Oct. 28, 1930. G. DINGER 1,779,905

HAIR WAVING APPLIANCE

Filed Sept. 10, 1928

Fig. 1.



Fig. 3.

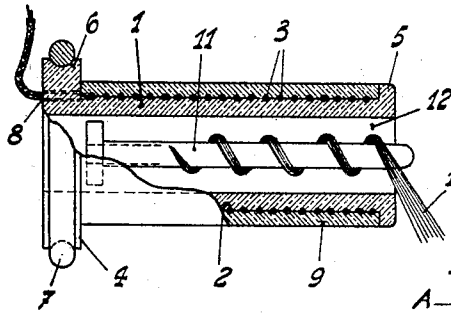
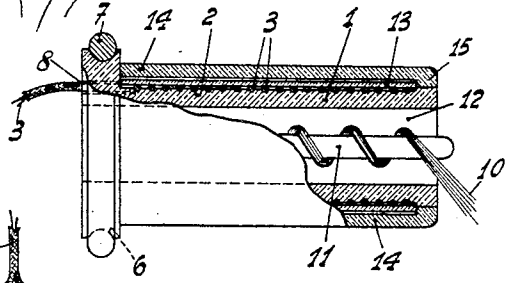


Fig. 4.



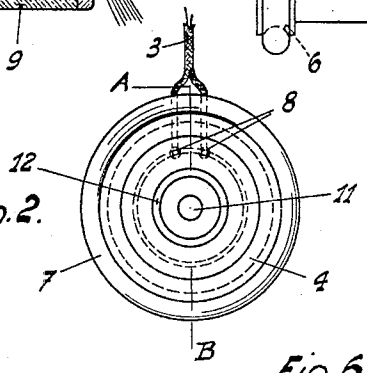


Fig. 2.

Fig. 5.

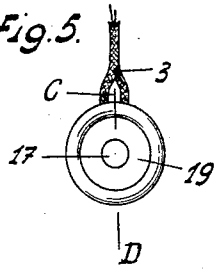


Fig. 6.

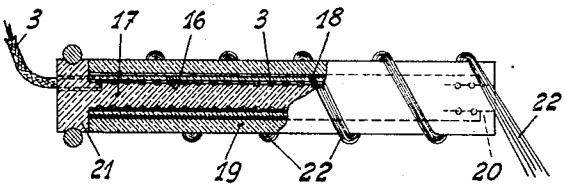
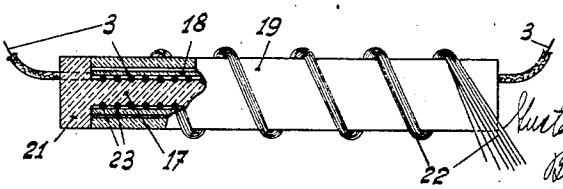


Fig. 7.



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UNITED STATES PATENT OFFICE

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HAIR-WAVING APPLIANCE

Application filed September 10, 1928, Serial No. 305,114, and in Great Britain September 21, 1927.

This invention relates to appliances employed in the so-called "permanent waving" of ladies' hair.

In the usual process of permanent waving, the hair is wound round a former, such as a tube, the coiled lock is then moistened (e. g. treated with a paste) and finally heat is applied. In carrying out this process, electrical heaters are now employed to a large extent. In some cases the heater is located within a tubular metal former round which the hair is coiled, but more usually the heater comprises a metal tube or sleeve which has a resistance heating element wound on it and which is adapted to be slipped over the former after the hair has been coiled thereon.

The use of metal tubes either as formers or as sleeves to surround the formers has led to short circuits in the electrical heating circuit, and in this way accidents have happened, the person whose hair is undergoing treatment being subjected to shocks. This invention aims at eliminating entirely the above and other disadvantages associated with the use of metal heaters of the usual form.

According to the present invention there is provided in or for a hair waving appliance of the type referred to above, an electric heater comprising (either as a former on which the hair is to be coiled, or as a sleeve to surround the former) a tube composed of ceramic insulating material, such as porcelain, fire-clay or the like.

In the drawings several forms of construction are shown by way of example:

Figure 1 illustrates the application of the device,

Figure 2 is a face view,

Figure 3 is a section of the heating device on the line A—B of Figure 2,

Figure 4 shows a modified construction in sectional elevation,

Figure 5 is a face view of a third form of construction,

Figure 6 a section taken on the line C—D of Figure 5,

Figure 7 illustrates a modified construction of the heating device shown in Figures 5 and 6.

The heating device Figures 1–3 comprises a sleeve 1 of ceramic material such as steatite, porcelain or the like. The sleeve 1 is provided with a helical groove 2 in which two conductors of an electric flexible wire 3 are arranged. The sleeve 1 is provided at one end with a flange 4 and at the other end with a ridge 5, both the flange 4 and ridge 5 extending outwardly and forming part of the sleeve 1. The flange 4 is provided with a circumferential groove 6 in which a ring 7 of india rubber or any other insulating material is arranged. The wire 3 passes through a bore 8 in the flange 4. The outer wall of the sleeve 1, on which the wire 3 is wound, is covered with an insulating enamel 9. The strands 10 of hair are wound on metallic, hollow and cylindrical cores 11, the hair 10 is moistened and treated with cosmetics, pastes and so on, and the sleeve 1 is then placed over the core 11. The hair within the hollow 12 of sleeve 1 is heated for some time. The hair so treated retains its wavy form after it has been wound off the core 11.

In the device shown in Figure 4 the electric conductor 3 is covered by a sheet 13 of insulating, heat resisting material for instance, asbestos, which forms a wrapper held fast by a string of same material. On the sleeve 1 a cylinder 14 of ceramic material such as steatite, porcelain or the like, is placed, having at one end an inwardly projecting flange 15, which is supported by the sleeve 1. The parts 1, 14 are held together by cement. The conductor 3 therefore is perfectly insulated.

The device shown in Figures 5 and 6 comprises a cylindrical stick 17 of ceramic material having a helical groove 16 on its outside in which the two conductors 3 are placed. A wrapper 18 is placed on the coil 3 consisting of asbestos, and over the wrapper 18 is placed a sleeve 19 of ceramic material, which is provided at one end with an inwardly projecting flange 20 which lies against the upper portion of the stick 17 and at the other end said sleeve 19 rests on a flange 21 provided on the stick 17. The parts 17, 19 are held together by cement. The strands 22 of hair are heated by wire 3.

In the device shown in Figure 7 the stick 17 is provided with a helical groove 23 in which the wire 3 is placed, the ends of the wire projecting from both ends. This device is used in exactly the same manner as described with reference to Figures 5 and 6.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the complete construction, operation and advantages of my invention will be clear to those skilled in the art and while I have shown and described the preferred embodiments of my invention, I do not desire to be understood as limiting myself to the precise details shown and described in the drawings as changes in the details of construction and arrangement of parts may be made to suit the requirements of particular practice without departing from the spirit of the invention or the scope of the appended claims.

What I wish to secure by United States Letters Patent is:

1. A hair waving appliance comprising an inner cylindrical member of ceramic material provided at one end with an integral circumferential flange forming a handle, a wire wound on said inner member and an outer cylindrical member of ceramic material over said wire.

2. A hair waving appliance as claimed in claim 1, in which the handle flange of the inner member has a circumferential groove and a ring member of relatively soft insulating material such as rubber fitted around said flange and in said groove.

In testimony whereof I affix my signature.

GUSTAV DINGER.