April 24, 1962 P. G. EPSTEIN 3,030,969

HAIR-RETAINING DEVICE

Filed Aug. 5, 1960

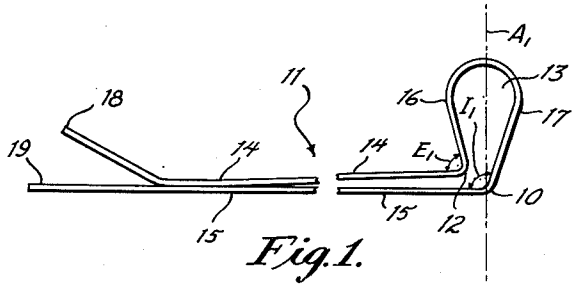


Fig. 1.

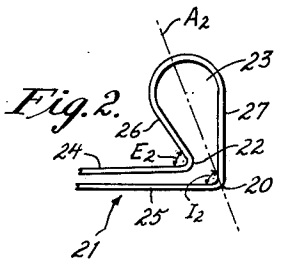


Fig. 2.

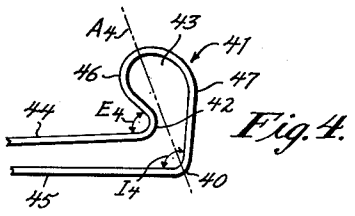


Fig. 4.

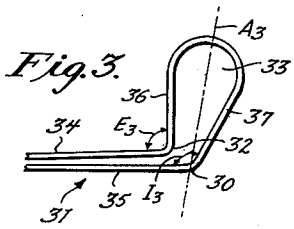
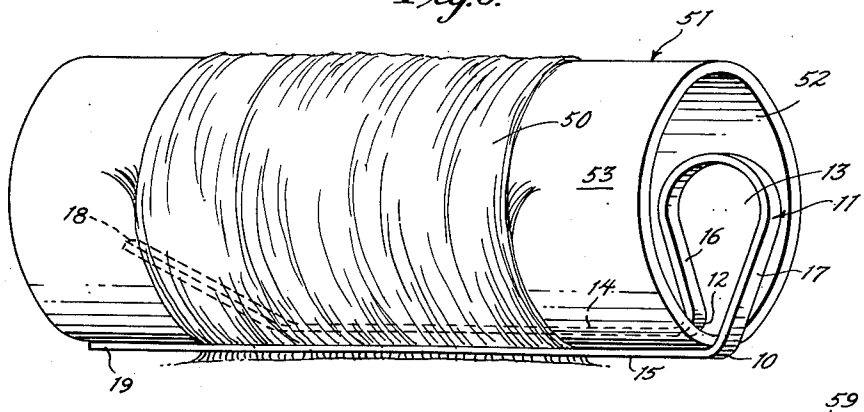


Fig. 3.

Fig. 5.



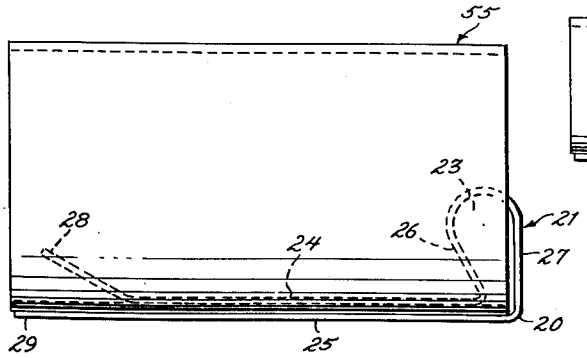


Fig. 6.

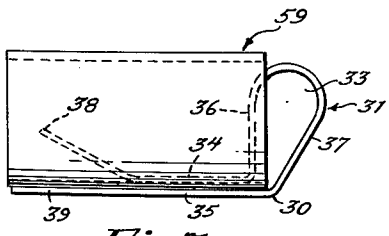


Fig. 7.

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HAIR-RETAINING DEVICE

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1 Claim. (Cl. 132—41)

This invention relates to retention of hair or the like, particularly in coiled configuration, and to retaining means therefor.

Many types of hair or bobby pins, clips, and similar holders are known, as are curlers, rollers, and similar devices about which hair can be coiled on the head and so secured, the usual purpose thereof being to provide the hair with a curly or wavy configuration, as is considered desirable by many persons, especially females. The conventional pins and the like either are not readily adapted to use with rollers or the like or prove inconvenient in such use.

A primary object of the present invention is improved retention of hair, especially in coiled configuration. Another object is provision of improved hair-retaining means. A further object is improved cooperation of hair rollers and holders. A particular object is improved structure of a holder useful with a hair roller. Other objects of this invention, together with means and methods for attaining the various objects will be apparent from the following description and the accompanying diagrams.

FIG. 1 is a side elevation of a holder according to this invention, shown somewhat enlarged and partly broken away; FIG. 2 is a side elevation of a portion of another embodiment of holder of this invention; FIG. 3 is a like view of a corresponding portion of yet another embodiment of such holder; FIG. 4 is a like fragmentary side elevation of a further embodiment of holder according to this invention; FIG. 5 is a perspective view of a hair roller and the holder of FIG. 1 assembled in juxtaposition to one another, with hair retained in coiled configuration about the roller; FIG. 6 is a side elevation of a larger roller and the holder of FIG. 2 assembled to one another; and FIG. 7 is a side elevation of a smaller roller and the holder of FIG. 3 assembled to one another.

In general, the objects of the present invention are accomplished by means of a holder for retaining hair or the like, as about a generally cylindrical device or roller open at at least one end and having a cylindrical wall with an exterior hair-supporting surface. This holder has a body portion bifurcated into a pair of adjacent lengths or legs of funicular material normally biased into contact with one another throughout only a part of their length located nearer to their free ends than to the handle junction, spaced apart at all times from one another at the junction by a distance approximating the wall thickness of such a roller, and adapted to be spread apart to straddle the roller wall along their entire length. The holder also has a generally elliptical handle portion, adapted to be gripped transversely between thumb and forefinger, adjoining the body portion at an angle on the order of a right angle thereto and extending therefrom at the side of one leg only. The invention contemplates, in particular, such a retaining device or holder wherein the handle portion extends to a substantial extent within the end of the roller, and can be so gripped, when the holder and roller are so assembled.

FIG. 1 shows, in side elevation and somewhat enlarged, retaining device or holder **11** of this invention. This holder comprises handle portion **13** (shown in the form of a loop) and an adjoining elongated body portion (an intermediate or central part of which is broken away in this view to suggest the indefiniteness or variability of

the intermediate length thereof) bifurcated into a pair of adjacent lengths or legs **14** and **15**, located one above the other. The body terminates at one end in junction with the ends of the handle loop, and at the other end in free termini **18** and **19** of the respective legs. Upper free terminus **18** is oriented at an acute angle to its supporting leg **14** of the body, slanting away from terminus **19** of the adjoining lower leg **15**, which leg is represented as straight throughout. For a minor portion of their extent near the free termini, the respective legs of the body are contiguous, while at the opposite or junction end, they are spaced laterally from one another (i.e., one above the other in this view), and they extend in relatively straight configuration from that junction to their contiguous portions.

The handle loop comprises short and long sides **16** and **17** respectively, shown relatively straight near their junction with the body and relatively curved away therefrom. The respective side portions of the loop lie on opposite sides of a perpendicular to the body, as may be taken through relatively angular exterior corner or junction **10** of the longer side portion **17** of the loop with lower leg **15** of the body, which together subtend obtuse interior angle I_1. Relatively sharper interior corner or angular junction **12** of upper leg **14** of the body and shorter side of the loop define (therebetween) acute exterior angle E_1. The vertical broken line A_1 in FIG. 1 represents the longitudinal axis of the loop and the aforementioned perpendicular, both of which coincide in this embodiment of the holder.

FIGS. 2 to 4 show the handles and adjoining portions of the legs of additional holders embodying this invention, differing somewhat in shape and accordingly variously useful. Where parts of the holders shown in the first four views correspond generally to one another, the identifying reference numerals for them end in identical numbers (e.g., 10, 20, 30, 40, for the respective exterior corners), and corresponding lettered "parts" (angles and axes) are designated by numeric subscripts agreeing with the respective figure numbers. For this reason no attempt will be made in the description of FIGS. 2 to 4 to mention specifically each such part found in the respective views, as the parts and their reference numerals or letters will be apparent by analogy with those of FIG. 1.

FIG. 2 shows, also in side elevation, the handle portion and an adjoining part of the body portion of another embodiment of holder according to this invention. Modified holder **21** shown in this view is distinguished (from previously illustrated holder **11**) chiefly by inclination of the axis of looped handle **23** toward the left. Longitudinal axis A_2 of the loop intersects at an acute angle a perpendicular (not shown) to lower legs **25** of the body portion taken through relatively angular exterior corner or junction **20** of lower leg **25** to long side **27** of the loop, which itself is nearly aligned with the perpendicular over much of its length (thereby rendering inside angle I_2, so formed, substantially a right angle). Exterior angle E_2, formed between shorter side **26** of the loop and upper leg **24** of the body at interior corner or junction **22**, is reduced in size accordingly. The remaining portions of the body, not illustrated in this view, may be identical with the corresponding parts in FIG. 1, as will appear in a subsequent view.

FIG. 3 shows, also in side elevation, the handle and immediately adjoining part of holder **31**, representing yet another embodiment of holder according to this invention. This holder differs from those previously shown by inclination of longitudinal axis A_3 of its looped handle **33** to the right of a perpendicular (not shown) to the body. Interior angle I_3 formed within relatively angular exterior corner **30** between lower leg **35** of the body and longer side **37** of the loop is increased in size accordingly, as is exterior

angle E_3 located at interior corner or junction **32** between upper leg **34** of the body and shorter side **36** of the handle, both I_3 and E_3 being obtuse in this form of the holder. In other respects, the holder of FIG. 3 resembles those of FIG. 2.

FIG. 4 shows, also in side elevation, the handle and immediately adjoining part of holder **41**, representing a further embodiment of the invention. Whereas the respective sides of the looped handles of the holders in the preceding views have been alike except for the shorter length of the straight portion of the shorter side of the loop, the sides of handle **43** of holder **41** are more dissimilar. Long side **47** comprises a much longer relatively straight portion than found on short side **46**, and the radius of curvature of the curved portion of the long side is, in general, greater than that of the curved portion of the shorter side. This renders the loop distinctly asymmetrical, and although the straight portions of the respective sides are on opposite sides of a perpendicular (not shown) to lower leg **45** at exterior corner **40** (i.e., interior angle I_4 is obtuse, and exterior angle E_4 is acute) longitudinal axis A_4 of the loop is inclined at an acute angle from the perpendicular toward the opposite end of the body. Thus, this holder may be considered as an amalgamation of certain desirable features of the holders previously shown, particularly those of FIGS. 1 and 2. The visible portions of legs **44** and **45** are spaced somewhat further apart at their junction with the handle than were those of the preceding views.

The illustrated and described holders of this invention require no unusual materials or methods of construction. It is convenient to make them of wire, and flat steel wire having a width of about 0.10 inch and thickness of about 0.03 inch has proved satisfactory. Of course, the component material preferably is sufficiently elastic that the legs of the holder formed from it are separable from one another and subject to a bias toward one another. In the holder with a looped handle, as illustrated and described, the bias is supplied at least in part by the springiness of the loop itself. The size of the loop is determined principally by the purpose thereof, which is to permit the holder to be grasped, preferably between thumb and finger, for insertion or removal from the hair, and (optionally) a hair roller, as subsequently illustrated and described. The shape of the loop may vary, of course.

The loop, whose size is relatively independent of the length of the body of the holder, conveniently is somewhat longer than it is wide, having a longitudinal axis measuring approximately a half inch, the axis being considered to pass through the relatively angular exterior corner formed at the junction of the long side of the loop with the lower or straight leg of the body and through the furthermost portion of the loop therefrom. The maximum width of the loop, taken in a direction perpendicular to the longitudinal axis, measures conveniently about one-quarter inch. The loop may be even further elongated from the body, if desired. Contrariwise, it may be made more circular, although a generally elliptical or oval configuration is preferred for easy gripping.

The handle of a holder of this invention is oriented at an angle on the order of a right angle to the body of the holder, preferably with the respective sides of the component loop located on opposite sides of the perpendicular to the body, which in FIG. 1 coincides with the loop axis. While for certain applications either side (or, in the extreme, even both sides) of the loop may approximate the perpendicular, the holder becomes less useful if such side lies wholly to the same side of the perpendicular as does the other side of the loop; in general, with possible exceptions for markedly asymmetrical loops, the loop axis should not depart from the perpendicular by appreciably more than half the angle subtended by and between the respective straight portions of the sides of the loop, as at their junction with the body. Reasons for these requirements will become fully apparent to those undertaking to utilize the holders of this invention, and some of the reasons not mentioned above will appear from the subsequent views.

The holder is formed conveniently from originally straight wire by being cut and clamped or wrapped about an appropriate mandrel. Care should be taken during the manufacturing operation to ensure that the ends of the loop, at their junction to the ends of the respective lengths of the body, remain separated from one another so that when the lengths are spaced apart by entry of a strand of hair and/or roller therebetween, the respective lengths become substantially parallel to one another from the junction of the loop to the free termini. To facilitate spreading of the legs the free terminus of the upper leg of the body is bent at an acute angle away from the free terminus of the adjacent leg, which preferably remains substantially straight. As also is well known in the art, the surface of the holder may be finished in suitable manner and with suitable material, e.g., chrome or enamel. Inasmuch as appropriate means and methods for producing such holders do not differ significantly from conventional apparatus and processes, except in obvious manner to accommodate the novel configuration thereof, no further description should be necessary. The use of the holders of this invention also will be readily apparent, especially as shown in the succeeding diagrams.

FIG. 5 shows, in perspective (further enlarged), a holder of this invention assembled to a conventional hair roller, as on the head of a user, a strand of hair being visible wrapped around the roller. Roller **51** is oriented with open end **52** toward the right of a viewer, and holder **11**, like that shown in FIG. 1, is fully assembled in juxtaposition thereto with upper length **14** (shown in broken lines) inside the roller and lower length **15** visible below and outside the roller. Entire loop **13** is visible, being located partly inside and partly outside the end of the roller. Strand **50** of hair is wrapped clockwise (with respect to the visible open end) about the roller, passing between exterior surface **53** thereof and the upper (concealed) surface of lower leg **15** of the holder, which is located near the roots of the hair in the strand. This is an otherwise conventional use of such rollers, which are readily available in (for example) metal, plastic, or paper in cylindrical form, usually open at both ends, and sometimes perforated to facilitate air circulation through the hair coiled or wrapped thereon. The surface of the roller may be grooved circumferentially or otherwise modified to assist retention of the hair in place thereon.

FIG. 6 shows, in side elevation, holder **21**, which was shown previously in FIG. 2, fully assembled to roller **55**, whose diameter is appreciably greater than the diameter of the roller shown in the preceding view. In both instances, the holder is nearly, but not quite, as long as the roller; therefore, the angled free terminus of the length located inside the roller does not protrude from the end thereof. As loop **23** of the holder in FIG. 5 has its axis angled appreciably from the perpendicular toward the free termini of the body, it is nearly completely hidden (shown in broken lines) inside the end of the roller. The roller substantially completely enters and occupies the entire inner angle formed at relatively angular exterior corner **20** between the visible portion of the long side **27** of the loop and visible lower leg **25** of the body of the holder. The furthest departure of the loop from the body, considered in a direction perpendicular to the body generally (particularly the upper surface of the lower length thereof), not only is considerably exceeded by the diameter of the roller but preferably is at most equal to the radius thereof, inasmuch as it is necessary to reach into the open end of the roller to grip the handle of this embodiment of holder when fully assembled thereto.

FIG. 7 shows, in like view, holder **31** of FIG. 3 fully assembled to roller **59**, which is of smaller diameter than either of the previously illustrated rollers. As is common,

though not necessary, this smaller roller is also shorter than the larger rollers are, and the length of the holder is similarly reduced so that the holder does not protrude entirely through the roller. The size of the looped handle of the holder is substantially unchanged, although its axis is tilted from the perpendicular away from the free termini of the body to expose a substantial portion of the handle, inasmuch as its furthest departure (considered in a perpendicular direction from the body) approximates the roller diameter. This outwardly angled handle is particularly convenient with such a small roller, which would be difficult to reach into to grip either of the other two illustrated embodiments of holder, particularly the one with oppositely angled handle last discussed.

It will be apparent that the holders of this invention, and their uses, are not limited to those illustrated and described above, the illustration and description being merely exemplary. Possible variation in the size and shape of the handle, particularly looped configuration thereof, has been mentioned above, and other handles equivalent in structure and function may come to mind, as may equivalent body constructions. The handle may be filled in or covered, although an open loop is preferred for economy of manufacture and ease of handling. The lengths or legs of the body may be shaped somewhat differently, with or without corrugation or the like, to aid insertion or retention of the holder in use. The long side of the handle may be offset slightly outward at or near the exterior corner to receive the end of the wall of a roller. The handle of the holder may be made more complex in shape, as with an additional loop or whorl, or even simpler, if desired, as may the body, while maintaining the essence and advantages of the construction here disclosed. Other modifications than those specifically mentioned or suggested may be made without involving a departure from the scope of the claimed invention.

The claimed invention:

Holder for retaining hair or the like, as about a generally cylindrical device or hair roller open at at least one end, comprising a continuous length of funicular material doubled back upon and into contact with itself, having a body portion bifurcated into a pair of legs and having a generally elliptical handle portion, adapted to be gripped transversely between thumb and forefinger, the handle portion adjoining the body portion at an angle on the order of a right angle thereto and extending therefrom at the side of one leg only, the legs being adapted to be spread apart to straddle the roller wall along their entire length, and the handle portion extending to a substantial extent within the end of the roller and being so grippable, when the holder and roller are so assembled, the legs normally being biased into contact with one another throughout only a part of their length located nearer to their free ends than to the handle junction and at all times being spaced apart from one another at the junction by a distance approximating the roller wall thickness.

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CERTIFICATE OF CORRECTION

Patent No. 3,030,969 April 24, 1962

Paul G. Epstein

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 25, after "side" insert -- 16 --; line 52, for "legs" read -- leg --; column 4, line 56, for "FIG. 5" read -- FIG. 6 --.

Signed and sealed this 4th day of September 1962.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents