March 2, 1926. 1,574,923

C. G. NESSLER

HAIR WAVING DEVICE

Filed Sept. 22, 1922

Fig. 1.

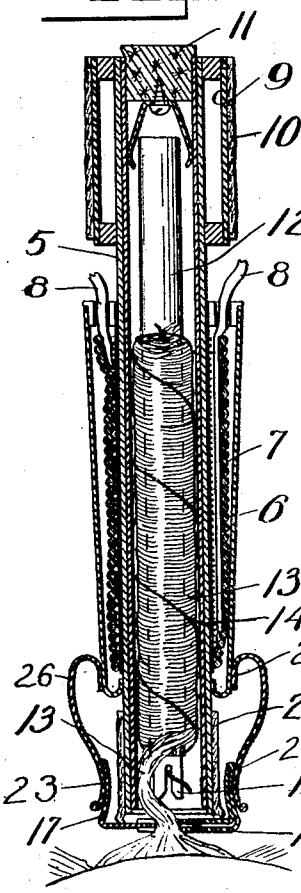


Fig. 2.

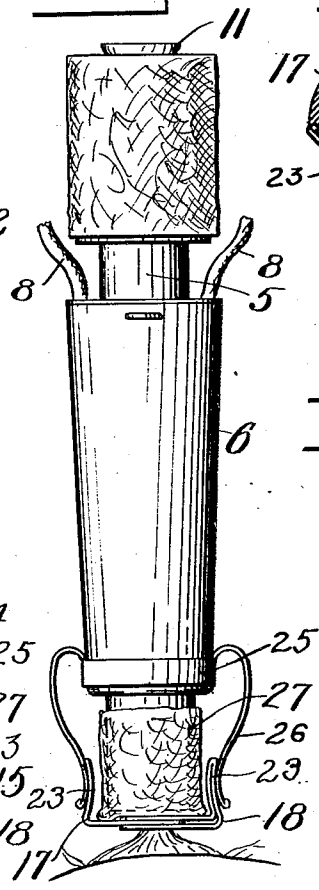


Fig. 6.

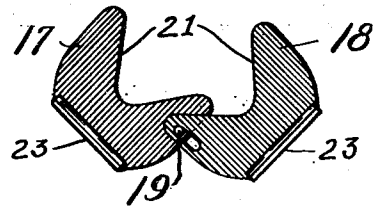


Fig. 7.

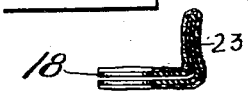


Fig. 8.

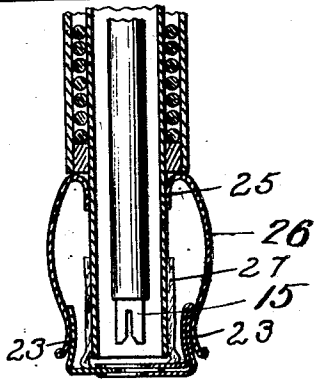


Fig. 3.

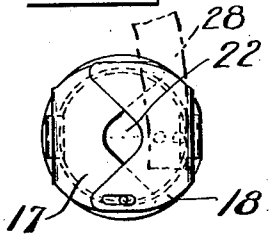


Fig. 4.

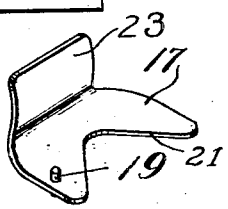


Fig. 5.

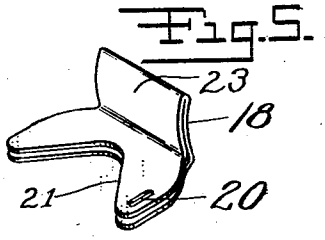
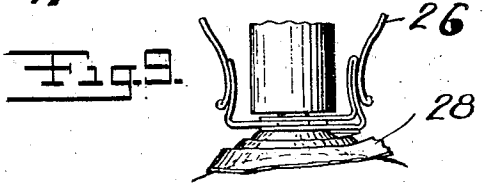


Fig. 9.



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UNITED STATES PATENT OFFICE.

CHARLES G. NESSLER, OF NEW YORK, N. Y.

HAIR-WAVING DEVICE.

Application filed September 22, 1922. Serial No. 589,745.

To all whom it may concern:

Be it known that I, CHARLES G. NESSLER, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Hair-Waving Devices, of which the following is a specification.

This invention relates generally to devices for curling or waving hair.

In my companion application Serial No. 589,744, filed September 22, 1922, there is described and claimed apparatus designed to be used in producing a lasting or relatively permanent waved effect in human hair in a rapid and effective manner and with a minimum degree of discomfort to the person whose hair is being treated. The invention referred to includes the use of heater tubes of varying sizes designed to conform closely to the external dimensions of the strands or tresses of hair individually treated.

The present invention includes an improved combined closure member and attaching means for use with heater tubes such as are described in the companion application as well as with hair waving apparatus of other types in which heater tubes are used. Other features of the invention will be hereinafter referred to.

In the drawings, in which a preferred embodiment of the invention has been selected for illustration,

Figure 1 is a view in longitudinal section of a hair waving device embodying the invention.

Figure 2 is a view in side elevation of the device shown in Figure 1.

Figure 3 is a plan view of a tube closure device shown in Figures 1 and 2.

Figure 4 is a view in perspective of one of the gate members forming part of the closure device shown in Figure 3.

Figure 5 is a view in perspective of a companion gate member forming part of the closure device shown in Figure 3.

Figure 6 is a plan view of the gate members shown in Figures 4 and 5 assembled and in open position.

Figure 7 is a view in section of a gate member covered with heat insulating material.

Figure 8 is a sectional view of a hair waving device equipped with a modified embodiment of closure means.

Figure 9 shows a modified form of insulating means.

Referring to the drawings for a more detailed description of the invention, there is shown in Figures 1 and 2 a hair waving device comprising the heater tube 5 equipped with an electrical heater 6 intermediate its ends. The electrical heater is provided with a heating coil 7 and the terminal members 8 thereof may be connected to a suitable source of current for the operation of the device. A hollow handle member 9 which may be further insulated with a covering of heat insulating material 10 is provided for convenience in handling the heated tube.

A removable closure or plug member 11 is provided for one end of the heater tubes which may be withdrawn to facilitate the cooling of a treated strand following the heating operation.

A strand supporting core 12 is provided on which the individual locks or strands of hair are coiled for treatment, the coiled strand 13 shown in Figure 1 being coiled in place and held in position by means of a suitable cord 14 which is conveniently attached to the forked extremity 15 of the rod or core 12.

When the strand has been wound in place on the supporting core member and firmly secured as by means of a holding cord 16, or cloth strip moistened with a hair-softening solution, or with securing devices employed only at the ends of the coil, the heater device is slipped into place thereon in enclosing relation thereto as indicated in Figure 1 of the drawings.

In order to hold the heater device in place on the strand and at the same time securely close the end of the heater tube adjacent the scalp of the customer, a closure device is employed consisting of the gate members 17 and 18 which are attached together by means of a pin 19 and an elongated slot 20. This pin and slot connection permits a combined pivotal and sliding movement of the gate members relatively to each other. Each of the gate members is provided with an incurved edge 21, the incurved edges of the two gate members cooperating with each other to form a centrally disposed opening 22 closely fitting the lateral dimensions of the strand of hair 13 being treated.

It will be seen that the gate members 17 and 18 are provided with extensions 23 ex-

tending at substantially right angles to the gate portions, the extensions being adapted to be placed in spaced flanking relation to the end of the tube as indicated in Figures 1, 2 and 8 of the drawing.

In order to hold the closure device in position in closing relation to the end of the heater tube 5 an annular member or band 25 is fitted to the heated device 6 as in Figures 1 and 2 or to the peripheral surface of the heater tube itself as in Figure 8. The annular member 25 is provided with oppositely disposed projecting spring arms or extensions 26 which are formed to bear inwardly toward each other and against the outer faces of the extensions 23 carried by the gate members. It will be seen that the inward pressure of the spring arms 26 exercises a double function in that it not only maintains the gate members in a relatively closed position in their hinged relation but also pushes the gate members bodily toward each other, this movement being provided for by the pin and slot connection between the gate members already referred to. The pressure of the spring arms is designed to be of sufficient force to grip the interposed strand and hold the heating device in place as well as to effectually seal the end of the heater tube.

In order to still further add to the effectiveness of the seal a felt collar or band 27 is preferably placed in enclosing relation to the end of the tube so as to project slightly beyond the tube and engage the inner faces of the gate members when they are pushed into position between the spring arms 26. The band 27 which may be formed of any suitable non-heat-conducting material also serves to insulate the gate members and prevent their becoming overheated. The gate members may also be covered with heat insulating material for the same purpose as indicated in Figure 7 of the drawings.

The sealing function of the gate members 17 and 18 is still further enhanced by providing a dove tailed or interlocked construction thereof which is brought about by forming one of the gate members of doubled material which is arranged to provide a space or slot as in Figure 5 in which the other gate member articulates.

The gate device can be readily slipped into or out of position between the clamping jaws provided by the spring arms 26 and it will be seen that the arms 26 and gate extensions 23 are provided with complementary formed faces to facilitate the holding of the gate members by the spring arms.

In addition to or in lieu of the felt insulating band 27 a strip of felt or other heat insulating material 28 may be attached to the closure gate and wrapped or coiled about the end of the heating device as indicated in Figure 9 of the drawing in order to prevent contact of the heated metal with the head of the customer.

My present improvements are particularly adapted for the process of permanent waving of natural hair on the human head, and they serve to materially shorten the time heretofore required in this work and also to greatly lessen the discomforts which the subject has heretofore necessarily been required to undergo. My improvements also minimize the chances of injuring or impairing the hair structure, which impairment is likely to occur in the heretofore practiced processes.

What I claim is:

1. In hair waving apparatus including a tubular strand-heating device, a gate member adapted to occupy a position in partial closing relation to the end of the tube when in operative position, and spring means carried by the heating device and arranged to engage and hold the gate member in tube closing position.

2. In hair waving apparatus including a tubular strand-heating device, a pair of gate members adapted to substantially close the end of the tubular device when in operative position, and spring means carried by the device and operable to engage and move the gate members toward each other into tube closing position.

3. In a hair waving device including a tubular strand-heating member, a pair of gate members movable toward and from each other, spring members carried by the device on opposite sides thereof, and said gate members arranged to be removably held between said spring members whereby the gate members will be moved toward each other into closing relation to the end of the tube.

4. In a hair waving device including a tubular strand-heating member, a pair of gate members movable toward and from each other, and connected together through a pin and slot construction, an annular member arranged to be mounted in encircling position on the device, spring arms carried by said annular member in flanking relation to the end of the tubular member, and said gate members adapted to be removably placed between said spring arms and held thereby in closing relation to the end of the tubular member.

5. In a hair waving device including a tubular strand-heating member, a pair of gate members hinged together at one side and having oppositely disposed cut-out portions to receive a strand of hair, and spring means mounted on the device adjacent to the end of the tubular member for holding the gate members in clamping relation to an interposed strand of hair.

6. In a hair waving device including a tubular strand-heating member, a pair of

gate members having a pin and slot connection at one side whereby to provide a hinged as well as a sliding relation of the gate members, said gate members having oppositely disposed cut-out portions in which to receive a strand of hair, and spring arms mounted on the device in flanking relation to the end of the tubular member and said gate members adapted to be removably placed between said spring arms whereby the gate members will be held in clamping relation to a strand of hair and in closing relation to the end of the tube.

7. In a hair waving device including a tubular strand-heating member, a pair of gate members movable toward and from each other across one end of the tube, one of said gate members having a recess in which to receive the other gate member to thereby securely seal the tube, means on the device for moving said gate members into closed position, and said gate members being readily placed in or removed from position on the end of the tube.

8. In a hair waving device including a tubular strand-heating member, a pair of gate members movable toward and from each other across the end of the tube, said gate members having extensions projecting along in spaced relation to opposite sides of the tube at one end thereof, and spring members carried by opposite sides of the device and adapted to engage said extensions to hold said gate members in closed relation to the end of the tube.

9. A hair waving device comprising a tubular heat-conducting strand-heating member, a heating device carried by said tubular member intermediate the ends of the tubular member, a heat insulated handle mounted on said tubular member, spaced from the heating member and located between said heating device and the end of the tubular member, and insulating means at the other end of the tubular member, for preventing contact of the tube directly with the scalp of the person whose hair is being treated.

10. A hair waving device comprising a tubular heat-conducting strand-heating member, an insulated handle member located intermediate the ends of said tubular strand-heating member, a heating device enclosing said tubular member, gate members carried by one end of the tube for clamping a strand of hair and closing the end of the tube, and means for insulating the gate members from the end of the tube.

11. A hair-waving device comprising a tubular heater provided at its outer end with an insulated handle member surrounding said outer end of the heater, said handle member being spaced longitudinally from the heating section of the tubular heater and provided with a covering of heat-insulating material.

12. A hair waving device having a handle member formed of insulating material and provided with a covering of heat-insulating material to form a hand grasping member, said hand grasping member being frictionally held on said device and movable longitudinally thereon.

Signed at New York, in the county of New York and State of New York this fifteenth day of September, A. D., 1922.

CHARLES G. NESSLER.