July 3, 1951 A. FLORIO 2,559,417

HAIR RETAINER

Filed Feb. 7, 1950

FIG. 1.

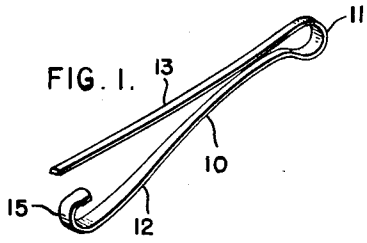


FIG. 2.

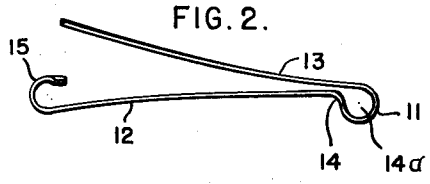


FIG. 3.

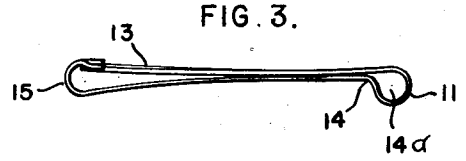


FIG. 7.

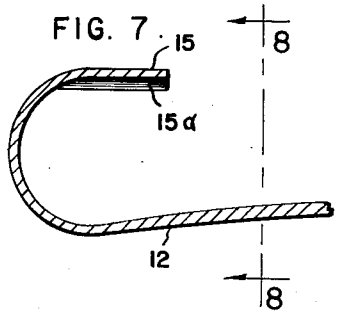


FIG. 4.

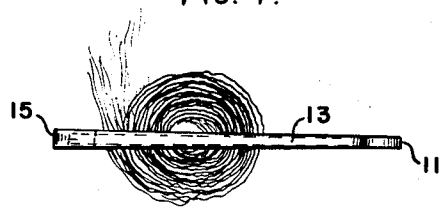


FIG. 5.

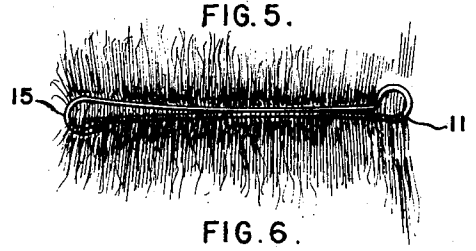


FIG. 8.

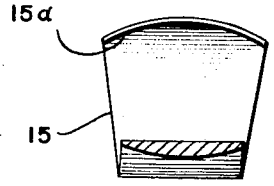
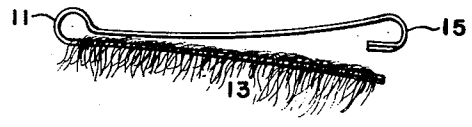


FIG. 6.



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HAIR RETAINER

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1 Claim. (Cl. 132—48)

1

The invention pertains to hair retainers, being a device designed for service as a temporary hair retaining structure capable of efficient use in various services.

For instance, in general appearance the retainer tends to simulate a barrette, but it is incapable of use as such owing to small dimensions as well as due to lack of any ornamentation such as would enable public wearing in exposed position. In some of its uses hair may be clasped in the manner of a barrette, but where the use exposes portions of considerable extent of the device, the use is always in privacy, as during the sleeping period at night.

In some of its characteristics, the retainer tends to simulate the bobby-pin, being capable of being applied with practically the freedom of the latter, but differs from such pins through the use of a closable end which prevents any escape of the hair being clasped, thus being far superior to the bobby-pin during service in connection with pin or finger curls.

In one or more of its services, it is usable as a substitute for the common individual hair crimpers, but has the advantage over the latter in that the device can be used in public since it is practically concealable within the coiffure of the user.

The retainer device of the present invention is of the one piece type, preferably formed of metal of resilient characteristic and thus being capable of being placed under tension. Its cross-sectional width is narrow (approximately $\frac{1}{16}$ inch), being formed from a strip of uniform cross-section, the thickness of the cross-section being relatively small, the cross-section being non-circular in contour. The strip is bent into a contour which includes a pair of opposing legs of unequal length extending from a mid zone of the strip with such zone fashioned into a pseudo loop formation having an arcuate end, with the end zone of the longer leg flattened and bent into a keeper formation to receive the free end of the shorter leg. In closed position, the length of the retainer approximates 1.625 inches. These conditions indicate that the retainer, while having somewhat of the appearance of a barrette has neither the dimensions nor the finishing ornamentation of a barrette, and is not usable in the manner of the latter. The presence of the clasp effect produced by the keeper indicates that the retainer distinguishes structurally from hairpin structure, whether of the usual or of the bobby-pin type, both of which have but one closed end, a condition which tends to render them vulnerable in service

2

through the fact that it is possible for strands of hair forming part of the coiffure to escape through the open end making it possible for the pin to work loose. In bobby-pin service, dependence must be placed in the succession of the spaced inturned bends to prevent hair escape, the strands between adjacent bends being held against escape by the resilience of the legs, thus requiring that the strands be passed over the "humps" provided by the inward bends when inserting the pins, a condition which can disturb the conditions of a carefully prepared coiffure.

In the present invention each of the legs is curved slightly arcuately, each presenting a slightly concave appearance when viewed from the outer side of the individual leg, the opposing legs thus having individual curvatures with the curvatures opposite in direction to present the opposing faces of the two legs as oppositely curved relative to each other, with the curvature of each face as convex relative to the opposing face; the arcuate zone of the longer leg extends longitudinally between the loop and keeper zones, while the arcuate zone of the shorter leg extends longitudinally from its free end to and merges into the loop formation, the depth of the arc being greatest with the shorter leg. In addition, the longer leg connection with the loop is provided with a bend or dent of material depth which thus causes the longer leg to diverge relative to the shorter leg in the direction of the keeper end, so that in the open position of the retainer a rather wide spacing is present between the free end zones of the legs, this decreasing toward the beginning of the loop zone. It is into this space that strands of hair extend, and are gripped by the opposing inner faces of the legs when the retainer is moved to closed position, the shorter leg freely threading through the hair in moving into such clasping position so that no disturbance of coiffure is had when adjusting the retainer to position in this manner. In hair dressing service where the hair is somewhat loose, as in the making of pin curls, the longer leg may be inserted, the rounded keeper end freely passing through the strands of the curl. Since the strands pass between the legs and are clasped thereby when the device is closed, the keeper offers no difficulty when the device is opened to release the curl, since the strands between the legs will freely pass over the shorter leg, while the inside position of the keeper on the longer leg leaves the outer side of the latter free to be withdrawn.

This arrangement permits the retainer to be

used in service in various relations. For instance, in fashioning pin or finger curls, for which the retainer is especially advantageous, after the curl has been tentatively formed and positioned on the head, either leg may be threaded through the curl and the short leg then closed, thus firmly clasping the curl into position. If desired, two or more retainers may be applied to a single curl, being inserted in different directions. The comparatively short length and the compact nature of the closed structure enables the user to employ a larger number of retainers while sleeping without any likelihood of disturbing the sleep, thus enabling any desired number of curls to be fashioned; and owing to the fact that the closed retainer clasps the strands within a device having both ends closed prevents any disturbing of the curl. While it would be possible to thread both legs into the curl, by partially closing the shorter leg and thereby tend to approach the conditions of a bobby-pin structure, the procedure would be more or less difficult since it would be necessary to maintain the closing pressure during the threading action. Because of this the regiment above indicated is preferred in connection with the pin or finger curl service.

In such usage, the retainer has somewhat the characteristics of a barrette in service in that one of the legs is in exposed position. However, the action differs from that of a barrette due to the fact that both legs are of similar cross-section and equally resilient so that when the curl strands pass between the legs and the latter then closed, the interposed strand portions cause both legs to yield and thus disturb the form of the concavity of each of them, a condition which would be fatal in barrette service due to the fact that any change in contour form of the exposed leg of a barrette could materially disturb the integrity of the ornamentation of that leg and possibly render it useless for barrette service. In addition, the closing of the legs brings the span portion of the legs into very close relation, due to the normal opposing convex curvatures of the legs, so that the clasped strands are tightly gripped and are not readily displaced. Hence, the prepared shape of the curls is not disturbed by movements of the user during sleep. In barrette service a large number of strands would be required to produce a comparable tight gripping action and the latter would tend to affect the appearance of the hair-do being gripped, since the use of the barrette is designed for public exposure, a condition for which the retainer of the present invention is not suitable and is not designed.

The retainer of the present invention is also adapted for a service condition which cannot be met by either barrette, bobby-pin or hair pin structures of commercial usage. It is a service of peculiar type, in that its need is essential only with certain types of coiffure, and is due to the fact that as a general rule the hair which forms the lower fringe zone at the back of the neck has its strands of short length; hence, any coiffure which involves a shape which will leave this zone exposed, sets up an undesirable condition caused by the fact that the short strand length prevents these strands from being secured within and form an integral part of the coiffure, so that uniformity of neck exposure is more or less impracticable. Where the coiffure is such that this fringe zone is covered, the presence of the zone does not provide a disturbing appearance effect. Shaving of the zone is undesirable since such action, when practiced regularly, will gradually coarsen the hair.

The retainer of the present invention will overcome the condition by the following regimen: The user combs these short strands downward or outward and then, with an opened retainer, proceeds to wrap or wind the end zones of the strands around the span of the short leg, similar to the action in applying hand crimpers to the hair. When a sufficient portion of the length of the end zone of the strands is wrapped in this manner to ensure that the strands of the zone will be gripped, the short leg is closed, thus firmly gripping the strands between the legs and producing a slender elongated assembly of device and strands. The device is then moved bodily inward or upward and tucked within the coiffure, being hidden within the latter, the exposed portions of the strands then giving the appearance of having the strand ends incorporated within the coiffure when the latter was formed, and giving all portions of the neck zone a generally similar appearance.

Among the advantages of the retainer in such use is the fact that the small cross-section of its legs permits a number of turns being provided within a comparatively short length of a strand, so that a number of strands differing in length may be grasped by the fingers and included in the wrapping. If very short length strands are present within the zone being gripped, they would be given at least one turn within the wrapping and as part of the gripped zone would be firmly held within the closed device. By using individual retainers for successive zones, the entire fringe zone can thus be given the appearance of forming an actual part of the coiffure. Obviously, this use is especially serviceable for public usage, since the actual retainer is concealed within the coiffure.

The retainer is of the one-piece type, readily fashioned into shape, highly efficient in service, adapted for a variety of uses, and marketable at a reasonable price.

To these and other ends, therefore, the nature of which will be hereinafter indicated, the invention consists in the improved constructions and combinative features forming the retainer of the present invention all as hereinafter fully described in the following description, illustrated in the accompanying drawings, and particularly set forth in the appended claim.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views:

Figure 1 is a perspective view showing the retainer in its open form.

Fig. 2 is a side elevation of the retainer in the open position shown in Fig. 1.

Fig. 3 is a side elevation of the retainer in its closed position and in the absence of hair strands.

Fig. 4 is a plan view of the retainer in closed position and as gripping a pin or finger curl.

Fig. 5 is a side elevation of the retainer in service as in Fig. 4.

Fig. 6 is a side elevation of the retainer in open position with strand ends wrapped about the span of the shorter leg.

Fig. 7 is a vertical longitudinal section on an enlarged scale of the keeper end of the closed retainer.

Fig. 8 is a vertical transverse sectional view of the same taken on line 8—8 of Fig. 7.

The retainer of the present invention, indicat-

ed generally at 10, is preferably formed from a strip of resilient metal of uniform cross-section of suitable length, the width of the strip being relatively narrow (approximately $\frac{1}{16}$ inch) and of materially less thickness. Its cross-section is preferably non-circular, since the internal faces of the legs are preferably flat (at least approaching a planar form) to assure proper action during closure. The outer faces of the legs may be flat or arcuate in cross-section, as may be desired. The side edges preferably have a depth characteristic, even though small, to avoid the production of any sharp corners to the cross-section, thus permitting the wrapping of hair about a leg without liability of affecting or breaking hair strands.

The mid zone in the length of the strip is used to provide the permanently closed end of the retainer, said zone having an arcuate bend 11 positioned within the zone in such location as to produce a pair of opposing legs 12 and 13 of unequal length, with leg 13 of shorter length. The zone of the end of the longer leg 12 leading from the bend 11 is preferably formed with a dented portion 14 with the dent projecting inwardly toward the opposite leg, the dent being located spaced from the bend 11 a distance sufficient to produce a pseudo loop 14*a* the walls of which are formed from the corresponding end zone of leg 13, the arcuate bend and the end zone of leg 12 between the dent and the bend. The leg 13 is undented and extends directly from the bend 11.

The dent 14 extends transversely of leg 12 throughout the width of the leg and is fashioned in such manner that when brought into contact with leg 13 during closing of the retainer, the general shape of the loop is practically unaffected other than possible tensioning by the closing, while the portions of the legs beyond the dent zone are more or less deformable as to shape, as presently explained, such portions constituting the span zones of the legs within which the hair strands are being gripped. Dent 14 may permanently contact the leg 13, but it is preferred that in the open position of the retainer, the inner bottom of the dent will be slightly spaced from leg 13, thus permitting the resilience of the loop itself to become an active factor during the closing and opening movements of the legs. Since the spacing permits leg 13 to extend directly into the bend 11 without being affected by the dent 14, the arrangement provides the additional advantage in that leg 13 is completely free to have its free end move laterally to engage or be released from the keeper, as presently explained, the length of the span zone of the leg 13 enabling the needed length of swing of the leg laterally to engage or free the end zone of the leg relative to the keeper without applying any material strain on the bend 11, the latter tending to normally retain the end zone of the leg 13 in proper relation to the leg 12 in either open or closed position.

The free end zone of the longer leg 12 is preferably flattened to thereby increase the width of the zone and is then provided with a return bend to produce a keeper zone 15, the return portion of which is preferably formed with a slight curvature transversely, concave on the inner side, as at 15*a*, into which the free end of leg 13 extends when in closed position, thus tending to prevent unintentional movement of leg 13 from its engaged position, but permitting free escape by slightly depressing the free end of leg 13 and

then shifting such end laterally, the bend 11 permitting such movement without strain.

The portion of leg 12 intermediate the dent zone 14 and the keeper zone 15 is being referred to herein as the "span" zone of the leg, as is also the portion of leg 13 between the point where it engages the inner bottom of the dent zone 14 and the free end portion which cooperates with the keeper. The span zone forms the greater portion of the length of each of the legs and is the portion which, in service, serves to retain the hair strands in position. Each span zone is preferably formed slightly concave, when viewed from the outer side of the individual leg, so that when the retainer is open, the opposite spans will present the appearance of a pair of convex faces opposing each other. Since each span is formed from the same strip and is of similar cross-section, the opposing convex curvatures will yield mutually when the retainer is being closed, whether hair strands be present or not, the yield being greater when the strands are present.

As a result, the closed retainer, in the absence of such strands, will present the appearance of a span zone approximately linear in type and with the end zones of bulged or increased depth type, and with the span zones under tension provided by the mutual yielding of the resilient metal produced by the closing of leg 13, the yielding being within the span zones. When hair strands are present between the legs, they will not only be subject to this tension value, but the presence of the strands causes the legs to yield additionally and thus increase the tension value and tend to thicken the span zone and cause the closed retainer to present a more uniform appearance as to thickness dimension.

As above pointed out, the retainer is of such narrow width (approximately $\frac{1}{16}$ inch) that it is impracticable for use in the usual public barrette service where the longer leg is exposed on the coiffure and is generally ornamented to give a pleasing appearance. The narrow width of the retainer of the present invention would prevent material ornamentation and would not provide the ornamentation of the coiffure desired through the use of a barrette. In addition, any attempt to produce ornamentation by applying a design (as by etching or the like) would affect the resilience conditions as between legs and materially affect the desired mutual yield effects which the present invention aims to provide. However, the retainer may be efficiently used under barrette practice where the use is under privacy conditions and within the limits of the length of the retainer, as in the pin or finger curl service conditions above pointed out, and especially where the service is to be provided during sleeping periods. Lessening of the end bulge effect through the presence of the clasped strands decreases the possibility of the retainer disturbing the user during sleep.

As indicated in the drawings, the retainer, in its open position, provides a very wide entrance between the free end zones of the separated legs, thus enabling the user to readily wind or wrap strand ends about the span of the longer leg, as above pointed out, making is possible to prepare the neck zone in the manner indicated above, efficiently and rapidly. In this particular service, the relatively small cross-section of the leg is of especial advantage through the fact that a complete turn can be provided with a small length of the strand, thus enabling the application of

several turns of the strand even where the strands are short, thus assuring not only an adequate holding characteristic, but an assurance of retention through the tension effects produced by the closed legs. Here, the increase in thickness of the span zone of the closed retainer to relatively decrease the bulge effect of the end zones, is of advantage, since the laden retainer is then more uniform in dimensions and is less likely to attract attention when the retainer is bodily secreted within the coiffure.

An additional advantage is provided through placing the dent zone 14 within the longer leg, and especially where the bottom of the zone is slightly spaced from the shorter leg while the retainer is in open position. Under these conditions the shorter leg 13 becomes a direct continuation of one side of the bend 11, so that the leg has a limited range of movement based wholly on the arcuate bend 11 and thus of practically the entire length of the leg. Only when the leg is moved in the closing direction sufficiently to bring it into contact with the bottom of the dent zone 14 does this condition change into a condition in which the active length of the leg 13 shortens, through the fulcrum effect produced by the bottom of the dent zone, thereby producing the actual span zone of the leg. Inasmuch as the somewhat abrupt bend formation of the dent zone 14 tends to stiffen such dent zone against yield, the resistance thus produced coupled with the proximity to bend 11 permits the bottom of the dent zone to function as a fulcrum to limit the span length zone of leg 13 and prepare both legs for the mutual yield action which develops as the leg is moved toward its closing position.

And in the latter connection it is to be noted that during the final portion of the movement to closed position, the keeper end zone of leg 12 as well as leg 13 is movable, the free end zone of leg 13 continuing to move inward while the keeper end is also being drawn inward and toward the end zone of leg 13 by the user, the end zone of leg 13 being moved laterally to clear the keeper and then permitted to return to normal relation after the end zone has passed below the plane of the portion 15a of the keeper. In other words, while the actual keeper zone is less resilient in action than the span zone of leg 12, the inward movement of the keeper zone is permitted since the outer portion of the span zone of the leg is not being subject to the pressure of leg 13, it being understood that the free end zone of leg 13 does not, in practice, reach a position in contact with the lower wall of the keeper.

The dimensions of the retainer presented above are approximate as indicated and present the preferred dimensions. However, it will be understood that variations therein within limits are contemplated within the invention, the limit criterion being set by the fact that the retainer is adapted for efficient service within the conditions of each of the several uses indicated above, thus definitely distinguishing from normal barrette and bobby-pin service dimensions and service.

While I have herein shown and described a preferred form of the invention, it is to be understood that changes and/or modifications therein may be found desirable or essential in meeting the exigencies of service or the individual desires of a user, and I therefore reserve the right to make any and all such changes and/or modifications therein within the limits indicated, insofar as the same may fall within the spirit and scope of the invention as expressed in the accompanying claim, when broadly construed.

I claim:

A hair retainer of one-piece type formed from a strip of resilient material of narrow width and of uniform cross-section, said strip being bent in its mid-length zone to form a pair of opposing legs differing in length dimensions from such bend, the leg of shorter length being of slow curvature and having its direction of length free from bends linearly with such leg continued into and forming an integral part of the mid zone loop bend, the remaining portion of the loop being located wholly to one side of such short leg length direction and free from contact with the shorter leg when the latter is in its open position to thereby present the shorter leg as extending directly from the loop formation and subject to the resiliency of the latter, the longer leg having its free end zone flattened and formed with a return bend to constitute such zone as a keeper zone, said longer leg also being provided with an inward transversely extending dent zone positioned in proximity to but spaced from the mid-length bend to thereby provide with the leg of shorter length a pseudo loop formation of which the mid-length bend forms a part, the portion of the longer leg between the keeper and the loop zones constituting a span zone of the leg, said shorter leg having a similar span zone extending from the free end of the leg to and into the mid zone bend, the span zones of both legs being arcuately curved longitudinally of the zones with the curvature of each as of slight concave type when viewed from the outer side of the individual leg to thereby present two opposing span faces of convex curvatures adapted to cooperate in producing a mutual yield effect within the span zones when the shorter leg is moved from its open position in leg closing direction under pressure, cooperating span faces being adapted to clasp strands of hair therebetween when in closed position the movement of the shorter leg away from its open position concurrently serving to cause contact of the shorter leg with the bottom of the abrupt bend of the longer leg and to place the loop under tension, the continued closing movement of the shorter leg rendering the span zone thereof active in providing rapid development of the mutual yield conditions of the opposing span zones and development of the hair clamping effect during the closing movement.

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