June 13, 1939. G. A. L. LINDEN 2,162,262

HAIR CURLER

Filed Dec. 28, 1937

Fig. 4.

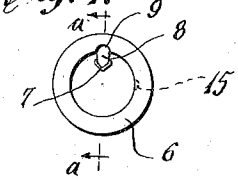



Fig. 5.

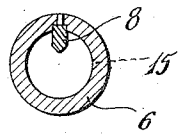



Fig. 2.




Fig. 1.

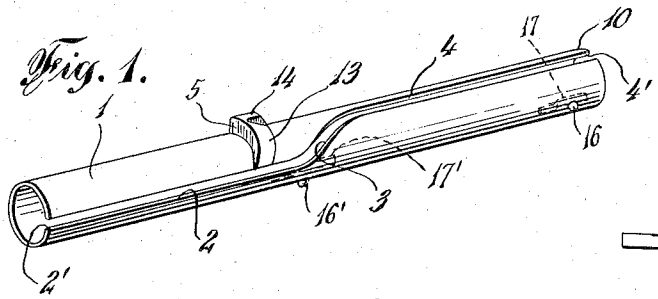
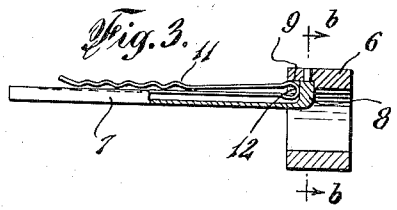



Fig. 3.



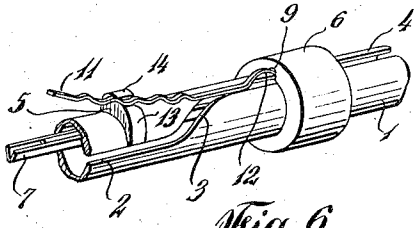




Fig. 6.

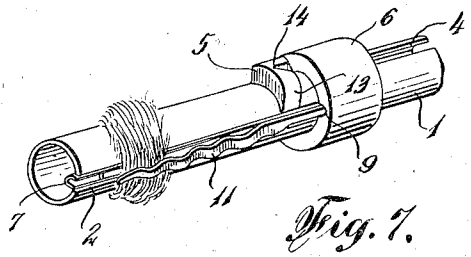



Fig. 7.

Fig. 9.

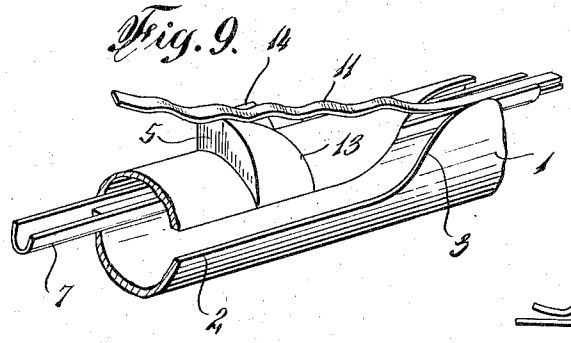
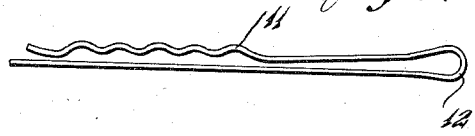



Fig. 8.




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# UNITED STATES PATENT OFFICE

2,162,262

## HAIR CURLER

Gad A. Lambert Linden, Brooklyn, N. Y.

Application December 28, 1937, Serial No. 182,081

11 Claims. (Cl. 132—33)

My invention relates to an improved device for applying a clamping or "bobby" pin such as is used in curling hair. I am aware that a number of such devices have heretofore been known, but all of them of which I am aware are difficult to handle to secure the desired result. In the use of the preferred form of my device, the hair is wound on a portion of a tubular member and the "bobby" pin is clamped thereon by merely sliding a sleeve along the tubular member. The hair, clamped in the "bobby" pin, may then be easily removed from the tubular member.

In general, the object of my invention is to facilitate the clamping of hair in a "bobby" pin. Specific objects include the construction of a device which will easily and positively accomplish the said general object and which can be manufactured economically.

The preferred form of my invention is described in the following specification and shown in the accompanying drawing, in which—

Fig. 1 is a perspective view of the tubular portion thereof;

Fig. 2 is a perspective view of the sleeve and the attached trough-like member;

Fig. 3 is a cross-section of the sleeve and trough-like member taken on the line *a—a* of Fig. 4,—the "bobby" pin being shown in place;

Fig. 4 is an end elevation of the sleeve, the trough-like member being shown in section;

Fig. 5 is a cross-section of the sleeve taken on the line *b—b* of Fig. 3, looking in the direction of the arrows;

Figs. 6 and 7 are fragmentary perspective views of the device with the sleeve at different positions on the tubular member;

Fig. 8 is a side elevation of the type of "bobby" pin preferably used in connection with my device; and

Fig. 9 is a perspective view of a portion of my device, showing the manner in which the "bobby" pin is opened.

Referring to the drawing, the member 1 is composed of a hollow tube of light, thin material which is preferably non-tarnishable and rust-proof (such as chromium or aluminum). The tube is opened up or slotted longitudinally,—the slot running parallel with the axis of the tube for a distance somewhat less than half the length of the tube (as shown at 2); then diagonally for a short distance (as shown at 3); and then again parallel with the axis of the tube (as shown at 4). The slot is open at the end 2' but may or may not be open at the opposite end, 4', as desired and depending upon the particular construction of other parts of the device. Affixed to the outside of the tube, at a position adjacent the portion 2 of the slot, near the place where the latter turns diagonally and in line with the portion 4 of the slot, is a stud having a beveled portion and a shoulder, the functions of which will be described later.

The member which is designed to cooperate with the tubular portion of my device is shown, in its preferred form, in Fig. 2 and consists of a sleeve 6 adapted to surround and slide along the tube. Carried by the sleeve is a trough-like member 7, one end of which is affixed to the inside of the sleeve but spaced therefrom,—as by the support 8. In the inner side of one face of the sleeve, a notch or recess 9 may be provided, the recess, when present, being so placed that it cooperates with the inner end of the member 7 and the support 8 to provide a socket.

In the preferred construction, the sleeve 6 is slidably mounted on that portion of the tubular member between the stud 5 and the end of the tube marked 10 in Fig. 1. After the sleeve has been placed on the tube it may be permanently retained thereon, as by flaring the end 10 of the tube (not shown) or otherwise.

In use, the sleeve (slidably mounted on the tube as aforesaid) is placed on the tube adjacent its end 10. In that position the trough-like member 7 lies within the tubular member beneath the portion 4 of the slot and parallel with the axis of the tube; in this position, the member 7 may be long enough to extend slightly under the tube itself at the place where the slot bends. A "bobby" pin 11 of a well-known type (illustrated in Fig. 8) is placed in the member 7 with its head or loop end 12 in the socket formed between the indentation 9, the inner end of the member 7, and the support 8. The sleeve 6 is then moved inward along the tubular member. In view of the spread between the ends of the two legs of the "bobby" pin, the lower, flat side thereof will slide under the tubular member and the upper, crimped side thereof will slide over the outside of the tubular member. As the sleeve 6 is moved further inwardly, the two legs of the "bobby" pin will be spread apart by the beveled surface 13 of the stud 5, as clearly shown in Fig. 9.

The hair to be curled is wound around the tubular member over that portion of the slot which is marked 2 in the drawing. To clamp the hair between the legs of the "bobby" pin, the sleeve 6 is then moved along the tubular member towards the part thereof around which the hair

is wound. When the sleeve approaches the bend in the slot, the "bobby" pin has been opened as shown in Fig. 6, and in greater detail in Fig. 9. The sleeve 6 is then moved further along the slot and around the bend 3 therein, until it takes the position shown in Fig. 7 at the end of the portion 2 of the slot. As the sleeve passes along the bent portion 3 of the slot, the outer leg of the "bobby" pin slides along the beveled surface 13 of the stud 5 and eventually slides off the stud, dropping down over the hair to clamp it between the two legs of the "bobby" pin,—as indicated in Fig. 7. This completes the operation of clamping the hair in the "bobby" pin, and the latter may then be drawn, with the hair clamped therein, along the slot and out of the end 2' of the slot.

The sleeve and trough-like member may then be moved back again to the original position adjacent the end 10 of the tubular member and, if desired, the operation may be repeated with a new "bobby" pin.

The stud 5 is provided with a shoulder 14 which limits the movement of the sleeve 6 and associated trough-like member in one direction. The shoulder also prevents the sleeve from becoming wedged on the bevelled portion 13 of the stud.

To facilitate the operation of the device, frictional engaging means may be supplied to hold the sleeve in desired positions. Thus, a socket 15 may be provided on the inner surface of the sleeve 6. To cooperate with this socket, the tubular member 1 is provided with two balls 16, 16', held in position by associated springs 17, 17', or by other suitable means. Circular apertures are provided in the tubular member 1, the apertures being smaller in diameter than the balls 16, 16' so that the latter normally partially project outwardly through the apertures. The ball 16 is so placed as to engage the socket 15 of the sleeve when the latter is in position adjacent the end 10 of the tubular member,—i. e., in position for inserting the "bobby" pin. The ball 16' engages the socket 15 at the other end of the travel of the sleeve,—i. e., when it is adjacent the stud 5, and in the position at which the "bobby" pin (with the hair clamped therein) is to be removed from the device. In this manner, the sleeve is held in the desired position by engagement of the proper ball, 16 or 16', and the socket 15, the former being pressed into the latter by the associated spring, 17 or 17'. Due to the spring, however, comparatively slight longitudinal pressure on the sleeve will disengage the ball from the socket and make it possible to move the sleeve to any desired position.

It may also be desirable to taper somewhat the end of the tubular member upon which the hair is wound; this will facilitate removal of the clamped hair from the tubular member.

It will be understood that various modifications in the structure and arrangement of my device may be made without departing from the spirit of the invention, and I desire to secure protection for all such modifications as may come within the scope of the appended claims.

Having described my invention, I claim:

1. A device of the kind described, comprising in combination a tubular member having a slot therein extending inwardly from one end thereof; a sleeve slidably mounted on the tubular member and carrying a trough-like member extending therefrom within the tubular member in a direction towards the open end of the slot and adapted to receive a "bobby" pin; means for opening the legs of the "bobby" pin, as the sleeve is moved towards the open end of the slot, to receive hair that is wound around the tubular member; and means for disengaging the "bobby" pin from said opening means when the sleeve reaches a predetermined position on the tubular member.

2. A device of the kind described, comprising in combination a tubular member having a slot therein extending inwardly from one end thereof; a sleeve slidably mounted on the tubular member and carrying a trough-like member extending therefrom within the tubular member in a direction towards the open end of the slot and adapted to receive a "bobby" pin; a socket associated with the sleeve and adapted to receive the looped end of the "bobby" pin; means for opening the legs of the "bobby" pin, as the sleeve is moved towards the open end of the slot, to receive hair that is wound around the tubular member; and means for disengaging the "bobby" pin from said opening means when the sleeve reaches a predetermined position on the tubular member.

3. A device of the kind described, comprising in combination a tubular member having a slot therein extending inwardly from one end thereof; a member slidably mounted beneath the slot in the tubular member and adapted to carry a "bobby" pin; means associated with the tubular member for opening the legs of the "bobby" pin as the slidable member moves towards the open end of the slot; and means for disengaging the "bobby" pin from said opening means when it reaches a predetermined position.

4. A device of the kind described, comprising in combination a tubular member; a slot therein extending inwardly from one end thereof, the slot having offset portions parallel with the axis of the tubular member, such portions being joined by a diagonal portion; a sleeve slidably mounted on the tubular member; a trough-like member within the tubular member and carried by the sleeve, and a beveled stud affixed to the outside of the tubular member and located adjacent the slot.

5. A device of the kind described, comprising in combination a tubular member; a slot therein extending inwardly from one end thereof, the slot having offset portions parallel with the axis of the tubular member, such portions being joined by a diagonal portion; a beveled stud affixed to the outside of the tubular member adjacent one straight portion of the slot and in line with the other straight portion; a member slidably mounted within the tubular member and adapted to carry a "bobby" pin in such position that one leg thereof is below and the other above the surface of the tubular member; and means associated with the slidable member and engaging the slot.

6. A device of the kind described, comprising in combination a tubular member; a slot therein extending inwardly from one end thereof, the slot having offset portions parallel with the axis of the tubular member, such portions being joined by a diagonal portion; a beveled stud affixed to the outside of the tubular member adjacent one straight portion of the slot and in line with the other straight portion; a sleeve slidably mounted on the tubular member; means for limiting the travel of the sleeve on the tubular member; and a member carried by the sleeve parallel to the axis of the tubular mem-

ber, extending towards the open end of the slot and adapted to carry a "bobby" pin in such position that one leg thereof is below and the other above the surface of the tubular member.

7. A device of the kind described, comprising in combination a tubular member; a slot therein extending inwardly from one end thereof, the slot having offset portions parallel with the axis of the tubular member, such portions being joined by a diagonal portion; a beveled stud affixed to the outside of the tubular member adjacent one straight portion of the slot and in line with the other straight portion; a sleeve slidably mounted on the tubular member; means for limiting the travel of the sleeve on the tubular member; a member carried by the sleeve parallel to the axis of the tubular member, extending towards the open end of the slot and adapted to carry a "bobby" pin in such position that one leg thereof is below and the other above the surface of the tubular member; and frictional means engaging the sleeve at predetermined positions.

8. A device of the kind described, comprising in combination a tubular member provided with a slot extending inwardly from one end thereof, one portion of the slot being offset with respect to another portion; a sleeve slidably mounted on the tubular member and carrying a trough-like member adapted to receive a "bobby" pin; a member carried by the sleeve and engaging said slot; and means carried by the tubular member to open the "bobby" pin under tension as the sleeve is moved inwardly, said opening means being operative when said slot-engaging member engages one portion of the slot and being inoperative when said slot-engaging member engages the other portion of the slot.

9. A device of the kind described composed of a tubular member, all of the parts of which are rigidly connected together, and a sleeve member, all of the parts of which are rigidly connected together; said tubular member being provided with a slot having offset portions parallel with the axis of the tubular member, said tubular member also carrying a beveled stud; and said sleeve member being provided with means for carrying a "bobby" pin and also with means engaging the slot in the tubular member.

10. A device according to claim 9 wherein the beveled stud on the tubular member is affixed to the outer surface thereof and is in line with one axial portion of the slot therein.

11. A device according to claim 9 wherein the beveled stud on the tubular member is affixed to the outer surface thereof and is in line with one axial portion of the slot therein, and wherein the means for carrying the "bobby" pin is adapted to carry the pin in such position that one leg thereof is below and the other above the surface of the tubular member.

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