

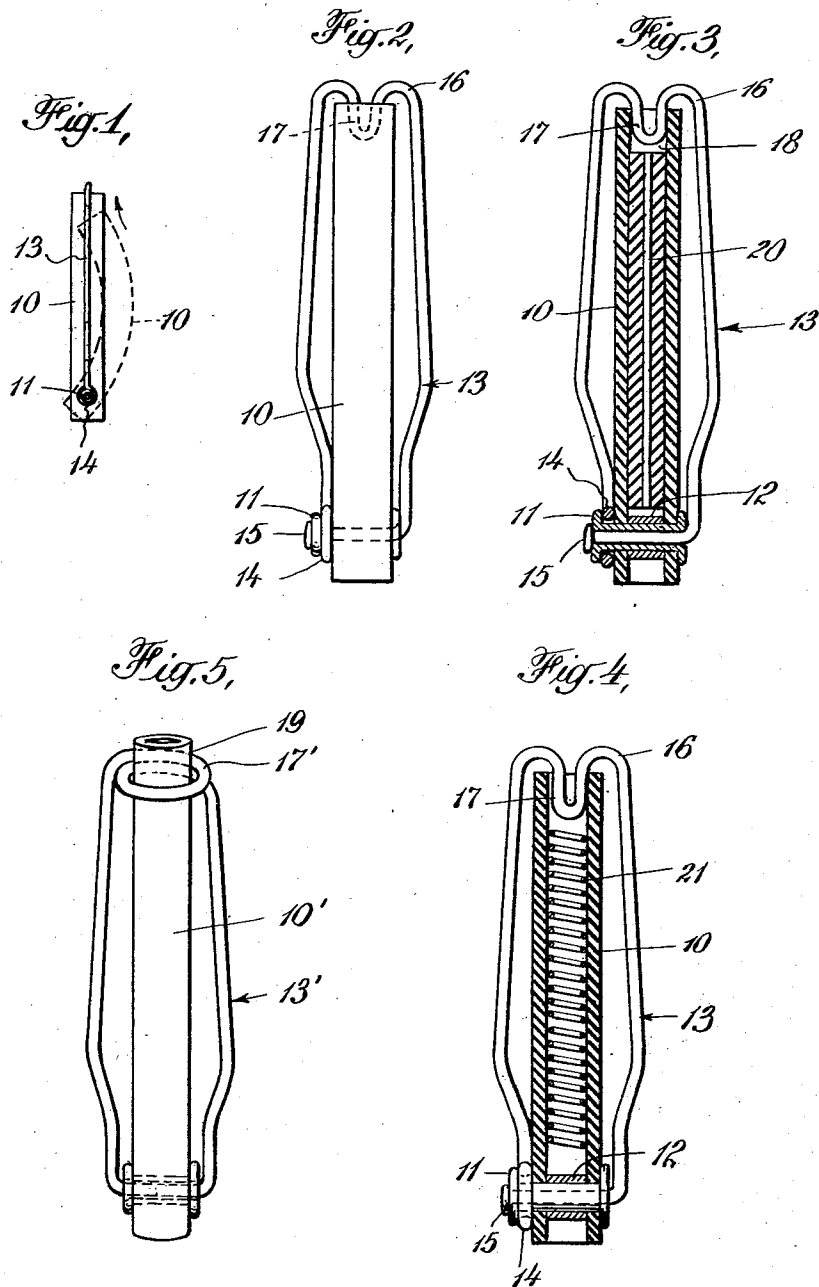
Feb. 12, 1935.

B. E. BEADLE

1,990,891

HAIR CURLER

Filed Aug. 15, 1934



INVENTOR

Blanche E. Beadle

BY

Davis, Davis, Harwin & Edwards
ATTORNEYS

UNITED STATES PATENT OFFICE

1,990,891

HAIR CURLER

Blanche Elsie Beadle, Springfield, Mass.

Application August 15, 1934, Serial No. 739,870

12 Claims. (Cl. 132-41)

This invention relates to hair curlers and has particular reference to the type of hair curler which is known as an "end curler", and on which a strand of hair is rolled inwardly from its end and is held in rolled form until it sets.

End curlers have been provided heretofore in various forms, each of which is characteristic in that it comprises an elongated body having pivoted at one end a locking member releasably connectible at its free end to the corresponding end of the body to secure the hair in wound condition on the body. The releasable connection between the locking member and the body usually includes some form of latch or catch which depends for its effectiveness on the resiliency of the material from which the locking member is made, such as wire. The wire soon loses its resiliency or becomes distorted through use so that the latch or catch becomes ineffective. Likewise, when a rubber band is employed as the locking member or as an element of it, the rubber of the thin band becomes rapidly deteriorated by the oil and other liquids commonly used to "set" the curl or wave, so that the curler becomes useless.

In accordance with the present invention a hair curler of the general type described is provided, in which the lock between the free end of the locking member and the body is positive, cannot be released except intentionally, retains its full effectiveness for an indefinite period of time, and does not utilize springs, catches or moving parts, which are likely to get out of order or catch in the hair.

The invention comprises an elongated body of flexible material, such as rubber tube, having pivoted at one end a locking member whose free end is provided with a suitable means adapted to releasably engage the free end of the tube, preferably by being inserted therein when the tube is bent to shorten it sufficiently to permit the insertion of the locking means therein. The tube upon straightening, accordingly locks the locking means thereto, so that the locking member is positively secured in a direction transversely to the movement required to release it by movement about its pivot. The rubber tube constituting the body may contain a suitable length of pliable wire to stiffen it, in which event the body must be bent to straighten it out for locking the locking member thereto, or the tube stiffening means may be a suitable length of resilient material, such as a strip of spring steel which will automatically straighten the tube for locking the locking member thereto.

It will be seen that with the present invention

a simple, inexpensive, but very effective end curler is provided which overcomes the objections to those heretofore utilized.

For a more complete understanding of the invention, reference may be had to the accompanying drawing, in which—

Fig. 1 illustrates the new hair curler and indicates the manner in which the flexible body thereof is flexed to lock and unlock the locking member thereto;

Fig. 2 is an enlarged side view thereof;

Fig. 3 is an axial section through the body thereof illustrating the pliable stiffening means for the flexible body;

Fig. 4 is an axial section through the body illustrating the resilient stiffening means for the flexible body; and

Fig. 5 illustrates the curler with a modified form of locking means for the locking member.

In the drawing, numeral 10 designates the flexible, bendable body of the hair curler, this body preferably consisting of a length of soft rubber tubing, the frictional surface of which materially assists in securing the hair to the body 10 as the hair is rolled up thereon.

As is illustrated particularly in Figs. 2 and 3, an eyelet rivet 11 is inserted through the body 10 adjacent one end and a spacer 12 is provided on the rivet 11 within the body 10 to prevent the body from collapsing at this point when the rivet is secured in place. The eyelet rivet 11 serves as a pivot for the locking member 13, which preferably consists of a U-shaped length of wire, one end of which is formed into a ring 14 which loosely encircles the one projecting end of eyelet rivet 11 and the other end of which is inserted through the opening in the eyelet rivet 11 and is bent over or otherwise enlarged at its end 15, so that it cannot be withdrawn from the eyelet rivet 11. The locking member 13 accordingly pivots on and about the eyelet rivet 11 as the pivot point with respect to the body 10.

The opposite or free end 16 of the locking member 13 is reversely turned to provide a locking means 17 adapted to be inserted into the recess 18 in the corresponding free end of the body 10, the means 17 and the recess 18 forming complementary locking parts. It will be observed from the illustrations of Figs. 2 and 3, that the distance between the innermost end or tip of the locking means 17 and the eyelet rivet 11 is less than the distance between the free end of the body 10 and the eyelet rivet 11, so that, in order to insert the locking means 17 into the recess 18 formed by the open end of the body 10, it is nec-

essary to flex the body 10 in the manner indicated in Fig. 1. In other words, it is necessary to decrease the effective length of the body 10 by flexing it so as to enable the locking means 17 of the locking member 13 to be inserted into the recess 18 in the free end of the body 10. When the locking means 17 is inserted in the recess 18 of the body 10 and the latter again straightened, it will be seen that the means 17 is locked in a direction transversely to the movement required to release the locking member 18 for movement about its pivot 11, so that the lock between the free ends of the locking member 13 and the body 10 is positive and cannot be released unintentionally.

Instead of inserting the locking means 17 in the recess 18 in the free end of the body 10, as in the arrangements of Figs. 1, 2 and 3, the free end of the body 10' may be inserted through a ring-shaped locking means 17' formed on the free end of the locking member 13', as is indicated in Fig. 5. This ring 17' is formed on the free end of the locking member 13' by simply bending the wire from which the latter is made into a ring shape. In order to release from and insert the free end 19 of the body 10' in the locking means 17, it is necessary to flex the body 10' in a manner readily understood.

The flexible tube 10 may serve as the body of the curler without other support, but it is preferred that the body be stiffened by inserting in it either a pliable or a resilient stiffening means. A preferred form of pliable stiffening means is illustrated in Fig. 3 and conveniently comprises a length of insulated copper wire 20 which may be readily bent and straightened with the body 10 or 10', for attaching and releasing the free end of the locking member to the free end of the body in the manner described.

Fig. 4 illustrates the resilient form of stiffening means for the body, and preferably comprises a small diameter coil spring 21 inserted within the body 10 so that when the body is released after being bent, the spring 21 automatically straightens the body without requiring a separate act on the part of the operator for that purpose. Alternatively, the resilient stiffening member 21 may be a length of steel spring or the like.

In utilizing the new hair curler of this invention, the locking member 13 or 13' is first released and swung about the pivot rivet 11. Then a strand of hair is rolled thereon inwardly from its end, the hair clinging to the soft rubber surface of the body 10 and 10' so that rolling of the hair thereon is facilitated and a more secure roll is obtained. The locking member 13 or 13' is then swung about pivot rivet 11 and the body 10 or 10' flexed to shorten it sufficiently so that either its free end 19 may be inserted through the locking ring 17' or the locking means 17 may be inserted in the recess 18 in the end of the body 10. If the body 10 is provided with the pliable stiffening means 20, it is necessary to bend the body straight to secure the lock between its free end and the free end of the locking member. If, on the other hand, the body is provided with a resilient stiffening means 21 of Fig. 4, it is only necessary to align the free end of the body with the locking means 17 or 17' and then release it to permit the spring 21 to automatically straighten the body 10 and lock it to the locking member 13 or 13'. If the body 10 or 10' contains neither the pliable stiffening means 20 nor the resilient stiffening means 21, its natural resiliency may be sufficient to keep it straight, depending upon the

kind of tubing which is used for the body 10 or 10'.

It will be seen that the hair curler of this invention is extremely simple in construction and that the lock between the free ends of the body and the locking member being locked in a direction transversely to the normal movement of the locking member about its pivot, is a secure and positive lock which can only be released intentionally so that accidental or unintended release becomes impossible. Also, inasmuch as the locking member does not depend for its lock with the body on resilient latches or catches or its own natural resiliency, it cannot get out of order but retains its effectiveness for an indefinite period of time.

While certain preferred embodiments of this invention have been illustrated and described, it is to be understood that the invention is not limited thereby but is susceptible to various changes in form and detail of its scope.

I claim:

1. In a hair curler, the combination of an elongated flexible body, and a non-elastic locking member pivotally connected at one end to the body adjacent one end thereof and releasably connectible at its free end to the corresponding free end of the body upon flexing of the body to effect the locking cooperation of the said free ends of the body and the member.

2. In a hair curler, the combination of an elongated flexible body, and a non-elastic locking member pivotally connected at one end to the body adjacent one end thereof, the free ends of the body and the member having interlocking portions adapted to cooperate upon flexing of the body.

3. In a hair curler, the combination of an elongated flexible body, and a non-elastic locking member pivotally connected at one end to the body adjacent one end thereof, the effective length of the member being less than the length of the body and the free ends of the member and body having interlocking portions adapted to cooperate upon flexing of the body.

4. In a hair curler, the combination of an elongated flexible body, and a non-elastic locking member pivotally connected at one end to the body adjacent one end thereof, said member having a locking means at its free end adapted to engage with a complementary portion of the free end of the body upon flexing of the body.

5. In a hair curler, the combination of an elongated flexible body, and a non-elastic locking member pivotally connected at one end to the body adjacent one end thereof, said member having a portion at its free end adapted to be inserted in a recess in the free end of the body upon flexing of the body.

6. In a hair curler, the combination of an elongated flexible body having a recess in one end, a non-elastic locking member pivoted at one end to the opposite end of the body, and a reversely turned locking means on the free end of the member adapted to be inserted in the recess in the end of the body upon flexing of the body.

7. In a hair curler, the combination of an elongated flexible body having a recess in one end, a non-elastic U-shaped locking member pivoted at its ends to the opposite sides of the body, and a reversely turned locking means on the free end of the member and terminating inwardly from the corresponding free end thereof for insertion in the recess in the free end of the body upon flexing of the body.

8. In a hair curler, the combination of an elongated flexible body, a locking member pivoted at one end adjacent one end of the body, and a ring fixed on the free end of the member adapted to encircle the corresponding free end of the body when the body is flexed to enable its free end to be inserted in the ring of the locking member.

9. In a hair curler, the combination of a flexible rubber tube, an elongated non-elastic locking member pivoted at one end adjacent one end of the tube and having an effective length less than the length of the tube, and cooperating portions on the free ends of the locking member and tube adapted to be inserted one within the other upon flexing of the tube.

10. In a hair curler, the combination of a flexible rubber tube, an elongated non-elastic locking member pivoted at one end adjacent one end of the tube and having an effective length less than the length of the tube, and cooperating portions on the free ends of the locking member and tube adapted to be inserted one within the other upon flexing of the tube, and pliable stiffening means within the tube.

11. In a hair curler, the combination of a flexible rubber tube, an elongated non-elastic locking member pivoted at one end adjacent one end of the tube and having an effective length less than the length of the tube, and cooperating portions on the free ends of the locking member and tube adapted to be inserted one within the other upon flexing of the tube, and resilient stiffening means within the tube.

12. In a hair curler, the combination of a flexible rubber tube, a U-shaped wire locking member pivotally connected at its ends on opposite sides of the tube adjacent one end thereof, and a reversely-turned locking means on the free end of the member, the distance between the inner end of the means and the pivot of the member being less than the distance between the free end of the body and the pivot point of the member, whereby it is necessary to flex the body to insert the locking means of the member in the corresponding end of the body to lock the member to the body.

BLANCHE ELSIE BEADLE.