Oct. 27, 1925. 1,558,951

E. G. UNGER

CLIP FOR SECURING HAIR TO WAVERS

Filed Oct. 23, 1923

Fig. 1.

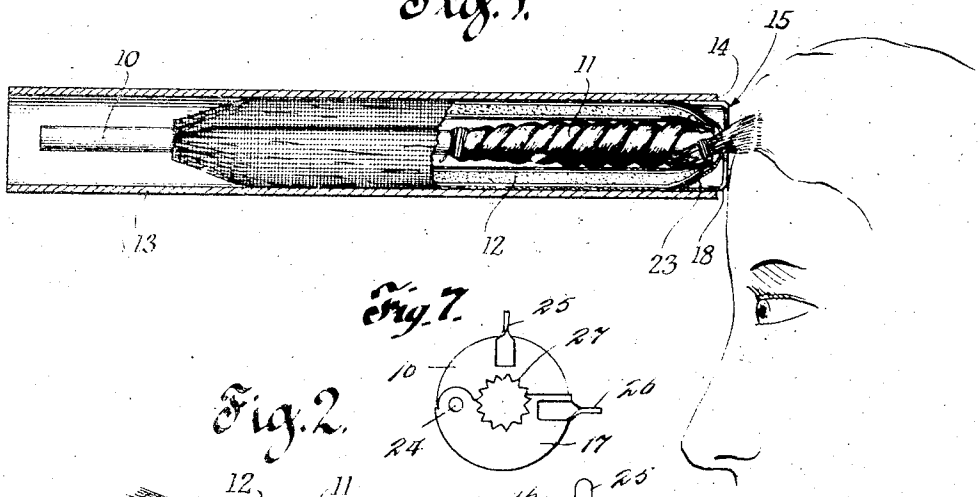
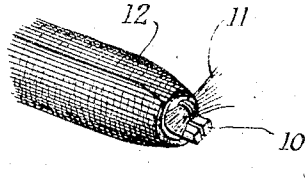


Fig. 7.

Fig. 2.



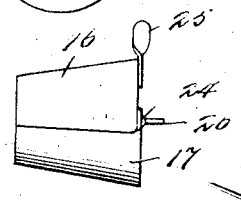


Fig. 4.

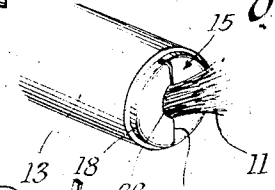


Fig. 3.

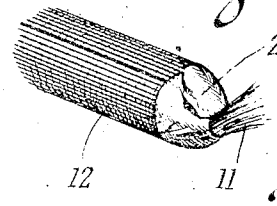


Fig. 8.

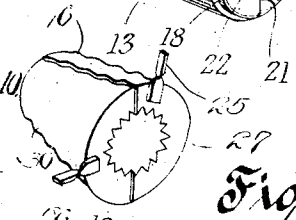


Fig. 10.

Fig. 5.

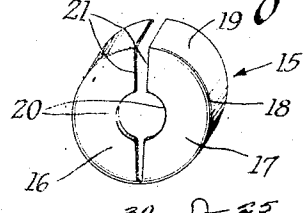


Fig. 6.

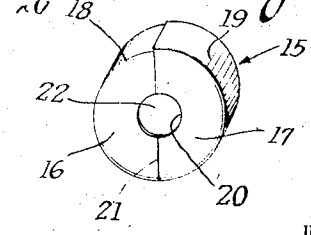
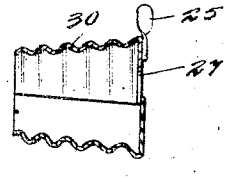


Fig. 9.



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UNITED STATES PATENT OFFICE.

ERNEST G. UNGER, OF NEW YORK, N. Y.

CLIP FOR SECURING HAIR TO WAVERS.

Application filed October 23, 1923. Serial No. 670,253.

To all whom it may concern:

Be it known that I, ERNEST G. UNGER, a citizen of the United States, and resident of New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Clips for Securing Hair to Wavers, of which the following is a specification.

The invention relates in general to an improved means for enclosing a strand of coiled hair incidental to the practicing of the art of permanent hair waving and the invention specifically relates to improved means for securing the hair to the curling rod and for closing one end of the tube usually employed in this art.

In practicing the art of permanent hair waving it is usual to coil a strand of hair on a curling rod, to tie or clamp the hair to the rod, to saturate or wet the hair with water or some hair treating substance, to insert the wet coiled hair in a paper or metal tube and to close the tube prior to the inserting thereon of the usual electric heater.

It is a usual practice to tie the hair strand to the metal curling rod with a piece of string although several forms of hair clamping devices have been sugested in the patent art. When a paper tube is used the ends are wetted to soften the same and the wet end of the tube is crimped together and tied to the contained strand and this end of the tube closed usually by wrapping a string tightly about the tube. When a metal tube is used the hair is first secured to the rod, inserted in the tube which is then closed at the end adjacent the head usually by some kind of a split shield or by stuffing cotton into the end about the hair. Mounting the hair in the tubes using any of these known securing means is slow and tedious, involves a multiplicity of tying and fastening operations and necessitates the employment of assistants skilled in these operations.

Accordingly, the primary object of the invention is to provide a simplified means for quickly and positively securing the hair to the curling rod and to close the end of the hair containing tube adjacent the scalp, quickly and without necessity of an involved tying operation or of mounting fastening closures into position.

Another object of the invention is to provide a combined tube closure and hair strand fastening device which will permit a quick demounting of the tube and its closure at the termination of the heating treatment or where a quick exposure of the hair is necessary due to overheating or to other accidents.

When used in connection with the usual paper tube the invention features a form of closure which will eliminate the necessity of wetting the tube with its resulting dropping of hot water on the person under treatment, and which will at the same time insure the retention within the tube of the steam or fumes used in treating the hair.

Still another object of the invention is to provide a form of closure which can be easily and cheaply constructed so as to compete with the market prices of the tying and other fastening constructions now in general use.

Broadly, I attain the invention by stamping from thin sheet spring metal a closing cap which is split across its center and in its tendency to expand provides a frictional tight fit in the hair containing tube and the split parts of which constitute clamping jaws for securing the hair strand to the enclosed curling rod.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:—

Figure 1 is a view in axial section of a strand of hair coiled on a rod and both enclosed in a tube at one end of which is mounted a closure constituting a preferred embodiment of the invention;

Figures 2 to 4, inclusive, are perspective views of the end of the construction adjacent the head showing succeeding steps of mounting the parts in place;

Figures 5 and 6 are perspective views of the closure cap demounted from its position in the tube; Figure 5 showing the cap in its normal open position and Figure 6 showing the parts thereof pressed together into its closed hair clamping position;

Figures 7 and 8 are views of a modified form of closing cap; Figure 7 being a view in end elevation and Figure 8 being a view in side elevation;

Figure 9 is a view in axial section of another modified form; and

Figure 10 is still another modified form.

In the following description and in the claims, parts will be identified by specific names for convenience of expression but they are intended to be as generic in their application to similar parts as the art will permit.

In the drawings there is shown a curling rod 10 on which is coiled a strand 11 of hair. The strand is wrapped with a prepared pad 12 usually a layer of absorbent material, with gauze facing. The wrapped hair is preferably wet with water or with some of the hair treating substances usually employed in the art of permanent hair waving. The hair so treated is positioned in a tube 13 which is usually cylindrical in form, opened at opposite ends, and which may be either the usual paper tube or it may be a metal tube.

The end 14 of the tube which is positioned adjacent the head of the person under treatment is closed by means of a cup shaped cylindrical cap 15.

As will be seen from the showing in Figures 5 and 6 the cap is formed of a one-piece thin sheet metal stamping and is formed of spring metal with the outlining flange or band 19 normally distorted as shown in Figure 5 from a cylindrical fit in the end of the tube. The closure proper or bottom of the cylindrical cup is formed of a pair of flat plates 16 and 17 each semi-circular in plan and disposed in the same or adjacent planes so that they can be moved into mutually lapping relation when in position closing the tube. The curved edges 18 of these plates are secured to one edge of the outlining flange which is in the form of a split band, the edges of which are normally spring apart from a circular position. It will be understood from this construction that the band can be collapsed towards its circular position shown in Figure 6; is inserted in the end of the tube, and, when released, the resiliency of the band will cause the same to expand outward into frictional engagement with the inner face of the tube as shown in Figure 4.

These plates are each provided with a semi-circular recess 20 positioned centrally in their adjacent straight edges 21 and coact when the plates are closed to provide an aperture 22 through which the strand of hair is passed when the closure is disposed in position in the tube. The plates 16 and 17 may be regarded as a pair of spring jaws movable edgewise either to clamp the hair strand directly to and about the curling rod or to clamp the hair close to the end of the curling rod but to the outside of the same as shown in Figure 1. In either case there is eliminated the usual tying of the strand to the rod by strings or other separate fastening means.

In order to prevent any leakage from the tube through the aperture, in those cases where water or hair treating material is used on the hair, it is suggested that a pad or layer of absorbent material 23 be positioned in the cap to form a packing or this space within the cap may be utilized as a steam space. Preferably this layer is positioned at the end of the hair curl prior to inserting the cap in position as suggested in the showing in Figure 3.

In the modified form shown in Figures 7 and 8, the rear plates 16 and 17 are hingedly connected by means of a pivot pin 24 instead of depending on the connection provided by the spring band 29 shown in the preceding figures. The two halves of the cap so connected are conveniently moved to and from open and closed position by finger pieces 25 and 26 extending radially respectively from the plates 16 and 17. In order to show an aperture differing from the aperture 22, this modified form and the form illustrated in Figure 10 are utilized to disclose an aperture having a serrated edge 27. In the hinged forms, of course, the parts have no particular tendency to spring outwardly into engagement with the enclosing tube. In order to insure a positive engagement between the hinged cap and tube, the cap parts are so designed that when in closed position as shown in Figures 8 and 10, the cap is frusto-conical. In other words the outlining band is tapered as shown in Figure 8. In the form shown in Figures 9 and 10 the sides are corrugated as shown at 30 (Fig. 9) to insure line contacts with the enclosing tube.

In operation it will be understood that the hair strand is coiled on the curling rod; may be passed through a split end of the rod but it is not necessarily fastened to the rod. The pad is wrapped about the hair following conventional practices and the packing layer is wrapped about the end. One of the cap closures while in open position is passed laterally across the strand close to the head. By pinching together the opposite sides of the band the recesses 20 engage opposite sides of the strand and pinch the same together as herein illustrated or it may encircle the end of the rod to clamp the hair thereto. When the spring form of closure is used the enclosing tube, either paper or metal, is telescoped over the free end of the strand and the curling rod and is moved axially into position telescoping the hair and the closure. The operator releases his holding of the spring band which permits the same to release slightly and expand by virtue of its resiliency into tight frictional engagement with

the tube. The tube can then be further forced towards the head, if desired, so as to substantially contain the closure as shown in Figure 1.

When the hinged form of closure is used it is closed about the strand as suggested and the tube is forced endwise along the tapered band. This causes a wedging fit between the cap and the tube end telescoping the same.

When it is desired to remove the tube it may be drawn longitudinally off the hair in case a metal tube is used. In case a paper tube is used it is a conventional practice to cut or clip the end of the tube which encircles the closure. This cutting permits the resiliency of the closure when such is used to act on the cut tube and to tear the same apart thus permitting the closure to clear and spring out of the tube. The fingers projecting from the hinged form of closure permits the operator to force the parts apart manually and thus tear the tube. The tube and the protecting pad are withdrawn in case they become stuck in position and the hair in its tendency to uncurl releases the curling rod. In this way all parts are loosened and can be readily and quickly demounted.

The closure can be used repeatedly until it either loses its resiliency or otherwise becomes damaged. However, it is within the scope of this disclosure to make the caps of some non-resilient material such as a pressed fibre to depend either upon the wedging action herein suggested or upon simply a frictional fit in the tube to retain it in place in those cases where the band was strictly of cylindrical form.

By the use of closures of the type thus described it is possible to eliminate the cumbersome tying operation which at present takes up so much time in practicing the art of permanent hair waving. As the closures are formed of cheap, metal stampings it is found to be cheaper to use these stampings than to pay the labor costs required in the tying operation. The closure effectively seals the end of the tube; defeats any tendency of the enclosed steam or gases to leak therefrom onto the person's scalp and acts as a heat conductor to convey heat close to the root of the hair strand.

While I have shown and described, and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described my invention, I claim:

1. A device for enclosing a coil of hair in the practicing of permanent hair waving, comprising a tube for containing the coil and adapted to have a heater inserted on the same, and a closure having a frictionally telescopic fit with one end of the tube and engaging the inner wall of the tube at said end.

2. A device for enclosing a coil of hair in the practicing of permanent hair waving, comprising a tube for containing the coil, and a closure having a frictionally telescopic fit with one end of the tube engaging the face thereof and provided with an aperture for permitting the hair to pass therethrough into the tube.

3. In a device of the class described, the combination of a tube open at opposite ends and having a smooth cylindrical outerside adapted to be inserted in a heater, a cap for closing one of said ends while permitting the other end to remain open directly to the external atmosphere, said cap provided with an aperture for permitting a strand of hair to pass therethrough into the tube, and said cap provided with means for securing the cap in direct frictional engagement with the tube.

4. In a device of the class described, the combination of a hair enclosing tube, a resilient closure telescopically fitting one end of the tube and held by virtue of its resiliency in frictional engagement with the tube.

5. In a device of the class described, the combination of a hair enclosing tube, a closure for the tube insertable into one end thereof and including a resilient split ring with the free ends normally displaced from a circle forming position and held in an abnormal circle forming position by the circling tube whereby the closure is held frictionally in the tube by the resiliency of said split ring.

6. In a device of the class described, the combination of a tube adapted to contain a strand of hair coiled on a curling rod, a pair of spring jaws adapted to clasp the hair strand to the curling rod, and said jaws fashioned to fit in the tube and to be held thereby in their hair clamping position.

7. In a device of the class described, the combination of a tube adapted to contain a strand of hair, a closure for said tube having an expansible side adapted to engage the tube to hold the closure to the tube and said closure provided with means for securing the same to the hair contained in the tube.

8. In a device of the class described, the combination of a tube, a closure for the tube including a pair of spring jaws held in clutching position by the tube.

9. A closure for the end of a hair containing tube comprising a split spring band adapted to be sprung into frictional engagement with the tube and a bottom piece extending inwardly from the band.

10. A closure for a tube comprising a pair of plates extending in parallel relation and movable relative to each other in mutually overlapping relation and a single, split resilient band extending perpendicular to the plane of the plates and connected at one edge to edge portions of both plates.

11. A one-piece metallic closure for a tube comprising a portion adapted to be sprung from its normal shape to place the same under tension, and an end portion comprising two plates extending integrally from different parts of one edge of said portion.

12. A closure for one end of a hair containing tube, comprising a one-piece sheet metal hollow open end cup with the side and bottom portions split to form two parts movable relative to each other and said parts integrally connected by the side portion.

13. In a device of the class described, the combination of a pair of substantially semicircular plates disposed substantially in the same plane to form a substantially circular closure, the straight edges of each plate provided with a recess and said recesses coacting to provide an aperture extending through the closure and a split band integrally connected to the curved edges of said plates.

14. In a device of the class described, the combination of a pair of plates resiliently connected to form a pair of spring jaws adapted to secure a strand of hair to a curling rod and an encircling member for holding the jaws in clutching position against their tendency to spring apart.

15. A combined tube closure and hair clamp comprising a pair of plates resiliently connected to form a hair clamp and coacting when collapsed into clamping position to form a closing member adapted to fit into a tube to close the same, and said plates in their tendency to expand relative to each other adapted to engage against the inner side of the tube whereby the closure is held in its clamping position by the tube.

16. A closure for the end of a hair containing tube, comprising a metal cup having an aperture in the bottom thereof adapted to have a strand of hair passed therethrough and a pad of absorbent material positioned in the cup and tending to prevent leakage from the hair through said aperture.

17. In a device of the class described, the combination with a strand of hair wrapped on a curling rod, a piece of absorbent material at one end of the strand, a cup telescoping said end and a tube containing the wrapped hair and telescoping the cup.

18. In a device of the class described, the combination of a hair containing tube free of external projections and fashioned to fit in a heater, a closure therefor comprising two parts connected and relatively movable, having a tight fit in the tube and having an aperture adapted to have the hair extend therethrough.

19. In a device of the class described the combination of a hair containing tube free of external projections and fashioned to fit in a heater, a closure therefor comprising two connected and relatively movable parts, having a tight fit in the tube and having an aperture adapted to have the hair extend therethrough and provided with finger pieces for moving the parts to and from open and closed positions.

20. In a device of the class described, the combination of a hair containing tube, a closure for the same provided with a frusto-conical side having a wedging fit in said tube.

21. A closure for the end of a hair containing tube comprising a frusto-conical band comprising a pair of connected sections and each section provided with a recess, said recesses coacting with each other to form an aperture for receiving a strand of hair.

22. A closure for the end of a hair containing tube comprising a band including a pair of connected sections and each section including a curved side member adapted to engage inside the tube and an end plate provided with a recess, said recesses coacting with each other to form an aperture for receiving a strand of hair, and said aperture outlined by a serrated edge.

Signed at New York city in the county of New York and State of New York this 15th day of October, A. D. 1923.

ERNEST G. UNGER.