

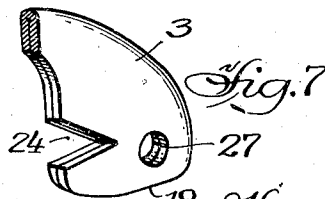
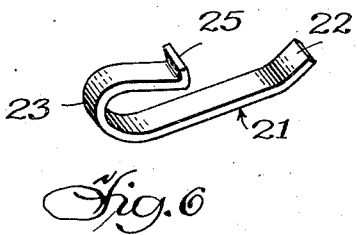
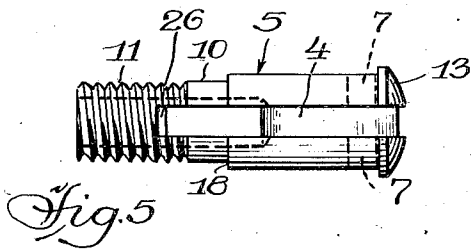
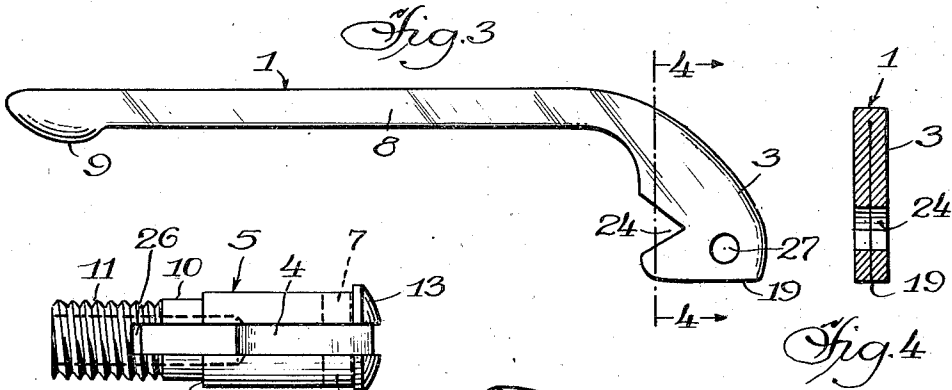
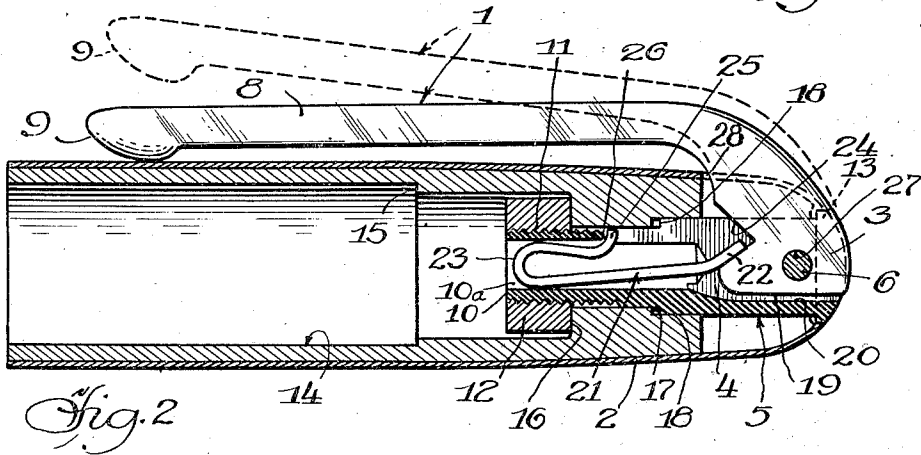
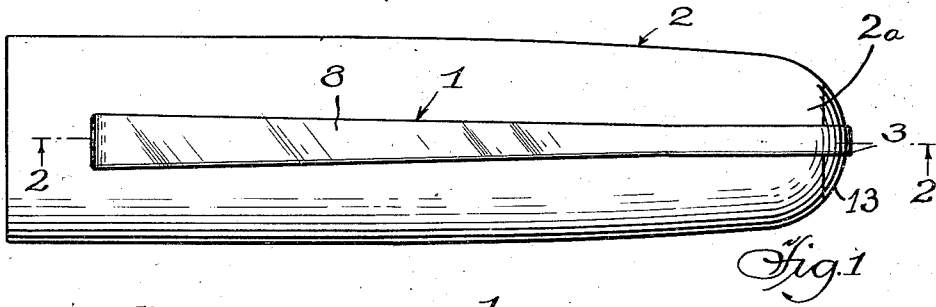
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CLIP CONSTRUCTION

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CLIP CONSTRUCTION

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The present invention relates to a clip for mechanical pencils, fountain pens and the like, and especially to a novel clip assembly or construction and in the novel means and manner of mounting the clip.

Among the objects of the present invention is to provide a novel clip assembly adapted to be mounted in such manner upon the upper end of the cap of a mechanical pencil, fountain pen and the like, as to eliminate any objectionable features of prior constructions where the upper end of the clip is pivotally mounted in the end of the cap.

Another object of the invention is the provision of a novel yoke or mounting for the clip and a novel means for exerting spring tension on the clip.

A further object of the present invention is the provision of a novel clip and cap assembly in which the clip is limited in the amount it can be raised or pulled away from the cap. This novel construction and arrangement eliminates all undue or unnecessary strain upon the tension means which tends to return the clip to its position adjacent the cap.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the construction, combination and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein a preferred embodiment, it is to be understood that the same is susceptible of modification and change, and comprehends other details, arrangements of parts, features and constructions without departing from the spirit of the invention.

In the drawing:

Figure 1 is a view in side elevation of a cap for a mechanical pencil, fountain pen and the like, to which the novel clip has been applied.

Figure 2 is a view in vertical cross section taken in a longitudinal plane through the cap and clip mounting on the line 2—2 of Fig. 1, the clip and tension means being shown in side elevation.

Figure 3 is a view in side elevation of the clip.

Figure 4 is a view in vertical cross section taken in a plane represented by the line 4—4 of Figure 3 and viewed in the direction of the arrows.

Figure 5 is a view in elevation of the yoke upon which the clip is fulcrumed.

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Figure 6 is a view in perspective of the novel spring or tension means.

Figure 7 is a fragmentary view in perspective of the upper end of the clip.

Referring more particularly to the illustrative embodiment shown in the drawings, the clip 1 is disclosed as fulcrumed or pivotally mounted in the upper end of a cap or hollow body 2 for a mechanical pencil, fountain pen or similar article adapted to be carried in the pocket or attached to a part of the clothing or other support. To permit such ready attachment to the pocket part of the clothing or other support and at the same time prevent accidental or unintentional removal, the clip is so constructed, arranged and designed as to yieldingly grip the material of the pocket or other support with sufficient tension to prevent such unintentional detachment.

In the present novel construction the upper, enlarged end 3 of the clip is shown as pivotally mounted with a slot 4 in a yoke 5 and upon a fulcrum pin 6 adapted to be received within the aligned openings 7 in the yoke, and with its outer surface substantially conforming to the end of the cap. The shank 8 of the clip extends along- side of or substantially parallel to the cap 2 and is provided at its lower end with a curved rise or rounded portion 9.

The yoke 5 is formed as a substantially tubular member slotted at 4 through one side and for a considerable portion of its length for the reception of the enlarged end 3 of the clip and to permit this end to fulcrum or pivot about the pin 6. As this slot 4 does not extend through the upper end of the yoke 5, it thereby materially strengthens this end and prevents any binding effect between the clip and the opposite sides of the yoke. The reduced end 10 of this yoke is provided with a tubular opening 10^a and is exteriorly threaded at 11 for threaded engagement by a nut or the like 12, while the upper end is enlarged at 13 and so contoured as to form a closure with and conform with the contour of the upper end 2^a of the cap 2. The cap may be of metal or other suitable material and is provided with a sleeve providing a spacing bushing or liner 14 for removably and centrally attaching the cap to the body of the pencil or pen. This liner may be of plastic or other suitable reinforcing material and is shown as provided with a shoulder or offset 15 intermediate its length suitably arranged for association with the end of a mechanical pencil or fountain pen, a shoulder or offset 16 against which the nut 12 is adapted to seat, and a shoulder or offset 17 limiting the longitudi-

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dinal adjustment of the yoke by providing a stop against which the shoulder or stepped portion 18 of the yoke is adapted to engage.

The enlarged end 3 of the clip is provided with a rear face or edge 19 forming a stop or safety feature to prevent the curved rise 9 of the clip from being raised or withdrawn more than a predetermined amount away from the cap or barrel. For example, we find that by so contouring the rear face or edge 19 of the end 3 that it contacts the inner surface or wall of the yoke at 20 when the curved rise has been raised or withdrawn approximately one-eighth ($\frac{1}{8}$) inch from the cap, all unnecessary strain is removed from the tensioning means and thus greatly prolonging its life.

The tensioning means is shown as comprising a leaf spring or spring wire 21 so contoured as to provide an upwardly projecting and slightly bent end 22 and with its other end 23 bent or deformed to provide a substantially U-shaped part conformably received within the reduced end of the yoke 5, as shown in Figure 2. This tensioning means is mounted in the end 3 of the clip by locating the free end 22 thereof in a slot or notch 24. The U-shaped part 23 is provided with a short bend or projection 25 resting against the end 26 of the slot 4, and which bend or projection restricts the downward movement of the spring within the tubular opening in the yoke. The active end 22 of the spring loosely seats within the slot or notch 24 and prevents any substantial upward or longitudinal movement of the spring within the yoke due to the limited depth of this slot. The opening 27 in the end 3 is for the reception of the pin 6.

In the assembly of the clip unit including the yoke, clip and spring, the U-shaped end 23 of the spring is first guided or entered into the tubular opening in the yoke for approximately one-half its length in order that the opposite end 22 of the spring is spaced sufficiently from the surface or rear wall 20 to permit the enlarged end 3 of the clip and the notch or slot 24 therein to slip freely over the end 22 of the spring, whereupon the clip may be pushed into place in the yoke. The fulcrum pin 6 is then inserted into the aligned openings 7 in the yoke and the opening 27 in the clip and the clip unit is ready for insertion into the upper end of the cap 2 and liner 14. Next the nut 12 is threaded onto the threaded end 11 of the yoke and the parts are locked in assembly. Any suitable tool or the like may be provided for insertion into the hollow end of the cap 2 or other article upon which the clip is to be mounted, for securing the nut upon the yoke.

By this novel construction and assembly, the yoke 5 is slotted through but one side thereby preventing the end 3 of the clip from being pinched. Similarly the cap 2 is merely slotted at 28 through but one side thereof, which in addition to retaining its strength and rigidity makes for a more pleasing appearance of the clip and cap assembly. These slots are in alignment longitudinally of the cap so that there is no binding between the parts.

Having thus described our invention, we claim:

1. A clip assembly for an article such as a pencil, pen and the like, comprising a hollow tubular yoke having a reduced part at one end, an enlarged part at the other end and a radial slot provided in one side thereof, and a clip having an enlarged end for reception in the slot and provided with an opening and a notch, said yoke having aligned openings in its opposite sides ad-

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5 jacent the notch, a fulcrum pin in the aligned openings in the yoke and the opening in the clip for pivotally mounting the enlarged end of the clip within the slot in the yoke, and tension means received within the hollow yoke for urging the other end of the clip against the article and provided with an end loosely received within the notch.

10 2. A clip assembly for the cap of a pencil, pen and the like, comprising a hollow tubular yoke mounted in the end of the cap, said yoke and cap having aligned slots in one side only and extending longitudinally to the end thereof, a clip having a curved rise at one end normally urged against the body of the cap for retaining the cap upon an article of clothing or other support and an enlarged part at the other end mounted within the aligned slots and fulcrumed in the yoke, said enlarged part having a notch, and a spring within the hollow yoke with an end thereof mounted in the notch for urging the curved rise into resilient gripping action with a support upon which the clip is mounted.

15 3. A clip assembly for the cap of a pencil, pen and the like, comprising a tubular yoke mounted in the outer end of the cap, said yoke and cap having aligned slots in one side only extending longitudinally of and to the outer end of the yoke and cap, a clip having a curved rise at one end normally urged against the body of the cap for retaining the cap upon an article of clothing or other support and an enlarged part at the other end mounted within the aligned slots and fulcrumed in the yoke, the enlarged part having a rear face adapted to abut against a wall of the yoke at the rear of its slot when the curved rise has been moved a predetermined amount from the cap, and tension means for returning the clip to its normal position with the curved rise in contact with the cap.

20 4. A clip assembly for the cap of a pencil, pen and the like, comprising a tubular yoke mounted in the outer end of the cap, said yoke and cap having aligned slots extending longitudinally to the outer end thereof, a resiliently mounted clip having a curved rise at its free end normally urged against the cap and an enlarged end mounted within the aligned slots and fulcrumed within the slot in the yoke, the enlarged part having a surface adapted to abut against a part on the yoke when the curved rise has been withdrawn a predetermined distance from the cap.

25 5. A clip assembly for mounting an article such as a pen, pencil and the like upon a pocket or other support, comprising a tubular yoke mounted in the end of such article, said yoke and an end of such article having aligned slots extending longitudinally of and to the upper end of the yoke and article, a spring-pressed clip having a part at one end adapted to resiliently grip and retain the article upon the support and a part at the other end pivotally mounted in the aligned slots, and means for limiting the pivotal movement of the clip.

30 6. A clip assembly for an article such as a pencil, pen and the like, comprising an elongated tubular yoke mounted in an end of the article and disposed longitudinally thereof, the yoke having a longitudinally extending slot in a wall thereof and extending to the outer end of the yoke, a clip having one end pivotally mounted within the slot and such end contoured to conform to the end of the article, and a spring carried within the tubular yoke and associated with the pivotally mounted end of the clip for resili-

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iently urging the other end of the clip into contact with the body of the article.

7. A clip assembly adapted to be readily assembled in the end of a cap for a mechanical pencil, fountain pen and the like, comprising a sleeve for the cap, and a support for the clip unit, a tubular member mounted in the upper end of the cap and sleeve and provided with an enlarged upper end forming an end for the cap and a reduced lower end projecting through the upper end of the sleeve and into the interior thereof, means provided in the liner for retaining the tubular member in assembled relation, the tubular member and cap having aligned slots in one side thereof, a clip having a notched end fulcrumed in the tubular member, a spring having a part anchored in the tubular member and an end loosely received in the notch in the fulcrumed end of the clip, and means for limiting the pivotal movement of the clip.

8. A clip assembly adapted to be securely mounted in the end of a hollow body forming a part of a pen, pencil and the like, comprising a sleeve mounted in the hollow body and providing a support for the assembly, an elongated member mounted in the upper end of the hollow body and sleeve and provided with an enlarged upper end forming a closure for the end of the hollow body and a reduced part projecting into the sleeve and threaded at its lower end, a nut in the sleeve and threaded on the threaded end of the elongated member, said last mentioned member and hollow body being provided with aligned radially extending slots extending to the extreme outer end thereof, a clip having its upper end received within the slots for pivotal movement, and tension means carried in a tubular opening in said elongated member for urging the free end of the clip against the hollow body.

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9. A clip assembly adapted to be securely mounted in the end of a hollow body forming a part of a pen, pencil and the like, comprising a sleeve mounted in the hollow body and providing a support for the assembly, a yoke mounted in the upper end of the hollow body and sleeve and having a cylindrical part conforming to the interior of the sleeve, an enlarged outer end positioned upon and conforming to the outer end of the hollow body and a reduced end projecting into and through the upper end of the sleeve, means for anchoring the reduced end of the yoke in the sleeve and hollow body, said sleeve and hollow body having longitudinally extending and aligned slots, a clip having its upper end received within the slots for pivotal movement, and tension means carried in a tubular opening in said elongated member for urging the free end of the clip against the hollow body.

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