Sept. 28, 1937. F. V. SCHLEIMER 2,094,283

HAIR WAVING APPARATUS

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Fig. 1.

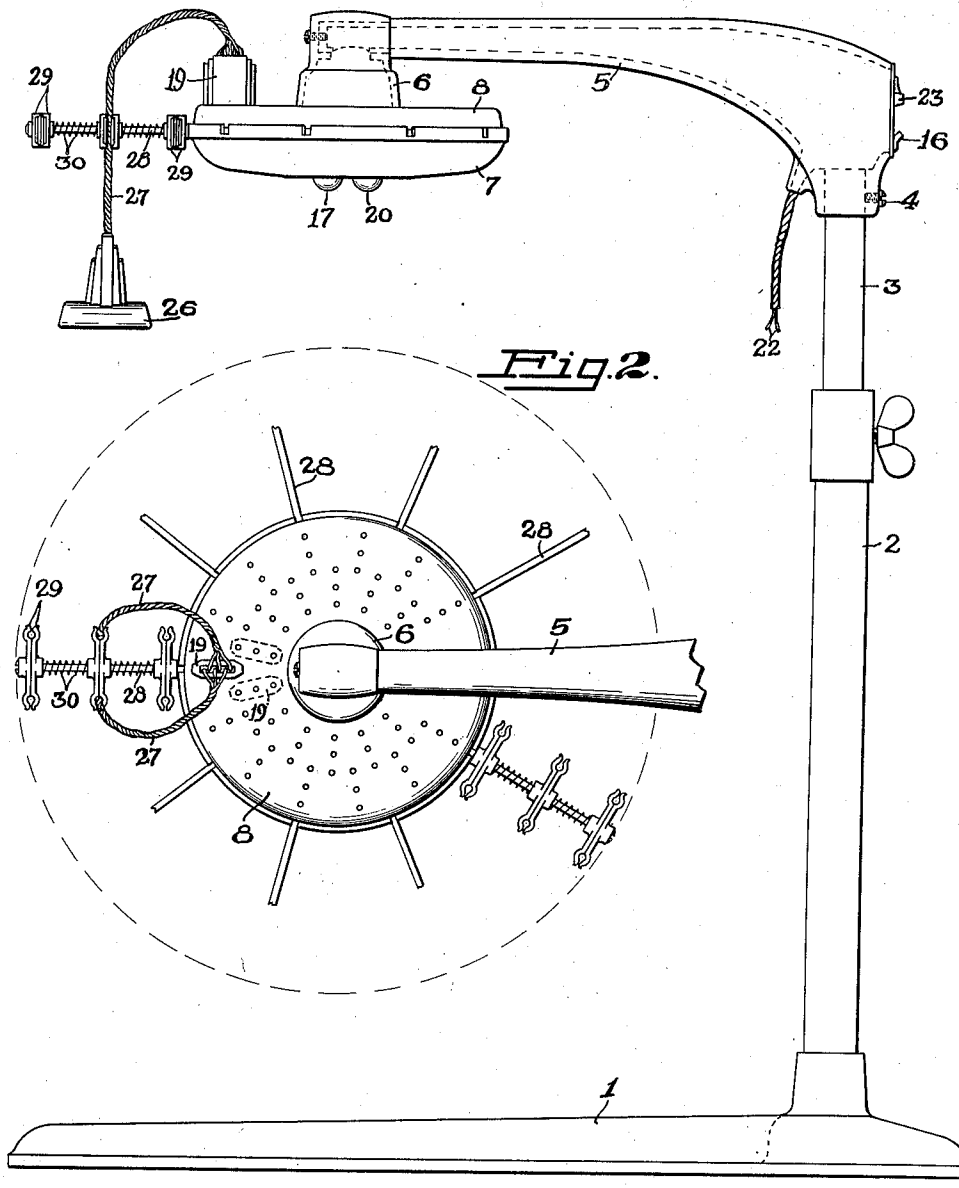


Fig. 2.

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Fig. 3.

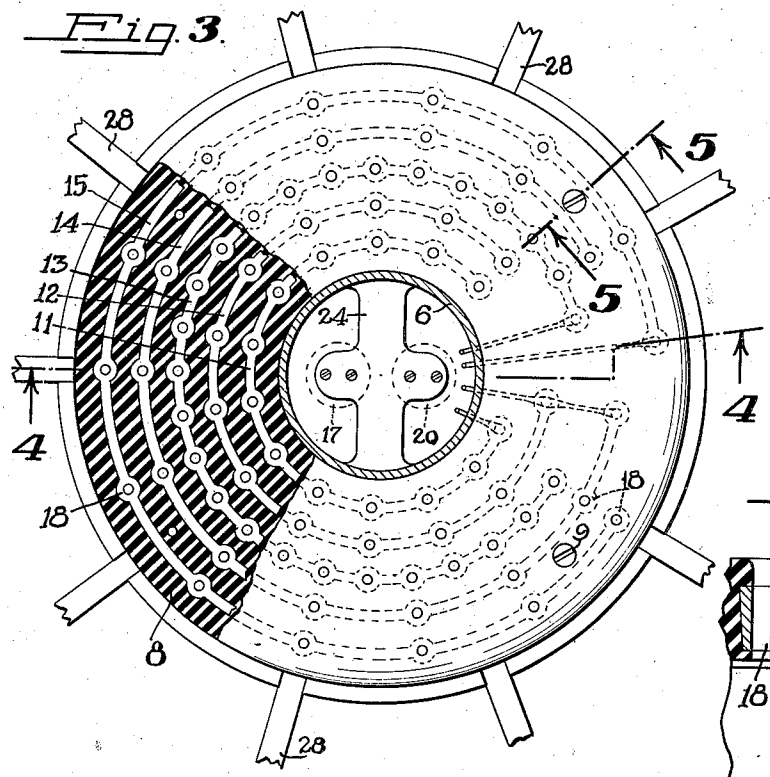


Fig. 5.

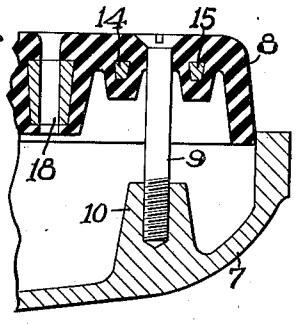


Fig. 4.

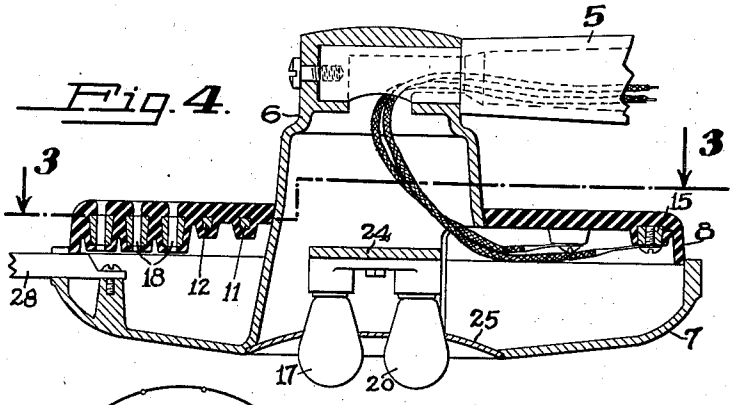
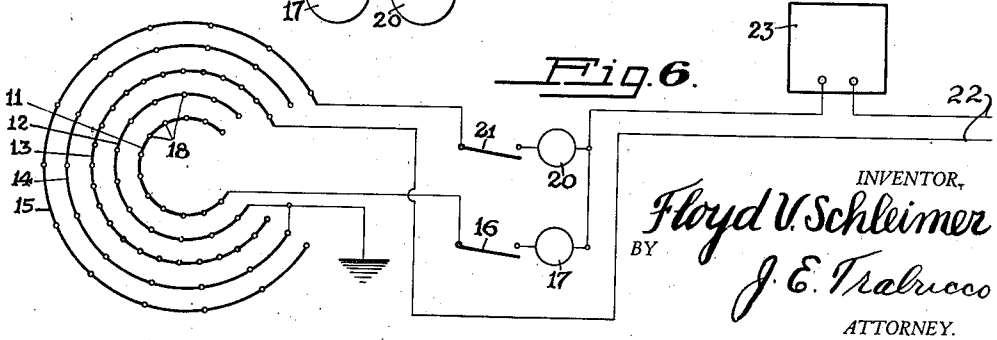


Fig. 6.



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UNITED STATES PATENT OFFICE

2,094,283

HAIR WAVING APPARATUS

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Application January 27, 1936, Serial No. 60,892

14 Claims. (Cl. 132—36)

This invention relates to improvements in hair waving apparatus of the kind used in beauty parlors for the commercial waving of human hair.

An object of my invention is to provide improved hair waving apparatus embodying a construction capable of being readily manipulated by an operator and which can be conveniently controlled to secure a desired waving effect.

Another object of my invention is to provide improved hair waving apparatus embodying a novel and compact structure which permits the convenient use of a large number of hair waving heaters at one and the same time.

A further object of my invention is to provide improved hair waving apparatus of the kind employing a number of hair waving heaters, which embodies yieldable means engaging with the electric cords connected to the heaters, the said means being adapted to releasably support a number of the cords in independently adjustable positions.

Other and further objects of the present invention will be pointed out hereinafter, indicated in the appended claims, or obvious to one skilled in the art upon an understanding of the present disclosure. For the purposes of this application I have elected to show herein certain forms and details of hair waving apparatus representative of my invention; it is understood, however, that these are presented here for purposes of illustration only, and that therefore they are not to be regarded as exhaustive of the variations of the invention, nor are they to be given any interpretation such as might have the effect of limiting the claims, short of the true and most comprehensive scope of the invention in the art.

In the accompanying drawings:—

Fig. 1 is a side elevation of hair waving apparatus embodying my invention;

Fig. 2 is a top plan of that part of the apparatus which supports the terminals, the electrical cords and other parts of the hair waving equipment;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 4, showing a part of the insulating material in which the connected electrical terminals are imbedded, broken away;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 3; and

Fig. 6 is a wiring diagram constituting a part of my invention.

Referring to the drawings, the numeral 1 designates a suitably shaped base having secured thereto an upstanding tubular post 2 which adjustably supports a standard 3. Secured to the upper end of the standard, as by a set screw 4, is a horizontally disposed hollow arm 5 which has an opening on its underneath side near its free end through which electric cords are adapted to extend.

Journaled to the free end of the hollow arm 5 is a crown-shaped supporting structure 6 which is provided at its lower end with an outwardly and upwardly disposed annular flange 7. Overlying and supported by the annular flange 7 is a ring-shaped plug board 8 made from bakelite or other suitable insulating material. The plug board 8 may be rigidly secured to the flange 7 by any suitable means, such as by screws 9 extending into threaded bosses 10 provided on the upper side of the said flange.

Entirely imbedded within the insulating material from which the ring-shaped plug board is made, are five semi-circular and concentrically arranged bars or strips 11, 12, 13, 14 and 15 made from copper or other suitable material capable of conducting electrical currents. The inner semi-circular bar 11 is connected to the negative side of an electrical circuit and the bar 13 is connected to the positive side of the said circuit. The intermediate bar 12 is grounded. Also connected in this circuit is a switch 16 and an electric light globe 17. Arranged in groups of three and electrically connected to the bars 11, 12 and 13 are terminals 18 which are preferably tubular in shape and of a size capable of receiving the metal contact members of electric plugs 19. Each of the bars and their respective terminals 18 are preferably formed integrally with one another as a solid unit, as by casting, thereby eliminating all mechanical or soldered connections. At points where the terminals 18 occur the plug board 8 is provided with holes for the insertion of the metal contact members of the plugs 19, the said contact members of each plug being three in number, the center one being the ground connection.

The outer semi-circular bar 15 is connected to the negative side of another electrical circuit and the bar 13 is connected to the positive side of said circuit. The intermediate bar 14 is grounded. Also connected in this circuit is an electric light globe 20 and a switch 21. The bars 15, 14 and 13 are also provided with terminals 18 which are similarly arranged in groups of three. Both of the circuits are supplied with an electrical current by wires 22 leading to a source of electrical power, and a time switch 23 connected in the cir-

cuit leading to the source of power provides for the manual closing of the supply circuit and the automatic opening thereof at the duration of a predetermined period of time.

The globes 17 and 20 are suspended from sockets mounted on a bracket 24 secured to and extending diametrically across the crown-shaped supporting structure 6. The globes extend through a concave disc 25 which is held in a closed position against the lower end of the structure 6 by the said globes. The wires 22 supplying the apparatus with electrical energy extend through the hollow arm 5 and the opening at the free end of the latter, and downwardly through the crown-shaped supporting structure 6.

The various groups of terminals 18 provide electrical outlets for plugs 19 which are connected to hair waving heaters 26 by cords 27. So as to hold the heaters 26 in suspended positions and at the same time permit the vertical adjustment thereof, I have provided a number of outwardly disposed supporting structures which are adapted to frictionally but yieldably engage with the cords 27. The outwardly disposed supporting structures for the cords 27 each comprises an outwardly disposed bar 28 secured at its inwardly disposed end, as by a screw, to a boss on the flange 7. Each bar 28 extends through a slot provided in the upturned periphery of the flange 7. Slidably, but not rotatably, mounted on the bar 28 are a plurality of pairs of clamp members 29 having curved or arcuate end portions between which a cord 27 is adjustably held. Encircling the bar 28 and interposed between certain of the clamp members 29 are spiral springs 30, the function of which is to yieldably maintain the clamp members of each pair in gripping engagement. The springs 30 exert sufficient pressure upon the clamp members 29 to normally hold the engaged cords 27 in positions wherein the heaters 26 are supported at desired levels. The vertical position of any of the heaters 26 may be conveniently adjusted by pulling its associated cord either upwardly or downwardly with sufficient force to overcome the gripping engagement of the contacting clamp members. The number of heaters employed in a hair waving operation, may of course, be varied to suit different requirements.

It is apparent that my invention may be embodied in apparatus wherein a single circuit is employed, or again in apparatus where a considerable number of circuits are required. In each instance the various conductors and terminals may be imbedded in a suitable insulating material in the manner herein shown and described. It is also evident to those skilled in the art that the principle of my invention, insofar as it concerns the apparatus for supplying an electrical current to a large number of outlets, may be satisfactorily employed in connection with different kinds of constructions other than hair waving equipment. In this regard it is to be understood that the scope of my invention is to be determined by the appended claims rather than by the exact disclosures herein made.

Preferably, in making a plug board in accordance with my invention the various bars or strips and their connected terminals are first arranged in predetermined positions within a suitably shaped and constructed mould. Molten or liquid insulating material such as bakelite, sufficient to fill the mould is forced with considerable pressure entirely around and into firm contact with the bars and terminals. The mould is preferably provided with suitably shaped protuberances or independently removable pins which extend to points where the terminals 18 occur, and which, when withdrawn from the hardened insulating material forming the body of the plug board, leave suitable openings for the insertion of the contact members of electrical plugs. The terminals may be provided with central openings for the insertion of the contact members of the plugs by any suitable means, such as by drilling holes therein.

Having described my invention what I claim is:

1. In hair waving equipment a supporting structure having an electrically wired structure therein to which hair waving apparatus may be connected, a plurality of outwardly extending spaced bars secured to the supporting structure and a plurality of spring pressed clamp means mounted on each bar for adjustably holding an electric cord.

2. In hair waving equipment, a supporting structure, a plug board mounted on the supporting structure, having an electrically wired structure therein to which a plurality of electric plugs may be connected, a plurality of outwardly disposed bars mounted on the supporting structure, a plurality of clamp members mounted on each bar for adjustably holding a cord connected to an electric plug in a suspended position, and spring means on each bar for yieldingly urging the clamp members toward each other.

3. In hair waving equipment, an upstanding supporting standard, an arm extending outwardly from the supporting standard, a depending supporting structure suspended from the arm, a plug board mounted on the supporting structure having an electrically wired structure imbedded therein, the said wired structure comprising a plurality of spaced metal bars each having a plurality of spaced terminal means connected thereto, the said plug board having a plurality of openings aligned with the terminal means for receiving electric plugs to be connected to the terminal means, and a plurality of outwardly disposed cord supporting members mounted on the supporting structure.

4. In hair waving equipment, a supporting standard, an arm extending from the standard, a supporting structure suspended from the arm, and a plug board made of insulating material mounted on the supporting structure having an electrically wired structure imbedded therein for connecting hair waving apparatus to an electrical circuit, the said wired structure including a plurality of spaced metal bars each having a plurality of spaced terminal means connected thereto.

5. In hair waving equipment, a base, a standard secured to the base, an arm secured to the standard, a crown-shaped supporting structure suspended from the arm having an annular flange thereon, and a plug board mounted on the flange having an electrically wired structure imbedded therein to which hair waving apparatus may be connected, the plug board being substantially flat and having a plurality of substantially vertical openings leading to the electrically wired structure, the said openings being adapted to receive means for electrically connecting the hair waving apparatus and the electrically wired structure.

6. In hair waving equipment, a base, a standard adjustably secured to the base, an arm extending from the standard, a crown-shaped supporting structure suspended from the arm having an annular flange thereon, a substantially flat ring-

shaped plug board mounted on the flange having an electrically wired structure imbedded therein to which hair waving apparatus may be readily connected and disconnected, and cord and heater supporting means secured to and extending outwardly from the flange.

7. In hair waving apparatus, means for adjustably holding electric cords in different positions comprising a bar extending from a supporting structure, a plurality of clamp members slidably mounted on the bar, and spring means mounted on the bar for urging the clamp members toward each other.

8. In hair waving apparatus, a bar secured to a supporting structure, a pair of clamp members mounted on the bar at points intermediate their ends, the bars having cord receiving means at their opposite ends, at least one of the clamp members being slidably mounted on the bar, and spring means for urging the clamp members toward each other.

9. In hair waving apparatus, a supporting structure for hair waving apparatus, a bar secured to and extending from the structure, a plurality of spaced pairs of clamp members mounted at points intermediate their ends on the bar, the clamp members having cord receiving means at each of their opposite ends, and spring means encircling the bar and engaging with certain of the clamp members for urging the clamp members of each into gripping engagement with electric cords which might extend through their cord receiving means.

10. In hair waving apparatus, a supporting structure for hair waving apparatus, one or more outwardly extending arms supported by the structure, a plurality of spaced gimbals movably mounted on each arm for adjustably holding a plurality of electric cords, and spring means on the arm for yieldably maintaining the gimbals in spaced relation to one another.

11. In hair waving apparatus a supporting structure for hair waving apparatus, one or more outwardly extending arms supported by the structure, a plurality of spaced pairs of opposed cord holding elements movably mounted on each arm, the said cord holding elements having means at their opposite ends for receiving and gripping electric cords, and spring means for urging the opposed cord holding elements of each pair toward each other whereby one or more cords positioned in the cord receiving means at either or both ends of the elements may be adjustably held in a supported position.

12. In hair waving apparatus, a supporting structure, an outwardly disposed arm supported by the structure, a pair of opposed cord holding elements movably mounted on the arm, the said cord holding elements having means at their opposite ends for receiving and gripping electric cords and spring means for urging the opposed cord holding elements toward each other, whereby one or more cords positioned in the cord receiving means at either or both ends of the elements may be adjustably held in a supported position.

13. In hair waving apparatus, a supporting structure, means on the structure for supporting a number of electric cords each having a hair waving heater at one end and a plug element at its other end, and a plug board supported on the supporting structure for connecting the plug elements to electric current supply means, the said plug board comprising a body of insulating material having a plurality of rows of holes arranged therein for receiving the contact members of the plug elements, and a plurality of spaced bars embedded in the body beneath the rows of holes, the said bars each being electrically connected to a wiring structure adapted to be connected to an electric circuit, the said bars each having holes therein in alignment with the holes of said body, the said holes in the bars being also adapted to receive contact members of the plug element.

14. In hair waving apparatus, a supporting structure, means on the structure for supporting a number of electric cords each normally having a hair waving heater at one end and a plug element at its other end, and a plug board mounted on the supporting structure for connecting the plug elements to an electric current supply means, the said plug board comprising a body of insulating material having a plurality of rows of holes arranged therein in certain order and adapted to receive the contact members of the plug elements and a plurality of spaced metal bars imbedded in the body beneath the rows of holes, the said bars each being connected to an electric wiring structure adapted to be connected to an electric circuit, the said bars each having a series of terminals secured thereto which are positioned in alignment with the holes of the plug board and which are also adapted to receive the contact members of the plug elements.

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