Oct. 24, 1933. D. J. CONNOLLY 1,931,645

DEVICE FOR WAVING AND CURLING HAIR

Filed July 7, 1932

Fig. 1

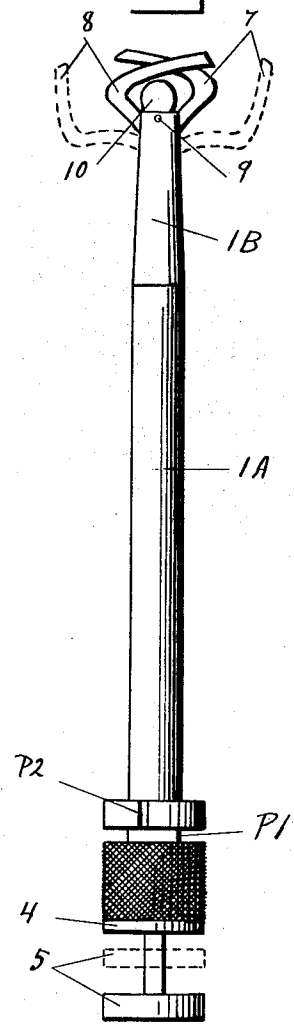


Fig. 2

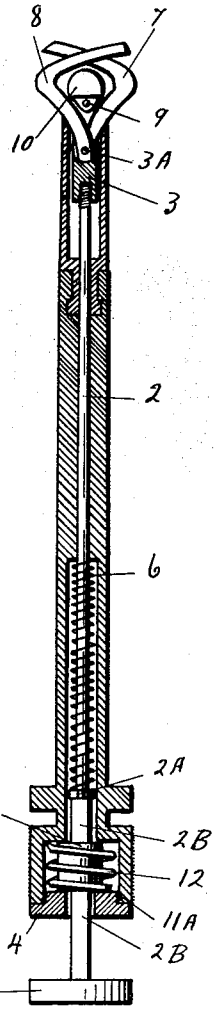


Fig 3

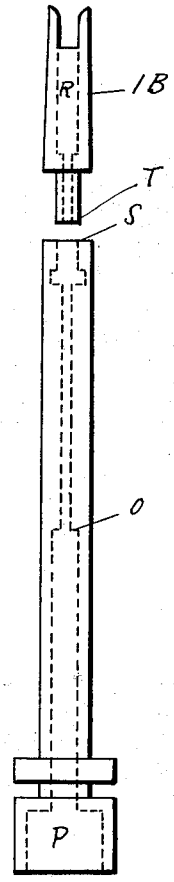


Fig. 5

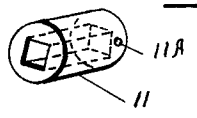
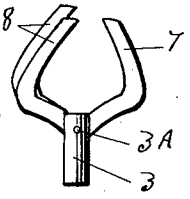


Fig. 6



Fig. 4



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DEVICE FOR WAVING AND CURLING HAIR

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5 Claims. (Cl. 132—33)

The objects of my invention are as follows:

To provide a hair waving or curling device by means of which a lock of hair may be automatically gripped and held firmly in a non-slipping position and may be wound about the spindle in such manner as to prevent slippage thereof and interference in the process of fixing the wave or curl in the hair while the same is being set; to provide a cheap efficient hair curling and waving device that will improve upon the quality of hair waving and curling now being done with other devices; to provide improvements in hair curling and waving devices that will make the use of the device cheap and simple.

I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Fig. 1 shows the complete device in outline and the method in which the gripping jaws open when the plunger is pushed upward, which is indicated in dotted lines.

Fig. 2 shows the plunger complete with all the mechanism attached thereto as it is enclosed within the outer tube or casing and part of plunger in cross section.

Fig. 3 illustrates the outer tube or casing surrounding the plunger and consisting of two sections, the upper one of which is inserted into the lower and held there turnably.

Fig. 4 shows detail of the hair-gripping jaws mounted movably on a pivot extending across a recessed opening in one end of the removable section of the plunger.

Fig. 5 gives detail of cylinder containing a square opening extending longitudinally through the centre thereof around which cylinder a spring is coiled to form a brake.

Fig. 6 shows detail of spreader block for gripping jaws.

Similar numerals refer to similar parts throughout the several views;

A tubular casing or spindle represented by parts 1A and 1B (Fig. 3) comprise a casing for the plunger shown in Fig. 2. It will be noted that the openings in the said spindle which are shown in dotted lines are of varying diameters, the opening P is large enough to accommodate the cylinder 11 with the wire 12 wound thereabout.

The opening in the said spindle between the shoulder marked O and the opening P is somewhat larger than the opening in the said spindle above the shoulder O, so as to provide space for the spring 6 and the movable collar 2A mounted slidably on the plunger 2, as well as to give free space for the up and down traveling of the square portion 2B of the plunger.

The two sections of the spindle are joined at the point S and the lower portion of the section 1B is widened out at the point T, being its lower extremity, so as to prevent the two sections pulling apart, while allowing them to turn freely from side to side with relation to each other. The upper portion of the section marked 1B is hollowed out at R to a greater diameter to allow the extension 3 of the plunger to move freely up and down in the space R. The spreader block 10 is held by a pin 9 across the recessed extremity of the section of the tube marked 1B in such manner as to permit the gripping jaws 7 and 8 to move outwardly as the plunger is shoved upwards and to permit the jaws to come together over the block 10, as the plunger is pushed normally in the opposite direction by the spring 6.

The plunger 2 is composed of a round rod throughout, except for that portion of it between the collar 2A and a point slightly above closure cap 4, which is made square. At one extremity of the plunger 2 threads are cut on the plunger enabling it to be screwed into the hollow threaded portion of the extension 3. The opposite end of the extension 3 is recessed for the insertion therein of the fulcrum end of the jaws 7 and 8, which are held in position by a pin 3A running through both sides of the extension 3. This allows for the free opening and shutting of the jaws 7 and 8. The closure cap 4 is equipped with a threaded offset for screwing in to the lower end of the tube portion 1A which is hollowed out and threaded to receive it. Slidably imposed over the plunger 2, where the same is squared, is a cylinder 11. Above the squared portion of the plunger rod is a slidably movable collar 2A, and above the collar 2A is a coiled spring 6. This spring and the collar 2A fit into that portion of the section 1A of the tube between the point O and the upper end of the squared portion of the plunger, so that the shoulder O becomes a stop for the spring 6 at its upper extremity. When however, the closure cap 4 is screwed into position at the lower extremity of section 1A of the tube, the pressure of the spring 6 downward against the collar 2A causes the plunger to be pushed downwards and to pull the lower portion of the jaws 7 and 8 attached thereto into the interior of the tube. This action causes the said jaws to grip tightly the top of the spreader block 10 when the curler is in normal position. Pressure upwards on the

gripping disc 5 causes the gripping jaws 7 and 8 to open as they come in contact with the lower part of the spreader block 10, into the position shown in dotted lines in Fig. 1.

The gripping jaws have multiple teeth on one side and a single tooth opposite, so arranged that the single tooth enters between the multiple teeth when the jaws close. I have made the plunger in two sections as above explained for the purpose of giving access to the various portions thereof and taking the plunger out for examination and repair.

The purpose of the cylinder 11 is to act as a drum over which the spring 12 is wound. One end of the spring 12, is inserted in the opening 11A made in the surface of the cylinder. The other end of the spring is left free. The result is that when you take hold of the gripping portion of section 1A of the tube with one hand, and hold section 1B with the other, you are enabled to turn section 1A only in one direction, the spring 12 operating as a brake to prevent turning of the section 1A in the opposite direction.

I will now explain how the device works in actual use:

A lock of hair that is sought to be waved or curled is segregated, and the gripping jaws are permitted to grip the same over the spreader block 10, close to the head of the person whose hair is being waved or curled. The lock of hair is then wound around the spindle toward the grip of section 1A thereof. A cord is tied tightly around the lock of hair wound on the spindle. The cord is then wound around the spindle over the hair, thus holding the hair close to the spindle, and at the bottom of the spindle the cord is passed through the groove P2, and into the depression P1. It is then wound two or three times around in the depression P1, and thus firmly secured. The operator then grasps section 1B of the tube or spindle in one hand and turns section 1A of the tube until the lock of hair wound on the spindle is tightened sufficiently around the surface of the spindle. The preparation of the hair on the spindle for curling or waving is then complete and ready to be covered by the ordinary protective pads.

After the heat has been turned on and the hair has been curled or waved for a sufficient time, it is a simple matter releasing the cord or string holding the hair tightly to the spindle, and it is found that the wave or curl in the hair has been tightly done as no slippage of the hair has occurred at any point on the spindle.

I am aware that prior to my invention spindles for curling and waving of hair have been made. I therefore do not claim such a combination broadly, but I claim:

1. In a device for waving and curling hair, the combination of a tubular spindle comprised of a multiplicity of sections, a plunger enclosed therein, a removable section attached to one end of said plunger, movable gripping jaws attached to said removable section, an actuating spring wound about said plunger, a slidably movable retaining collar on said plunger, a hollow cylinder surrounding a squared portion of said plunger, spring locking means wound about said cylinder to prevent rotation in one direction of the spindle about the plunger, a removable closure cap for one end of said spindle, a spreader block on said spindle positioned between said gripping jaws attached to said piston, as described in the specification herein.

2. In a hair waving and curling device as described in Claim 1, and in combination, a tubular spindle or casing comprised of two sections connected turnably, hollow spaces in said spindle of varying diameters, a recessed portion in the end of one of said sections, holes in the projecting portions thereof, a thickened and roughened gripping portion near the end of the other of said sections, an annular depression in said gripping portion, a notch in the projecting edge of said depression, a removable closure cap for the end of said tube adjacent to said gripping portion thereof.

3. In a hair waving and curling device of the kind described, and in combination, a tubular spindle or casing comprised of a multiplicity of sections turnably connected having hollow spaces therein of varying dimensions, a rod or plunger enclosed therein, an extension section therefor removably connected with said plunger, gripping jaws operatively attached to said extension section, a coiled spring surrounding said plunger, a squared portion in said plunger below said collar, a cylinder with a square opening extending longitudinally therethrough slidably imposed over said squared portion of said plunger, a coiled spring surrounding said cylinder and attached thereto at only one end, a rounded section in said plunger below said squared portion extending to the outside of said spindle, a gripping disk on the end of said plunger.

4. In a hair waving and curling device of the kind described, and in combination, gripping jaws attached to a plunger enclosed in a casing or spindle, a spreader block to spread said jaws fixedly attached to said spindle, means for automatically holding said gripping jaws in a normally closed position over said spreader block, means for opening said jaws by depressing said plunger, and means for holding said spreader block in a fixed relation to said casing or spindle.

5. In a hair waving and curling device of the kind described, and in combination, a tubular casing or spindle, a plunger enclosed therein, gripping jaws operatively attached to said plunger comprised of single or multiple gripping elements on either of said jaws, a spreader block attached to said spindle and located between the opposing elements of said gripping jaws, and means for opening and closing said jaws.

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