

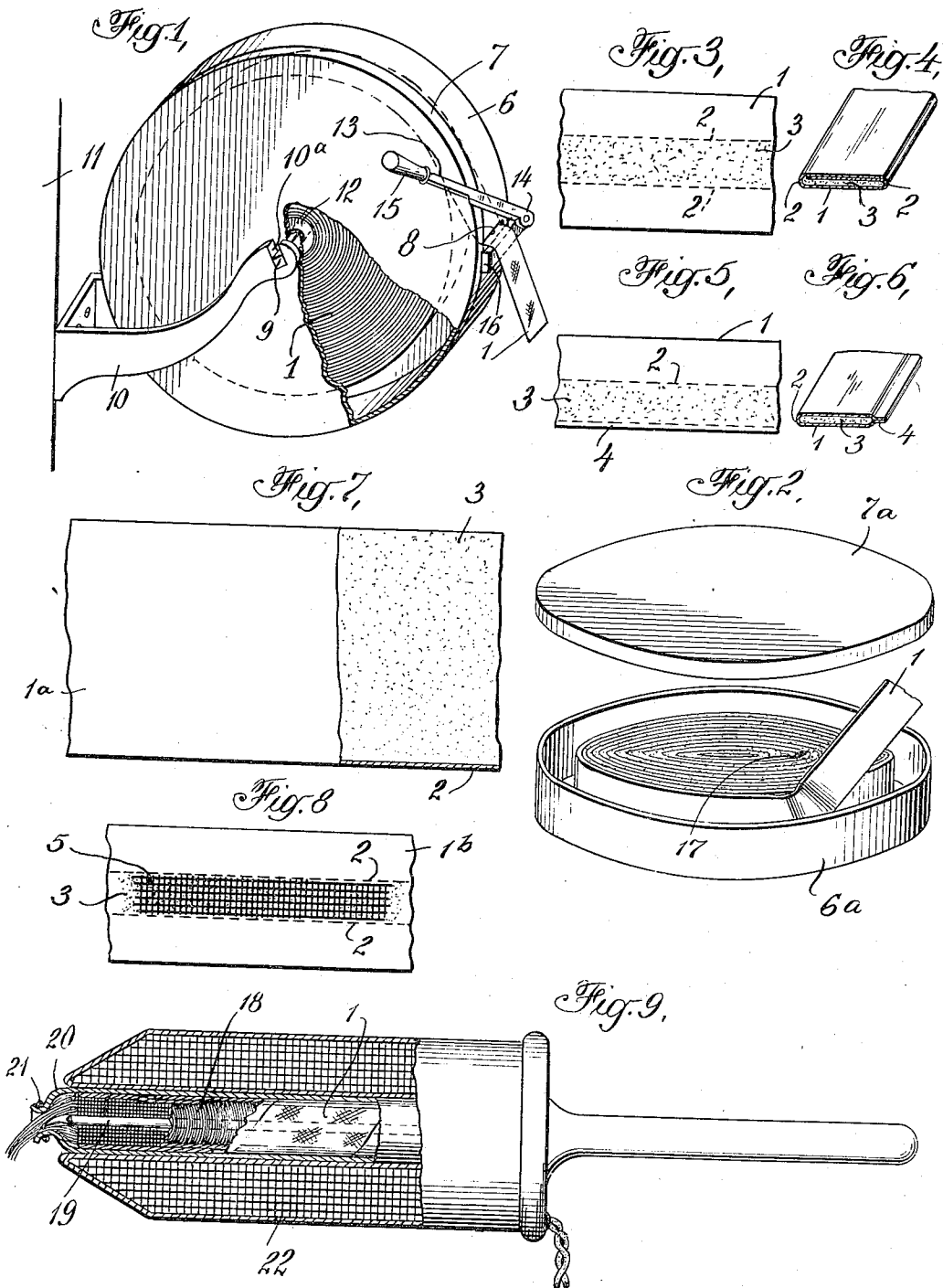
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DEVICE AND PROCESS FOR WAVING NATURAL HAIR

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UNITED STATES PATENT OFFICE.

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DEVICE AND PROCESS FOR WAVING NATURAL HAIR.

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To all whom it may concern:

Be it known that I, CHARLES NESSLER, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Devices and Processes for Waving Natural Hair, of which the following is a specification.

10 In the art of permanent waving of the hair on the human head as heretofore practiced, the tress or strand of hair, after being wound in helical form around a rod and secured thereto by cord or otherwise, is surrounded or covered in any one of several different ways with suitable absorbent material which is wetted and is in some way provided with or carries a hair-treating substance, such for example as borax powder, which is likewise moistened, and then enclosing or inserting the same in a tube made preferably of non-absorbent material and finally placing the assembled parts in a heater so that the heat therefrom acts upon the moisture within and produces the permanent wave in the twisted hair.

15 In preparing for use in this process the absorbent material, whether in the form of strips of flannel dipped in hair-treating substance or prepared tubes or pads, it has also been customary to make these devices with certain fixed and somewhat standardized dimensions, but in cases where short lengths of hair are to be waved, such as the newly grown part, these devices are larger than required and when thus used cause much waste of material, increase the cost accordingly and to a certain extent interfere with the neatness of the operation. In this art it is also a great desideratum to have at hand for immediate use from time to time the wetted absorbent material in abundant supply and my improvements afford this advantage and overcome the above stated drawbacks. By my present improvements I also seek to provide an extremely simple form of absorbent appliance employing absorbent material and hair-treating substance together with a process or method of utilizing the same; also means for constantly supplying prepared absorbent material in moistened condition and from which the operator may separate or cut members of any desired length to fulfill the requirement of the moment and be free to vary the size

at each severance if so desired, the cut piece thus furnishing a neat prepared moistened member ready to be applied by the operator to the hair on the head, without further manipulation or treatment after the piece is once severed. With these and other objects in view, my inventions consist in the various novel and peculiar constructions and arrangements of the several different parts of the device, and the peculiar steps in the method, all as hereinafter fully set forth and then pointed out in the claims.

I have illustrated types of my invention in the accompanying drawings, wherein;

Fig. 1, is a perspective view of my improved container provided with a roll of my improved moistened absorbent, the container being mounted removably upon a wall bracket and it has upon its exterior a hand-operated knife for severing the moistened strip when the desired length has been drawn from the container by the operator.

Fig. 2, is a perspective view of a modified form of the container, shown with the cover removed to one side and the coiled strip of moistened material within the container, with the free end pulled out a certain length ready to be severed for use.

Fig. 3, is a broadside view of a portion of the absorbent material, in blank form with a central longitudinal zone or area covered with hair-treating substance, before the two marginal edges of the material are folded over.

Fig. 4, is a perspective view of a portion of the folded strip shown in Fig. 1, with the contained hair-treating substance housed within the folds.

Fig. 5, is a side view of a piece of absorbent material with a marginal zone or area thereof covered with hair-treating substance, the uncovered margin being folded over upon the covered one, to form the prepared strip.

Fig. 6, is a perspective view of the prepared strip made from the blank shown in Fig. 5, with the absorbent material enveloping the hair-treating substance.

Fig. 7, is a side view of prepared strip like that shown in Fig. 6, but of greater width, one side of the strip being broken away to show the contained hair-treating substance.

Fig. 8, is a side view of a portion of blank

absorbent material with the central longitudinal zone thereof covered with a piece of ribbon or material the surface of which is pitted or recessed so as to receive and retain therein the hair treating substance, the marginal flaps or edges of this form being folded over as shown in Fig. 4.

Fig. 9, is a view partly in longitudinal central section of an ordinary electric-heater, having inserted therein the assembled parts comprising a curler-rod, a strand of hair twisted around the rod, moistened absorbent material made in accordance with my invention and wound helically around the twisted hair, and a tube of non-absorbent material enclosing said parts, for the purpose of carrying out the process of permanent hair waving.

Referring to the drawings, in which like numerals of reference designate like parts throughout, 1 is a piece of absorbent material of comparatively great length and of uniform width and designed to be folded on a line or lines 2, parallel with the edge of the piece and longitudinally thereof. Along a zone or path like area of the piece 1, is spread suitable hair-treating substance 3, such for example as borax powder, which is evenly distributed over the covered zone in the requisite amount and it may be applied in wet or dry condition with the absorbent material either wet or dry, and then the marginal flaps or edges are folded on the lines 2, 2, indicated in Fig. 3, so as to form a flat tubular housing as shown in Fig. 4, with the hair-treating substance sandwiched between layers of absorbent material and through which it may act when wet and applied in the process. When this prepared member is wetted with water so as to soak all parts, the contained substance will hold its position for the purposes of its use and the overlapping marginal edges or flaps will adhere to the contained substance and to each other with ample tenacity to securely keep the flaps snugly closed in folded position. In the construction shown in Figs. 5 and 6, the folding line of the absorbent material is central thereof as indicated at 2, and parallel with the edges, while the material is less than half covered with the hair-treating substance 3, so as to leave an uncovered space 4, along the edge, in order that the absorbent material may come together along such edge when folded as shown in Fig. 6. By this arrangement, when the parts are wetted with water, the contained substance 3, will adhere and cling to the wet absorbent and thus hold its place between the layers, and the clean marginal edges at 4, will adhere directly to each other sufficiently to form a closure along the edge of the strip and securely retain the substance therein.

In the construction shown in Fig. 8, the

hair-treating substance 3, is applied to a section or tape 5, of suitable material which has a pitted or recessed surface upon both faces thereof, such for example as ordinary cotton netting. The recesses or perforations of the piece 5, are filled with the hair-treating substance 3, so as to appear upon both sides of the piece and to act through the layer of absorbent material covering each side and all of the parts become impregnated with the hair-treating substance when wetted. In this form, the marginal edges are folded on the lines 2, 2, over upon each other the same as the structure shown in Figs. 3 and 4, and the folded edges will adhere to each other when wet and form an operative structure. In the forms of the strip 1, so far described they are comparatively narrow and may be therefore wound about the twisted strand of hair in helical form as indicated in Fig. 9, but in some cases I make the strip much wider, as shown in Fig. 7, at 1^a, the absorbent material being folded on the longitudinal line 2, so as to sandwich the substance 3, as in the structure shown in Figs. 5 and 6. In this wide form, when the member is severed from the long piece which is of indefinite length as in the other cases, it is severed in the length desired and then the cut piece is folded longitudinally around the twisted strand of hair, instead of being wound in helical form.

The form of the prepared member shown in Fig. 8, is not herein specifically claimed, as the same forms part of the subject-matter of another application for patent, filed by me on even date herewith.

It will be noted that in all of the structures of the strip member herewith set forth, the edges of the surrounding material are without special fastening means and at the same time they will adhere in position and prevent the escape of the contained hair-treating substance and this is an important advantage in construction and reduces cost of manufacture.

I find that by making the substance impregnated strip of great length that will furnish many cut pieces, and folding or winding the strip upon itself and wetting it sufficiently, the strip will remain in condition for immediate use from time to time as needed and without additional wetting or treatment, it only being necessary to cut the required length from the end of the strip and apply it. This usable condition of the wet impregnated absorbent material will be maintained for a great length of time, but it can be materially prolonged as to the period of time which it will remain properly moistened, by placing the wet coiled prepared strip in a moisture preserving chamber or container 6, having a removable cover 7, which fits air-tight. The container

or drum here shown is cylindrical in form with a peripheral opening 8, out of which passes the end of the prepared strip 1, which completely fills the exit and acts as a plug therein and serves to exclude the external air in order to preserve the moisture of the contained strip. A spindle 9, is fixed across the interior of the drum axially thereof, with its ends projecting from the respective ends of the drum. On a fixed part or wall 11, is secured a bracket 10, the arms of which are formed at the ends with angular shaped notches 10^a, for receiving removably the squared ends of the supporting spindle and which is thus held against rotation, likewise the drum to which the spindle is fixed. The strip 1, is coiled on a spool 12, which fits loosely on the spindle and turns easily thereon, so that upon pulling on the end of the strip which protrudes from the periphery of the drum, the coil with its reel or spool will turn and pay off the strip as desired. The opening in the cover of the drum through which the spindle projects, is of course as air tight as it can be made in order to exclude the external air. In order to place a new coil of the strip within the drum, the same is removed from the bracket and the cover of the drum is then taken off and a fresh coil of the strip is mounted on the spindle and its free end is passed through the opening 8, in the periphery of the drum, the coil being in suitably moistened condition when placed in the drum. When the operator has drawn a sufficient length of the prepared strip from the drum, he then cuts it off with a suitable instrument and proceeds to use the cut piece. In order to facilitate the cutting operation, I mount upon the container 6, a cutting device comprising a knife 13, pivoted at 14, to the drum and having a handle 15, for operating the knife, the blade of which sweeps across the peripheral opening in the drum and cooperates with a block or bed piece 16, fixed beneath the opening. The strip may then be pulled out by one hand and the knife actuated by the other hand to cut the desired length from the strip. There are various ways in which a great length of the strip may be stored in a container for maintaining the proper moisture of the strip, but I find that rolling the strip on itself on a reel as shown, is a most efficient arrangement.

In the modified form of the container 6^a, shown in Fig. 2, the opening in the periphery through which the strip is pulled, is omitted, likewise the spindle on which the coiled strip is mounted, and the coil 17, after being properly wetted is laid loosely in the drum, which is closed air-tight by the removable cover 7^a. When it is desired to obtain the moistened members which are impregnated with the hair-treating substance, the operator removes the cover and

seizes the outer end of the strip and then uncoils the length required and cuts it off with scissors or a knife and applies it to the hair, so that he may thus regulate the size of the member, in the same manner as in the other instance.

In Fig. 9, I show how my improved impregnated strip or member is applied in the process of permanent hair waving in which moist heat is employed. After the narrow strip has been cut to give the proper length of piece for application, the piece is wound helically around the twisted hair 18, on the curler-rod 19, as indicated at 1, in said Fig. 9, and it is then secured at each end by cord or otherwise and inserted in a relatively non-absorbent tube 20, which is tied down at 21, around the twisted hair at the inner end near the head of the subject. An electric-heater 22, is then placed over the assembled parts, as shown, and the current turned on to heat the parts, in a manner well known, and vapors or steam are given off from the moistened absorbent material to effect the permanent waving of the twisted strand of hair 18, which is covered by said material.

From the foregoing description of my improvements, it will be seen that by my improved process of having a great length of moistened impregnated absorbent material kept at hand ready for instant use at any time, and cut to size as needed, I materially expedite the operation and make the work of the operator neat and simple. Furthermore, I make a great saving in the quantity of the impregnated or prepared absorbent material and the hair-treating substance also, by avoiding the use of members or sections of such material which are in fact too large for the particular work at hand. For example, in cases where prepared pads or tubes are kept in stock for use from time to time, the same are made to a standard size, say about three inches long, and they are used to wave a twisted strand of hair which is one-and-a-half inches long, there is a fifty per cent wastage. In the use of my device in such a case, I cut the prepared material so as to furnish a piece one-and-a-half inches long and fold this round the strand of hair, thereby using one half the quantity of absorbent material and hair-treating substance which it is impregnated with. The same saving is made where my improved strip is wound in helical form around the twisted strand of hair. In actual tests with the moisture retaining container, I have found that the moistened impregnated absorbent material sealed therein against the admission of the exterior air, will continue in a well moistened condition ready for use without further treatment for a period of many months and this is an important feature of my invention. The strip or mem-

ber being in continually wet condition, the moisture and the hair-treating substance acts through the layer of the absorbent material which may be interposed between such substance and the hair. In one of the forms herein illustrated, there are two plies or layers of absorbent material upon one side of the strip and one upon the other, and either side may be placed in contact with the twisted hair, as desired. If it is preferred to have a double thickness of the enveloping material upon each side of the member, the material may be made slightly wider and so as to provide another fold around the member, and the moisture in the material will serve to securely hold the free end of the material in place and the hair-treating substance will remain uniformly distributed in all cases, so as to withstand the handling and manipulation of the member in cutting and applying it. By the use of my improved device, I avoid a mess at the time of performing the operation and aid in the neatness and despatch with which it is done. The so-called non-absorbent tube 20, which I show in Fig. 9, is made of suitable paper or other relatively non-absorbent material for confining the steam or vapors.

I wish to be understood as not limiting my invention to the particular constructions herewith shown, as various modifications may be made in the several different parts thereof, without, however, departing from the spirit of the invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a device for waving hair, a moistened strip of absorbent material impregnated with hair-treating substance and from which prepared strip portions may be removed at will as needed, and a container for said strip for maintaining the same in a moistened condition.

2. In a device for waving hair, a member consisting of juxtaposed plies of material of absorbent character with hair-treating substance interposed between plies said plies being caused to adhere together in substantially flat condition solely by moisture, said prepared member being maintained in moistened condition and capable

of being applied to the hair as a compound structure in folded form.

3. In the process of treating hair, the step which consists in impregnating a supply strip of absorbent material with a hair-treating substance, maintaining said prepared strip in moistened condition, and severing from said moistened strip portions thereof as needed to perform the operation and of suitable length for a given operation, then applying said moistened length to the hair.

4. In the process of treating hair, the step which consists in moistening a supply strip of absorbent material for use in waving hair, and maintaining said strip in moistened condition, and in severing from said moistened strip portions thereof as needed in performing the operation and of suitable length for a given operation, then applying said moistened length to the hair.

5. In apparatus for waving hair, a container, a strip of prepared absorbent material arranged within said container and of relatively great length, said container having an opening through which said strip may be drawn, and severing means for cutting the strip drawn from the container.

6. In apparatus for waving hair, a container, a strip of prepared absorbent material of considerable length and rolled upon itself in form of a coil and mounted to turn within said container, said container provided with an opening through which said strip is drawn as needed, and means for severing the strip drawn from the container.

7. A prepared member for waving hair, comprising layers of absorbent material impregnated with hair-treating substance and constructed and arranged to be retained together in substantially flat condition by moisture, and means for maintaining the said layers in moistened condition, so that the same may be applied to the hair in folded form with said layers adhering together and in moistened condition.

Signed at New York city in the county of New York and State of New York this 21st day of September A. D. 1921.

CHARLES NESSLER.