Dec. 30, 1930. B. F. JANCKE ET AL 1,787,251

HAIR DRYING AND TREATING APPARATUS

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Fig. 1.

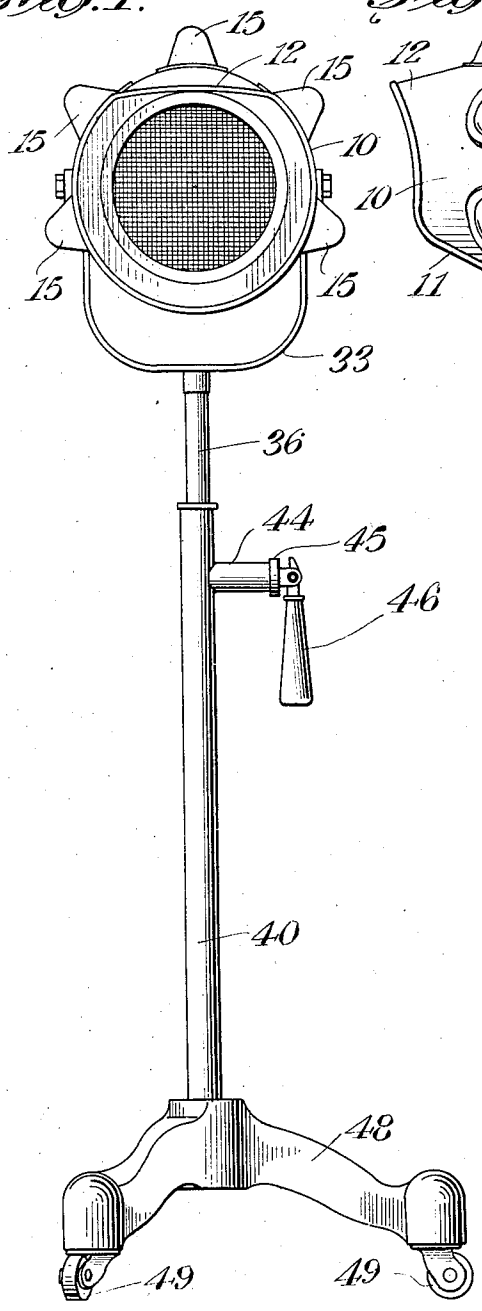
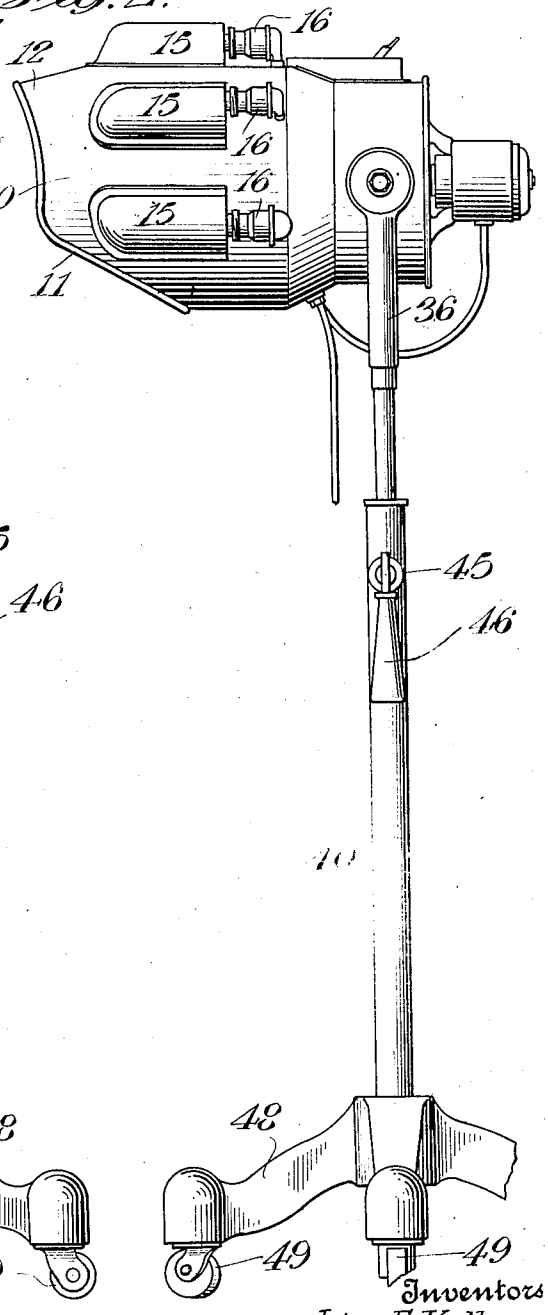


Fig. 2.



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Fig. 3.

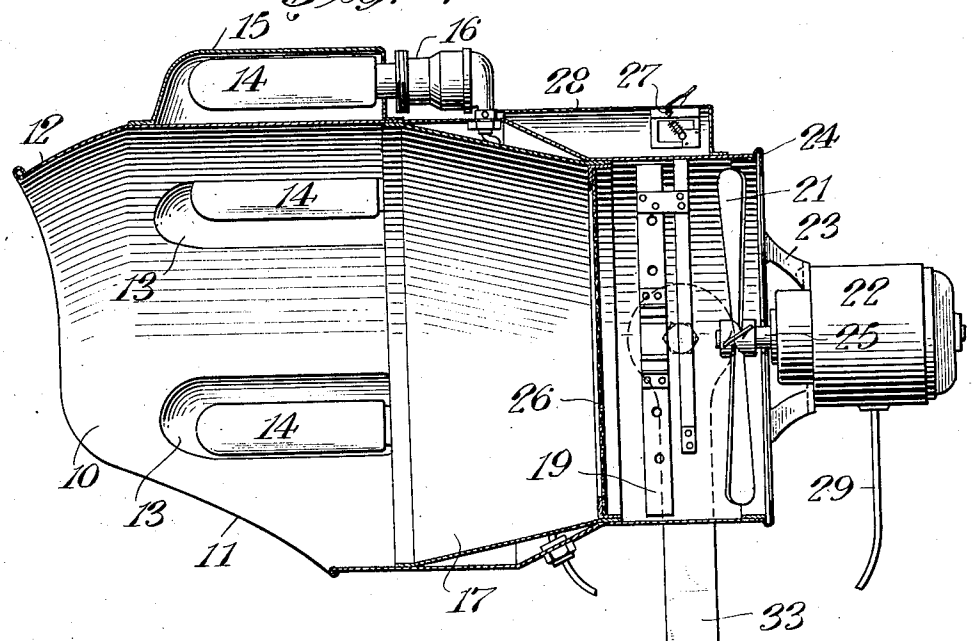
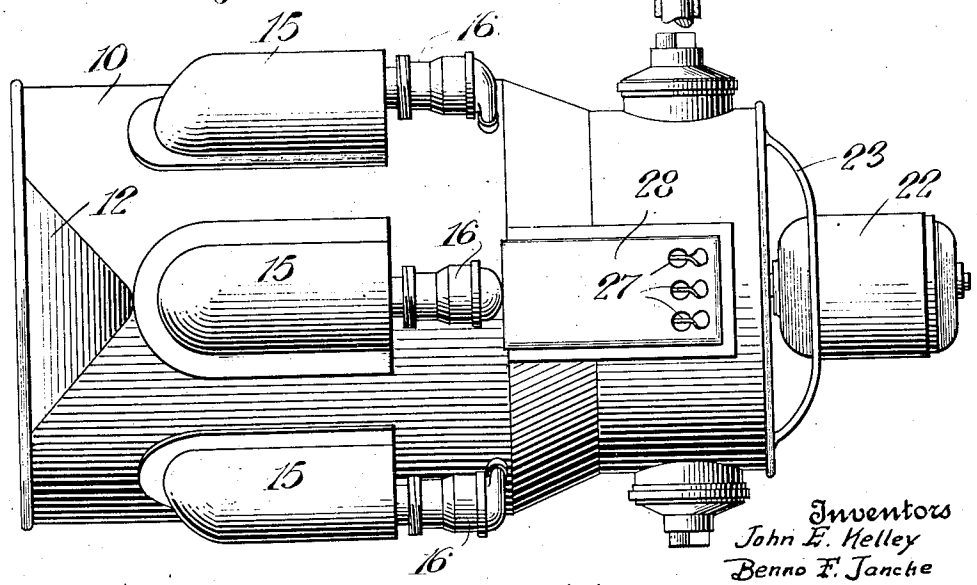


Fig. 4.



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HAIR DRYING AND TREATING APPARATUS

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Fig. 5.

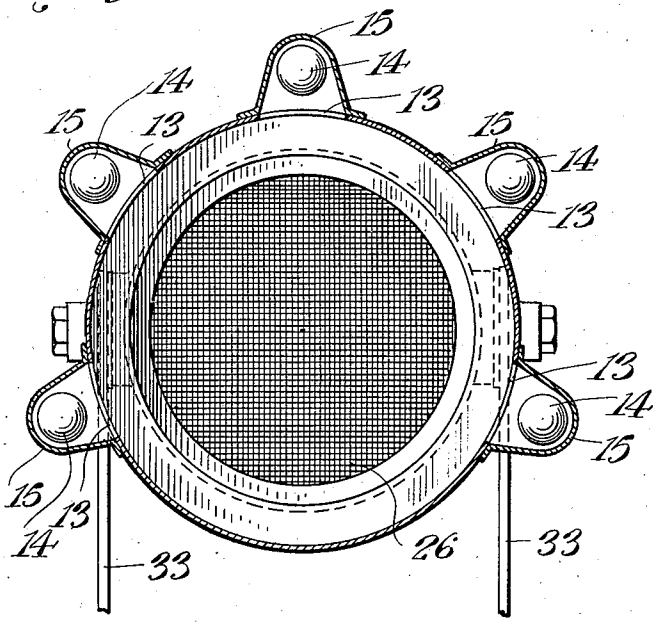
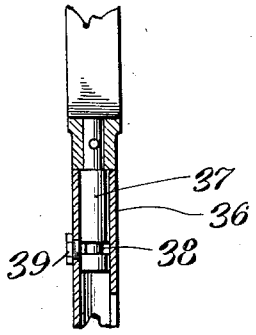


Fig. 6.



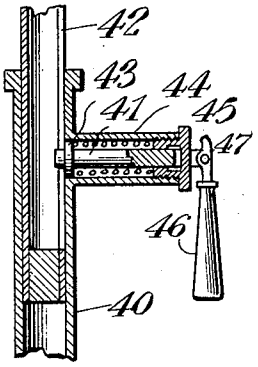
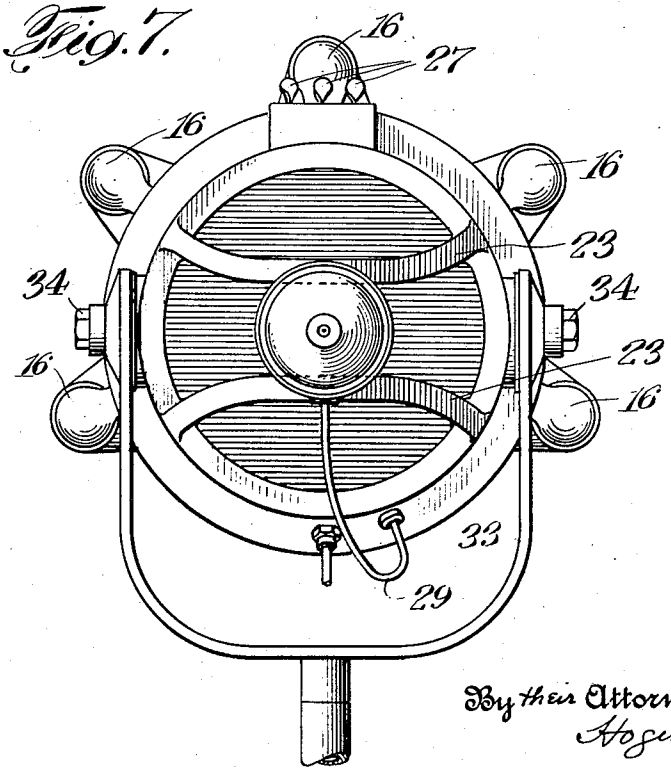
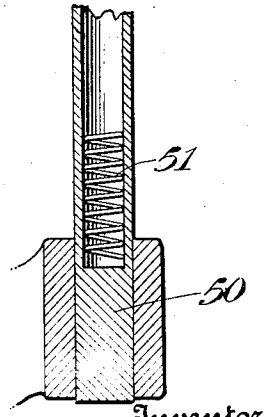


Fig. 7.





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HAIR DRYING AND TREATING APPARATUS

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Fig. 8.

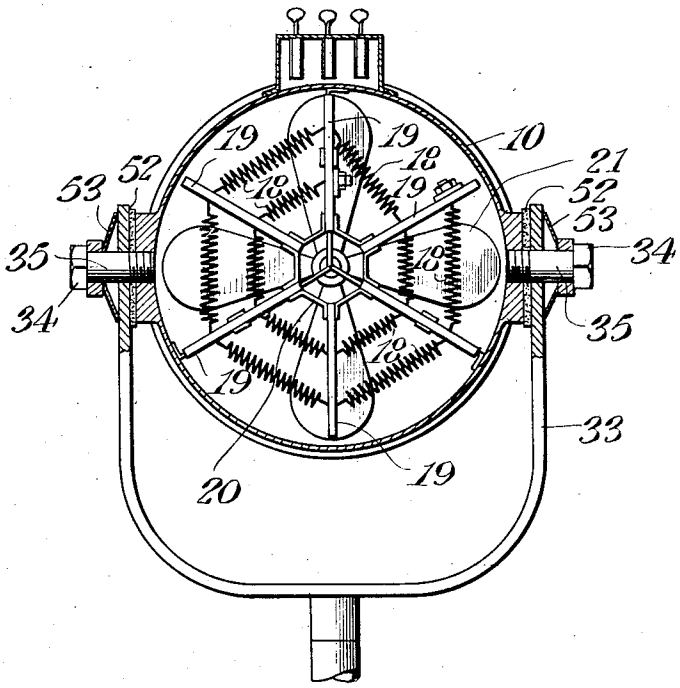
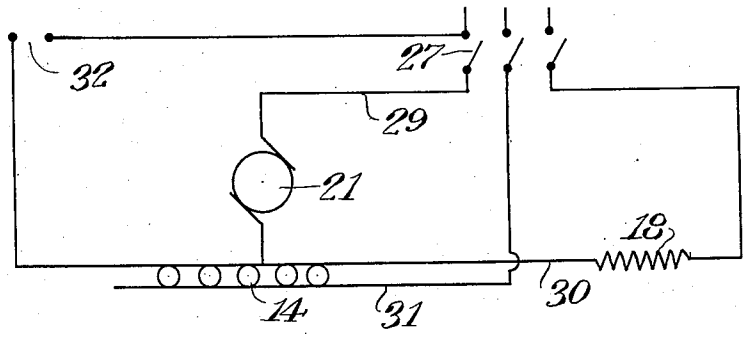


Fig. 9.



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HAIR DRYING AND TREATING APPARATUS

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Fig. 10.

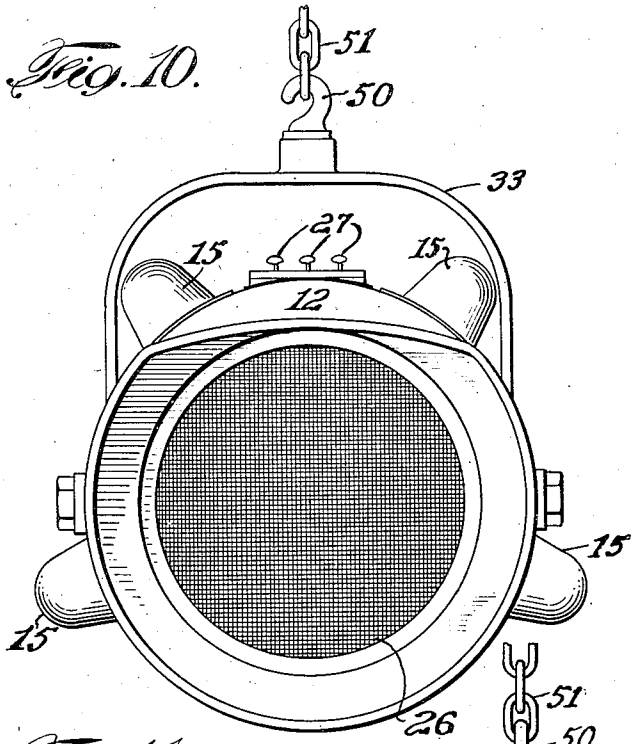
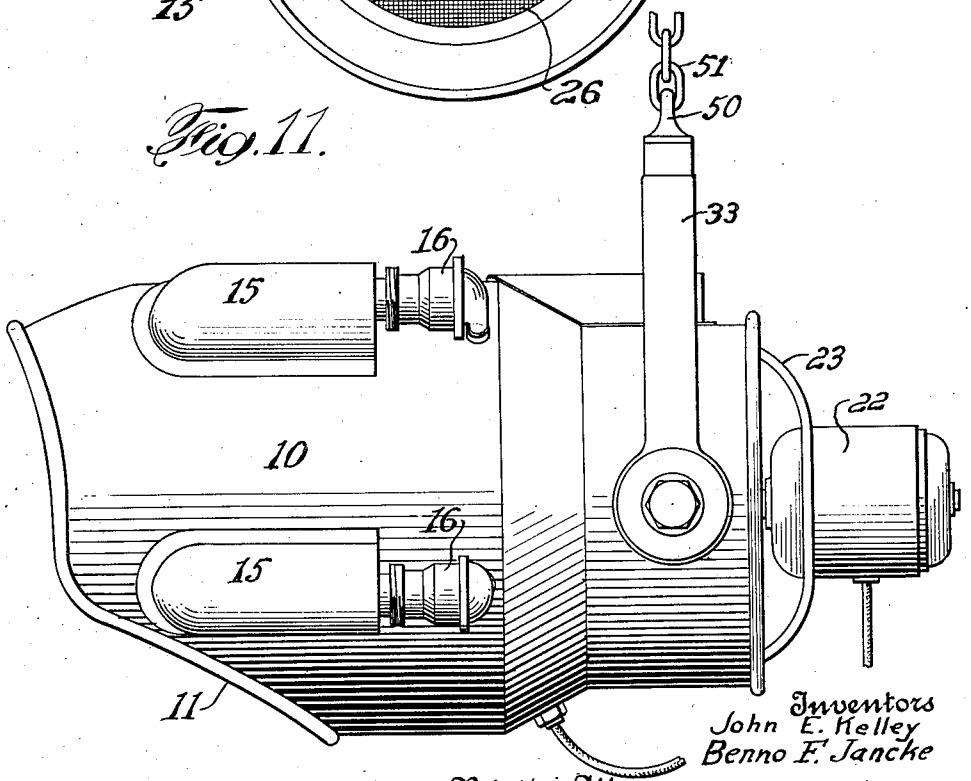


Fig. 11.



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UNITED STATES PATENT OFFICE

BENNO F. JANCKE, OF BROOKLYN, AND JOHN E. KELLEY, OF NEW YORK, N. Y., ASSIGNORS TO EASTERN LABORATORIES, INC., OF NEW YORK, N. Y.

HAIR DRYING AND TREATING APPARATUS

Application filed October 3, 1928. Serial No. 310,068.

The present invention relates to an improved hair drying and treating apparatus.

Hitherto, in this art, apparatus employed for the purpose of drying the hair has usually embodied a fan or blower for producing a current of air which is passed through electrical resistances or heating elements whereby the current of air is heated and then directed on the head. Such apparatus is generally held a short distance away from the hair, the blast of hot air directed thereon, and the apparatus moved around so as to pass the hot air over all the hair. The employment of the apparatus is attended by several disadvantages, among which may be noted the lack of uniform application of the hot air to the hair resulting in non-uniform drying thereof, and the disorder and disarrangement of the hair on the head due to the action of the air current or breeze. The latter disadvantage renders such apparatus ill adapted for drying hair which has been set in its final or permanent form and cannot be used successfully, for instance, in the drying of the now popular flat hair wave which is imparted to the hair with the hair in a moist or wet condition.

The present invention aims to provide an apparatus for drying the hair without the utilization of a current or blast of air sufficient to blow about or disarrange the hair on those portions of the head upon which a wave or waves of the hair have been arranged, and further an apparatus which will dry both a waved and an unwaved portion of the hair simultaneously in a uniform manner. In its preferred form, it comprises a helmet or head gear for disposition on the head and over the hair in service with means for heating the air led to the interior of the helmet and for circulating the heated air within the helmet and over the hair and head of the person being treated. The means for heating the interior of the helmet and the air circulated therethrough preferably include a plurality of heating elements, such as electric lights or bulbs, arranged around the periphery of the helmet and communicating with the interior thereof so as to apply radiant heat to a plurality of adjoining zones of the hair and head that require drying in such manner as not to disarrange the hair, either with or without simultaneous circulation of air through a restricted space between the hair and the helmet in a path traversing such zones.

We may also provide with the helmet a fan and heating resistance combination for producing a current of hot air to assist in drying the head and hair in case such means is desired and for utilization in those cases where the hair has not been finally set and its disarrangement is immaterial. We further preferably equip the apparatus with means for selectively turning off and on the electric lights, the fan, or the resistances so that these may be used independently or simultaneously or in any desired association.

The invention further resides in the novel combination of elements, arrangements of parts, and details of construction as will appear more particularly in the following description of the accompanying drawings, which show, by way of illustration and example, the preferred embodiment of the present invention, and wherein:

Figure 1 is a front elevation of an apparatus constructed in accordance with the present invention.

Figure 2 is a side elevation thereof.

Figure 3 is a sectional elevation through the helmet showing the heating means in connection therewith.

Figure 4 is a plan view of the apparatus.

Figure 5 is a transverse sectional elevation through the helmet and heating means.

Figure 6 is a sectional elevation showing one type of stand or support for the apparatus.

Figure 7 is a back or rear view of the helmet and heating means.

Figure 8 is a transverse sectional elevation through the helmet showing the fan and resistance combination.

Figure 9 is a diagrammatic view of a circuit arrangement adapted for use with this apparatus.

Figures 10 and 11 are respectively front and side elevations of a modification of the invention.

Similar reference characters indicate similar parts throughout the various views of the drawings.

In detail, the invention is embodied in an apparatus which may comprise a helmet 10, arranged for disposition on the head and over the hair and open at one end for convenient placement in service. The open end is bent in at 12 so as to come down over the forehead and cut away at 11 to embrace snugly the back of the head. The helmet comprises a hollow body and the interior is so shaped that it loosely but uniformly fits the head and hair when placed thereon providing a restricted space for circulation of air between the hair and the walls of the helmet. Around the periphery of the helmet are arranged a series of openings or recesses 13 and a series of resistance elements, preferably electric lights, 14 are disposed around the periphery of the helmet in correspondence with and just outside the openings so as to direct their heat into the helmet to raise the temperature of the air within. These electric lights may be positioned within guards or reflectors 15, the latter serving to conceal the lights and to reflect the heat and light therefrom into the interior of the helmet for augmenting the heating effect. The lights are mounted in suitable sockets 16 which are permanently affixed on the exterior or periphery of the helmet. The lights may be inserted or removed from their sockets for purposes of inspection, repair, or replacement through the interior of the helmet and consequently the guards or reflectors 15 may be permanently affixed to the exterior of the helmet and need not be removed.

As additional features of construction, the helmet may be made of a bore converging toward the back end to provide an outwardly flaring passage 17 from the back end of the helmet and in the back end a resistance and fan combination may be provided for creating a blast or current of hot air through the helmet.

As shown in Figure 8, the resistances 18 may be mounted across a series of fins or spokes 19 which radiate from the center of the helmet and are preferably of material such as asbestos or asbestos composition so as not to be affected by the heat generated by the resistances. The fins or spokes are fastened to a suitable central support 20 which may be mounted within the helmet in any desired manner. In back of the resistances and fins, a fan or blower 21 is placed and this fan is preferably rotated by a small electric motor 22 which is mounted on suitable brackets 23 on the back or rear end 24 of the helmet. The shaft of the motor 25 extends through the rear end into the interior of the helmet and the fan is fastened thereon so as to be rotated thereby. The rear end is open to allow the air to be drawn through and forced through the helmet by the fan. A screen of wire mesh 26 is also preferably disposed in the helmet in front of the resistances for the purpose of guarding the head and preventing the hair from being drawn into the resistances and fan, thus eliminating any danger to the hair or head when the helmet is applied in service.

A series of switches 27, which are hand operated, may be employed for controlling the lights, resistances and fan. These switches may be conveniently located in a switch box 28 on the top of the helmet or otherwise placed. As shown in Figure 9, the fan, resistances, and lights are preferably disposed in parallel circuits 29, 30 and 31 respectively, each of which is arranged in series with the mains 32 and a switch 27 is located in each parallel circuit. It will thus be seen that the fan, resistances or lights may be controlled selectively so that any one may bet set in operation at will and they may be operated independently, simultaneously or in any desired association.

As one means for mounting and supporting the apparatus, a floor support may be provided such as shown in Figs. 1, 2 and 6 of the drawings. The support comprises a supporting fork 33 with the helmet positioned between the legs of the fork and adjustably clamped between the ends thereof by nuts 34 on pivot bolts 35. Suitable washers 52, cork or otherwise, and springs 53 may be used on the bolts between which the ends of the fork are firmly and resiliently clamped. The fork may be mounted on top of a supporting rod 36 which may be of a hollow character and the fork may have a pin 37 which extends into the top of the element 36. The pin may be made rotatable in the rod 36 so that the helmet may be adjusted in a horizontal plane, and, to this end, the pin may, for example, be provided with a circumferential groove 38 in which a set screw or other fastening member 39 is preferably directed for clamping the pin in its angularly adjusted position in the hollow rod 36.

The rod 36 may also be adjusted vertically in another vertical hollow rod 40 into which it extends or is telescoped; and this vertical adjustment of the rod 36 serves, of course, to vertically adjust the position of the helmet. Means are provided for clamping the rod 36 in its adjusted position in the rod 40 and this means may, for example, be a plunger 41 which extends into a longitudinal slot or groove 42 on the rod 36 and is provided with a shoulder 43 for abutment with the exterior of the rod 36 for holding said rod in its vertically adjusted position. The plunger 41 is positioned in a guard 44 having a cap or plug 45 on its end and a coil spring 54 is employed and positioned around the plunger between the shoulder 43 and the cap or plug 45 for urging the shoulder into engagement with the rod 36. The plunger may be re-

tracted against the force of the spring to release rod 36, and, to this end, the plunger may project through the cap 45 with the projecting end pivoted to a handle 46 having a cam projection 47 which, when the handle is rotated, engages the end of the cap and withdraws the plunger against the action of the spring. Thus, the rod 36 may be released and slid up and down in rod 40 to any desired adjusted position and maintained in its adjusted position by the plunger. When the handle 46 is rotated to release the plunger, the spring acts to urge the shoulder 43 thereof into firm engagement with the exterior of the rod 36 and thus holds said rod in position. The rod 40 is preferably mounted in a pedestal 48 which may have casters 49 for enabling the apparatus to be moved along the floor easily and conveniently. The lower end of rod 40 is preferably closed at 50 and a spring 51 positioned within the rod above the closed end to act as a bumper or shock absorbing means should the rod 36 and apparatus carried thereby fall.

When a wave has been applied to the hair it is highly desirable, and in fact necessary in order to obtain the best results, to dry the hair without disarranging it. Lights are turned on by operating the proper switch, and radiant heat therefrom is directed toward the top and sides of the head to dry the hair in position. Simultaneously therewith, by using the proper switch connection, a gentle current of air may be directed toward the back of the head, which in some instances may not be waved and consequently not subject to the requirement against disarrangement. In this way the drying of the whole head and hair,—both the waved and unwaved portions—may be carried on at the same time and in a uniform manner.

If it is desired that the hair at the top and and back of the head be not disturbed the lights and the resistances 18 only need be used so that the air within the helmet may be heated in a uniform manner and directed uniformly against the head. In some cases, where disarrangement of the hair is immaterial, the fan and resistances 18 may be brought into action by closing the corresponding switches to thereby dry the hair by the use of a current of hot air. In this way, the apparatus may be used simply as a means for supplying a blast of hot air. The fins or spokes 19 act to provide a longitudinal flow of air through the apparatus and eliminate the swirling of the air in its passage through the helmet. The lights may or may not be used in conjunction with a current of air from the fan. The current of air carries away perspiration and is thus an advantageous feature.

Instead of using lights as the means for heating up the interior of the helmet, other resistances may be employed and arranged on the helmet in substantially the same manner. Lights have advantages arising from the ease of attachment, detachment, and assembly, and the light may possibly have a beneficial effect on the hair and scalp. The apparatus may also be used with good results when applying lotions in the treatment of the scalp.

The particular manner of mounting and supporting the helmet and its associated parts forms no essential part of the present invention and is shown merely by way of illustration. It should be noted that the particular support shown provides for a universal adjustment of the helmet,—vertically, on a horizontal pivot, and on a vertical pivot —so that the helmet may be conveniently fitted to the head. In lieu of using the stand, it possible to use some other supporting means. For example, the helmet may be suspended from the ceiling above the head of the patient and the suspending means may be so constructed as to allow the helmet to be conveniently applied to the head and permit the helmet to be moved around for such purpose.

As one means for adapting the device for suspension from the ceiling, the fork 33 may be provided with a hook 50, as shown in Figures 10 and 11, and a chain 51 or other suspending member may engage the hook for hanging the device from the ceiling or other support. The suspending member or chain may be rendered adjustable and thus the device may be moved at will for placement on the head. The modification, Figures 10 and 11, only shows four lights and indicates that the number of lights are optional.

Variations and alterations in the constructions shown may be made in the practice of the invention and we desire to be limited only by the state of the prior art and the scope of the appended claims.

What we claim is:—

1. An apparatus of the class described comprising a helmet for disposition over the head in service, means associated therewith for uniformly applying radiant heat to a plurality of adjoining zones of the hair and head and means associated with said helmet for causing a stream of air to pass into said helmet and through a restricted space between the wall of the helmet and the hair and head over the said adjoining zones.

2. An apparatus of the class described comprising a helmet for disposition over the head and hair in service, and means associated therewith for uniformly applying radiant heat to a plurality of adjoining zones of the hair and head, and means associated with said element for simultaneously directing air against a different zone of the hair and head and causing said air to flow over said adjoining zones.

3. An apparatus of the class described

comprising a helmet for disposition on the head and over the hair in service, said helmet being of a hollow body shaped in conformity with the head for placement thereover and a plurality of heating elements arranged around the periphery of the body for uniformly applying radiant heat to the top and sides of the head.

4. An apparatus of the class described comprising a helmet having an open end for disposition on the head and over the hair in service, said helmet being of a hollow body shaped in conformity with the head and having a plurality of recesses disposed around the periphery of the body, electric lights supported within said recesses having open communication with the interior of the helmet, reflectors for said lights for directly reflecting light and radiant heat from said lights uniformly upon adjoining zones of the head of the person being treated.

5. An apparatus of the class described comprising a helmet having an open end for disposition on the head and over the hair in service, said helmet being of a hollow body shaped in conformity with the head, the open end being bent in so as to come down over the forehead and cut away to embrace snugly the back of the neck, means for flowing air into the casing against the back of the head and then over the top and sides of the head, and means for directly applying radiant heat to the top and sides of the head and to the air flowing through the interior of the helmet.

6. An apparatus of the class described comprising a rigid helmet for disposition on the head and over the hair in service, said helmet being of a hollow body shaped in conformity with the head, means carried by said helmet for applying radiant heat directly to the interior of the helmet, means for creating a current of air through said means from a point at the back of the head over the top and sides and out at the front of the helmet, means exterior to said helmet for heating air being led thereto and means for individually and selectively controlling and causing the operation of said means.

7. An apparatus of the class described comprising a helmet for disposition over the head and hair in service, means associated therewith for uniformly applying radiant heat to a plurality of adjoining zones of the hair and head, and means associated with said helmet for flowing air through said helmet over said adjoining zones in a path substantially tangential to the hair and head.

8. In combination a helmet for disposition on the head and over the hair in service and means for heating the hair in different zones of the head simultaneously, said means comprising a plurality of radiant heat elements positioned about the periphery of said helmet in unobstructed heat radiating relation to the interior thereof and to said zones when in service.

9. In combination a helmet composed of a rigid material for disposition on the head and over the hair in service, means for drying the hair in different zones of the head simultaneously, said means comprising a plurality of recesses disposed about the periphery of said helmet in unobstructed communication with the interior thereof, sources of radiant heat positioned in said recesses, and means associated with said heat sources for directing the heat therefrom directly and unobstructedly upon said zones.

10. In combination a helmet for disposition on the head and over the hair in service, means for drying the hair in different zones of the head simultaneously, said means comprising a plurality of radiant heat sources positioned around the periphery of said helmet in unobstructed heat radiating relation to the interior thereof and to said zones when in service, and means for simultaneously directing a current of air upon another zone of the head.

11. In combination a helmet for disposition on the head and over the hair in service, means for drying the hair in different zones of the head simultaneously, said means comprising a plurality of radiant heat elements positioned about the periphery of said helmet in unobstructed heat radiating relation to the interior thereof and to said zones when in service, and means independent of said radiant heat elements for simultaneously drying another zone of the head.

In testimony whereof, we have signed our names to this specification this 1st day of October, 1928.

JOHN E. KELLEY.
BENNO F. JANCKE.