Dec. 5, 1933. H. W. McEWEN ET AL 1,938,188

PERMANENT WAVE MACHINE

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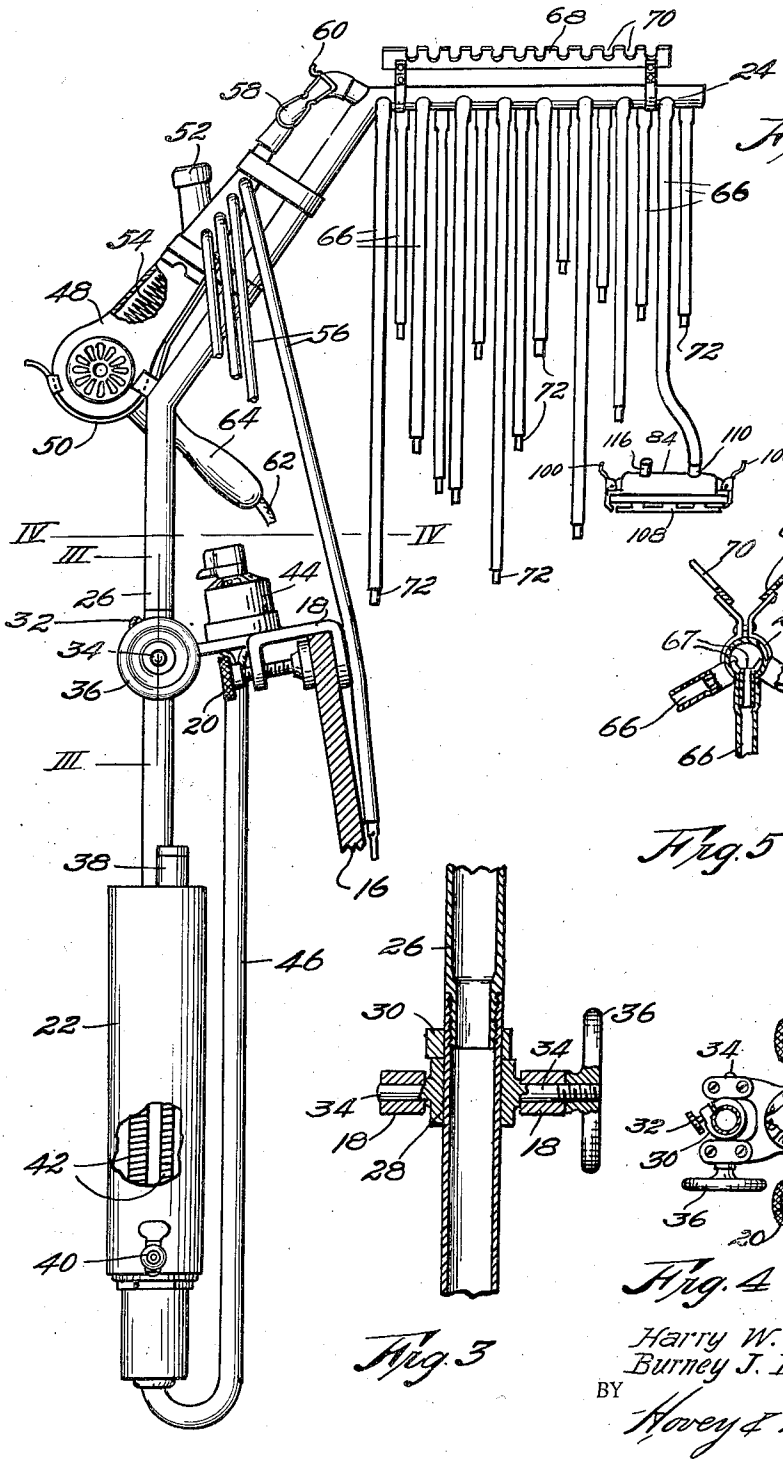


Fig. 1

Fig. 2

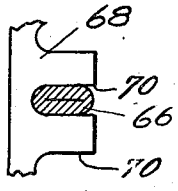


Fig. 5

Fig. 3

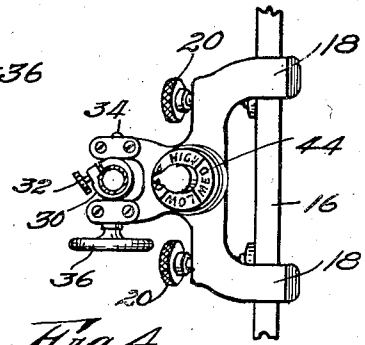


Fig. 4

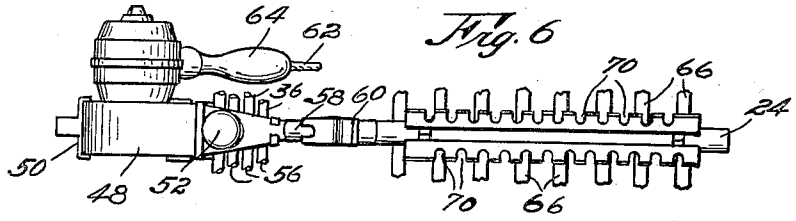
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Fig. 6



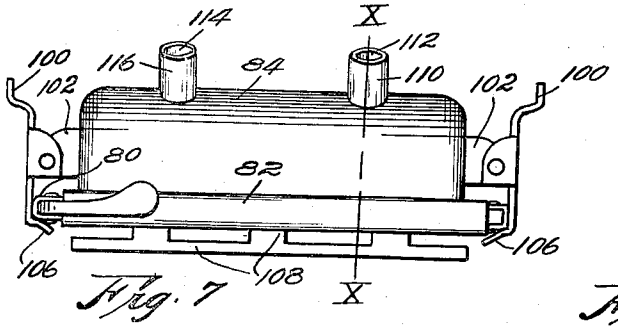


Fig. 7

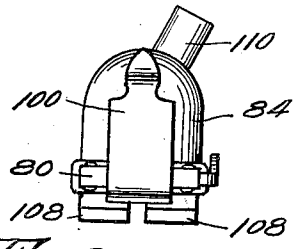


Fig. 8

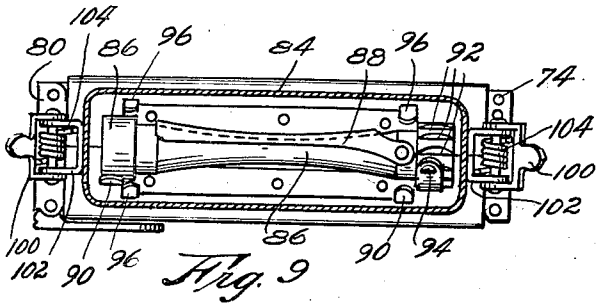


Fig. 9

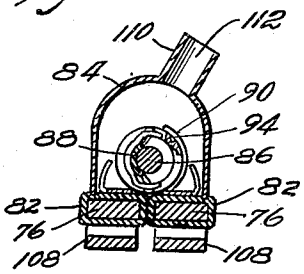


Fig. 10

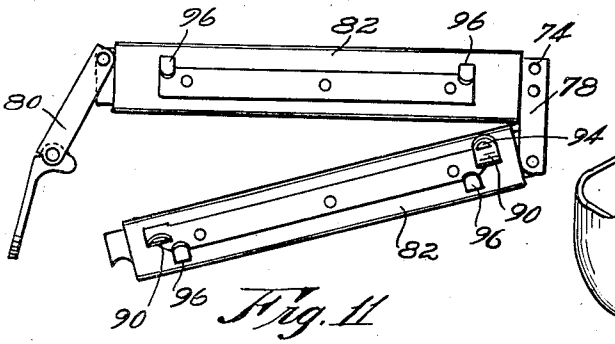


Fig. 11

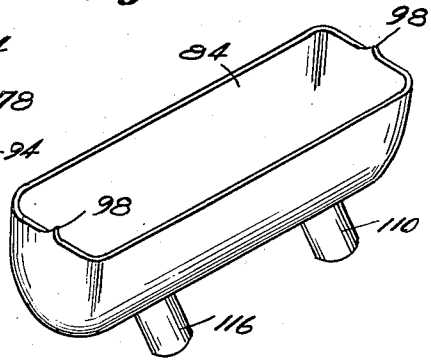


Fig. 12

Fig. 13

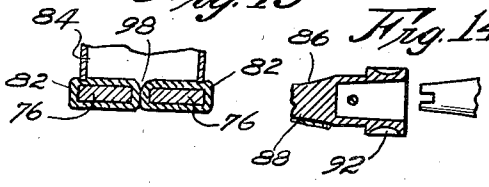


Fig. 14

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PERMANENT WAVE MACHINE

Harry W. McEwen and Burney J. Balmer, Kansas City, Mo.; said Balmer assignor of one-half of his right to Alva C. Honeycutt, Kansas City, Mo.

Application January 30, 1933. Serial No. 654,124

9 Claims. (Cl. 132—36)

This invention relates to beauty culture equipment, and particularly permanent wave machines adapted for use in imparting to the hair of the head a wave which will last an exceptionally long time and will remain in the hair permanently as placed.

One of the salient features of this invention is the contemplation of a machine of the above mentioned character that may be adjustably supported so that the parts of the apparatus actually coming in contact with the hair being treated may be conveniently disposed during their application.

A further object of the instant invention is to provide a permanent wave machine wherein is utilized steam as a medium for imparting the necessary heat to the hair; the steam being generated in a part of the machine carried thereby, whereby portability is imparted to the equipment to such an extent that the machine may be used wherever merely an electrical current is available.

A yet further aim of this invention is the contemplation of a permanent wave machine having as a part thereof, a blower that may be used in combination with the steam supply conduits for cooling certain zones of the scalp during the operation of permanently waving a head of hair.

Another important object of the invention is the provision of a unique and novelly constructed oven for permanent wave machines of the character mentioned, which oven is constructed to provide an effective holder for the hair being waved so that steam may be utilized without its being detrimental to the customer.

Many minor objects of the invention will become apparent during the course of the following specification and a multiplicity of important details serving as objects of this invention having reference to the unique oven will also be made clear as the invention is described.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of a permanent wave machine built in accordance with the concepts of this invention.

Fig. 2 is an irregular, vertical cross section through the manifold and associated parts of the machine, showing the exact positioning of the flexible tubes and rack.

Fig. 3 is an enlarged, detailed fragmentary, sectional view taken on line III—III of Fig. 1.

Fig. 4 is a section through the machine along line IV—IV of Fig. 1.

Fig. 5 is an enlarged fragmentary, detailed view through one of the flexible tubes at a point where it is engaged by one of the notches of the rack.

Fig. 6 is a top plan view of the permanent wave machine, with parts broken away and omitted for clearness.

Fig. 7 is an enlarged, side elevation of the hair treating oven forming a part of the machine contemplated.

Fig. 8 is an end elevation of the same.

Fig. 9 is a longitudinal, horizontal cross section through the oven illustrated in Fig. 7.

Fig. 10 is a vertical cross section through the oven, taken on line X—X of Fig. 7.

Fig. 11 is a top plan view of the novelly constructed vise forming a part of the oven.

Fig. 12 is a perspective, inverted view of the hood which is used in forming the oven.

Fig. 13 is an enlarged, fragmentary, sectional view through the vise and a portion of the hood, and,

Fig. 14 is an enlarged, fragmentary, detailed, sectional view through one end of the hair receiving spool, illustrating the manner in which a tool engages the same for winding the hair thereon.

In describing the permanent wave machine in detail, like reference characters will be used in designating similar parts of the apparatus, and the numeral 16 indicates any support, such as the back of an ordinary chair, wherein the customer may be seated for the purpose of having the hair of the head treated. It is to this support, or any other suitable one, that the machine is secured through the medium of a unique clamp shown in detail in Figs. 3 and 4, and including a body 18 which carries the set screws 20 for the well known purpose of gripping support 16. A boiler 22 forms a part of the complete machine, as does the manifold 24, and a pipe 26 that interconnects boiler 22 and manifold 24. It is with pipe 26 that body 18 is associated, and through the medium of the interconnecting parts, manifold 24 and all parts supported thereby may be moved to convenient position. A sleeve 28 slidably engages pipe 26 so that it may be moved longitudinally therethrough or rotated therein about the axis of pipe 26.

The desired height of manifold 24 is attained by using a set collar 30 which grippingly engages pipe 26 above sleeve 28. When thumb screw 32 of collar 30 is tightened, pipe 26 may be moved through sleeve 28 in one direction only and the

weight of the machine is carried by set collar 30 bearing upon sleeve 28.

Besides the two movements permitted through the parts just described, a rotating action about the center of trunnions 34 is permitted because of the fact they are formed integrally with sleeve 28 and are journalled in a part of body 18 of the clamp. A set wheel 36 is in screwthreaded engagement with one of trunnions 34 and may be moved to bear tightly against a face of a portion of body 18, as shown in Fig. 3, whereby rotation about trunnions 34 is precluded. Obviously, such a novel arrangement of parts will permit the necessary adjustment of the machine to and from a convenient working position without delay.

Water may be supplied to boiler 22 through filler cap 38 and may be drained therefrom through the pet cock 40. Heating elements 42 may be provided within boiler 22 to create steam from the water therein, and because of the use of two elements of different capacities, it is possible for the operator to control the formation of steam by using electric switch 44. A conduit 46 with the proper electrical conductors therein extends from switch 44 to elements 42 and when a small amount of heat is desired to be imparted to water within boiler 22, but one of elements 42 is supplied with current. When a large amount of heat is desired, both elements are switched on and when a medium amount is desired only the larger of the two elements is used.

A blower 48 of conventional type is removably affixed to pipe 26 by a holder 50 so that either hot or cold air may be sent into manifold 24 or ejected through pipe 52 that may be connected with an ordinary hair drying helmet of the well known type. An electrical heating element 54 within blower 48 heats the air when such is desired, and when certain zones of the scalp are required to be cooled for any reason at all, the flexible tubes 56 are brought into play for the purpose. A rubber hose or other similar connection between blower 48 and manifold 24, such as shown at 58, may be closed by spring clamp 60 when it is necessary to pass air out through tubes 56 and desired not to introduce air from blower 48 to manifold 24. Suitable connections 62 to a source of electrical power are lead into blower 48 through handle 64, as is well known.

Each tube 66 is affixed to manifold 24 by a sleeve 67 that extends into manifold 24 a short distance to preclude the possibility of condensate flowing to any oven. Manifold 24 is normally inclined toward pipe 26 so as to cause any condensate to run back into boiler 22.

Manifold 24 overhangs the head of the person having a permanent wave placed in their hair, and during the work of preparing the hair for heating, it is preferable to have most of the plurality of flexible tubes 66 in an inoperative position. Likewise, when certain of tubes 66 are not used, they should not allow steam to escape. Accordingly, a rack 68 is provided adjacent to manifold 24 and preferably disposed as illustrated so that any one or all of tubes 66 may be hung therein by causing the same to engage any one of notches 70 formed in rack 68. In practice, it is desirable to have the large number of tubes leave manifold 24 from points below a longitudinal plane extending along the axis of manifold 24. The tubes are likewise desirably arranged to present a series along the lowermost portion of manifold 24 and a series on each side of the first mentioned group. Rack 68 is disposed above the plane just mentioned, and when the free ends of tubes 66 are moved upwardly so that the length of the tube is rebent upon itself, it is possible to use as many of the tubes as is desired, while the others are supported out of the way.

The width of notches 70 should be of a relation to the diameter of tubes 66 so that when the tube is brought into position within its respective notch 70, collapsing to the extent shown in Fig. 5, will occur. This, manifestly, will close the tube against the escape of steam. If, however, notch and tube do not have the relation set forth, the bend formed in the tube will soon cool a small amount of moisture as a result of steam condensing, and such moisture will produce a restricted portion so that steam will not escape. A metal tip 72 should be carried by the free end of each tube 66 for convenience in affixing one of the unique ovens shown in Figs. 7 to 14 inclusive.

In imparting heat to hair that has been stretched and prepared to receive a wave, it is always desirable to have such heat of even intensity throughout the entire portion being treated. It is also necessary that the heat being applied to the hair is not transmitted to the scalp of the customer, and therefore, an oven embodying the characteristics herein contemplated has been found to be highly desirable and exceptionally efficient, in that heat and steam of high intensity might be applied to the hair for a relatively short time so that a permanent wave may be given in a minimum amount of time and with a high degree of efficiency. The oven contemplated by this invention and suitable to fulfill all of the requirements of an efficiently operating part is clearly illustrated, and the same preferably includes a vise 74 which comprises a pair of strips 76 that are disposed in substantially the same plane, and which have one end thereof hingedly interconnected as at 78, whereby the opposed adjacent edges may be moved toward and from each other. A toggle catch 80 releasably secures together the opposite ends of strips 76 and assumes the position shown in Fig. 11 when the vise is open, and the position shown in Figs. 7 and 9 when the vise is closed. To establish a positive seal between the joint that is established between strips 76, these members must have a resilient material along the adjoining edges that is brought together in a compressed manner when the vise is closed. It is through this joint of the vise and between the strips 76, which are covered with resilient material 82, that the hair is clamped and allowed to enter the compartment formed by hood 84, which creates the oven.

After the hair is clamped in vise 74, it is wound upon spool 86 beneath pivotally mounted member 88. Spool 86 is rotatably carried within the oven and on one side of vise 74 by tongues 90, one of which is located adjacent each end of spool 86. One end of spool 86 has a series of detents 92 formed in its annular periphery and an inturned portion 94 struck from tongue 90 snaps into detents 92 as spool 86 is turned. Thus when the desired tension has been imparted to the hair wound upon spool 86, this spool is held against unwinding and thereby objectionably loosening the hair. After this operation, hood 84 is moved to place so that the part of the hair being treated is completely housed within an oven. Resilient material 82 overlies all of the strips 76 forming vise 74 and when hood 84 is moved to position, it is guided to a point where it belongs by guide fingers 96 mounted upon vise 76. These fingers 96 preclude lateral relative dis-

placement on the part of vise 74 and hood 84. The edge of hood 84 is formed to present pointed projections 98 at the place where the edge of hood 84 passes over the joint between strips 76. These projections 98 insure that no leakage will take place at this point, and when hood 84 is drawn down upon one face of vise 74, its edge will press into the resilient jacket or covering which encases strips 76. This sealing is clearly shown in Fig. 13.

To insure that hood 84 will be held in place, and to likewise insure that the hood will be drawn closely into contact with vise 74, a clip 100 is provided at each end of hood 84. Clips 100 are pivotally mounted upon a small bracket 102 carried by each end respectively of hood 84 and a coil spring 104 urges clip 100 toward the holding position. The inturned portion 106 of clip 100 is inclined for a portion of its distance inwardly from the free edge thereof so that a wedging or "drawing down" takes place when hood 84 is moved to position.

After clips 100 are positioned as shown in Fig. 7, springs 104 tend to preclude accidental displacement. It sometimes becomes desirable to provide spacers 108 on the bottom of vise 74 which insulate the oven from the scalp of the person being treated. These spacers are mounted on the bottom of strips 76 and may be made of wood having spaces as shown in Fig. 7.

After the hair has all been blocked off and placed upon spools 86 within the desired number of ovens, tubes 66 are moved to position by inserting one of the tips 72 of a tube into boss 110 which forms an intake port 112. Steam passes into hood 84 through intake port 112 and then outwardly through exhaust port 114, formed through a similar boss 116. In view of the similarity, it makes no difference exactly to which one of these bosses the tube is affixed. Steam will pass into the oven, around the hair and out as effectively one way as another. It is sometimes desirable to test each oven for leaks before attaching tube 66. This may be done by placing thumb or finger over one of the two ports just mentioned and creating a suction at the other port which will indicate any flaw in the seal. After the tube 66 has been connected to the oven it may sometimes be desirable to establish a positive circulation by drawing air from the oven through the exhaust port as the steam is turned on. Exhausting the oven at this time may be done by injecting the nose of an ordinary small rubber, ball-shaped syringe therein.

The operation of all parts constituting a permanent wave machine made in accordance with this invention has been set down as the members and elements were described.

Having thus described the invention, what we claim as new and desire to secure by Letters Patent is:

1. A permanent wave machine comprising a steam generator; a manifold; a plurality of flexible tubes extending from said manifold; an oven removably associated with the free end of at least one of said tubes; a pipe connecting said steam generator and manifold; and an adjustable clamp whereby to mount the machine in operative position comprising a sleeve slidably engaging the said connecting pipe, and a set collar clampingly engaging the pipe and resting on said sleeve to limit sliding movement of the pipe through the sleeve in one direction.

2. A permanent wave machine comprising a steam generator; a manifold; a plurality of flexible tubes extending from said manifold; an oven removably associated with the free end of at least one of said tubes; a pipe connecting said steam generator and manifold; and an adjustable clamp whereby to mount the machine in operative position comprising a sleeve slidably engaging the said connecting pipe, a set collar clampingly engaging the pipe and resting on said sleeve to limit sliding movement of the pipe through the sleeve in one direction, and diametrically opposite trunnions formed on said sleeve and journalled in the body of said clamp to permit rotation of the entire machine about their axis.

3. A permanent wave machine comprising a steam generator; a manifold; a plurality of flexible tubes extending from said manifold; an oven removably associated with the free end of at least one of said tubes; a pipe connecting said steam generator and manifold; and an adjustable clamp whereby to mount the machine in operative position comprising a sleeve slidably engaging the said connecting pipe, a set collar clampingly engaging the pipe and resting on said sleeve to limit sliding movement of the pipe through the sleeve in one direction, and diametrically opposite trunnions formed on said sleeve and journalled in the body of said clamp to permit rotation of the entire machine about their axis, one of said trunnions having a set wheel in screwthreaded engagement therewith whereby to maintain the machine in any desired position in its path of travel around said trunnions.

4. In a permanent wave machine of the class described having a steam generator, an oven wherein the steam may be applied to the hair comprising a vise; a hood removably affixed to said vise; a spool beneath the hood; and intake and exhaust ports formed by the hood, said vise having a pair of strips hingedly connected at one end, a covering of yieldable material along the adjacent opposed edges of said strips, and a catch at the other end of said strips for holding together the strips and compressing the said covering therebetween.

5. In a permanent wave machine of the class described having a steam generator, an oven wherein the steam may be applied to the hair comprising a vise; a hood removably affixed to said vise; a spool beneath the hood; and intake and exhaust ports formed by the hood, said vise having a covering of yieldable material overlying the parts thereof, said hood and vise being detachably secured together by clips formed to draw the edge of the hood into compressing engagement with the yieldable material overlying the vise.

6. In a permanent wave machine of the class described, a steam generator; a manifold having a plurality of tubes in communication therewith; a pipe interconnecting said boiler and manifold; an oven on at least one of said tubes; and inwardly projecting bosses within said manifold at the points of connection between the same and said tubes to preclude the flow of condensate into the tubes.

7. In a permanent wave machine of the kind described, a steam generator; a manifold having a plurality of tubes in communication therewith; and a pipe interconnecting the boiler and manifold, said manifold being inclined toward the boiler and pipe whereby to cause condensate to flow from the manifold toward the boiler.

8. In a permanent wave machine of the class described having a steam generator, an oven wherein the steam may be applied to the hair

comprising a vise; a hood removably affixed to said vise; a spool beneath the hood; and intake and exhaust parts formed by the hood, said vise having a pair of strips hingedly connected at one end, a covering of yieldable material encasing each strip respectively, a catch at the other end of the strips to hold together the adjacent opposed edges thereof and to compress said yieldable material along said edges, said hood and vise being detachably secured together by clips formed to draw the edge of the hood into compressing engagement with the yieldable material covering said strips, said hood being provided with pointed projections at the points on the edge thereof overlying the line of connection between said strips whereby to create a seal between vise and hood.

9. In a permanent wave machine of the class described having a steam generator, an oven wherein the steam may be applied to the hair comprising a vise; a hood removably affixed to one side of said vise; a spool rotatably mounted on the vise beneath the hood; means to establish a sealing connection between vise and hood; steam intake and exhaust ports formed by the hood; and a spacer formed on the other side of said vise, said spacer and vise being formed in sections whereby to allow the passage of hair into said hood between the sections.

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