

April 4, 1939.

K. WEISSER

2,153,488

WRITING INSTRUMENT CLIP

Filed July 15, 1937

2 Sheets-Sheet 1

Fig. 1.

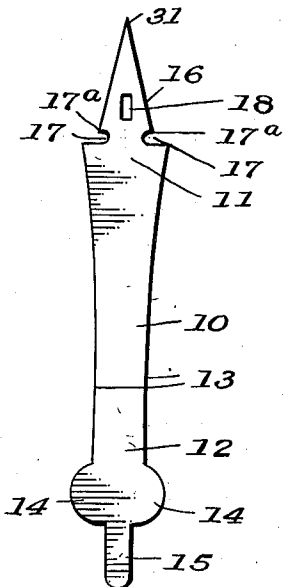


Fig. 2.

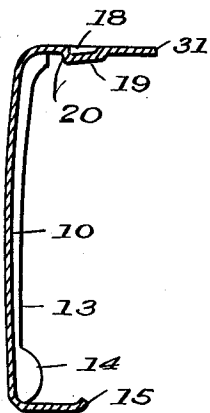


Fig. 3. Fig. 4.

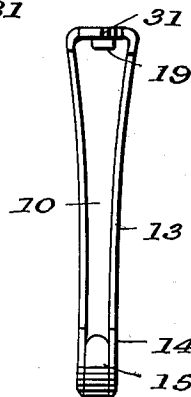
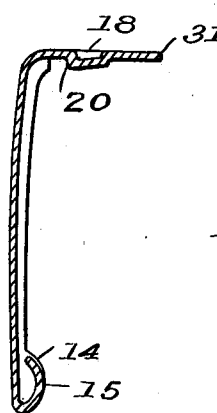


Fig. 5.

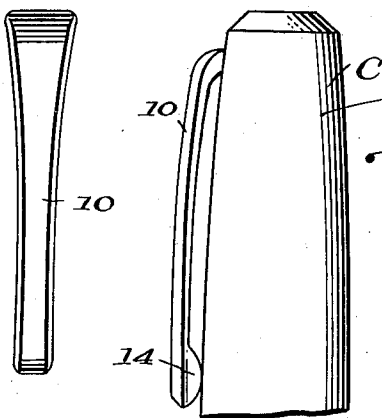


Fig. 8.

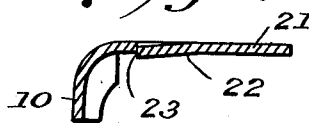


Fig. 7.

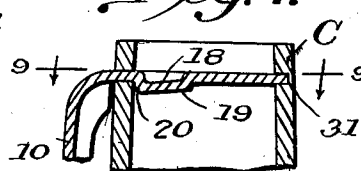
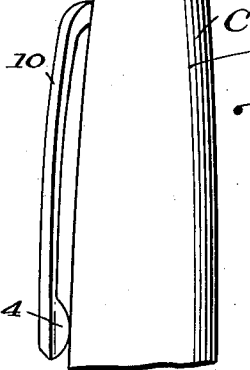


Fig. 6.



THERMOPLASTIC MATERIAL

Fig. 9.

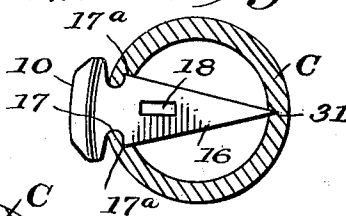
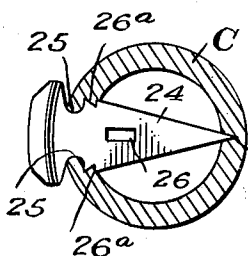


Fig. 10.



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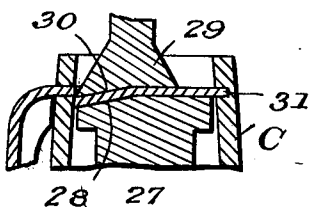


Fig. 11.

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2,153,488

WRITING INSTRUMENT CLIP

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2 Sheets-Sheet 2

Fig. 12. Fig. 13.

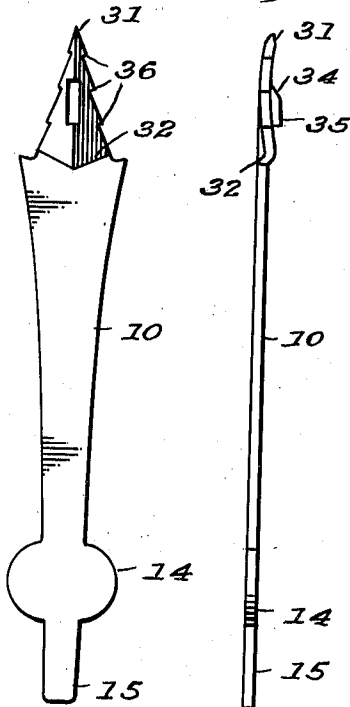


Fig. 14. Fig. 15.

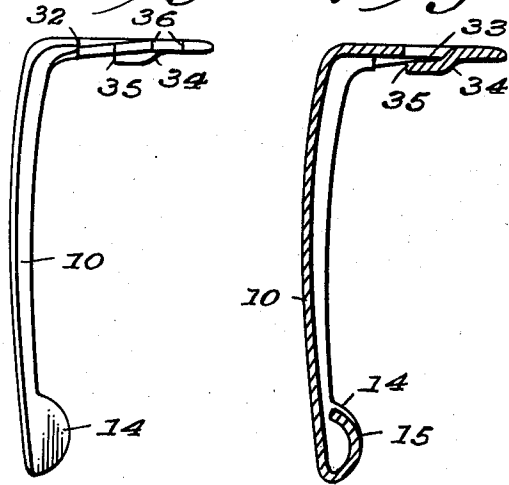


Fig. 16.

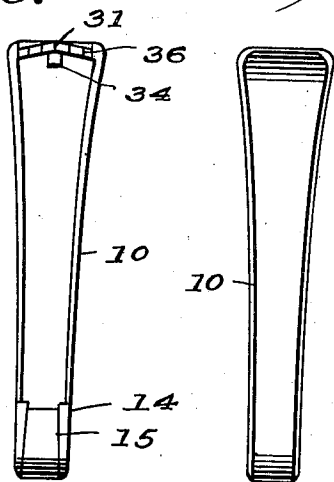


Fig. 17.

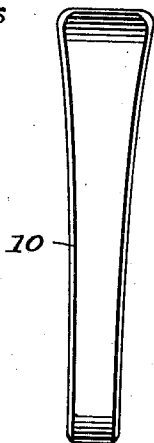
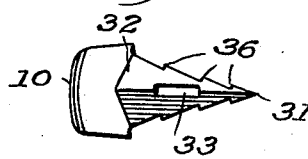


Fig. 18.



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UNITED STATES PATENT OFFICE

2,153,488

WRITING INSTRUMENT CLIP

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David Kahn, Inc., North Bergen, N. J., a corporation of New Jersey

Application July 15, 1937, Serial No. 153,829

15 Claims. (Cl. 24—11)

This invention relates to clips for writing instruments such as have tubular caps and particularly to clips for fountain pen caps.

More especially, the invention relates to means and methods of mounting clips on pen caps.

Fountain pen caps are commonly made from a thermoplastic material, such as Celluloid, cellulose nitrate, cellulose acetate, or equivalent material of like character. The walls of such caps are quite thin and can be penetrated by a pointed prong. It is usual practice in assembling clips and pen caps to provide the clips with a plurality of small prongs which are forced through the cap wall and have their inner ends riveted over.

One important object of the present invention is to improve and simplify the means for attaching clips to their walled tubular bodies.

A second important object of the invention is to provide a novel prong arrangement for fastening clips to pen caps.

A third important object of the invention is to provide a single prong arrangement of clip securing means, the single prong being of novel construction and adapted to lock in place without riveting.

A fourth important object of the invention is to provide a novel prong arrangement for this purpose wherein the prong is so constructed as to afford a very secure and strong connection between the clip and cap.

A fifth important object of the invention is to provide an improved method of securing clips of this nature to hollow barrels, such as pen caps.

With the above and other objects in view, as will be presently apparent, the invention consists in general of certain novel details of construction and arrangements of parts as well as novel sequence of method steps, all as hereinafter fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a plan view of a blank from which the improved clip is formed.

Figure 2 is a longitudinal median section through the clip in partly formed condition, the blank not being finished.

Figure 3 is a view similar to Fig. 2 but with the clip completely formed.

Figure 4 is a rear face view of the clip ready to apply.

Figure 5 is a front face view of the completed clip.

Figure 6 is a side elevation showing the clip mounted on a pen cap.

Figure 7 is an enlarged fragmentary section taken diametrically through part of a pen cap and showing the clip attached thereto.

Figure 8 is a fragmentary section on the longitudinal axis of a clip and showing a modified prong.

Figure 9 is a section on the line 9—9 of Fig. 7.

Figure 10 is a section similar to Fig. 9 but showing a modified form of clip.

Figure 11 is a detail section illustrating one method of applying a form of this clip.

Figure 12 is a plan view of the blank.

Figure 13 is a side view.

Figure 14 is a side elevation of the finished clip.

Figure 15 is a section of the finished clip.

Figure 16 is a rear elevation.

Figure 17 is a front elevation of a modified clip.

Figure 18 is a top plan view of the same.

In the embodiment of the invention shown in Figures 1 to 7 and 9, the clip is formed from a blank of thin sheet metal and has an elongated body 10 wider at its base 11 than at its free portion 12. Preferably, the body 10 has concavely curved sides 13. At the end 12 the body is provided with a pair of oppositely disposed segment-circular ears or tabs 14 and a narrow tongue 15 projects from the end 12 on the longitudinal median line of the clip.

A sagittate prong 16 projects from the bare end of the body, the neck of the prong being formed by simple semi-circular notches 17. Extending longitudinally of the prong is a depression 18 stamped downwardly in the metal. This depression is deeper adjacent the body than at its other end so that there is formed a latching tooth having a slanting under face 19 and an abrupt shoulder 20 at the end near the body.

In this form no part of this latch member is severed from the prong but in the form shown in Figure 8, the prong 21 is slit in U-shape so as to provide a tongue 22 having its free end adjacent the body of the clip and pressed down to provide a stop shoulder 23.

In the form shown in Figure 10, the sagittate prong 24 has its neck formed by a pair of oppositely disposed semi-circular notches 25 adjacent the body, and adjacent these notches is a second pair of notches 26a, these being of V-shape. Otherwise, the prong is like the first form having a central depression 26 like the depression 18.

The finished clips are formed from these blanks by bending the body 10 transversely to trough or channel shape with the ears 14 in

spaced parallel arrangement, as best seen in Figure 4. Also the sagittate prong is bent back to extend substantially at right angles to the body and the tongue 15 is similarly bent as in Figure 2. Then the tongue 15 is curved upwardly as in Figure 3 and the clip is now ready for application to the cap.

To apply the clip the prong is forced through the side wall of the cap C, the material of the cap yielding sufficiently to permit passage of the latch or stop 18 and then springing back to grip the neck of the prong as in Figure 7, the abrupt shoulder 20 preventing retraction. In some instances, however, it may be necessary to soften the cap in order to facilitate the insertion of the prong. This may be effected by heat in the case of a thermo-plastic material, or by use of a suitable solvent for the material. The cap is preferably thickened at the upper portion thereof in order to enable the point 31 of the prong to penetrate a considerable distance into the cap material, and act as a support.

The clip shown in Figure 8 is applied in the same manner, but here the tongue 22 may spring for passage into the cap. In other words, the tongue is bent upwardly so as not to hinder the entry of the prong when the prong is forced into the cap and springs back to prevent removal of the prong.

The method of application disclosed in Figure 11 is somewhat different. Here the clip is applied before the end of the cap is closed. Although the prong is preferably of the type shown in Figure 8, this method may be applied to the modifications shown in other figures of the drawings as well. In either case, the tongue 22 or the depression 18 is either depressed slightly or not at all before insertion in the cap. The tongue or depression may be defined or partially cut before insertion, however. After insertion, the cap is placed on an anvil 27 having an inclined upper face portion 28 and a die 29 having an inclined lower face portion 30 and is inserted above the prong and forced down to depress the tongue 22 to locking position. In each case the point of the prong engages in the cap wall opposite its entry opening.

The modification shown in Figures 12 to 18 inclusive is quite similar to the other modifications. However, when the blank is stamped a portion of the prong proper is bent downwardly to form offset shoulders 32 which slant upwardly to the center line of the prong. These shoulders serve to limit the distance of entry of the prong into the cap. The tongue 33 is somewhat different than the tongue in the modification disclosed in Figures 1 to 7 inclusive, and that disclosed in Figure 8, inasmuch as it possesses an offset portion 34. It functions quite similarly, however, and when it is inserted in the cap the end or shoulder 35, prevents the retraction of the prong from the cap. The prong in this modification is made of some suitable spring metal possessing sufficient resilience to permit the tongue to be flattened out when the prong is moved in an insert direction. In this modification, a number of notches 36 are provided to prevent the removal of the prong from the cap. The remainder of the clip is quite similar to the other modifications.

Irrespective of whether the first or second method of insertion is used, the clip is firmly held. The prong point 31 penetrates the cap C and serves as a means to prevent a rotational movement of the clip fastening means in a plane

longitudinal to the clip. The shoulders 17a, 25 or 26a prevent a rotational movement of the clip fastening means in a plane transverse to the clip and shoulder 20 or shoulder 23 prevents the withdrawal of the clip fastening means from the cap. There has thus been provided a clip fastener embodying a means to prevent rotational movement in a plurality of planes as a twisting movement, and means to prevent removal of fasteners from the instrument to which the clip is fastened.

It may be pointed out that the spring member 22, as shown in Figure 3, is made before the assembling of the clip to the pencil, fountain pen or other tubular member. In assembling the cap and the clip, in accordance with the present invention, the spring member 22 or 33 is forced flush with the upper surface of the prong when the clip or prong is pushed through the wall of the cap into place. The spring members or tongues 22 or 33 will then spring back into their original position, thereby preventing the removal of the clip.

It may be noted that the clip, in accordance with the present invention, may be made of any suitable material which is sufficiently ductile to be bent by stamping into a suitable shape or that the clip may be cast of any suitable material. The only criteria for the material is that it be sufficiently ductile to be bent in the event that the clip and fastener for the clip is made by stamping operations and yet sufficiently stiff so that it may be driven easily into the cap of a pen or pencil. A suitable material, for example may be brass or a metallic alloy or steel.

It may be further pointed out that in the modification disclosed in Figures 12 to 18 inclusive, there are a plurality of notches 36. In addition to preventing the removal of the clip fastener from the cap of the pen or pencil, these notches also function to facilitate the insertion of the prong member into the hollow tubular member in which it is mounted.

I claim:

1. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and a shoulder on said prong positioned to seat against the interior surface of the first mentioned wall to prevent removal of the prong from the tubular member.

2. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and means to limit the entry of the prong into the tubular member.

3. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and an offset latching tooth on said prong having a shoulder positioned to seat against the interior surface of the first mentioned wall to

prevent removal of the prong from the tubular member.

4. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and an offset latching tooth comprising a spring tongue partially severed from the prong and having a free end depressed from the plane of the prong, said free end being positioned to seat against the interior surface of the first mentioned wall to prevent removal of the prong from the tubular member and being adapted to spring into the plane of the prong during assembly to permit the entry of the prong into the tubular member.

5. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and a shoulder on said body to limit the entry of the prong into the tubular member.

6. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and off-set shoulders on said body adapted to contact the outside surface of the tubular member to limit the entry of the prong into the tubular member.

7. In a clip for a tubular structure including a body adapted to extend along the structure and a sagittate prong projecting from one end of the body for extension into the structure, said sagittate prong being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly and having a neck portion adapted to be closely gripped by the structure wall at the point of entry, said prong having a latching tooth projecting therefrom adapted to lie within the tubular structure to engage the first mentioned wall at the point of entry to prevent removal of the prong from the tubular structure.

8. In a clip for a tubular structure including a body adapted to extend along the structure and sagittate prong projecting from one end of the body for extension into the structure, said sagittate prong being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly and having a neck portion adapted to be closely gripped by the structure wall at the point of entry, said prong having a latching tooth projecting therefrom adapted to lie within the tubular structure to engage the first mentioned wall at the point of entry to prevent removal of the prong from the tubular structure, said tooth being formed by a shouldered boss integral with the prong.

9. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit

the driving thereof through one wall of the tubular member and into the opposite wall during assembly, and means to prevent the removal of the prong from the tubular member after assembly, said means permitting the entry of the prong into the tubular member during assembly.

10. A clip for a tubular member comprising a clip body portion and a clip holding prong at an angle to said body portion, said clip holding prong having a pointed end and being substantially straight and of sufficient rigidity to permit the driving thereof through one wall of the tubular member and into the opposite wall during assembly, means to limit the entry of the prong into the tubular member and means to prevent the removal of the prong from the tubular member after assembly, said means permitting the entry of the prong into the tubular member during assembly.

11. In combination, a tubular structure and a clip for said structure including a body member and a prong projecting from one end of the body member at one side thereof and provided with a pointed end, said pointed prong passing through and being firmly held in the wall of the tubular structure at one side thereof and having a driven fit in the wall of the tubular structure at a point substantially opposite the point of entry, said prong having sufficient rigidity to permit assembly of the clip with the tubular structure by forcing the pointed prong through the wall of said structure, and means to prevent the removal of the prong from the tubular structure after assembly, said means permitting the entry of the prong into the tubular structure during assembly.

12. In combination, a tubular structure and a clip for said structure including a body member and a prong projecting from one end of the body member at one side thereof and provided with a pointed end, said pointed prong passing through and being firmly held in the wall of the tubular structure at one side thereof and having a driven fit in the wall of the tubular structure at a point substantially opposite the point of entry, said prong having sufficient rigidity to permit assembly of the clip with the tubular structure by forcing the pointed prong through the wall of said structure, means to limit the entry of the prong into the tubular structure, and means to prevent the removal of the prong from the tubular structure after assembly, said means permitting the entry of the prong into the tubular structure during assembly.

13. In combination, a tubular structure and a clip for said structure including a body member and a prong projecting from one end of the body member at one side thereof and provided with a pointed end, said pointed prong passing through and being firmly held in the wall of the tubular structure at one side thereof and having a driven fit in the wall of the tubular structure at a point substantially opposite the point of entry, said prong having sufficient rigidity to permit assembly of the clip with the tubular structure by forcing the pointed prong through the wall of said structure, and a shoulder on said prong positioned to seat against the interior surface of the tubular structure wall to prevent removal of the prong from the tubular structure.

14. In combination, a tubular structure, and a clip for said structure including a body member and a prong projecting from one end of the body member at one side thereof and provided with a pointed end, said pointed prong passing through

and being firmly held by a wall of said tubular structure in an opening in the wall conforming in size and shape to said prong, said prong having a driven fit in the wall of the tubular structure at a point substantially opposite to the point of entry, said prong being substantially straight and having sufficient rigidity to permit assembly of the clip with the tubular structure by forcing the pointed prong through the wall of the structure to form the aforementioned opening.

10 15. In combination, a normally imperforate walled tubular structure, and a clip for said structure including a body member extending

along the tubular structure on the exterior thereof, a prong element extending from the upper end of said body member and being throughout continuously and substantially at a fixed angle to the body member, said prong element having a longitudinal extent sufficient to span the tubular structure diametrically thereof, said prong element being constructed and arranged for self-penetration through one portion of the side wall of the tubular structure and for self-engagement in the opposite portion of said wall.

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