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CLIP ATTACHMENT FOR FOUNTAIN PENS AND OTHER TUBULAR ARTICLES

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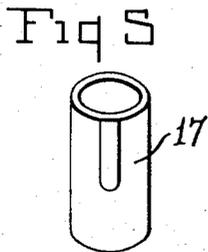
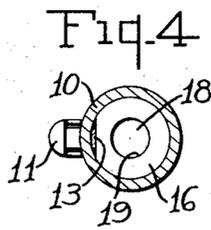
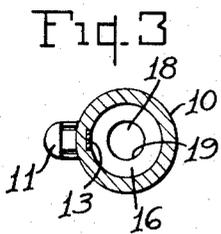
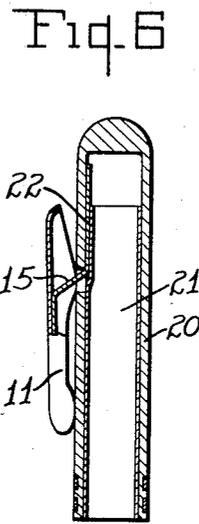
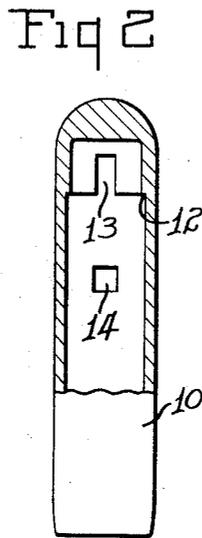
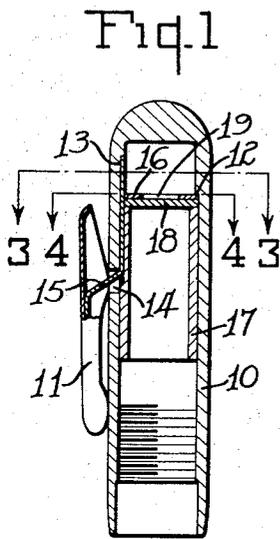


Fig. 8

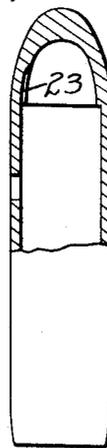
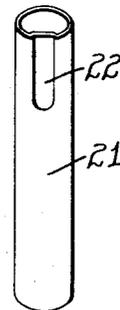


Fig. 7



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CLIP ATTACHMENT FOR FOUNTAIN PENS AND OTHER TUBULAR ARTICLES

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5 Claims. (Cl. 24—11)

This invention relates to means for attaching pocket engaging clips to pen caps, pencils, or other hollow members, commonly carried in upright position in a pocket, and has for its object the provision of an improved attaching means of this character which can be easily and quickly applied to an article, is particularly adapted for use in the new style pen holders and mechanical pencils in which the rear ends thereof are gradually rounded in more or less tapered form, and, in the case of a pen holder cap, provides a pen-receiving chamber, the closed end of which is sealed against the escape of ink or the admission of air around the clip anchoring means.

The invention is fully described in the following specification, and three embodiments thereof illustrated in the accompanying drawing, in which—

Figure 1 is a central longitudinal section of a fountain pen cap, being equipped with one form of my clip attaching means and with the parts of such attaching means in section; Fig. 2 is a view of the cap member partly in section, with the clip and its attaching means removed; Figs. 3 and 4 are cross-sections on the lines 3—3 and 4—4, respectively, in Fig. 1; Fig. 5 is a perspective view of the lining member constituting a part of the attaching means; Fig. 6 is a view similar to Fig. 1, showing a modified form of clip attaching means; Fig. 7 is a perspective view of the lining member employed in such form, and Fig. 8 is a view of a cap member of the new style in which the closed end is gradually rounded in more or less tapered form and showing the key-seat as curved lengthwise to follow the general curvature formation of the closed end.

Referring to the drawing, and particularly to Figs. 1 to 5, 10 designates an article of tubular form to which a clip 11 is to be attached, and which article, in its present embodiment, constitutes a cap of the type commonly used on fountain pens.

The bore of the article 10 is reduced near its closed end to form a shoulder 12, preferably annular in form or extending completely around the interior of the bore. This shoulder, at one side of the bore, is notched inwardly a distance toward the closed end of the article to provide a key-way 13, the bottom of which is substantially in a plane with or forms an extension of the inner wall surface of the large bore of the article. An opening 14 is provided through the side wall of the article 10 at the same side as the key-way 13 in longitudinal alignment therewith and spaced a short distance from the shoulder 12.

The clip 11, which, in the present instance, is of the lever type, has its carrying spring 15 projected through the opening 14 and then extending flat along the inner side of the article 10 lengthwise thereof toward its closed end with its free end portion seating in the key-way 13, so that the side walls of the opening 14 and of the key-way cooperate to prevent any lateral movement of the spring angularly of the article axis.

The clip-spring 15 is securely anchored in the article 10, in the present instance, by means of a disk or washer 16 and a cylindrical lining member 17, both of sizes to fit snugly within the large bore of the member 10 and the lining member being of a length to extend from the shoulder 12 to a point beyond the opening 14, so that the opening is closed thereby, and also so that the outer end of the member 17 may serve as a shoulder against which the pen-carrying nib of a fountain pen may seat, as well understood in the art. The side of the member 17, which engages the clip-spring 15, is chamfered for a distance necessary to permit it to pass over the coating portion of the spring, as shown in Figs. 1, 4 and 5. Interposed between the washer 16 and lining 17 is a gasket disk 18, which is of stiff rubber, or other suitable material, capable of serving as a sealing means between the members 16 and 17, and of closing the opening 19 through the washer 16, and at the same time being capable of perforation by a sharp instrument for the purpose hereinafter described.

In assembling the spring-anchoring parts, the washer 16, which is preferably of metal or other suitable stiff material, is first forced into the bore of the article 10 over the spring 15, and in abutment against the shoulder 12. The gasket member 18 is then placed in the bore against the washer 16 to close the opening therethrough, and the lining member 17 then forced into the bore with its inner end pressed against the gasket 18 to closely hold it to the washer 16 with its chamfered side in holding engagement with the registering portion of the spring 15. With this arrangement, the chamber at the open or pen-point receiving end of the article 10, if it be a fountain pen cap, is hermetically sealed both against the escape of liquid therefrom or the admission of air thereto through the opening 14 and along the spring end. When it is desired to remove the spring-attaching members to permit replacement of a broken clip or spring, the gasket 18 is perforated by a sharp instrument, which latter may then be passed through the opening 19 of the washer 16 and hooked around the inner

side of the washer to permit it, together with the gasket 18 and lining member 17, to be withdrawn from the cap, after which the spring 15 may be removed and a new one, with clip attached, substituted therefor, and the members 16 and 17 with a new gasket member 18 then replaced to secure the spring in position.

In the form shown in Fig. 6, which is intended more particularly for use in connection with mechanical pencils, or other articles, wherein it is not necessary to seal the interior of the member from the atmosphere, the washer 16 and gasket 18, shown in Fig. 1, are omitted, and the lining member may be extended to the open end of the member and may also be of metal, whereas, in the form shown in Fig. 1, it is preferable to make such member of vulcanized rubber, or similar material.

In the form shown in Fig. 6, the bore of the hollow article, which is designated 20, is of the same size throughout its length and a lining member 21 is forced therein to have side engagement at its inner end portion with the longitudinal extending portion of the spring 15. The inner end of the lining 21 may be formed in one side thereof with a longitudinally extending depressed portion 22 to fit over the registering portion of the spring 15, or, if the lining 21 is of a yielding material, such as thin brass tubing, it may be forced into the article 20 in holding engagement with the spring, and during such action shape itself to fit around the spring.

In this form of the invention, the spring is firmly held to the side of the inner side wall of the article 20 by the binding action of the lining member 21, and the engagement of the end of the spring in the registering key-way cooperates with the side walls of the opening 23 in the article wall through which the spring extends.

The form of spring attaching means shown in Fig. 1, or that shown in Fig. 6, is adapted for use in connection with the new style cap or tubular article shown in Fig. 8. The only difference in the cap or article construction in Fig. 8 is that the wall of the inner reduced end portion of the article bore is rounded to conform to the gradually rounded taper-like form of the article end, and the key-seat 23, instead of being straight longitudinally of the article, is curved to follow the curvature of the article wall in which disposed.

It is apparent that in either form of the invention the clip-spring is securely anchored in position within the article in such a manner as to hold the clip against any lateral twisting action relative to the article, and that in the form of the invention illustrated in Fig. 1, the pen-point receiving chamber of the cap member is hermetically sealed against the escape of liquid therefrom or the admission of air thereto through the opening 14 and along the side of the spring.

I wish it understood that my invention is not limited to any construction, arrangement or form of the parts, as it is capable of various modifications and changes without departing from the spirit of the claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent, is:

1. In combination, a tubular article having one end closed with its bore at such end reduced to form a shoulder, said article having an opening in a side thereof and having a key-way in the wall of the reduced portion of the bore in align-

ment with the opening lengthwise of the article, a clip carrying spring inserted through said opening and extending along a wall of the bore with its free end mounted in said key-way, and a tubular lining member fitting the large portion of the article bore and having side coaction at its inner end portion with said spring to firmly anchor it in the article.

2. In combination, a tubular article having one end closed and having a portion adjacent to such end forming an outwardly facing shoulder and a key-way extending inwardly a distance from such shoulder, said article also having a spring-receiving opening in a side thereof in alignment lengthwise of the article with said key-way, a clip carrying spring extending through said opening and thence flat along the inner side wall of the article and into said key-way, and means inserted into said article lengthwise of its bore and having stop coaction at its inner end with said shoulder and having side coaction with said spring to firmly anchor it in the article.

3. In combination, a tubular article having its bore restricted at one end to form an internal shoulder, and having an opening in its side and a key-way in the wall of the restricted portion of the bore and through said shoulder in alignment with the opening lengthwise of the article, a clip carrying spring extended through said opening and then lengthwise within the bore along a side wall of the article and into said key-way, holding means for the spring fitting in the bore of the article and including a stiff washer member seating against the shoulder, a lining member extending in both directions past said opening, and a gasket member interposed between said first two members.

4. In combination, a tubular article having an end closed with its bore at such end reduced to form a shoulder, said article having an opening in a side thereof and having a key-way in the wall of the reduced portion of the bore in alignment with the opening lengthwise of the article, a clip carrying spring inserted through said opening and extending along a wall of the bore with its free end mounted in said key-way, a tubular lining member fitting the large portion of the article bore and having side coaction at its inner end portion with said spring to anchor it in the article and to close said opening, and means at the inner end of the lining member held thereby to said shoulder and closing the portion of the bore at one side of said shoulder from that at the other side.

5. In combination, a tubular article having one end closed with its bore at such end reduced to form a shoulder, said article having an opening in a side thereof and having a key-way in the wall of the reduced portion of the bore in alignment with the opening lengthwise of the article, a clip carrying spring inserted through said opening and extending along a wall of the bore with its free end mounted in said key-way, a tubular lining member fitted in the large portion of the bore in closing relation to said opening and having side coaction with a portion of said spring to firmly anchor it in the article, a washer fitted in said bore and in abutment with said shoulder, and a disk-like gasket member held to the washer by the lining member and closing the opening through the former.

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