March 1, 1938. P. ATHENS 2,109,632

HAIR WAVING DEVICE

Filed Nov. 10, 1936

Fig. 1.

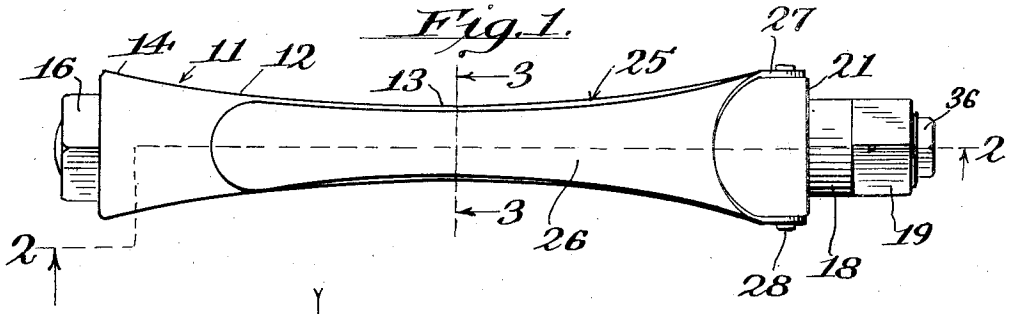


Fig. 2.

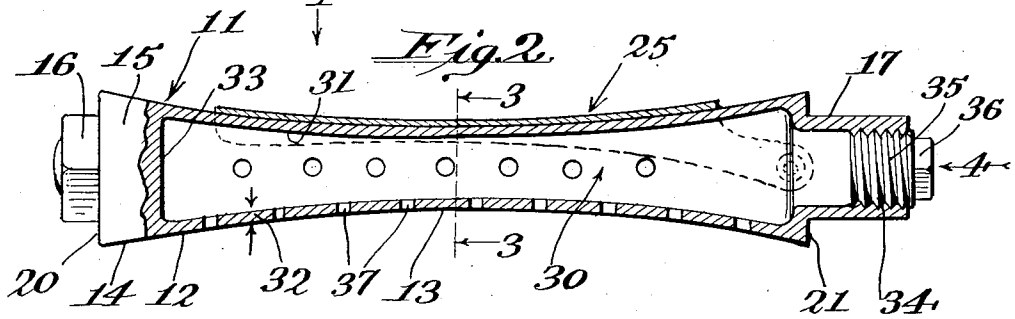


Fig. 3.

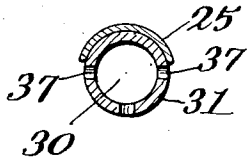


Fig. 4.

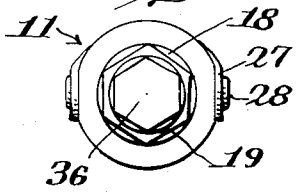
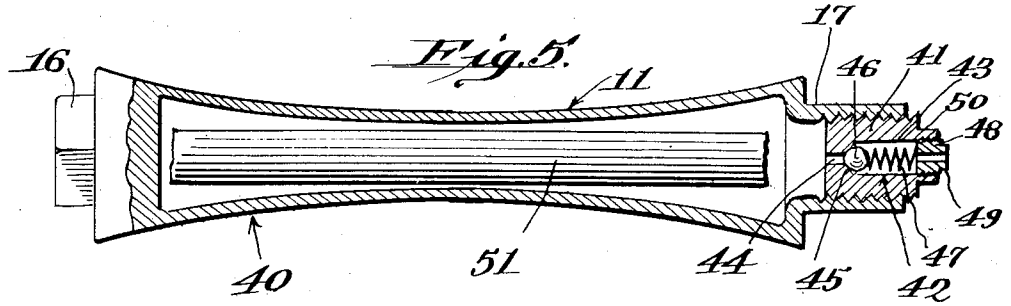


Fig. 5.



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HAIR WAVING DEVICE

Pierre Athens, Hollywood, Calif.

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3 Claims. (Cl. 132—33)

My invention relates to a hair waving appliance in which heat is directly applied to the hair by an exothermic reaction.

In waving or curling hair by heat developed by an exothermic chemical action sometimes termed chemical heat, it is the custom to secure a strand of hair in a clamp, a portion of this clamp being close to the scalp and on this clamp there is mounted a mandrel or curling rod around which the strand of hair is wound. The exothermic material suitably held and supported is positioned in a manner to partly surround the hair on the curling rod so that this hair is heated by transfer of heat and hence acquires the permanent wave.

An object and feature of my present invention is to combine the device for holding the chemical which by its exothermic action develops the heat with a structure for holding the hair so that as the hair to be waved is properly held in a curled form, the heat, sometimes called a chemical heat, is applied directly to the coil of hair. A further feature of my invention is forming the mandrel or curling rod so that its interior may be used as a container for the chemical and the heat developed is transferred directly to the coil of hair wound on this mandrel or curling rod.

Therefore a further characteristic of my invention is the construction of a hollow mandrel or curling rod with the desired shape and external devices for attaching and winding a strand of hair. This hollow mandrel or curling rod has provision for inserting a charge or cartridge of the chemical, the chemical being confined during the heat reaction so that the hair is directly heated while held tightly wound on the mandrel. Hence with my invention it is not necessary to have clamps or other devices holding and positioning the exothermic material surrounding the hair wound on the mandrel.

My invention is illustrated in connection with the accompanying drawing, in which:

Fig. 1 is an exterior view taken in the direction of the arrow 1 of Fig. 2 showing my invention incorporated with the mandrel or curling rod used in waving the hair.

Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1 taken in the direction of the arrows.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1 or 2 taken in the direction of the arrows.

Fig. 4 is an end elevation taken in the direction of the arrow 4 of Fig. 2.

Fig. 5 is an elevation broken away of an unperforated type of mandrel or curling rod.

In the present illustration I have not shown a conventional clamp by which a strand of hair is gripped in the clamp and a portion of the clamp positioned adjacent a person's scalp. These clamps are in quite common use and a mandrel or curling rod of my invention may be used in the conventional clamp. The mandrel or curling rod is designated by the numeral 11. This has the typical exterior surface contour 12, that is, at any longitudinal line the surface is concave from end to end but each transverse section is a circle. The curling rod is of least diameter at the center 13 and of greatest diameter adjacent the end portions 14. One end has a solid section 15 with a non-circular end piece 16 which engages in a slotted yoke of the clamp. The opposite end has a neck 17, such neck having a cylindrical portion 18 and a wrench-grip head 19. The cylindrical end fits in a complementary bracket or the like on the clamp and the wrench-grip head 19 is used to rotate the device for winding the hair thereon. The end piece 16 is of a standard character which allows rotation in one direction but prevents unwinding or rotation in the opposite direction so that the strand of the hair may be coiled sufficiently tight while mounted on the brackets of the clamp. The device thus has end shoulders 20 and 21 which restricts the endwise movement of the mandrel in the brackets of the clamp.

A pivoted jaw or gripping finger 25 is of the standard construction having an elongated portion 26 conforming to the curvature of the exterior of the mandrel and provided with yoke arms 27 through which extend pintle rivets 28 so that this device may swing on these pivots to engage the strand of hair.

The interior of the mandrel is hollow as indicated at 30 and the inside surface 31 conforms to the outside surface 12. This produces a constant wall thickness indicated at 32 from substantially end to end of the mandrel. At the closed end 15 there is an interior transverse base surface 33. The neck 17 has internal threads 34 in which is inserted a screw threaded plug 35. This plug has a wrench-grip head 36. The plug may be removed for inserting a cartridge of the chemical used to develop the exothermic reaction. This cartridge is in the form of a cylindrical pencil of such size that it has a clearance of the threads 34 and passes through the central portion 13 of smallest diameter. It will be seen therefore that as this cartridge is pencil-like and cylindrical in shape, that it leaves an annular space surrounding the cartridge at the enlarged end portions of the hollow space

30. In this type it is preferable to have a series of perforations 31.

In using the device of Figs. 1 and 2, the hair is wound or coiled on the mandrel or curling rod, this rod being secured in the hair clamp as is the ordinary practice. The plug 36 is removed and the cartridge inserted. The cartridge may be dampened before insertion or water charged through the plug opening. The plug is then replaced. In this case the vapors and steam developed will escape and come in direct contact with the hair wound on the mandrel.

In cases in which it is desired to maintain the fumes entirely out of contact with the hair I use a mandrel or curling rod of the type shown in Fig. 5 and designated by the assembly numeral 40. This has the same exterior and interior contour as shown in Figs. 1 and 2 but in this case the wall structure is unperforated. The plug 41 threaded in the threads of the neck 17 is provided with a check valve 42. This is made by providing the plug with a relatively large bore 43 and a smaller bore 44, there being a seat 45 at the base of the large bore for the ball 46. This is maintained seated by a compression spring 47 bearing against a perforated abutment plug 48 which latter is perforated and has a wrench grip end 49. The main plug 41 has a wrench grip head 50. The type of cartridge is indicated at 51, this being a cylindrical pencil of the chemical which with water gives the exothermic reaction. This is provided in rods of various lengths and may be broken to provide a cartridge of the size required for a particular curling operation. In using the device of Fig. 5 water may be inserted in the hollow mandrel before replacing the plug 41. Should the vapor or steam pressure become excessive the check valve 42 opens allowing escape of the vapors and steam through the plug. The vapors and hence the fumes are thus out of direct contact with the hair wound on the mandrel or curling rod.

Various changes may be made in the details of the construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. In a device as described, a curling rod or mandrel formed with a space on the inside, a closure at one end, a ratchet device mounted at the closed end, a tubular neck at the opposite end having a cylindrical outside surface and a wrench grip head whereby the rod may be mounted in a pair of brackets of a clamp with the cylindrical part engaging one bracket and part of the ratchet device a second bracket, a plug threaded in the neck through which a charge of exothermic material may be inserted and the waste products removed, the rod being adapted to have a strand of hair wound thereon for transference of heat directly from the rod to the hair.

2. In a device as described and claimed in claim 1, the rod having a series of perforations for charging with liquid for the exothermic reaction.

3. In a device as described and claimed in claim 1, the wall of the rod being imperforate and means to allow escape of vapors should the pressure in the rod become excessive due to the exothermic reaction.

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