Dec. 26, 1950 R. A. SATRIAN 2,535,959

HAIR-WAVING DEVICE

Filed April 21, 1948

FIG 1

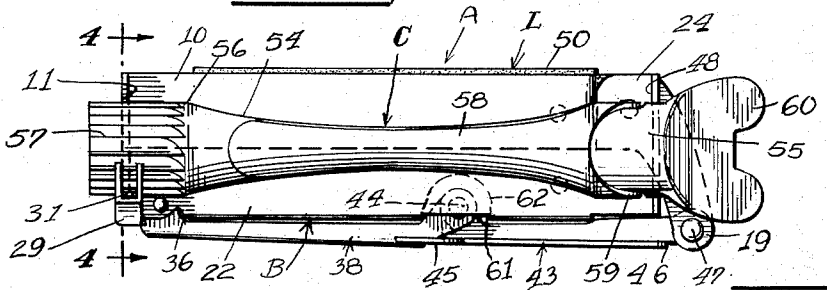


FIG 2

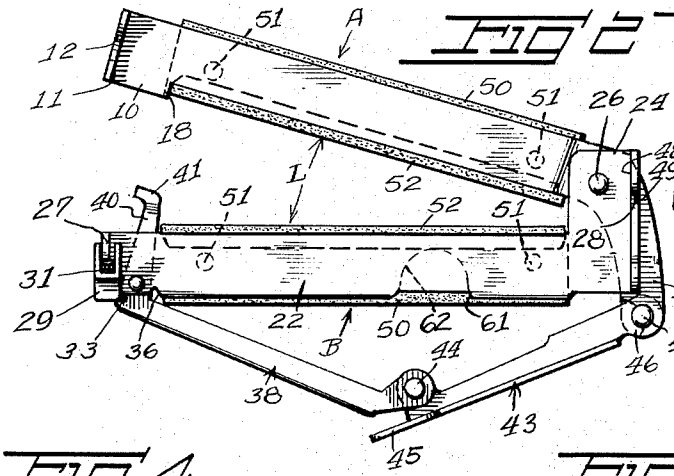


FIG 6

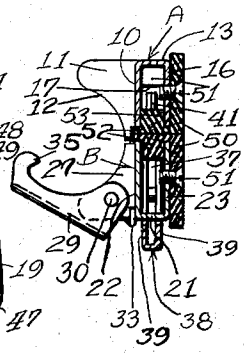


FIG 4

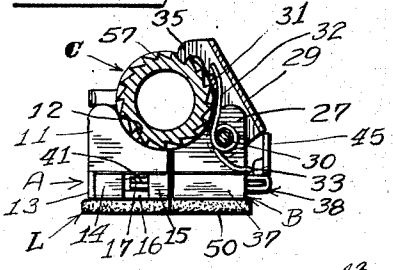


FIG 5

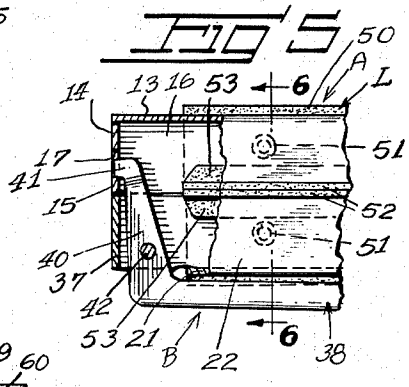
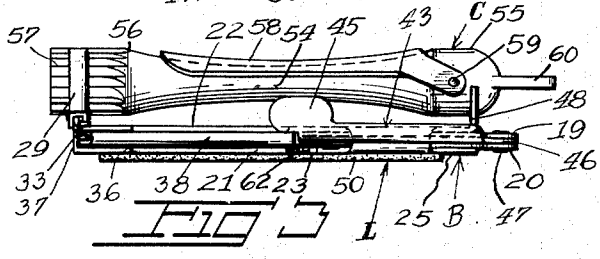


FIG 3



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HAIR-WAVING DEVICE

Rudy A. Satrian, Chattanooga, Tenn.

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1 Claim. (Cl. 132—33)

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This invention relates to clamping spaces used in connection with permanent waving of hair. In permanent waving the hair is divided into separate strands by clamping the desired amount of hair between two jaw members, which are arranged as close as possible to the scalp. The strand of hair is then wound upon a cylindrical member and the cylindrical member is rotatably supported by the jaw members. In clamping spacers used heretofore, the two jaw members were pivotally connected with each other by means of a pivot pin extending through overlying end portions of the jaw members and these members were locked in working position by the pressure exerted on their free ends by straightening out a toggle joint pivotally connected to the jaw members.

An object of the present invention is to provide a clamping spacer of the character indicated above, in which the two jaw members are positively held in working position by means of a hook-like element pivotally secured on one of the jaw members and engaging the other one end formed on one of the members of the toggle joint.

Another object of this invention is to provide a clamping spacer of the character indicated above, in which the cylinder, onto which a strand of hair is wound, is equipped about one of its end portions with ratchet teeth formed integrally with said cylinder, and in which a spring biased pawl secured to one of the jaw members engages the ratchet teeth and prevents accidental unwinding of the hair wound onto the cylinder.

A further object of the invention is to provide a clamping spacer of the character indicated above in which the jaw members, one of the two levers forming the toggle joint and the pawl have a U-shaped cross section, permitting the spacer to be made from light material, but insuring a strong and compact construction thereof.

Other objects of the invention may appear in the following specification, describing the invention with reference to the accompanying drawing illustrating a preferred embodiment of the invention. It is however to be understood that the invention is not to be limited or restricted to the exact construction and combination of parts described in the specification and shown in the drawing, but that such changes and modifications can be made, which fall within the scope of the claim appended hereto.

In the several figures of the drawing similar parts are designated by similar reference characters, and

Figure 1 is a view in top plan of the assembled clamping spacer embodying the present invention, the jaw members being shown in working position.

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Figure 2 is a view in top plan of the clamping spacer with the jaw members separated and the cylinder removed.

Figure 3 is an elevational side view of the device.

Figure 4 is a sectional view taken on line 4—4 in Figure 1.

Figure 5 is a fragmentary view in top plan of the clamping spacer, parts being broken away to show the hook-like element positively securing the jaw members in working position.

Figure 6 is a section view taken on line 6—6 in Figure 5.

The clamping spacer embodied herein comprises a pair of elongated clamping jaw members A and B respectively. The jaw member A is preferably made from a light gauge sheet metal and is bent traversely into U-shape as clearly shown in Figure 6. At one end of the clamping jaw member A the upper flange 10 of said member has an upwardly projecting lug 11, the upper edge of which is shaped concavely in a quarter circle, as shown at 12, so that the highest point of said edge is located adjacent the web 13 of the jaw A. At the same end of the jaw A two upwardly extending lugs 14 and 15 respectively are formed on the lower flange 16 of said jaw. These two lugs extend across the gap between the two flanges 10 and 16 and are spaced from each other to form a latch opening 17 for a purpose to be described later. A short distance from the lugs 12, 14 and 15, the two flanges 10 and 16 are reduced in width to form a shoulder 18 on each of said flanges. On the end of the jaw A remote from the lugs 12, 14 and 15, the web 13 is cut off and the flanges 10 and 16 are curved so that the continuations of the inner edges of said flanges are concave, and that curved pivot levers 19 and 20 are formed on the flanges 10 and 16 respectively.

The other jaw member B is also made preferably from light gauge sheet metal and has a U-shaped cross-section so that a web 21 and two flanges 22 and 23 respectively are formed. When the two jaws A and B are assembled as described hereinafter the free edges of the flanges 10 and 16 of the jaw A and free edges of the flanges 22 and 23 respectively of the jaw B will be located adjacent to each other, when the jaws are arranged in working or clamping position. On the ends of the flanges 22 and 23 of the jaw B corresponding to the ends of the flanges 10 and

16 of the jaw A, on which the pivot levers 19 are formed, pivot arms 24 and 25 respectively are integrally formed, with said flanges and extend at right angles beyond the free edges thereof. The web 21 of the jaw B stops at the inner edges of the pivot arms 24 and 25, so that the pivot levers 19 can be arranged between the pivot arms 24 and 25 and can extend outwardly beyond them. The two jaw members A and B are pivotally connected with each other by a pivot pin 26, or rivet extending through the pivot arms 24 and 25 and the pivot levers 19 arranged between the pivot arms. The pivot pin 26 is located adjacent the upper edges of the pivot arms approximately on the longitudinal center lines thereof and adjacent the junctions of the pivot levers 19 and the flanges 10 and 16 of the jaw members A. An upwardly extending lug 27 is formed on the upper flange 22 of the jaw member B at the end of said jaw member corresponding to the end of the jaw A at which the lug 11 is formed. The upper edge of the lug 27 is curved concavely in the approximate shape of a quarter of a circle as at 28, and forms with edge 12 of the lug 11 a bearing, when the two jaws are arranged in working position. The purpose of this bearing will be described later. A pawl 29 has a U-shaped cross section and is pivotally mounted on a pivot pin 30 extending through the lug 27 located between the two flanges of the pawl 29 and through said two flanges adjacent their lower edges. A cross piece 31 extends from the free edge of one flange of the pawl 29, toward the other flange thereof and a coil spring 32 mounted on the pivot pin 30 between the pawl flanges engages with its lower prolongated end position 33 the top flange 22 of the jaw B and with its upper prolongated end portion 34 the inner surface of the cross piece 31 urging the pawl 29 inwardly for a purpose to be described later. At its upper end the pawl 29 is provided with an inwardly and downwardly curved hook-like claw 35 formed by the end portions of the flanges of the pawl 29.

The end portion of the web 21 of the jaw B remote from the pivot connection of the two jaws is cut away as at 36 and the outermost free end portion 37 of the lower flange B is bent upwardly at a right angle to form an end wall and to close the free end of the jaw B.

A toggle lever 38 is preferably made from light gauge sheet metal and has a U-shaped cross section the flanges 39 of which are spaced from each other just far enough to permit a sheet of the thickness of the material, from which the toggle lever 38 is made, to enter slidably therebetween. On one end portion of the toggle lever 38 a latch arm 40 is formed by portions of the two toggle lever flanges 39 extending inwardly therefrom at right angles and on the ends of the latch arm an outwardly projecting latch finger 41 is formed. The latch arm 40 extends inwardly through the space 36 created between the upper and lower flanges 22 and 23 respectively of the jaw B by cutting away the end portion of the web 21, and a pivot pin 42 extending through the flanges of the jaw B adjacent their outer edges and their bent up ends and through the latch arm just inwardly of its junction with the toggle lever 38 secures this toggle lever pivotally to the jaw B. Another toggle lever 43 has a rectangular cross section and is pivotally connected to the first mentioned toggle lever by sliding one end portion of one of the legs of the angular lever between the end portions of the flanges of the first named toggle lever 38 extending beyond the

web of said lever at the end thereof remote from the latch arm 40 and inserting a pivot pin 44 through said end portions. The outward leg of the secondly named toggle lever 43 extends upwardly and is provided adjacent the pivot pin 44 with an upwardly extending finger piece 45. At the other end of the angular lever 43 the horizontal leg of this lever extends beyond the vertical or upright leg as at 46 and this end leg portion is arranged between the two curved pivot levers 19 on the jaw member A. A pivot pin 47 extending through said pivot levers 19 and the end portion 46 of the angular toggle lever 43 connects these members pivotally with each other and the pivot pin 47 is located adjacent the free ends of the pivot levers 19.

On the edge of the pivot arm 24 on the jaw B remote from the lug 27 an upwardly projecting flange 48 is provided in the upper edge of which an arcuate notch 49 is arranged so that it is coaxial with the bearing formed by the lugs 11 and 27, when the jaw members A and B are arranged parallel to each other, that means in clamping or working position.

The jaw A is pivotally moved with respect to the jaw B by changing the position of the two toggle levers 38 and 43 relative to each other. When the toggle levers are pushed toward the jaw B the jaw A is pivoted toward the jaw B and when the toggle levers are arranged so that they extend substantially parallel to each other the two jaws are positioned in clamping position as shown in Figure 1. When the two toggle levers are pivoted away from the jaw B by means of the finger piece 45 the jaw A is pivoted away from jaw B, so that the two jaws are positioned in open position, ready to receive a strand of hair between them. At the same time the latch arm 40 is actuated. When the toggle lever 38 is pivoted toward the jaw B the latch arm is swung toward the lugs 11 and 27 and when the toggle levers are straightened out the latch finger 41 is located in the latch opening 17 between the lugs 14 and 15, securing the jaws A and B positively in clamping position and preventing accidental opening movement of said jaws.

To soften the contact of the jaws A and B with the hair and the scalp of a user of the device, a soft resilient lining or padding L preferably made from rubber, is secured on each jaw. Each of the linings has a substantially rectangular cross section and one of its legs 50 is secured by means of screws 51 or the like to the lower flange 16 or 23 of the jaws A and B respectively. These legs 50 are wider than the adjacent jaw flanges and extend beyond the web 13 and 21 of said jaws. The other leg 52 of each lining extends across the longitudinal edges of the adjacent jaw flanges and each leg 52 has a central longitudinal rib 53 extending partway into the space between the two flanges of each jaw.

A substantially cylindrical member C has a central body portion 54, the circumferential surface is shaped concavely so that the middle portion has a smaller outside diameter than the end portions. At each end of this member C a trunnion-like portion 55 and 56 respectively is arranged. The trunnion-like portion 55 is adapted to rest rotatably in the arcuate notch 49 in the upright flange 48 on the jaw B. In the other trunnion-like portion 56 a plurality of ratchet teeth 57 are cut. The trunnion-like portion rests in the bearing formed by the lugs 11 and 27, when the jaws A and B are closed. At the same time the spring 32 urges the upper hook-like portion

35 of the pawl 29 into engagement with the ratchet teeth 57. A clamp lever 58 has a bifurcated end and is pivotally secured to the trunnion-like portion 55 at 59, so that it extends over the central portion of the member C. On the end of the trunnion-like end portion 55 of the member C a hand grip 60 is formed preferably in the shape of a key handle.

When the above described device is to be used, the toggle levers 38 and 43 are pulled away from the jaw B, whereby the jaw A is pivoted into open position. A strand of hair of the desired size is placed between the jaws and the toggle levers are straightened out in respect to each other, so that the jaws are closed resting with the legs 50 of the rubber lining L against the scalp and clamping the strand of hair between the other legs 52 of the rubber lining. The clamping lever 58 of the cylindrical member C is pivoted into open position, and end portions of the hairs forming the strand arranged between the jaws A and B are wound onto the central portion 54 of the cylindrical member C. The clamping lever 58 is closed and the winding up of the hair is continued. When the member C is located adjacent the clamping spacer jaws, the end portions 55 and 56 are positioned as described above, so that the member C can be rotated by means of the grip 60, winding the hair onto the member C as tightly as desired. The pawl 29 prevents the member C from turning in the opposite direction so that the hair is kept in the desired arrangement. To remove the device and release the hair, it is only necessary to pull the finger piece 45 outwardly from the jaw B whereby not only the clamping action of the jaws A and B is released but the cylindrical member C is released from retaining engagement by the pawl 29 so that the hair may be unwound from the member C.

To permit the toggle levers 38 and 43 to be straightened out with respect to each other a portion of the web 21 of the jaw B is removed as shown at 61 and a notch 62 is cut into the lower

flange 23 of the jaw B extending inwardly from the place 61, where the web portion is removed. This permits the junction between the toggle levers 38 and 43 to enter into the notch 62 so that the levers can be straightened out and the latch finger 41 can be pivoted into the latch opening 17 in the end wall of the jaw A formed by the upright lugs 14 and 15.

I claim:

A hair waving device comprising a pair of clamping jaws pivotally connected together at one of the ends thereof, a pair of toggle levers pivotally connected together at one of the ends thereof, one of said levers having its other end pivotally connected to an end of one of said jaws and the other lever having its other end pivotally connected to the second jaw at the end thereof opposite from the point of pivotal connection of said one lever with said one jaw, said one jaw having an apertured angle portion extending from its unpivoted end, an angled arm integral with the end of said other lever which is pivoted to said second jaw, and a latch element offset from the free end of said angled arm and adapted to engage in said aperture to automatically lock said jaws together, when said levers are actuated to close the jaws relatively to a bobbin supported between the jaws.

RUDY A. SATRIAN.

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