O. W. BRENIZER.

HAIR CURLER.

APPLICATION FILED AUG. 30, 1919.

1,352,871. Patented Sept. 14, 1920.

Fig. 1.

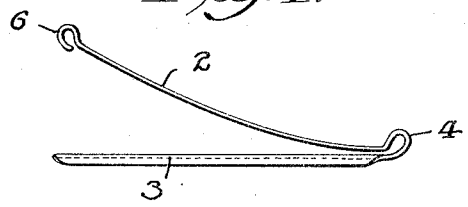



Fig. 2.

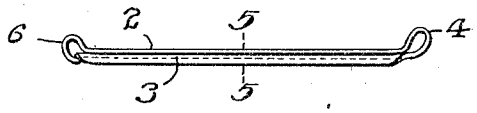



Fig. 3.




Fig. 4.

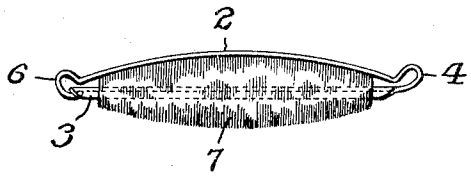
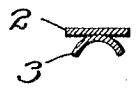



Fig. 5.




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# UNITED STATES PATENT OFFICE.

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## HAIR-CURLER.

1,352,871. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed August 30, 1919. Serial No. 320,780.

*To all whom it may concern:*

Be it known that I, ORSON W. BRENIZER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hair-Curlers, of which the following is a specification.

This invention relates to improvements in hair curlers of the class, usually formed of a single piece of sheet metal, wherein the curler comprises two arms having normally diverging arms connected at their adjacent ends and means to connect the free ends of the arms together when they are sprung toward each other, one arm being adapted to receive the hair to be curled and the arms being adapted to be sprung toward each other and their normally free ends connected to confine the hair between them.

Hair curlers of this class have been objectionable because the flat sheet metal forming the arm which received the hair has often cut the hair and because the connecting means for the normally free ends of the arms has not been effective in holding the arms together at all times when in service.

One object of the invention is to overcome these objections, and a further object thereof is to provide a stiff arm which will always remain straight for the reception of the hair while the other arm which is flexible may be bowed outwardly to accommodate the hair between them.

With the above and related objects in view, the invention consists in the novel construction and combinations of parts hereinafter described and claimed.

In the accompanying drawings, illustrating my invention,—

Figure 1 is a side view of a hair curler embodying my invention, showing the arms in the open position.

Fig. 2 is a similar view, showing the arms in the closed position when the curler is not in service.

Fig. 3 is a bottom view of the curler with the parts in the position shown in Fig. 2.

Fig. 4 is a side view of the curler in service with hair upon one of the arms and the arms in the closed position confining the hair between them.

Fig. 5 is a transverse section through the curler, on line 5—5 of Fig. 2.

My improved curler is preferably formed of a single piece of sheet metal, and, referring to the drawings, it comprises two arms 2 and 3 which are connected at adjacent ends by a small bowed or loop portion 4. In the normal condition of the curler the arms 2 and 3 diverge from their connected ends to present an open space between them, as shown in Fig. 1.

The arm 2 is flat and flexible and, in the normal condition thereof it is bowed, as shown in Fig. 1. The arm 3 is stiffened by being shaped into concavo-convex form in cross section, as clearly shown in Fig. 5, so that it will always remain in the straight condition shown in the drawings.

The free end of the flexible arm 2 has a hook 6 formed thereon which is adapted to embrace the free end of the stiff arm 3 when the parts are in the position shown in the drawings, and the free end of the hook 6 is tapered or pointed so that it may enter the groove in the bottom of the stiff arm 3 and hold the free ends of the arms 2 and 3 together, as shown in Figs. 2, 3 and 4. The free end of the stiff arm 3 is tapered to reduce the depth of the groove in the bottom thereof so that its free end may be readily passed into or from the hook 6 by pressing the free ends of the arms together and moving them laterally relatively to each other.

The operation of the curler is as follows: The hair, illustrated at 7 in Fig. 4, to be curled is wrapped around the stiff arm 3 when the curler is in the open position shown in Fig. 1. The free ends of the arms 2 and 3 are then sprung toward each other, causing the flexible arm 2 to be bowed around the hair 7 while the stiff arm 3 remains straight, and the free end of the arm 3 is slipped into the hook 6 by a lateral movement of one or both of the arms relatively to each other. This done, the free ends of the arms are released and they are then held together by the engagement of the free end of the arm 3 with the hook 6 and the tendency of the parts to resume their normal position. When the arms 2 and 3 are thus held together, the side walls of the groove in the arm 3 prevent accidental lateral displacement of the arms from their engaging position; and the body of the hook 6, being opposite to the free end of the stiff arm 3, prevents accidental disengagement of the free ends of the arms by the widening of the space between them, and the consequent drawing of the body of the hook 6 toward the free end of the arm 3, The space be-

tween the arms 2 and 3 is always widened by the outward bowing of the flexible arm 2, and, as a consequence of this, it is impossible to withdraw the free end of the arm 3 from the hook 6 by widening the space between the arms, the effect of this always being to draw the body of the hook 6 toward or into engagement with the free end of the arm 3.

The resilient qualities of the metal used in the curler are such as to produce the operations hereinbefore described; and the normal shape of the flexible arm 2 is such as to cause it to lie substantially flat against the stiff arm 3 when no hair is upon the arm 3 and the free ends of the arms are engaged with each other, and to cause it to clamp any quantity of hair, within limit, between it and the arm 3.

I claim as my invention:—

1. A hair curler formed of a single piece of spring metal and comprising a flat flexible arm and a stiff arm, said arms having connected adjacent ends and diverging from their connected ends, the stiff arm causing the flexible arm to be bowed when hair is placed between the arms and the free ends of the arms are forced toward each other, and means for connecting the free ends of said arms together when they are sprung toward each other.

2. A hair curler formed of a single piece of spring metal and comprising a flat flexible arm and an arm bent into concavo-convex form in cross section to render it stiffer than the flexible arm, said arms having connected adjacent ends and diverging from their connected ends, the stiff arm causing the flexible arm to be bowed when hair is placed between the arms and the free ends of the arms are forced toward each other, and a hook formed on the free end of the flexible arm and adapted to embrace the free end of the stiff arm and thereby be prevented from being disengaged therefrom by the outward bowing of the flexible arm.

In testimony whereof I affix my signature hereto.

ORSON W. BRENIZER.