in the case of the first two modifications, and to bring the forward ends of the base prongs in intermeshing relationship with the forward ends of the cover prongs in the case of the third modification, when a coil of hair is not disposed between the base and the cover.

When using a curling device of the invention, a portion of the user's hair may be coiled in the conventional manner, enough hair being selected to make a coil of the desired size; and in any event adapted to be received by the curling device. In the case of the first modification, for example, the device initially is in the open position, as shown in Fig. 1. The base prongs are pushed under the coil as far as possible, after which the cover is pushed downwardly. As it moves past the neutral point of the springs in the hinge, the spring action mentioned causes the cover to spring or snap into closed position. The closed position, furthermore, depends on the amount of hair in the coil. While the coil itself is not shown in Fig. 2, the relative positions of tip extension 27 of the base center prong indicates where the base and the cover may be with respect to each other, depending upon the size of the hair coil.

The modification of Figs. 5 and 6 operates in substantially the same manner, but without an annular side rim, as in the first modification, for enclosing or enveloping the hair coil. The free, unimpeded space between the base and cover permits them to be brought close together. When, therefore, a small lock of hair is used, forming a shallow curl, the wearer has the full advantage of the thinness obtained, for sleeping-on or for daytime appearance. As in the first modification, the position of the base with respect to the cover depends on the size of the hair coil.

In the case of the third modification, shown in Figs. 7 and 8, as already indicated, the base prongs and the cover prongs alternate in such a way that the hair coil tends to be depressed between the spaces between both the base and the cover prongs. This tends to reduce the over-all thickness of the device and adds to the user's comfort, as well as further increasing the tightness.

The arrangement in each case is such that normally the coil of hair is constantly under pressure between the base and cover. That pressure, moreover, continues as the coil is compressed gradually into a progressively smaller volume. This is true, of course, when the user adds more pressure on the device by lying on it.

In addition to functioning as a hair curler, the device of the invention is employed advantageously as a hair ornament. To this end, for example, the covers may be in the form of any desired jewel. Thus, the cover may be provided with a single gem or a plurality of gems. The cover may be shaped into a configuration that is intended essentially to give an ornamental effect.

For example, the cover may consist only of a golden or silver filigree or lattice for a simple

and unobtrusive effect. Such a construction has the further advantage of an even lighter weight. Another expedient is to coat or otherwise cover a cover—in whatever ornamental pattern it may take, solid or filigree—with suitable colored material. Thus, it may be coated with tinted plastic material, enamel, etc. A suitable delicate fabric, such as a lightweight pile fabric, may be secured to the cover. The possible variety of designs and tints is infinite, making it possible for milady to choose one that blends with or complements the color of her hair, nightgown, negligee, dress, or any other garment. She can select additional sets of the device to harmonize with various ensembles, with casual or with more formal moods.

It will be clear to those skilled in this art that the above illustrations are by way of example, and that the practice of the invention readily lends itself to other useful modifications.

I claim:

1. In a hair-curling device or ornament, the improvement which comprises a base having a plurality of spaced prongs secured at their adjacent ends to a hinge, the free ends of the prongs being adapted to be inserted in hair next to the scalp of the wearer, a cover secured along one side thereof to the hinge, so that the base and the cover may be moved angularly with respect to each other at the hinge to open and close the device, the cover being adapted to receive a coiled lock of hair thereunder when the device is open and to hold the coil of hair tightly for curling when the device is closed, said hinge being wholly located between the base and the cover, a rim guard extending between the cover and the base adjacent to and exteriorly of the rear of the hinge to prevent hair from entering the device at the rear of the hinge, and the base and the cover themselves are the sole means for initiating the opening and closing of the device.

2. A hair-curling device or ornament according to claim 1, in which the cover is cup-shaped with an annular rim to help confine the coil of hair.

3. A hair-curling device or ornament according to claim 1, in which the cover is cup-shaped with an annular rim to help confine the coil of hair; the annular rim contains a slot in its forward portion; at least one of the base prongs has a tip-extension; and the tip-extension projects through the slot.

4. A hair-curling device or ornament according to claim 1, in which the cover is cup-shaped with an annular rim to help confine the coil of hair; at least one of the base prongs is sufficiently short to move freely up and down inside the cover; the annular rim contains a slot in its forward portion; at least one of the base prongs has a tip-extension; and the tip-extension projects through the slot.

5. A hair-curling device or ornament according to claim 1, in which the cover is perforated to permit escape of moisture from and to admit air to the coil of hair.

6. A hair curling device or ornament according to claim 1, in which the cover is provided with a helical mid-portion to give it an adjustable resiliency in holding the coil of hair.

7. A hair-curling device or ornament according to claim 1, in which the cover has an outer, annular, peripheral edge portion and an inner helical central portion adapted to yield resiliently.

8. A hair-curling device or ornament according to claim 1, in which the cover is in the form of a plurality of spaced prongs secured at adjacent ends to the hinge.

9. A hair-curling device or ornament according to the claim 8, in which the prongs of the base and the prongs of the cover are alternately spaced with respect to each other.

10. A hair-curling device or ornament according to claim 1, in which the hinge includes a shaft; and the inner ends of the base prongs are integral with the shaft so that the base and shaft may operate as a unitary whole.

11. A hair-curling device or ornament according to claim 1, in which the hinge includes a shaft; adjacent inner ends of the base prongs are pivotally secured to the shaft; and at least one of the base prongs is provided with a spring member having a free inner end under tension spaced from the shaft and in sliding contact with a support forming a part of the hinge.

12. A hair-curling device or ornament according to claim 1, in which the peripheral edge portion of the base adjacent the hinge and the guard are in sliding contact with each other to inhibit entrance of hair therebetween.

13. A hair-curling device or ornament according to claim 1, in which the hinge includes a shaft wholly supported between the base and the cover; and the inner ends of the base prongs are secured pivotally to the shaft.

14. A hair-curling device or ornament according to the claim 13, in which at least one of the base prongs is provided with a spring member having a free inner end under tension spaced from the shaft and in sliding contact with a support forming a part of the hinge.

15. A hair curling device or ornament according to claim 1, in which the cover is in the form of a plurality of spaced prongs secured at adjacent ends to the hinge, the prongs of the base and the prongs of the cover are alternately spaced with respect to each other, the prongs in both the base and the cover being sufficiently spaced from each other so that the forward ends of the base prongs and the cover prongs may freely intermesh with each other when the device is in its closed position.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
492,561	Seidell	Feb. 28, 1893
1,570,141	Glantz	Jan. 19, 1926
1,982,767	Solomon	Dec. 4, 1934
2,241,879	Foster, Jr.	May 13, 1941
2,325,315	Haberman	July 27, 1943
2,410,130	Plumtree	Oct. 29, 1946
2,466,976	Walton et al.	Apr. 12, 1949

FOREIGN PATENTS

Number	Country	Date
677,708	France	Dec. 18, 1929