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W. N. VANATTA

1,853,587

PERMANENT WAVE BAKER

Filed Oct. 2, 1930

FIG. 1.

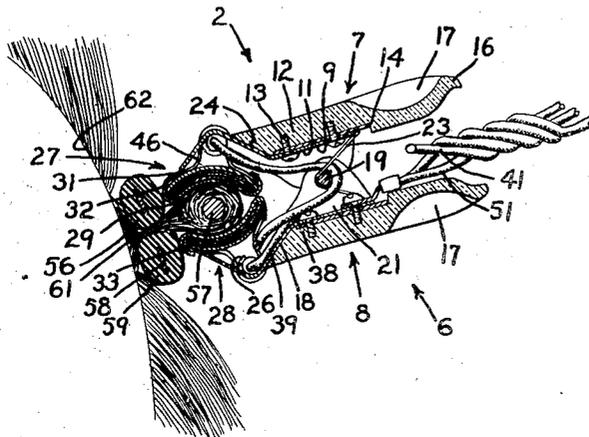


FIG. 2.

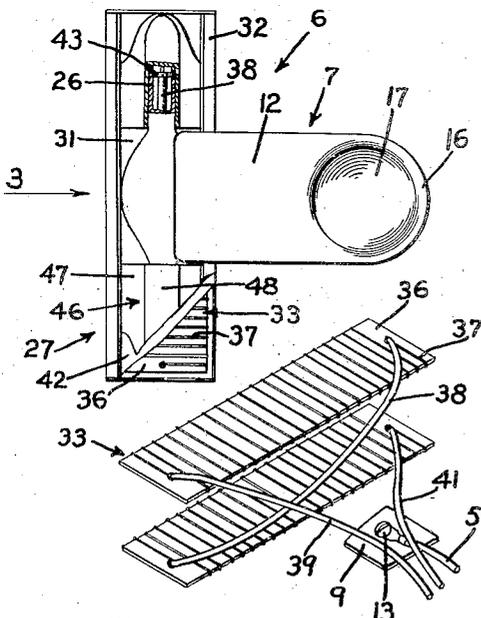


FIG. 3.

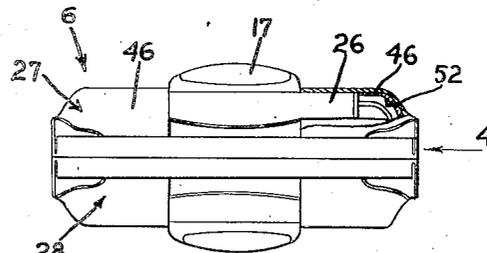


FIG. 4.

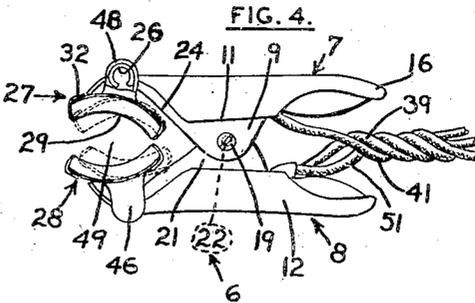


FIG. 5.

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PERMANENT WAVE BAKER

Application filed October 2, 1930. Serial No. 485,950.

This invention relates to hair curling devices, and has for an object the provision of a simple and yet unusually efficient device which is particularly adapted for, though not necessarily limited to, use in baking permanent waves.

A more detailed object is to provide a permanent wave baking device, the jaws of which are pivoted with respect to the remainder of the device, whereby they are permitted to conform themselves to the mandrel whereupon the hair being curled is wound, and thus establish a nicer fit between the baking device and the mandrel.

A further object is to provide a permanent wave baking device as described, which is composed of a very few and simple parts, most of which may be manufactured economically as die stampings, and which may be assembled to operate form with only a minimum number of screws, bolts, nuts, and the like.

The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the invention's particular embodiment which is illustrated in the drawings accompanying and forming a part of the specification.

Referring to the drawings:

Fig. 1 is a medial sectional view of a permanent wave baking device, incorporating the principles of the present invention, and shown in operative position with respect to the head of a patient whose hair is being curled.

Fig. 2 is a plan view taken in the direction of the arrow 2 of Fig. 1, portions of the figure being broken away and shown in section to disclose the construction to better advantage.

Fig. 3 is an end view taken in the direction of the arrow 3 of Fig. 2, with portions of the figure broken away.

Fig. 4 is a side elevation, the direction of view being indicated by the arrow 4 of Fig. 3.

Fig. 5 is a perspective view of the electrical resistance elements whereby the jaws of the baking device are heated.

In terms of broad inclusion, the device of the present invention comprises a pair of

pivotally joined levers and a jaw carried by each lever. These jaws, each of which is provided with heating means, is pivotally joined to its associated lever, whereby it is permitted to conform itself to a mandrel with a wisp of hair wound thereupon, and thereby establish a larger area of contact between the jaw and the hair being curled, as compared to previously existing devices intended for similar use, wherein the jaws are rigidly mounted with respect to the levers of the clamp.

Specifically describing that embodiment of the invention which at present appears to be most practical, I have provided a clamping device, indicated in its entirety at 6, and comprising a pair of levers 7 and 8 pivotally joined intermediate their ends to each other. Each of the levers 7, 8 comprise a plate 9 which may conveniently be formed by die stamping from a sheet of metal of suitable gauge. Each plate 9 comprises a straight section 11, to which a handle portion 12, formed preferably of hard rubber or its equivalent, is secured as by a plurality of screws 13 extending through suitable apertures in the straight portion 11 of the plate 9, and threaded into the inner face of the handle portion 12. Each of the handle portions 12 extends beyond the extreme outer end 14 of the associated plate 9, so as to materially increase the leverage which may be developed by squeezing the outer ends 16 of the handles 12 together; and in order to facilitate gripping the two handles 12 a depression 17 is formed in each, adjacent its outer end and in its outer face. Each of the plates 9 is also provided with an inclined portion 18 which slopes outwards and away from the pivot pin 19, whereby the two levers 7 and 8 are joined.

This pin 19 extends loosely through four flanges 21, each of which is formed by bending a lateral edge of the straight portion 11 of a plate 9, substantially at right angles therewith, thus bringing the two flanges 21 of each plate into parallelism with each other. A suitable aperture 22 is formed in each of the flanges 21 to permit insertion of the pivot pin 19, whereby the two levers 7 and 8 are pivotally joined. A coil spring 23

encircles the pivot pin 19, and has one end pressing against each lever 7, 8 at a point between the outer end 16 thereof and the pivot pin 19. Hence, the outer ends 16 of the levers 7, 8 are continually urged apart, with the result that the inner ends 24 thereof are continually urged toward each other.

Laterally extending flanges 26 are provided at each side of the inclined portion 18 of each plate 9, and these flanges are curled about axes extending transversely with respect to the associated plate 9, as best illustrated upon Fig. 4. The curled flanges 26 of each plate 9 are disposed in axial alinement with each other, with the result that they cooperate to form a pivot pin whereby a clamping jaw of the device may be joined pivotally thereto.

Each of these jaws 27, 28, which are mounted upon the levers 7, 8, respectively, comprises a front plate 29 which is arcuate about an axis which extends longitudinally with respect to the jaw, and a back plate 31, which also is preferably arcuate. The back plate 31 is rigidly connected to the front plate 29 through the expedient of flanges 32 formed by bending the edges of the front plate 29 backwards and reversely with respect to the remainder of the front plate 29. The parts are so arranged, however, that sufficient space is left between the front and back plates 29 and 31, respectively, to accommodate an electrical resistance element 33.

These elements, which are illustrated in detail upon Fig. 5, each comprises a sheet of mica 36, or similar material, having a continuous wire 37 of suitable conducting material wound thereupon. The wires 37 of the two plates 36 are connected in series with each other by means of an insulated wire 38, and current is supplied to both by conductors 39 and 41 which lead to the opposite ends of the wires 37 of the two plates 36 of the jaws 27 and 28, respectively. Each of the electrical resistance elements 33 is operated from the front and back plates 29 and 31, respectively, of the associated jaw, by a sheet of mica 42 or equivalent insulating and non-combustible material, whereby the wire 37 of each jaw is positively kept out of contact with the metal of which the jaws are constructed. This metal preferably is aluminum, because of the lightness, relative cheapness, and high efficiency in heat conduction thereof. The wires 39 and 41 gain access to the heating elements 33 within the jaws by extending through the tubular flanges 26 (see Fig. 2) from which they are spaced by mica washers 43.

Each jaw 27, 28 is also provided with a lug 46 adjacent each end thereof. Each of these lugs is preferably formed separately, and comprises a suitably curved body portion 47, the lateral edges of which are also engaged behind the reversely bent flanges 32 which

are crimped thereupon with sufficient tightness to rigidly assemble the jaw with the lugs thereupon. A raised portion 48 is provided on each of the lugs 46, and these raised portions 48 of each jaw are in alinement with each other, the parts being so proportioned and arranged that the pivot pin formed by the curved lateral flanges 26 of one of the plates 9 is pivotally receivable within the raised portions 48 of one of the jaws. This manner of mounting the jaw upon the associated lever permits a material amount of pivotal movement therebetween, as indicated by the full and broken lines on Fig. 4. As is shown clearly upon that figure, the jaws are arranged with the concave faces of the front plates 29 of the two opposed jaws 27 and 28 facing each other, thereby defining a substantially cylindrical space 49 therebetween.

A ground wire 51 is attached, preferably by one of the screws 13, to one of the plates 9, and this wire extends between the two handles 12, preferably twisted with the conductors 39 and 41, whereby current is conducted to the heating elements 33, thereby preventing possibility of injury to a patient should electrical connection be established between one of the conductors or the wire 37 of the resistance elements, and the metal of the clamp. Every precaution is taken, however, to prevent such short-circuits, by interposing mica sheets 52 between the units, which are preferably insulated, and the adjacent metal.

The baking clamp 6 is intended to be used in conjunction with a suitable hair clamp and mandrel 57. The clamp 56 comprises a pair of parallel jaws 58 having a rubber or other suitable resilient covering 59, and means (not shown) for pressing the jaws 58 toward each other, with a wisp of hair 61 clamped firmly therebetween. These jaws serve not only to prevent discomfort to the patient, but also to protect the scalp 62 of the patient from the heated jaws 27 and 28, between which the mandrel 57 is gripped, with the wisp of hair 61 wound thereupon.

The conventional manner of forming a permanent wave is by applying heat and pressure to a wisp of hair wound in this manner upon a mandrel. However, in previously produced devices, for applying heat and pressure, the jaws are rigidly connected to their supporting levers, with the result that these jaws cannot conform themselves to the shape of the substantially cylindrical mass of hair wound upon the mandrel. Obviously, it is impossible to form the coil of hair upon the mandrel to precisely the same size and shape each time a coil is wound, with the result that the rigid jaws are not able in every instance to establish the greatest area of contact between themselves and the coil of hair. This constitutes one of the improvements of my device over those previously produced, inasmuch as the jaws 27 and 28 may, by pivotal

movement with respect to their supporting levers 7 and 8, respectively, seat themselves upon the coiled hair 61, so as to establish the greatest possible area of contact therebetween, thereby increasing the efficiency and rapidity of operation of the baking clamp.

It is to be understood that the details of the invention, as herein disclosed, are subject to alteration within the spirit or scope of the appended claims.

I claim:

1. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a jaw pivoted to each of said levers, each jaw being free to pivot independently of the other jaw, and means for heating said jaws.

2. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a jaw pivoted to each of said levers, each jaw being free to pivot independently of the other jaw, spring means urging said jaws toward each other, and means for heating said jaws.

3. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a jaw pivoted to each of said levers, each jaw being free to pivot independently of the other jaw, spring means urging said jaws toward each other, an electrical resistance associated with each of said jaws, and electrical conductors associated with said resistance elements.

4. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, an arcuate jaw pivoted to each of said levers, each jaw being free to pivot independently of the other jaw, the concave faces of said jaws facing each other, and means for heating said jaws.

5. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a jaw pivoted to each of said levers for movement about an axis extending longitudinally with respect to the jaw, each of said jaws being free to pivot independently of the other jaw and being of arcuate, transverse cross section, an electrical resistance associated with each of said jaws, and electrical conductors associated with said resistance elements.

6. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a jaw pivoted to each of said levers, each of said jaws comprising a concave front plate having its edges bent backwards and reversely with respect to the plate, a back plate engaged by said reversely bent edges, a resistance element disposed between said resistance element and each of said plates, and a lug adjacent each end of the jaw and mounted on the back thereof, but being engaged by said reversely bent edges, means on each of said levers pivotally engaging the lugs of the associated jaw, and electrical conductors leading to said resistance elements.

7. A baking clamp for hair dressing, comprising a pair of pivotally joined levers, a

jaw pivoted to each of said levers, each of said jaws comprising a concave front plate having its edges bent backwards and reversely with respect to the plate, a back plate engaged by said reversely bent edges, a resistance element disposed between said resistance element and each of said plates, and a lug adjacent each end of the jaw and mounted on the back thereof, but being engaged by said reversely bent edges, and each of said levers comprising a plate having lateral edges bent into parallelism adjacent one end of the plate forming longitudinally extending flanges, and a flange extending laterally from each side of said plate adjacent the other end thereof and curled to provide a pivot pin, the pivot pins of each lever being axially alined and pivotally engaged within one of said lugs of the associated jaw, a pin pivotally joining the longitudinally extending flanges of both of said levers, spring means interposed between said levers urging said jaws toward each other, and electrical conductors leading to said resistance elements.

In testimony whereof I have signed my name to this specification.

WILLIS N. VANATTA.

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