July 9, 1929. J. E. RILEY ET AL 1,720,378

CURLING IRON

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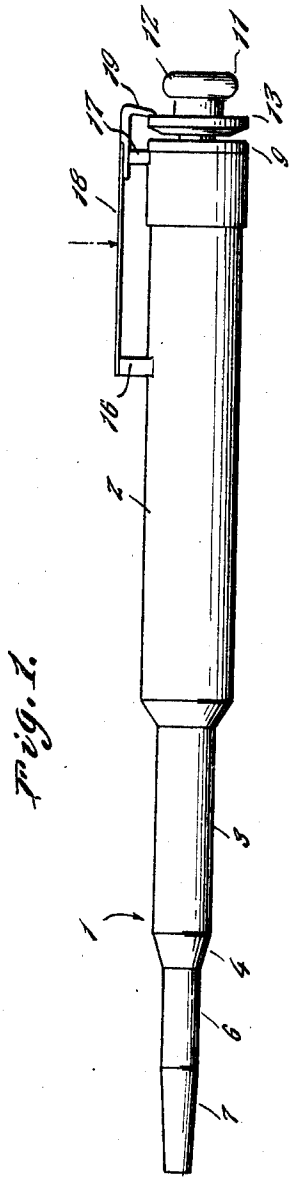


Fig. 1.

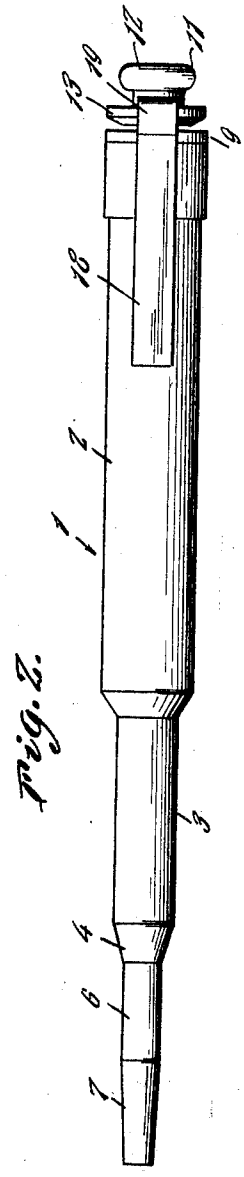


Fig. 2.

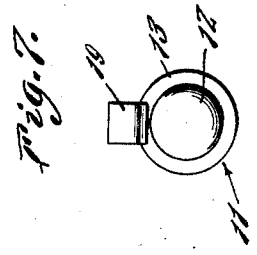


Fig. 7.

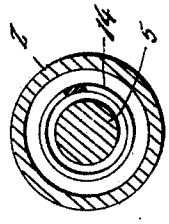


Fig. 6.

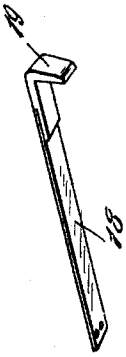


Fig. 8.

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CURLING IRON

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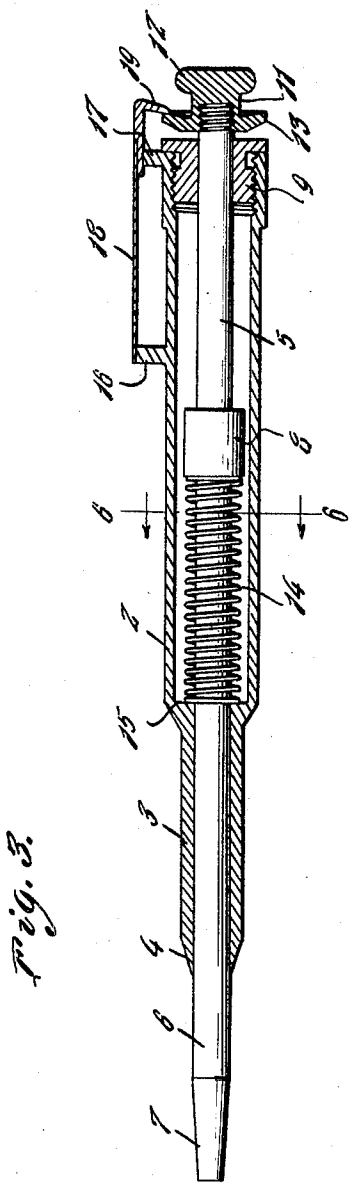


Fig. 2.

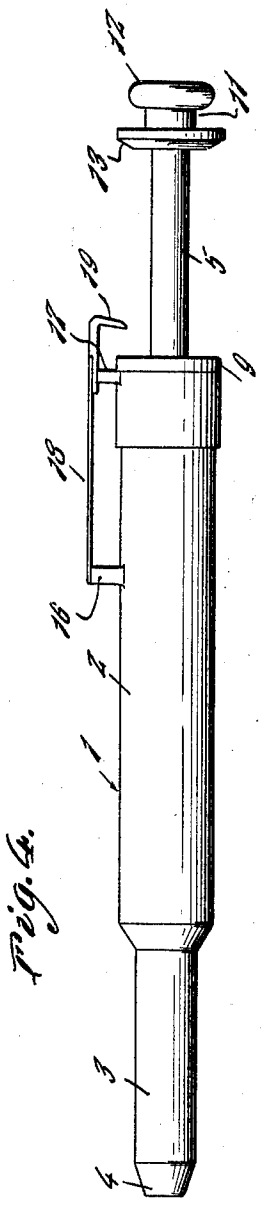


Fig. 4.

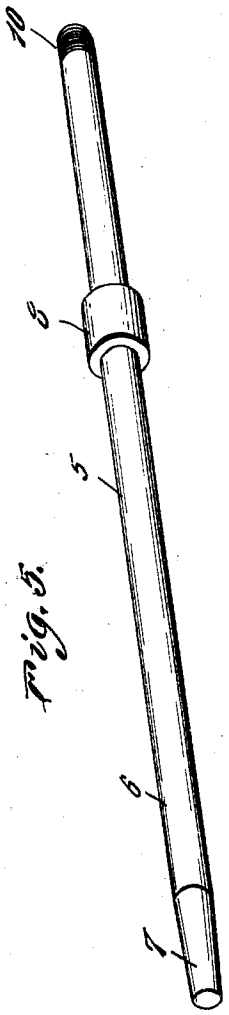


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN E. RILEY AND VERA M. RILEY, OF MENOMONIE, WISCONSIN.

CURLING IRON.

Application filed August 14, 1928. Serial No. 299,594.

The present invention relates to improvements in curling irons and has for its principal object to provide an appliance for curling hair in an efficient and reliable manner.

One of the important objects of the present invention is to provide a curling iron particularly adapted to be used in curling the hair while the latter is in a wet or moistened condition.

A further object is to provide a curling iron of the above mentioned character which includes a cylinder through which extends a slidable spring pressed plunger, one end of which constitutes a mandrel upon which strands of moistened hair are wound around, additional means being associated with the opposite end of the plunger and adjacent end of the cylindrical casing for normally maintaining the winding mandrel in an outwardly projected position, said mandrel being caused to slide into the casing and be moved out of engagement with the curled hair when the holding means is released, and this without causing any injury to the scalp or disrupting the curl formed.

A further object is to provide a curling iron of the above mentioned character which is simple in construction, inexpensive, strong and durable and further well adapted to the purpose for which it is designed.

Other objects and advantages will become apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification, and in which like numerals indicate like parts through the same:

Figure 1 is a side elevation of the curling iron embodying our invention showing the normal position of the spring pressed plunger and the retaining means for holding the mandrel in an outwardly projected position,

Figure 2 is a top plan view thereof,

Figure 3 is a longitudinal sectional view through the device, partly shown in elevation,

Figure 4 is a view similar to Figure 1 showing the position of the parts when the spring pressed plunger is released or disengaged from the catch,

Figure 5 is a detail perspective view of the plunger per se,

Figure 6 is a sectional view taken approximately on the line 6—6 of Figure 3,

Figure 7 is a rear end elevation showing the manner in which the catch engages with the screw threaded cap, and

Figure 8 is a detail perspective view of the spring cap.

In the drawings wherein for the purpose of illustration is shown the preferred embodiment of our invention, the numeral 1 designates generally our improved curling iron, the same comprising a cylindrical casing 2, the forward end thereof being provided with the reduced portion 3 and the outer end of the reduced portion is beveled as shown at 4.

The opposite end of the cylindrical casing is internally threaded and is slightly enlarged as clearly indicated in Figure 3.

An elongated plunger rod 5 that is longer than the casing 2 extends longitudinally through the casing and through the reduced portion 3, the forward end portion of said rod constituting the mandrel 6 upon which the strands of wet hair are to be wound in forming the curl and as is clearly illustrated in the drawings, the outer end of the mandrel portion of the rod is slightly tapered and this tapered portion is denoted by the reference character 7.

The rod 5 is of a diameter slightly less than the bore of the reduced portion 3 of the casing 2 and formed on the intermediate portion of this plunger rod 5 is the collar or shoulder 8 the purpose of which will be presently described. The rear end of the slidable plunger rod 5 extends through a threaded bushing 9 that is removably threaded in the rear end of the cylindrical casing 2 and the rear extremity of the plunger rod is threaded as at 10 for receiving the internally threaded cap member 11.

This cap is formed at its outer end with a finger engaging head 12 while at its inner end the same is formed with an annular flange 13.

A normally expanded coil spring 14 is arranged within the cylindrical casing 2, this coil spring encircling the intermediate portion of the plunger rod 5 and being disposed between the collar 8 and the shoulder 15 formed at the juncture of the casing 2 with the reduced portion 3 as shown in Figure 3.

This coil spring 14 has a tendency to normally urge the plunger rod 5 rearwardly for a purpose also to be presently described.

A laterally projecting lug 16 is formed on the outer face of the cylindrical casing 2

forwardly of the rear end thereof and a similar lug 17 extends from the same side of the casing at the rear end thereof and is disposed in alinement with the forwardmost lug 16.

A leaf spring 18 is attached at its forward end on the outer end of the lug 16 and extends rearwardly.

The free end of the leaf spring 18 is attached to a hook shaped catch 19 that projects beyond the rear end of the casing and this catch has its forward portion normally resting on the lug 17.

The catch 19 is adapted to engage behind the flange 13 formed on the forward end of the catch member 11 in the manner as shown in Figures 1, 2 and 7 of the drawings for normally urging the plunger rod 5 forwardly against the tension of the coil spring 14 whereby the mandrel portion of the curling iron is projected beyond the forward end of the reduced portion 3 of the casing 2.

In use, the parts are normally arranged in the manner as shown in Figures 1, 2 and 3 of the drawings. The strands of hair that are moistened are placed around the mandrel portion 6 and by turning the casing 2, the strands of hair will be wound upon the mandrel portion 6.

After this operation has been completed, the person using the device merely depresses the leaf spring 18 at the point indicated by the arrow in Figure 1 whereupon the catch 19 is disengaged from the flange 13 and immediately, the coil spring 14 will exert such pressure upon the collar 8 as to force the plunger rod 5 rearwardly through the casing whereby the mandrel 6 is removed from the strands of hair and projects into the reduced portion 3 of the casing so as to leave a formed curl.

The curl thus formed may be pinned down to allow it to dry and the operation is repeated until the entire head of hair is curled.

It will thus be seen from the foregoing description that we have provided a curling iron that will save considerable time and labor and furthermore will be efficient and reliable in its operation and by reason of the particular shape of the mandrel and the forward end of the reduced portion of the casing, there will be no possibility of the hair being caught or entangled and otherwise causing injury to the scalp or to the hair.

The simplicity of our device enables the same to be readily and easily operated and furthermore the parts may be assembled or disassembled whenever necessary.

While we have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described our invention, what we claim as new is:

1. In a hair curling device of the class described, a casing, an elongated mandrel of a length greater than said casing adapted for slidable movement through the casing, a cap arranged on one end of the mandrel, the other end of said mandrel adapted to have strands of hair wound therearound when in an outwardly projected position, means cooperating between the casing and said cap for securing the mandrel in an operative position, and additional means for automatically moving the mandrel through the casing to an inoperative position when the first mentioned means is released.

2. In a hair curling device of the class described, a casing, a plunger rod of greater length than the casing arranged for slidable movement through the casing, the forward end portion of the plunger rod providing a mandrel upon which strands of hair are adapted to be wound, a cap secured on the rear end of the plunger rod, cooperating means between the casing and said cap for holding the plunger rod in its forwardmost position to normally project the mandrel portion of said plunger rod, and means for automatically moving the plunger rod rearwardly to move the mandrel portion of said rod to an inoperative position within the forward end portion of the casing when the first mentioned means is released.

3. In a hair curling device of the class described, a casing, a plunger rod of greater length than the casing arranged for slidable movement through the casing, the forward end portion of the plunger rod providing a mandrel upon which strands of hair are adapted to be wound, a cap secured on the rear end of the plunger rod, cooperating means between the casing and said cap for holding the plunger rod in its forwardmost position to normally project the mandrel portion of said plunger rod, and means for automatically moving the plunger rod rearwardly to move the mandrel portion of said rod to an inoperative position within the forward end portion of the casing when the first mentioned means is released, said last mentioned means comprising a collar carried by the intermediate portion of the plunger rod for disposition within the casing, a shoulder formed within the casing forwardly of the collar, and an expansible coil spring encircling the rod and disposed between said collar and said shoulder.

4. In a hair curling device of the class described, a casing, a plunger rod of greater length than the casing arranged for slidable movement through the casing, the forward end portion of the plunger rod providing a mandrel upon which strands of hair are

adapted to be wound, a cap secured on the rear end of the plunger rod, cooperating means between the casing and said cap for holding the plunger rod in its forwardmost position to normally project the mandrel portion of said plunger rod, and means for automatically moving the plunger rod rearwardly to move the mandrel portion of said rod to an inoperative position within the forward end portion of the casing when the first mentioned means is released, said first mentioned means comprising a spring catch arranged on the rear end portion of the casing, and a flange associated with said cap behind which said catch is adapted to engage.

5. In a hair curling device of the class described, a cylindrical casing, the forward end portion thereof being reduced, an elongated plunger rod of greater length than the casing arranged for slidable movement through the casing and the reduced forward end portion thereof, the forward end portion of the plunger rod providing a mandrel upon which strands of hair are adapted to be wound when the mandrel portion of the plunger rod is projected outwardly beyond the reduced forward end of the casing, a cap secured on the rear end of the plunger rod, a flange formed on the forward portion of said cap, a spring catch arranged on the rear end portion of the casing for engagement with the rear face of the flange to normally secure the plunger rod in its forwardmost position, a collar formed on the intermediate portion of the plunger rod for disposition within the casing, a shoulder formed at the juncture of the forward reduced end of the casing with the remaining portion of the latter, and an expansible coil spring encircling the plunger rod for disposition between said shoulder and the collar for urging the plunger rod rearwardly to retract the mandrel portion within the forward reduced end portion of the casing when the catch is disengaged from the flange on said cap.

In testimony whereof we affix our signatures.

JOHN E. RILEY.
VERA M. RILEY.