Jan. 11, 1938. R. H. LAKE 2,105,047

STRETCHER FOR UNIFORM CAP COVERS

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Fig. 1.

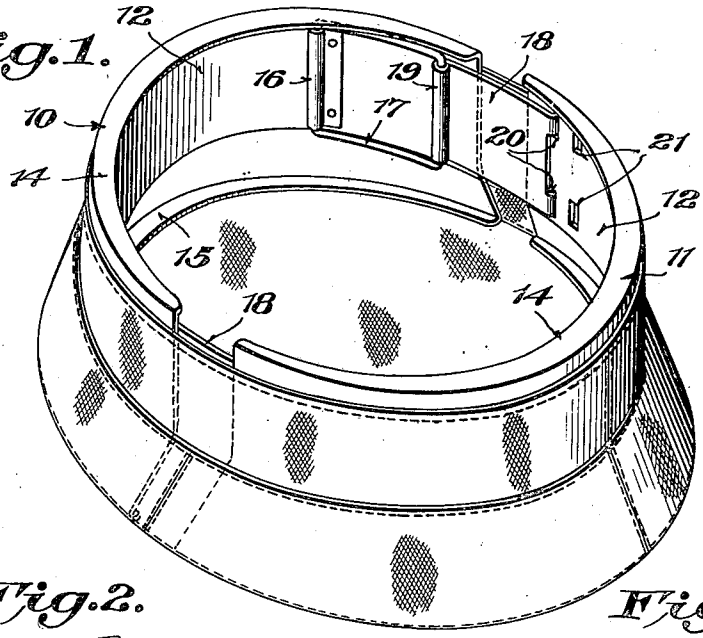


Fig. 2.

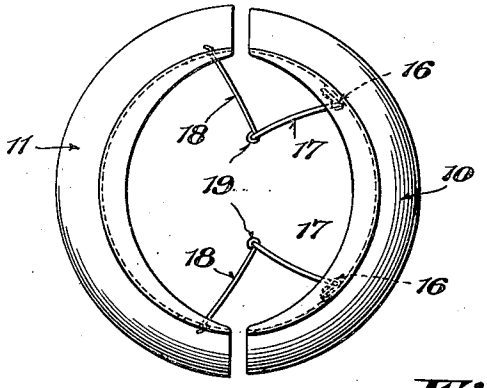


Fig. 3.

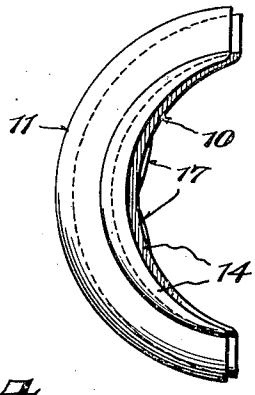
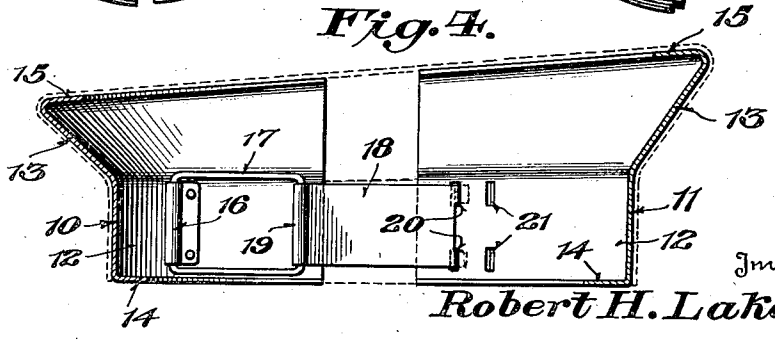


Fig. 4.



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Fig. 5.

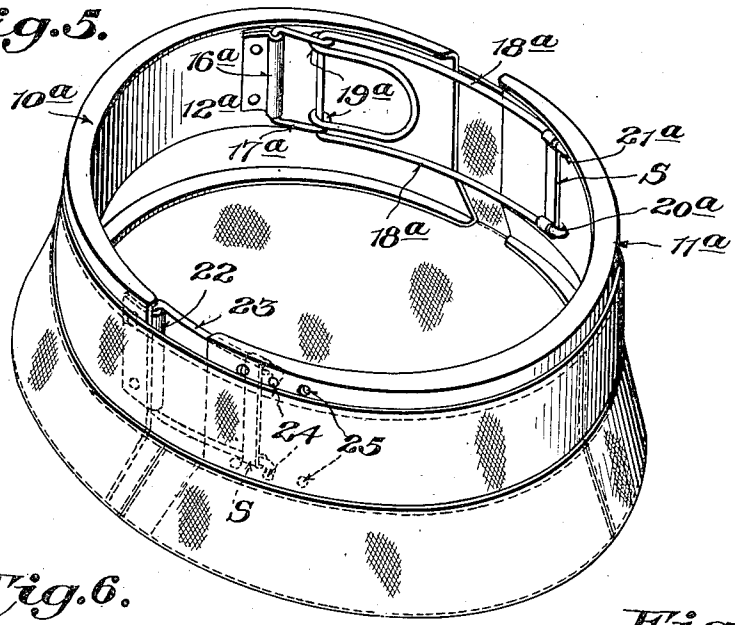


Fig. 6.

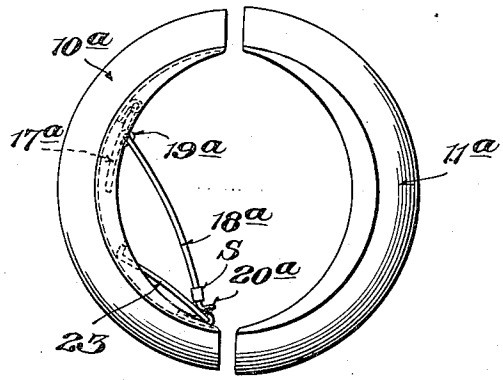


Fig. 7.

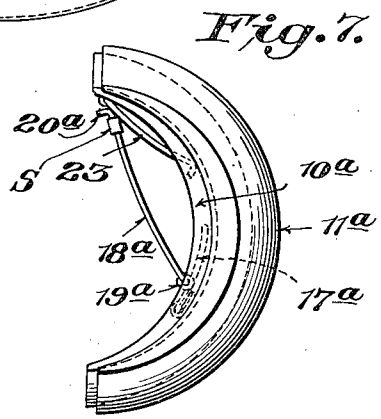
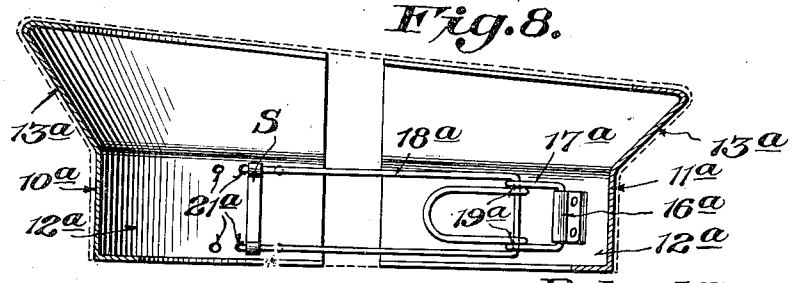


Fig. 8.



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STRETCHER FOR UNIFORM CAP COVERS

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6 Claims. (Cl. 223—25)

This invention relates to means for stretching to shape and holding in shape articles requiring such treatment, and has particular reference to improvements in means especially intended for shaping and holding uniform cap covers while the same are being washed and during drying thereof, whereby, when dried they will be devoid of wrinkles and will properly fit caps with which they are intended for use.

Cap covers such as are used by military and naval forces and other uniformed organizations usually include a band portion and a larger crown or bell portion, and these must be stretched alike and at the same time by means which is insertable into the cap cover through the band thereof. Accordingly, one important object of the present invention is to provide a cap cover stretching and holding means which is collapsible so that it may readily be inserted into a cap cover, and which, when inserted, is readily expansible to effect stretching and shaping of both the band portion and the crown or bell portion of the cap cover.

Cap covers are, of course, made in different sizes to fit caps of different sizes, and in this connection another important object of the invention is to provide a cap cover stretching and holding means which may readily be adjusted so that when it is fully expanded it may be any one of a number of different sizes corresponding to any one of a number of different cap sizes, whereby cap covers of different sizes may be stretched the exact amounts required to fit caps of different sizes.

In stretching and holding a cap cover it is important that the stretching and holding means shall be effective to hold the cover against twisting, as otherwise the cover, when dry may not properly fit the cap on which it is used. Accordingly, another important object of the invention is to provide a cap cover stretching and holding means embodying a construction whereby it is effective to hold a cap cover stretched thereon not only against twisting but in all other respects properly shaped.

It also is important in stretching and holding a cap cover that the band and crown of the cover be supported in proportion throughout their length against sagging, as otherwise the cap may not be smooth throughout when it dries and difficulties may be experienced in stretching the cover to exact predetermined size. Accordingly, another important object of the invention is to provide a cap cover stretching and holding means which not only is adjustable as to size in its expanded condition, but which, regardless of its adjustment as to size, is effective to support against sagging, throughout its length, the band of a cap cover stretched thereon.

Further, the invention has in view to provide a cap cover stretching and holding means which is of simple, inexpensive construction, which is easy to insert into and expand within a cap cover, which is equally easy to collapse and remove from a cap cover without distorting the latter, and which, generally speaking, is thoroughly practical and thoroughly reliable and efficient in use.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in related views:—

Figure 1 is a perspective view of a cap cover stretching and holding means constructed in accordance with one practical embodiment and shown in operative position within a cap cover.

Figure 2 is a top plan view showing a collapsed condition of the stretcher shown in Fig. 1.

Figure 3 is a top plan view showing a further collapsed condition of the stretcher shown in Fig. 1 to facilitate insertion and removal of the same into and from a cap cover.

Figure 4 is a longitudinal section through the stretcher as shown in Fig. 1; and

Figures 5, 6, 7 and 8 are views similar to Figs. 1, 2, 3 and 4, respectively, illustrating an alternative embodiment of the invention.

Referring to drawings in detail, first with particular reference to the embodiment of the invention illustrated in Figs. 1 to 4, it will be observed that the present device comprises a pair of segmental shells 10 and 11 of nearly semicircular shape as viewed in plan, formed in any suitable manner from any suitable material such, for example, as rustless sheet metal, and conforming in cross sectional shape and curvature as viewed in plan to the normal cross section shape and curvature as viewed in plan of the front and rear portions of a cap cover in which they are respectively designed to fit. In other words, each section 10 and 11 comprises in the present instance a collar portion 12 of a height and of a curvature as viewed in plan

substantially corresponding to the height and the normal curvature as viewed in plan of the front or rear band portion, as the case may be, of a cap cover it is designed to fit, and a crown or bell portion 13 forming an upward and outward continuation of the collar portion 12 and also conforming in cross sectional shape and in curvature as viewed in plan to the normal cross sectional shape and curvature as viewed in plan of the front or rear crown or bell portion, as the case may be, of a cap cover it is designed to fit, so that when the sections 10 and 11 are placed within a cap cover at opposite ends thereof and are moved apart, normal shape is imparted to the cap cover.

For stiffening and maintaining the shape of the collar portions 12 of the sections 10 and 11 said collar portions preferably are provided at their bottoms with inwardly directed flanges 14. Similarly, in order to stiffen and maintain the shape of the crown or bell portions 13 of said sections 10 and 11, and, in addition, to provide rounded edges and cap cover top portion supports at the tops of said portions 13, the same preferably are provided at their tops with inwardly directed flanges 15.

To each side portion of the collar portion 12 of one of the sections 10 or 11, at the inner side thereof, and suitably spaced inwardly from the related free end of said collar portion, is suitably hinged, as indicated at 16, one end of a link element 17 which is of no greater length than the distance between its hinged end and the adjacent end of the collar portion 12 and which preferably is of substantially the same height as said collar portion. Conveniently and practicably these link elements, one at each side of the collar portion 12, may be formed from stiff wire bent into rectangular shape as shown, but, of course, they may be formed from sheet metal or they may be of any other suitable form.

To the free end of each of the link elements 17 is hinged in any suitable manner, as indicated at 18, one end of a companion link element 19 which is formed from suitable sheet material and which preferably is of a height conforming as nearly as practicable to the height of the collar portions 12. At its free end each link element 19 is provided with a pair of outwardly or otherwise suitably directed tongues 20, one adjacent to the upper edge and the other adjacent to the lower edge thereof, while formed in the collar portion 12 of the other section 10 or 11, as the case may be, adjacent to each end of said collar portion and at points preferably spaced apart circumferentially thereof by amounts corresponding to the difference in cap cover sizes, is any desired plurality of pairs of slits 21 arranged to be selectively engaged by the tongues 20. Thus, by first inserting the sections 10 and 11 into a cap cover and properly arranging said sections within the front and rear portions of the cover, and by then engaging the tongues 20 at the free ends of the link elements 19 in proper pairs of the slits 21, depending upon the size of the cap cover to be stretched, while the link elements 17 and 18 are disposed in obtuse angular relationship as shown in Fig. 2, all that is necessary to effect expansion of the stretcher and stretching of the cap cover thereon is to exert outward pressure against the hinged together ends of the link elements 17 and 18. In this connection it will be noted that when the tongues 20 are engaged in the slits 21 the link elements 17 and 18 provide toggle connections between the sections 10 and 11 so that only relatively slight outward pressure against the hinged together ends of said link elements is required to effect a forceful separation of said sections 10 and 11 and consequent effective stretching of a cap cover engaged on said sections. Also, it will be noted in this connection that the link elements 17 and 18, as viewed in plan, are curved corresponding to the curvature of the collar portions 12 of the sections 10 and 11 and that, therefore, when said link elements are pressed outwardly until they lie against said collar portions 12 the hinged connections between their adjacent ends lie outwardly of straight lines drawn between their points of connection with the collar portions of the sections 10 and 11, thereby locking said sections against relative inward movement until one or the other of the toggles is broken.

Of course, instead of providing pairs of tongues 20 on the free ends of the link elements 18 and corresponding pairs of slits 21 to receive such tongues, each link element 18 may be provided at its free end with only a single tongue of any desired height and single slits 21 may be provided to receive such tongues. In fact, any desired readily separable connections may be provided in lieu of the tongues 20 and the slits 21. Preferably, however, the dual tongue and slit arrangement shown is used because the slits 20 do not noticeably weaken the collar portion 12 in which they are provided and because the tongues 20 adjacent to the top and bottom edges of the link elements 18, when engaged in the slits 21, serve effectively to prevent any twisting of said link elements 18 relative to the collar portion 12 having the slits therein. In this connection and as will further be noted, due to the material height of the link elements 17 and 18, said link elements cooperate with each other and with the collar portions 12 of the sections 10 and 11 effectively to prevent any relative twisting of said sections when they are held relatively expanded by said link elements. Furthermore, and as will further be noted, the link elements 18 span the spaces between the ends of the collar portions 12 of the sections 10 and 11 when said sections are held relatively expanded and constitute, in effect, continuations of said collar portions, at the points where otherwise spaces would exist between the ends of said collar portions, thereby effectively preventing any inward sagging at said points of a cap cover band stretched on the device.

When the device is not in use the sections 10 and 11 thereof may be nested one within the other as illustrated in Fig. 3 so as to occupy only a minimum amount of space for storage or other purposes; also, said sections may be nested as illustrated for facility in inserting the same into and in removing them from a cap cover. Moreover, and as is apparent, it is not necessary that the tongues 19 of the respective link elements 18 be engaged in corresponding slits at opposite sides of the collar portion 12 having said slits. On the contrary, the tongues of one of the link elements may be engaged in any selected slits adjacent to one end of the collar portion 12 having said slits and the tongues of the other link element 18 may be engaged in any selected slits adjacent to the other end of said collar portion. In this way, and by the provision of only a small number of slits adjacent to each end of the collar portion 12 having said slits, the device may be adjusted to fit practically any size cap cover within a relatively wide range of sizes.

Referring now to the embodiment of the invention illustrated in Figs. 5 to 8, it will be ob-

served that the combination of elements is generally the same as illustrated in Figs. 1 to 4, but that a different form of toggle means is provided for connecting and relatively expanding the basic sections of the device. In Figs. 5 to 8 the basic sections are designated as 10a, 11a and, as in the case of the Figs. 1 to 4 embodiment of the invention, each section includes a collar portion, designated as 12a, and a crown or bell portion, designated as 13a. To one of the side portions of the collar portion 12a of one of the sections 10a or 11a, at the inner side of said collar portion, is suitably hinged, as indicated at 16a, one end of a link element 17a, and to an intermediate portion of said link element is suitably hinged, as indicated at 19a, one end of a second link element which is designated as 18a and which is provided at its free end with tongues 20a to be engaged in any selected pairs of openings 21a provided at circumferentially spaced points in the related end portion of the collar portion 12a of the other section 10a or 11a as the case may be.

To the other side portion of the collar portion 12a of the same section 10a or 11a that carries the links 17a, 18a, at the inner side thereof, is suitably hinged, as indicated at 22, one end of a link element 23 which, at its other end is provided with a pair of tongues 24 to be engaged in any selected pair of a plurality of pairs of openings 25 formed at circumferentially spaced points in the related end portion of the collar portion 12a of the other form 10a or 11a as the case may be.

The link elements 17a 18a preferably are formed of wire as shown, although either or both of the same may be formed from sheet metal or any other suitable material. As shown, the free ends of the link 18a preferably are bridged by a strip 26 which not only braces the ends of the link but also serves as a stop for preventing the ends from passing completely through the openings 21a when initially engaging said ends in said openings. The link elements 17a, 18a function in the same way and to accomplish the same purposes as the link elements 17 and 18 of the Figs. 1 to 4 embodiment of the invention, but, as distinguished from the Figs. 1 to 4 embodiment of the invention, the outer or free end portion of the link element 17a constitutes a handle to facilitate closing and opening of the toggle comprised by the respective link elements 17a, 18a and only a single toggle is employed, the link 23 constituting merely a separable, adjustable connection between adjacent end portions of the collar portions 12 of the forms at one side of the stretcher. In this latter connection it will be understood, of course, that according to the Figs. 1 to 4 embodiment of the invention only a single toggle may be provided at one side of the stretcher and that a link similar to the link 23, or any other suitable means, may be provided to separably, adjustably connect the forms together at the other side of the stretcher.

I claim:—

1. A stretcher for cap covers and the like comprising a pair of segmental forms each including a collar portion, a pair of links constituting a toggle connection between related end portions of the collar portions of the respective forms, a separable connection between one of said links and the collar portion of the related form adjustable circumferentially of said collar portion, and a separable connection between the other related end portions of the collar portions of the respective forms adjustable circumferentially of one of said collar portions.

2. A stretcher for cap covers and the like comprising a pair of segmental forms each including a collar portion, and a pair of links constituting a toggle connection between each two adjacent end portions of the collar portions of said forms, one link of each pair spanning the space between the related end portions of the collar portions of the respective forms and constituting in effect a continuation of said collar portions across said space when the toggles have a status holding the forms relatively expanded.

3. A stretcher for cap covers and the like comprising a pair of segmental forms each including a collar portion, a pair of links constituting a toggle connection between each two adjacent end portions of the collar portions of said forms, one link of each pair having a tongue at one end, and the end portions of the collar portion of the related form each having a plurality of openings spaced apart circumferentially of said collar portion to selectively receive said tongues, thereby to provide for adjusting the stretcher as to effective size when the forms are fully expanded relative to each other by said toggle connections.

4. A stretcher for cap covers and the like comprising a pair of segmental forms each including a collar portion, and a pair of links constituting a toggle connection between each two adjacent end portions of the collar portions of said forms, one end of one link of each pair being connected with the other link of the same pair at a point intermediate the ends of the latter link, whereby the free end portion of the latter link constitutes a handle for manipulating the toggle.

5. A stretcher for cap covers and the like comprising a pair of nesting segmental sections each having band and crown engaging portions, and a foldable expanding device connecting adjacent ends of the separate segments and having a permanent connection with one segment and a detachable connection with the other segment, said expanding device as an entirety being foldable into the segment to which it is permanently connected whereby such segment may be nested into the other segment.

6. A stretcher for cap covers and the like comprising a pair of segmental forms each including a collar portion, a pair of links constituting a toggle connection between related end portions of the collar portions of the respective forms, and a connection between the other related end portions of the collar portions of the respective forms, the said connections between the forms lying against the collar portions thereof and constituting in effect continuations thereof spanning the spaces therebetween when the forms are held relatively expanded by said connections.

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