July 9, 1929. R. A. FRITSCH 1,720,471

ATTACHING CLIP

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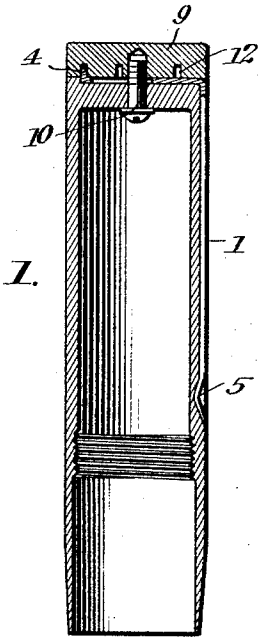


Fig. 1.

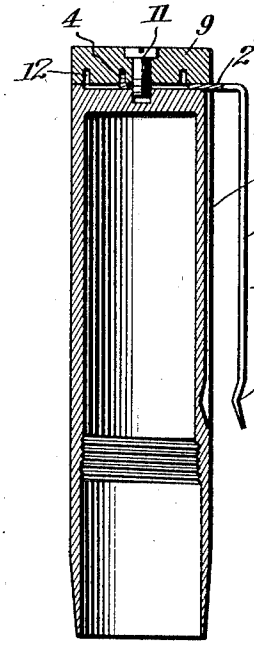
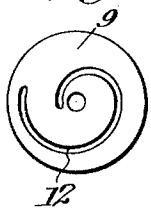


Fig. 2.

Fig. 3.



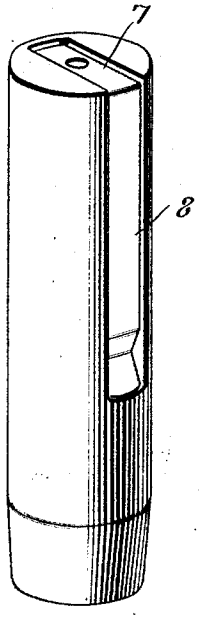


Fig. 4.

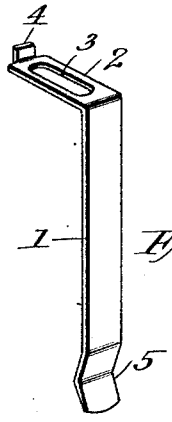


Fig. 5.

Inventor

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Fig. 6.

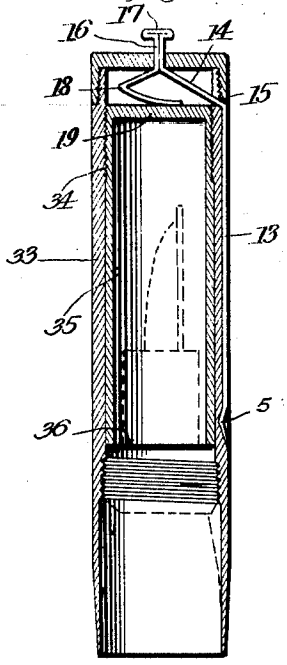


Fig. 7.

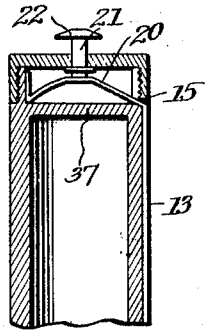


Fig. 8.

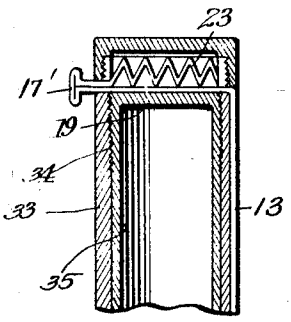


Fig. 12.

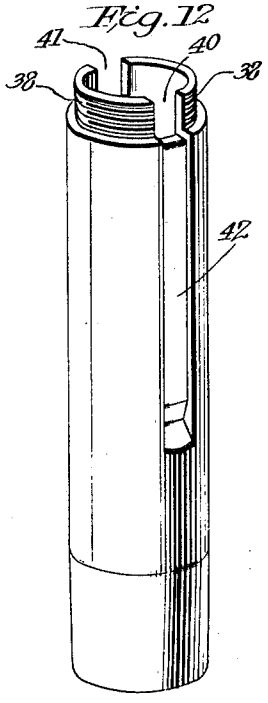
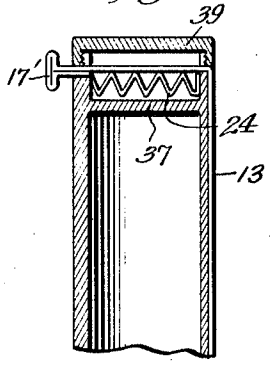


Fig. 10.



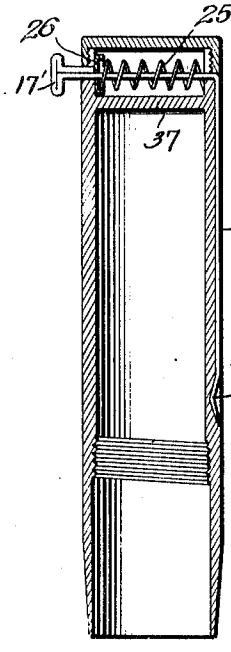


Fig. 9.

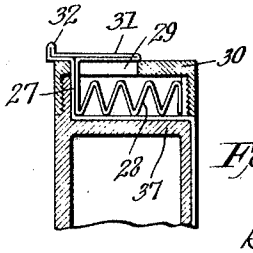


Fig. 11.

Inventor

Rockel Alexander Fritsch

By Emery, Booth, Janney & Varney

his Attorneys

Patented July 9, 1929. 1,720,471

UNITED STATES PATENT OFFICE.

ROCKEL ALEXANDER FRITSCH, OF MAZATLAN, MEXICO.

ATTACHING CLIP.

Application filed April 15, 1927. Serial No. 184,014.

My invention relates to an improved attaching means, or clip, for fastening fountain pens and other articles of a similar shape or nature to the sides of pockets or to the edges of garments, and aims to provide a clip having a maximum of effective gripping surface, and easily manipulated without damaging the garment.

One object of the invention is to effect the clasping pressure perpendicular to the thickness of the material engaged, free from wedging or bunching effect thereon, and hence free from forces weakening the hold of the gripping members on the material by tending to push the latter endwise.

A further object is to provide a clip which may be readily adjusted to engage with equal effect any one of a wide range of thicknesses of material, and which may be readily released from said engagement without the necessity of pulling the material from between the opposed gripping members.

For convenience I show and describe my clip in conjunction with a fountain pen cap, although it is equally applicable to any object of the same general shape which one may desire to attach removably to the cloth of a coat pocket or the like. For example, my improved clip is intended for use with pencils, clinical thermometer cases, spectacle cases and so on, as well as fountain pens.

Illustrative embodiments of my invention are described in the following specification and in the accompanying drawings, wherein

Fig. 1 is a longitudinal central section of a fountain pen cap showing one form of my improved clip in connection therewith, showing the clip in retracted position;

Fig. 2 is a view similar to Fig. 1, but illustrating a modified pivot, the clip being in extended position;

Fig. 3 is a view of the inner face of a movable top of the type shown in Figs. 1 and 2;

Fig. 4 is a perspective view of the upper end and one side of the cap proper without the top, corresponding to Figs. 1 and 2;

Fig. 5 is a perspective view of the clip members;

Figs. 6 to 11 inclusive are views similar to Fig. 1, illustrating modified forms of mechanism for moving the clip finger, and

Fig. 12 is a perspective view illustrating features of cap construction suitable for use with the forms of clip shown in Figs. 6 to 11 inclusive.

In the embodiment illustrated in Figs. 1 to 5, inclusive, the clip consists of a finger 1 disposed at right angles to a head 2, said head being slotted as at 3 and provided at the end opposite said finger with an upstanding lug 4, all preferably integral. Said finger may be formed with a re-entrant bend 5, preferably near the free end, for more secure engagement with the material to which the cap is to be fastened. The cap used in connection with this embodiment is formed with top and side recesses 7 and 8. The head 2 slides in and out in the top recess 7, and the finger 1 may be fully retracted within recess 8, which is suitably hollowed out to take the bend 5, thus avoiding any projections above the side surface of the cap. A top 9 is rotatably attached to the upper end of said cap by suitable pivot means, such as shown at 10, Fig. 1, or 11 Fig. 2, passing through the slot 3 in the head 2. Said top is spirally grooved, as at 12, in its lower face to engage lug 4 of the head. Thus when the top 9 is turned the travel of the lug 4 in the groove 12 will move the head 2, varying the distance between the finger 1 and the side of the cap. The finger 1 in all positions will be in the same angular relation to the cap, preferably parallel thereto, because of the mutual rigidity of the finger and the head 2.

In Figs. 6 to 11 inclusive I illustrate forms of my invention wherein the finger is normally held within the side recess of the cap by spring action and is adapted to be moved outwardly by thumb pressure.

In the form shown by Fig. 6 a single strip of metal is bent as shown, forming a finger 13, similar to the finger 1 of Fig. 1, a cross member or head 14 adapted to slide in a guide-hole 15 in the cap, an axial shank 16, passing through the end of the cap, a button 17, and a V-shaped spring 18 the lower end of which rests upon an inner end 19 within the cap.

Fig. 7 illustrates a modification having the cross member or head 20 in the form of a bow spring arranged to be pressed by a stem 21 carrying an external button 22. The spring cross head 20 is stopped on one end by the barrel of the cap, while the opposite end passes through a guideway 15, and is externally joined to the finger 13.

Pressure on the end button in the modifications illustrated by Figs. 6 and 7 causes the cross head to move outward through the guideway, carrying the finger away from the

cap in an obvious manner. The guideway forces the close head to move outwardly without tilting, so that the finger is maintained parallel to the side of the cap.

Figs. 8, 9 and 10 illustrate further spring forms, all used in connection with a clip wherein the cross head is straight and transverse to the cap, projecting therethrough on the side opposite to the finger and there terminating in a button 17'. The springs 23, Fig. 8, and 24, Fig. 10, are of the accordion type, integral with the clip structure. The spring 25 in Fig. 9 is coiled, bearing at one end against a cross member 26 secured to the clip head and at the other against the inside of the cap.

Fig. 11 shows an additional modification of the forms disclosed by Figs. 8, 9 and 10, but having the inner end 27 of the clip head turned upward, inside the cap, engaging one end of the spring 28. This upturned end 27 passes upward through and is adapted to move in a diametral slot 29 in the cap cover 30 and carries an irregularly T-shaped guide member 31 which covers the slot 29 in one direction, projects slightly over the side of the cap in the other, and is upset into a finger engaging lug 32 at one end.

Constructional features of caps particularly adapted for use with spring-actuated clips are illustrated in Figs. 6 and 8, wherein cap 33 is internally threaded as at 34 for the reception of a hollow plug 35, open at the lower end and closed at the upper end 19. The open end of the plug 35 may be cut square as at 36, to form a seat for the point end of a fountain pen, as shown in Fig. 6. The threads 34 stop short of the top of the cap so as to provide a chamber between the outer end of the cap and the end 19 of the plug for the reception of the spring and the clip head. It will be understood that the inner end 19 need not necessarily be constructed and inserted as above described, but for example, may be formed integral with the cap, as illustrated at 37 in Figs. 7, 9, 10 and 11, or constructed in any suitable manner.

A preferred cap end construction for use in conjunction with any of my above described spring-actuated clips, is shown in Fig. 12, wherein a reduced externally threaded end 38 of the cap barrel takes an internally threaded cover, such as 39, Fig. 10. The reduced end is slotted, as at 40—41, for the reception of the clip head, which is held in place by the cover 39. The side of the barrel is recessed as at 42, forming a seat for the finger 13. It is intended that Fig. 12 be considered as in the nature of a diagrammatic showing, and that certain features thereof are to be understood as subject to appropriate modification to suit various forms of spring, as particularly illustrated in Figs. 6 to 11 inclusive. Thus a cap for use with the spring shown by Figs. 6, 7 and 11 will be provided only with the slot 40 while the depth of the threaded end 38 will be less in connection with such springs as are illustrated by Figs. 9 and 10 than with those shown in Figs. 6, 7, 8 and 11.

To slip the pen into engagement over the edge of a pocket or the like, the finger is moved far enough out to admit the cloth loosely between the finger and the side of the cap without wear on the cloth. The cloth is then tightly gripped by retraction of the finger. The engagement is released in the reverse order, and the finger afterwards retracted into its recess, whereupon the cap presents an exterior surface free from projections.

The feature of having the finger always parallel to the side of the cap gives a very secure hold by reason of the fact that the inner surface of the finger and the entire opposed surface of the side of the cap bear with substantially equal force upon the cloth gripped between them. Further security particularly in gripping thin materials, results from the binding effect between the reentrant bend 5 and its corresponding hollow. As distinguished from this parallel and even grip, the usual type of clip, which is either rigidly or pivotally secured to the cap, holds the cloth by a wedging action which includes a force component tending to slide the cloth out of the wedge. With thin cloth this results in a hold only close to the apex of the wedge, while with a thick cloth, such as overcoating, the clip finger is sprung out so far that the sliding component is pronounced. As a result it is almost impossible, practically, to fasten a fountain pen having the usual type of clip securely to such thin material as that of a silk shirt or to such thick material as that of an overcoat, particularly if the pen be placed at an angle on an edge of the garment instead of hooked over the top of a pocket.

It is to be understood that I do not limit myself to the preferred forms of my invention which I have described and illustrated, but what I claim is:

1. In securing apparatus of the character set forth, in combination, a cap, a finger mounted for movement from and toward said cap in parallelism thereto, a head perpendicularly fixed at one end of said finger and projecting through and beyond said cap, a button on the end of said head opposite said finger, a spring in juxtaposition to said head adapted to resist movement thereof in a direction to move said finger away from said cap, and a recess along the side of said cap wherein said finger is adapted to lie.

2. A securing apparatus comprising a cylindrical casing, a longitudinal recess in one side thereof, a reduced externally threaded end on said casing, slots in said end in the plane of said recess whereby said reduced end is divided into two segments, an inter-

nally threaded top of less depth than said slots, a finger adapted to be removably seated in said recess, a head fixed to said finger and adapted to fit into said slots between the bottoms thereof and the lower edge of said top.

3. A securing apparatus comprising a cylindrical casing, a longitudinal recess in one side thereof, a reduced externally threaded end on said casing, a slot in said end in the plane of said recess whereby said reduced end is divided into two segments, an internally threaded top of less depth than said slot, a finger adapted to be removably seated in said recess, a head fixed to said finger and adapted to fit into said slot between the bottom thereof and the lower edge of said top.

4. An article attaching apparatus comprising, in combination, a relatively wide flat finger external to the article and extending longitudinally thereof, said finger being adapted for movement toward and from said article in parallelism thereto, and a cross member attached to one end of said finger, adapted to move said finger transversely to said article.

5. An article attaching apparatus comprising, in combination, a relatively wide flat finger external to the article and extending longitudinally thereof, said finger being adapted for movement toward and from said article in parallelism thereto, a cross member attached to one end of said finger, adapted to move said finger transversely to said article, and spring means coacting with said cross member whereby said finger is impelled toward said article.

6. An article attaching apparatus comprising, in combination, a relatively wide flat finger including an inwardly projecting section, said finger being disposed outside said article and extending longitudinally thereof, a surface recess in said article shaped to receive said finger flush with the outer surface of the article, said finger being adapted for movement into and out of said recess in parallelism to the article, a cross member attached to one end of said finger, adapted to move said finger transversely to said article, and spring means coacting with said cross member whereby said finger is impelled toward said recess.

7. An article attaching apparatus comprising, in combination, a relatively wide flat finger external to the article and extending longitudinally thereof, said finger being adapted for movement toward and from said article in parallelism thereto, a cross member attached to one end of said finger, adapted to move said finger transversely to said article, spring means coacting with said cross member whereby said finger is impelled toward said article, and a button coacting with said cross member adapted to actuate said spring means.

8. An article attaching apparatus comprising, in combination, a relatively wide flat finger external to the article and extending longitudinally thereof, said finger being adapted for movement toward and from said article in parallelism thereto, a cross member attached to one end of said finger, and adapted to move said finger transversely to said article, springs means coacting with said member whereby said finger is impelled toward said article, and a button coacting with said cross member adapted to actuate said spring means, said spring means, button, cross member, and finger being formed from a single piece of material.

In testimony whereof, I have signed my name to this specification.

ROCKEL ALEXANDER FRITSCH.