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1,980,475

HAIR WAVING APPARATUS

Filed Jan. 3, 1933

FIG. 1

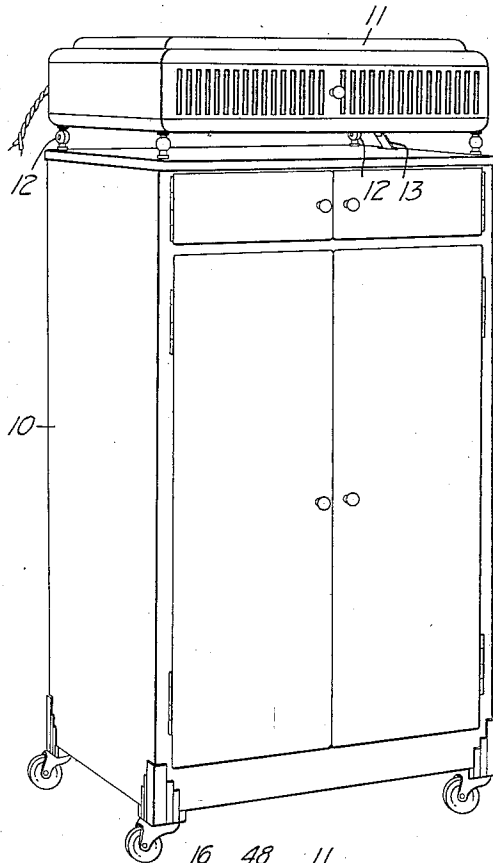


FIG. 2

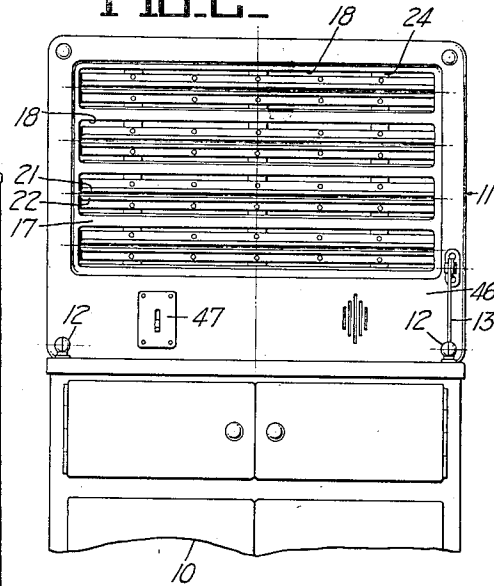


FIG. 4

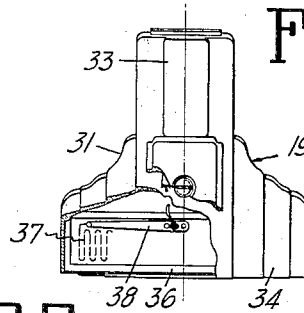


FIG. 3

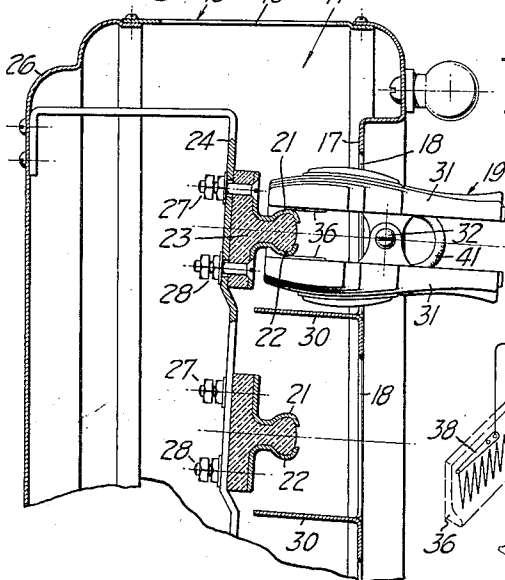


FIG. 5

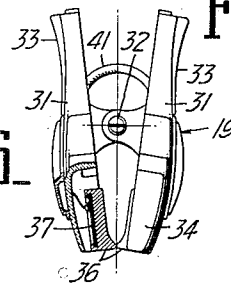
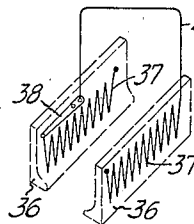


FIG. 6



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HAIR WAVING APPARATUS

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4 Claims. (Cl. 219-24)

This invention relates generally to hair waving apparatus suitable for use by commercial beauty parlor operators, particularly where heat is employed to lend permanence to the wave.

As constructed in the past, permanent hair waving apparatus for use by commercial operators has commonly utilized electrical heaters which are connected to a source of current supply by flexible electrical cords. After the strands of hair have been wound upon suitable waving forms or curlers, the wound hair is covered by moistened pads, and the electrical heaters then applied. The flexible electrical cords connecting to the heaters generally lead to an overhead canopy, for making connections with a common current supply circuit. With apparatus of this character, particularly if the electrical current is not controlled automatically, it is not uncommon for the hair to be heated to a deleterious degree. During a heating or steaming operation there is substantially no freedom of movement permitted. Furthermore many people object to having electrical currents applied close to the scalp.

It is an object of the present invention to provide permanent hair waving apparatus which will permit the application of heat for a steaming operation, without the necessity of having the heaters continually connected to a source of current supply by flexible electrical cords.

A further object of the invention is to provide permanent hair waving apparatus which will dispense entirely with the use of a conventional overhead canopy, which will make it practically impossible to heat the hair to a deleterious degree, and which will obviate application of electrical currents close to the scalp.

Further objects of the invention will appear from the following description in which the preferred embodiment of the invention has been set forth in detail in conjunction with the accompanying drawing. The appended claims are to be accorded a range of equivalents consistent with the state of the prior art.

Referring to the drawing:

Figure 1 is a side elevational view in perspective, illustrating apparatus incorporating the present invention.

Fig. 2 is a front view of a portion of the apparatus shown in Fig. 1, with parts in position for operation.

Fig. 3 is a cross sectional detail, illustrating the manner in which heater units can be applied to the apparatus of Fig. 2, preparatory to a steaming operation.

Fig. 4 is a side elevational view of a heater unit such as utilized in my apparatus.

Fig. 5 is an end view of the unit as shown in Fig. 4.

Fig. 6 is a diagram illustrating the manner in which the electrical heating elements of the heater unit are serially connected together.

The apparatus as illustrated in the drawing consists of a base structure 10, preferably in the form of a cabinet. Arranged upon the base structure 10, there is a structure 11, which is preferably so connected to the structure 10 that it can be moved between an operating position shown in Fig. 2, to an out of the way position as illustrated in Fig. 1. Thus the rear end of structure 10 has been shown provided with hinge connections 12 to the upper rear edge of cabinet 10. Suitable means, such as a releasable brace linkage 13, permits the structure 10 to be releasably locked in an upright operating position as shown in Fig. 2. When structure 11 is swung to the out of the way position as shown in Fig. 1, it will be noted that it conforms generally to the contour of the cabinet 10.

As appears more clearly in Fig. 3, structure 11 includes a housing 16, formed of suitable material such as sheet metal. Front wall 17 of housing 16 is provided with a plurality of horizontal slots or openings 18, to accommodate heater units 19. Enclosed within housing 16 I provide a plurality of pairs of electrical contactors, each pair of which has been identified by numerals 21 and 22. Contactors 21 and 22 are preferably in the form of metal strips, which are substantially coextensive with the lengths of slot 18. For mounting these contactors, I have shown bars 23 formed of insulating material, which in turn are carried by suitable brackets 24. Brackets 24 have been shown mounted upon the rear wall 26 of the housing 16. Electrical terminals 27 and 28 are connected to the contactors 21 and 22, and are adapted to be connected to suitable current supply conductors. Horizontal baffles 30 extend inwardly along the lower edge of each slot or opening 18.

The heating unit illustrated in Figs. 4 and 5 may of course vary in detailed construction, but it is preferably formed in such a manner that it may be clipped to contactors 21 and 22, to permit application of electrical current to its electrical heating elements. The units as illustrated consist of a pair of structures 31, formed of suitable material, such as a molded phenolic condensate product. These structures are provided with a hinge connection 32, and with opposed finger-

hold portions 33. The lower portions 34 of structures 31 are enlarged laterally as shown in Fig. 4, and the inner faces accommodate heat storage members 36. Members 36 are formed of suitable metal, such as aluminum, and serve in turn to accommodate electrical heating elements 37. Suitable spring means is incorporated with pivotal connection 32, so that members 36 are always urged together. By pressing fingerhold portions 33 together, members 36 can be moved apart, to enable clipping the same over a strand of hair wound upon a curler or waving form.

Mounted upon the back side of one of members 36, I provide a suitable automatic circuit controller, such as a bimetallic thermostat switch or circuit interrupter 38. The principles of operation of such a circuit controller or thermostat switch are well known in the electrical art. When the temperature of the bimetallic strip exceeds a given value, a pair of electrical contacts are opened to interrupt flow of current therethrough. Upon cooling of the bimetallic strip, the contacts are closed to reestablish the circuit.

As shown in Fig. 6, the electrical connections between the electrical heating elements 37 preferably utilize the metallic members 36 as contactors. Thus one terminal of each of the electrical heating elements 37 is grounded to its associated member 36, while the other ends of the heating elements are connected together by conductor 41, in series with the thermostat switch 38. Thus when members 36 are connected to an electrical circuit including a source of current supply, electrical current is supplied to the electrical heating elements 37, under the control of the thermostat switch 38. In effect this is what is accomplished when heating units such as described, are introduced into slot 18 and clipped upon the contactors 21 and 22. Contactors 21 and 22 make electrical connection with members 36 and thus serve to supply electrical current to the heating elements 37. When members 36 have been heated to a predetermined value of say 480° F., the current supply is interrupted by thermostat switches 38, so that heating beyond such point is prevented. If the heating units are not utilized immediately but are permitted to remain upon the contactors 21 and 22, cooling of members 36 below a given minimum value, causes the contacts of thermostat switch 38 to be closed, to again supply current to the electrical heating elements 37.

To review the manner of utilizing my apparatus, in entirety, the operator first engages a number of the heating units with the contactors 21 and 22, thus causing electrical current to be supplied to their respective electrical heating elements, so that they are heated to a predetermined degree preparatory to a steaming operation. Assuming that an operator has now prepared a head of hair for the steaming operation, that is, by winding strands of hair about waving forms or curlers, and by covering the wound strands with suitable moistened pads, the heating units are now removed from the contactors 21 and 22, and clipped over the strands of wound hair. During the time that the heating units have been clipped to contactors 21 and 22, sufficient heat has been stored into the members 36, to perform a steaming operation. However during this steaming operation no electrical currents

are applied close to the scalp, and since there is no connection between the heating units and adjacent apparatus, the subject whose hair is being waved is permitted full freedom of movement.

It is evident that if desired, various refinements and improvements can be incorporated in the apparatus as described above. For example the lower edge portion 46 of the housing front wall 17, may constitute an instrument panel for the mounting of various control devices, as for example an electrical switch 47. Likewise apertures 48 can be provided in housing 16 to permit egress of hot air, and to cause inflow of relatively cool air from the atmosphere thru openings 18, thus maintaining the exterior surfaces of the heating unit 19 relatively cool.

I claim:

1. In combination, a relatively stationary support, an electrical hair waving heater of the croquisole type adapted to be removably clipped to said support, said heater carrying an electrical heating element and opposed relatively movable contactors connected to the terminals of the same, and a pair of electrical contactor strips carried by the fixed support and adapted to make electrical connection with said first named contactors, said last named contactors being of sufficient length to make engagement with a plurality of said units and being adapted to be connected to a source of electrical current.

2. In combination, a hair waving heater, said heater comprising a pair of opposed metallic members adapted to be heated and electrical heating elements associated with said members, one terminal of each heating element being connected to its associated member and said elements being electrically connected in series, a relatively fixed support, and a pair of spaced electrical contactors carried by said support and adapted to be connected to an electrical circuit, said contactors being adapted to be detachably engaged by the members of said heater, whereby electrical current is supplied to said heating elements.

3. In combination, a hair waving heater, said heater comprising a pair of structures hingedly connected together, a pair of opposed metallic members mounted upon said structures, electrical heating elements associated with said metallic members, said heating elements being electrically connected in series and one terminal of each element being connected to its associated metallic member, a relatively fixed support, and a pair of electrical contactors carried by said support and adapted to be connected to a source of electrical current, said contactors being so arranged that said heater may detachably engage the same, with said metallic members making contact therewith, thus causing current to be supplied to said electrical heating elements.

4. In hair waving apparatus, an electrical heater unit comprising a plurality of metallic members in which heat can be stored, said members being formed to embrace a round strand of hair, and electrical heating means associated with said members, the terminals of said heating means being electrically connected to said members, whereby said members serve as electrical contactors.

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