

Description

[0001] This invention relates to writing implements.

[0002] Typically, a writing implement (such a pen) has an elongate barrel having a writing tip at one end of the barrel and a cap that can be fitted (for example with a snap-fit) to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing. The cap is, of course, provided for three well-known reasons: to protect the tip from damage when the pen is not in use; to prevent the tip from accidentally marking things, such as a pocket or handbag in which the pen is carried, when not in use; and to prevent evaporation of ink from the pen when not in use. However, when the pen is in use, there is the problem that the cap may be mislaid. To deal with this, it is, of course, well-known to arrange the cap and barrel so that the cap can be fitted to the other end of the barrel. Nevertheless, if the user has their mind on other things, they may forget to fit the cap on the other end of the barrel and so the cap may still be mislaid.

[0003] A number of proposals have been made in the past to deal with the problem of pen caps becoming mislaid. For example, patent document US1615506 (1927) discloses a pen with a linkage extending from the cap to a spring-loaded anchorage half-way along the barrel. Also, US1859775 (1930) discloses a pen with a linkage extending from the cap to a sleeve which is slidable along the barrel. Furthermore, US4518273 (1985) and GB2187141 (1987) each disclose a pen with a resilient tether extending from the cap to a point half-way along the barrel. With all of these earlier proposals, the linkage or tether permanently attaches the cap to the barrel whilst enabling the cap to be selectably fitted to the tip end of the barrel or the opposite end of the barrel.

[0004] It is sometimes necessary or expedient for the user to remove the cap from the tip end of a pen single-handedly, for example in the case where a classroom teacher holding a pile of notes in one hand wishes to use a marker pen to write on a whiteboard. Many marker pens are designed so that the cap can be flipped off single-handedly, but in that case the cap can easily fall to the floor. It is therefore not unknown for the teacher to clench the cap between their teeth in order to remove the cap single-handedly. Of course, if they then wish to speak to their class, they need to remove the cap from their mouth, with the risk that, in doing so while still holding the pen in their hand, they will accidentally mark their face with the pen. It is also not unknown for the teacher to try to replace the cap by inserting the tip end of the pen into the cap while the cap is still clenched between their teeth, again with the risk of accidentally marking their face. (If the reader of this specification has a pen to hand, they might care to try doing this and will realise that it is not as easy as might be imagined.) It should also be noted that holding pen caps in the mouth is unhygienic, especially if classrooms are shared by a number of teachers.

[0005] The earlier proposals disclosed in the patent documents mentioned above deal with the problem of preventing pen caps becoming mislaid, but none of them lends itself to single-handed removal of the cap from the tip end of the pen and then placing the cap in a position where the pen can be used. In each of those earlier proposals it would be difficult single-handedly to put the cap in its proper position at the opposite end of the barrel to the tip when the pen is to be used. The present invention addresses this problem.

[0006] With the writing implement of a first aspect of the invention, a tether is provided extending outside the barrel from the cap to the other end of the barrel, and the tether is elastic and arranged such that when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel. In order to use the implement, it is therefore merely necessary for the user to dislodge or otherwise remove the cap from said one end of the barrel, and the tether will then move the cap to the other end of the barrel.

[0007] The barrel may have a passageway therein having an inner end and an open outer end adjacent said other end of the barrel, the tether extending through the passageway and having an end anchored in said inner end of the passageway so that, when the cap is removed from said one end of the barrel, the tether can retract into the passageway in the barrel.

[0008] According to a second aspect of the invention, there is provided an accessory for a writing implement having an elongate barrel with a writing tip at one end of the barrel, the accessory comprising: a cap that can be fitted to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing; a barrel mounting element arranged to be secured to or adjacent the other end of the barrel; and a tether for extending outside the barrel from the cap to the barrel mounting element, the tether being elastic and arranged such that, in use, when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel. The accessory therefore provides the same advantages as the first aspect of the invention, but the accessory can also be used with an existing writing implement, with the cap of the accessory replacing the cap of the writing implement.

[0009] The cap of the writing implement or accessory may have a passageway therein having an inner end and an open outer end, the tether extending through the passageway in the cap and having an end anchored in said inner end of the passageway so that, when the cap is removed from said one end of the barrel, the tether can retract into the passageway in the cap. In either case, the provision of the passageway enables the tether to have a longer relaxed length and therefore, for any particular form of tether, enables the amount by which the tether can be extended to be increased.

[0010] As is known per se, the cap can be arranged

to be snap-fitted to said one end of the barrel. In this case, the tether is preferably arranged not to impede such snap-fitting of the cap to said one end of the barrel. As is also known per se, the cap can be snap-fitted to said other end of the barrel. In this case, the tether may be arranged not to impede such snap-fitting of the cap to said other end of the barrel.

[0011] In accordance with a third aspect of the invention, there is provided an accessory for a writing implement having an elongate barrel with a writing tip at one end of the barrel and a cap that can be fitted to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing, the accessory comprising: a barrel mounting element arranged to be secured to or adjacent the other end of the barrel; a cap mounting element arranged to be secured to the cap; and a tether for extending outside the barrel from the cap mounting element to the barrel mounting element, the tether being elastic and arranged such that, in use, when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel. The accessory therefore provides the same advantages as the first aspect of the invention, but the accessory can also be used with an existing writing implement and its cap.

[0012] The tether may be arranged, in use, to extend between a generally-central point adjacent a closed end of the cap to a generally-central point adjacent said other end of the barrel so that when the cap is removed from said one end of the barrel, the tether can hold the cap aligned with the barrel adjacent said other end of the barrel.

[0013] Specific embodiments of the present invention will now be described, purely by way of example, with reference to the accompanying drawings, in which:

Figures 1 to 4 are isometric views a first embodiment of pen with, respectively, its cap covering the tip end of its barrel, the cap held away from the tip, the cap freely hanging from the non-tip end of the barrel, and the cap snap-fitted to the non-tip end of the barrel;

Figures 5 & 6 are longitudinal sectional views, on the section line 5-5 in Figure 7, of the pen in the configurations shown in Figures 1 and 4, respectively;

Figure 7 is a cross-sectional view, on the section line 7-7 in Figure 5;

Figure 8 is similar to Figure 2, but showing a second embodiment of pen;

Figures 9 & 10 are longitudinal sectional views, on the section line 9-9 in Figure 11, of

the pen of Figure 8 with, respectively, its cap covering the tip end of its barrel, and the cap snap-fitted to the non-tip end of the barrel;

Figure 11 is a cross-sectional view, on the section line 11-11 in Figure 9;

Figures 12 & 13 are longitudinal sectional views of a third embodiment of pen with, respectively, its cap covering the tip end of its barrel, and the cap held against the non-tip end of the barrel; and

Figures 14 & 15 are longitudinal sectional views of a pen and an embodiment of accessory for the pen with, respectively, the cap covering the tip end of the pen, and the cap held against the non-tip end of the pen.

[0014] Referring to Figures 1 to 7, the first embodiment of pen 10 has a barrel 12 with a tip holder 14 formed at one end and with its other end 16 closed. The barrel 12 is filled with wadding 18 impregnated with ink. A felt tip 20 extends through the tip holder 14 from the wadding 18 to a writing point 22. A cap 24 has a skirt 26 which is closed at one end 28 and open at the other end 30. An internal ridge 32 is formed in the open end 30 and is engageable with a groove 34 around the tip holder 14 and a groove 36 around the closed end 16 of the barrel 12 to hold the cap 24 with a snap fit either covering the tip 14 (Figures 1 and 5) or at the closed end 16 of the barrel 12 (Figures 4 and 6). The cap 24 also has a pocket clip 38. As described so far in this paragraph, the pen 10 is conventional.

[0015] Unlike a conventional pen, the wall of one side 40 of the barrel 12 is formed with a longitudinal passageway 42 that is closed at its end adjacent the tip holder and that opens out laterally adjacent the closed end 28 of the barrel 12. Also, a longitudinal groove 44 is formed externally in the side 40 of the barrel 12, extending from the open end of the passageway 42 to the tip holder 14. A recess 46 is formed in the skirt 26 of the cap 24 in alignment with the groove 44 when the cap 24 is fitted to the tip holder 14. A thread 48 of elastic material has one end 50 anchored in the closed end of the passageway 42 and has its other end 52 anchored in the recess 46 in the cap 24. The length, elasticity and extensibility of the thread 48 is such that in its relaxed state its length is less than the length of the passageway 42 so that the thread 48 can hold the cap 24 with some force against the closed end 16 of the barrel 12 when the cap 24 is removed from the tip holder 14 (Figure 3), but so that the thread 48 can be stretched sufficiently (Figure 2) to enable the cap 24 to be removed from and replaced on the tip holder 14.

[0016] When the cap 24 is fitted to the tip holder 14 (Figures 1 and 5), the exposed length of the elastic thread 48 lies along the groove 44. In order to remove the cap 24 single-handedly, the user can grasp the barrel 12 between their second to fourth fingers and the palm of their hand and then either flip the cap 24 off with sideways pressure applied by their thumb, or ease it away from the barrel 12 by grasping it between their first finger and thumb. Provided that the user then moves their fingers out of the way if necessary, the elastic thread 48 will contract so as to pull the cap 24 to the closed end 16 of the barrel 12 and hold it there, for example as shown in Figure 3. The user can then use the pen 10. It will be noted that, when used in the configuration of Figure 3, the cap 24 may wobble annoyingly at the closed end 16 of the barrel 12, but, if desired, the user can snap fit the cap 24 to the closed end 16 of the barrel 12 as shown in Figure 4 and 6, although it is appreciated that this may more easily be done using both hands.

[0017] The second embodiment of pen 10 will now be described with reference to Figures 8 to 11 and is similar to the first embodiment of Figures 1 to 7 except in the following respects. The second embodiment employs an elastic strap 48 with an elongate cross-section, rather than a thread with a circular cross-section, that has a degree of resistance to twisting about its axis, and the passageway 42, groove 44 and recess 46 have elongate cross-sections to enable them to receive the strap 48. Also, the passageway 42 is provided in the opposite side 54 of the barrel 12 to the side 40 in which the groove 44 is formed. Furthermore, the groove 44 is extended to have a portion 56 that extends across the closed end 16 of the barrel 12 from the groove 44 to the open end of the passageway 42. The operation of the second embodiment is similar to the first embodiment except that once the cap 24 has been released from the tip holder 14, due to the resistance of the elastic strap 48 to twisting, it will tend to hold the cap 24 against the closed end 16 of the barrel 12 with the open end 30 of the cap 24 facing the closed end 16 of the barrel 12. It is then possible for the user to hold the barrel 12 between the fingers and palm of the hand, and to use their thumb to press the cap 24 single-handedly into snap-fitting engagement with the closed end 16 of the barrel 12.

[0018] The third embodiment of pen 10 will now be described with reference to Figures 12 and 13 and is similar to the first embodiment of Figures 1 to 7 except in the following respects. The closed end 16 of the barrel 12 is not formed with a groove 36 or the like for snap-fitting engagement with the cap 24. The groove 44 is extended to have a portion 58 that extends half-way across the closed end 16 of the barrel 12 from the groove 44, and the centre of the closed end 16 of the barrel 12 is formed with a recess 60 in which the end 50 of the elastic thread 48 is anchored. The barrel 12 is not formed with a longitudinal passageway 42, and the cap 24 is not formed with a recess 46. However, the skirt 26

of the cap 24 is formed with an external groove 62 that is in alignment with the groove 44 in the barrel 12 and that extends part-way across the closed end 28 of the cap 24. A generally-helical passageway 64 is formed in the cap 24 between a closed end 66 in which the end 52 of the elastic thread 48 is anchored and an open end 68 in the centre of the closed end 28 of the cap 24. The length, elasticity and extensibility of the thread 48 is such that in its relaxed state its length is less than the length of the generally-helical passageway 64 so that the thread 48 can hold the cap 24 with some force against the closed end 16 of the barrel 12 when the cap 24 is removed from the tip holder 14 (Figure 13), but so that the thread 48 can be stretched sufficiently to enable the cap 24 to be removed from and replaced on the tip holder 14. Because the closed end 28 of the cap 24 is held face-to-face against the closed end 16 of the barrel 12 in the configuration of Figure 13, the cap 24 will not wobble on the barrel 12 during normal use, without there being any need for snap-fitting of the cap 24 onto said other end of the barrel 12. In a modification to the pen of Figures 12 and 13, in the case where a thread 48 is used that is sufficiently extendible, the passageway 64 in the cap 24 may be generally straight, rather than helical.

[0019] An embodiment of pen accessory 70 will now be described with reference to Figures 14 and 15 that is for use with a conventional pen 72. The accessory 70 comprises a cap 74 that is used to replace the pen's own cap, a barrel mounting element 76 that is a push-fit onto the non-tip-end 16 of the barrel 12 of the pen 72, and an elastic thread 48 that extends between the cap 74 and the barrel mounting element 76. In particular, one end of the thread 48 is anchored to the barrel mounting element 76 and extends from a central point 78 on the barrel mounting element 76 to a central point 80 on the closed end of the cap 74, from which the thread 48 then extends into a passageway 64 in the cap 74 and has its other end anchored at the inner end of the passageway 64. As shown in Figure 15, when the cap 74 is removed from the tip-end of the barrel 12, the thread 48 retracts into the passageway 64, draws the cap 74 to the other end 16 of the barrel 12 and holds the closed end of the cap 74 against the end of the barrel mounting element 76.

[0020] In a modification to the embodiment of Figures 14 and 15, use of the pen's conventional cap is retained, but the passageway 64 is provided in a cap mounting element that is secured by any suitable means to the conventional cap.

[0021] Various other modifications and developments may be made to the embodiments described above. For example, although the pen barrels 12 have been shown with an oval cross-section and with the thread extending along one of the narrower sides of the barrel 12, the thread may alternatively extend along one of the wider sides of the barrel 12. The cross-section of the barrel 12 may, of course, alternatively be circular.

[0022] It should be noted that the embodiments of the invention have been described above purely by way of example and that many modifications and developments may be made thereto within the scope of the present invention.

Claims

1. A writing implement (10) comprising: an elongate barrel (12) having a writing tip (20) at one end of the barrel; a cap (24) that can be fitted to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing; and a tether (48) extending outside the barrel from the cap to the other end (16) of the barrel, the tether being elastic and arranged such that when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel.

2. A writing implement as claimed in claim 1, wherein the barrel has a passageway (42) therein having an inner end and an open outer end adjacent said other end of the barrel, the tether extending through the passageway and having an end (50) anchored in said inner end of the passageway so that, when the cap is removed from said one end of the barrel, the tether can retract into the passageway in the barrel.

3. An accessory (70) for a writing implement having an elongate barrel (12) with a writing tip (20) at one end of the barrel, the accessory comprising: a cap (74) that can be fitted to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing; a barrel mounting element (76) arranged to be secured to or adjacent the other end (16) of the barrel; and a tether (48) for extending outside the barrel from the cap to the barrel mounting element, the tether being elastic and arranged such that, in use, when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel.

4. A writing implement or accessory as claimed in any preceding claim, wherein the cap has a passageway (64) therein having an inner end (66) and an open outer end, the tether extending through the passageway in the cap and having an end (52) anchored in said inner end of the passageway so that, when the cap is removed from said one end of the barrel, the tether can retract into the passageway in the cap.

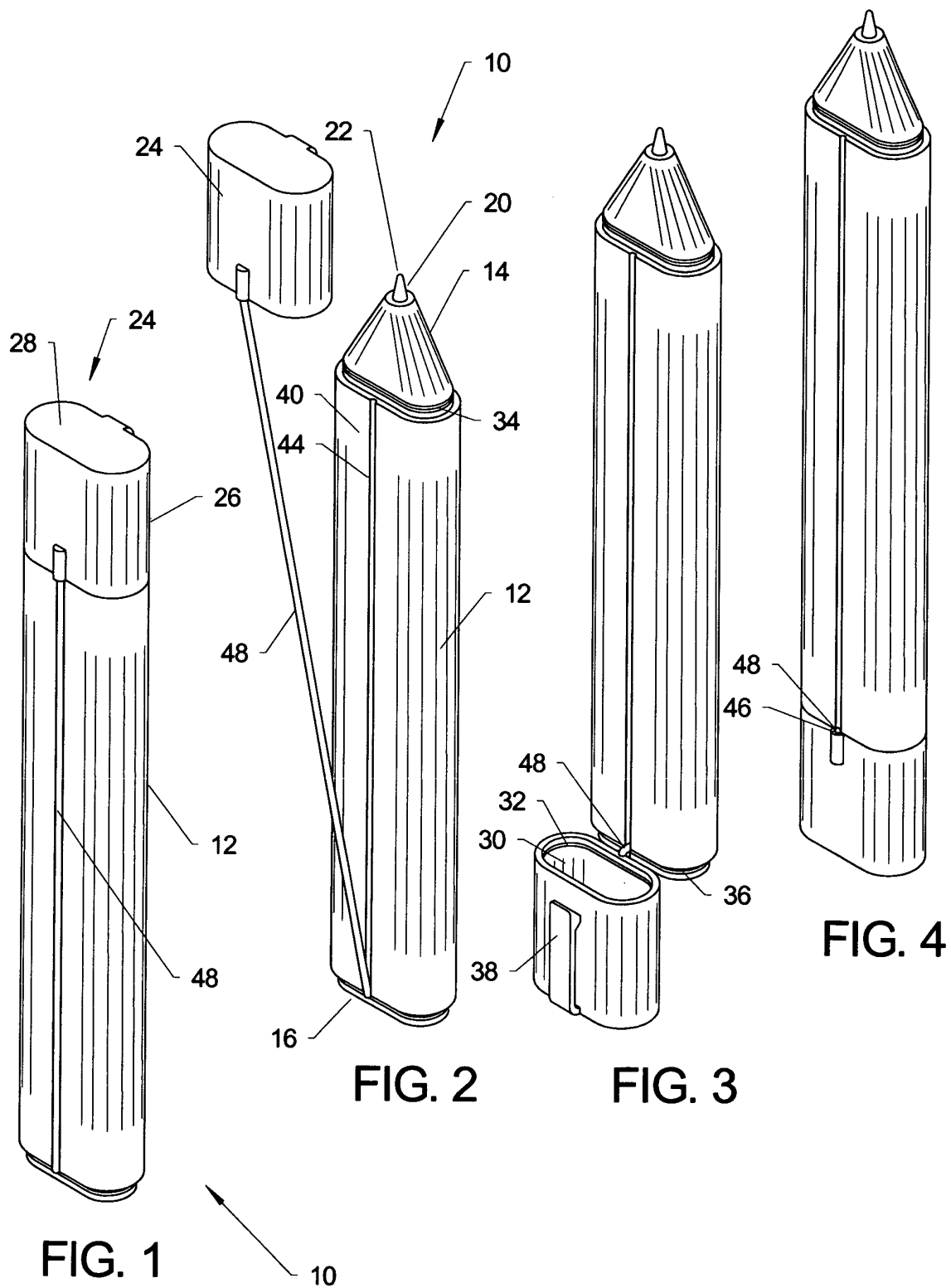
5. A writing implement or accessory as claimed in any preceding claim, wherein the cap can be snap-fitted to said one end of the barrel, and the tether is ar-

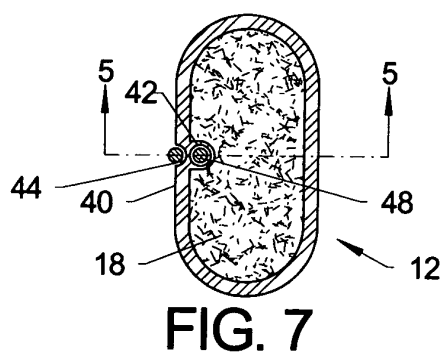
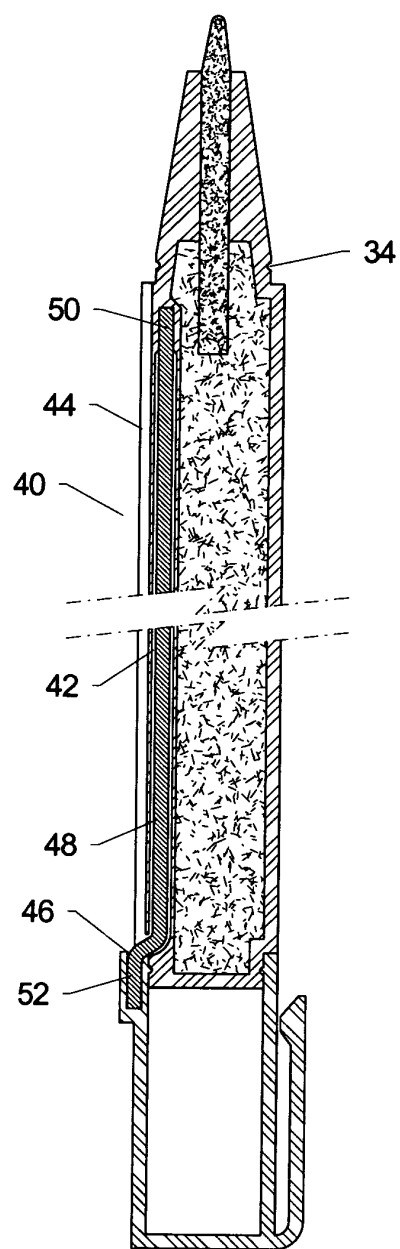
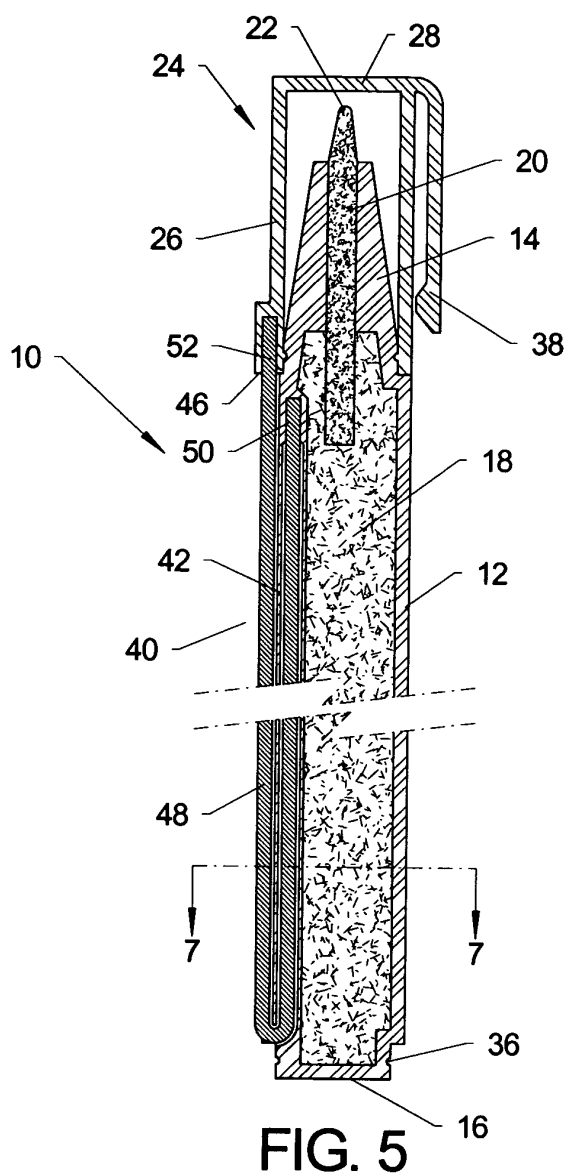
ranged not to impede such snap-fitting of the cap to said one end of the barrel.

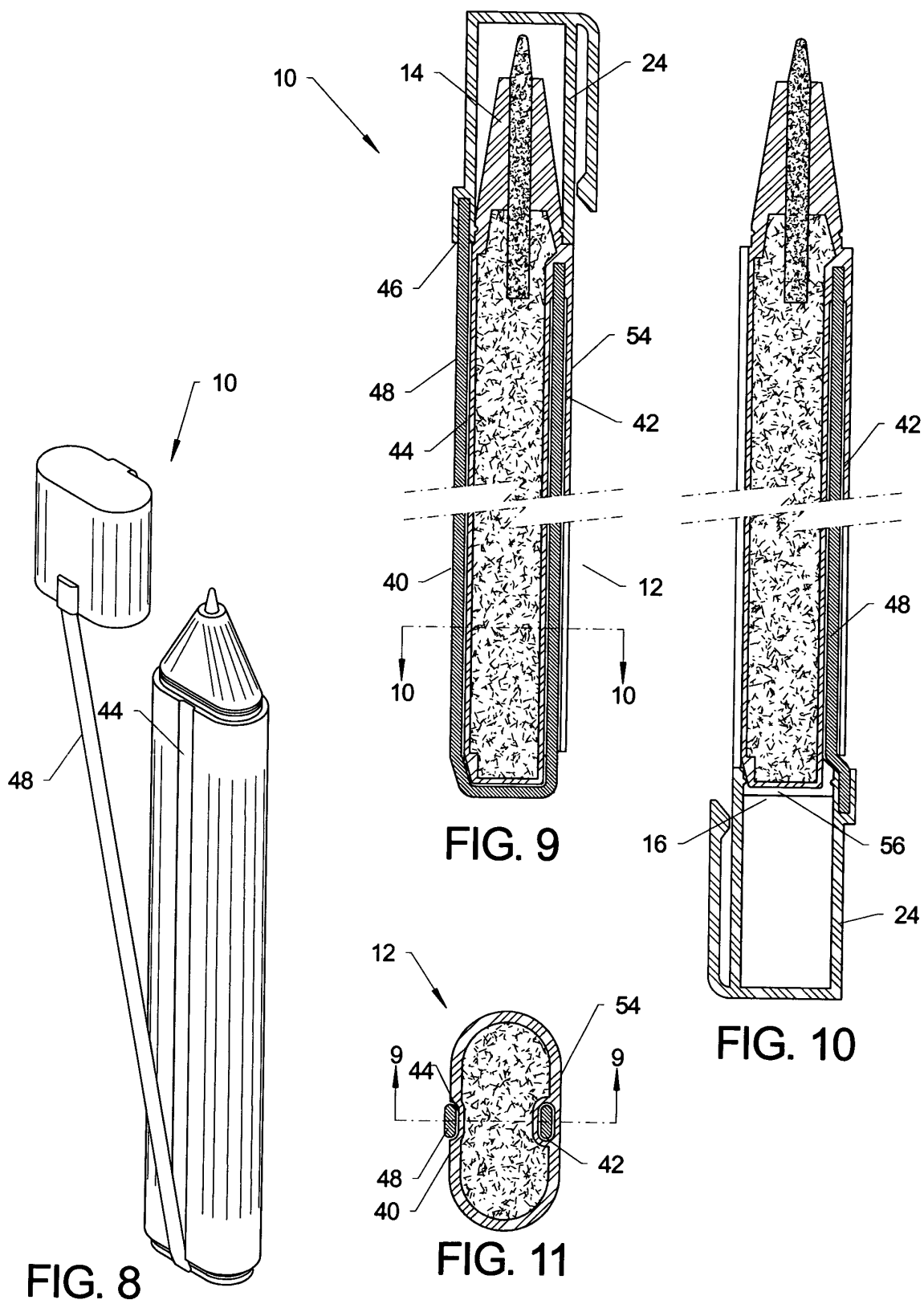
6. A writing implement or accessory as claimed in any preceding claim, wherein the cap can be snap-fitted to said other end of the barrel, and the tether is arranged not to impede such snap-fitting of the cap to said other end of the barrel.

7. An accessory for a writing implement having an elongate barrel with a writing tip at one end of the barrel and a cap that can be fitted to said one end of the barrel to cover the writing tip, the cap being removable from said one end of the barrel to expose the tip for writing, the accessory comprising: a barrel mounting element arranged to be secured to or adjacent the other end of the barrel; a cap mounting element arranged to be secured to the cap; and a tether for extending outside the barrel from the cap mounting element to the barrel mounting element, the tether being elastic and arranged such that, in use, when the cap is removed from said one end of the barrel, the tether moves the cap to a position at or adjacent said other end of the barrel.

8. A writing implement or accessory as claimed in any of claims 1 to 5 and 7, wherein the tether is arranged, in use, to extend between a generally-central point (80) adjacent a closed end of the cap to a generally-central point (78) adjacent said other end of the barrel so that when the cap is removed from said one end of the barrel, the tether can hold the cap aligned with the barrel adjacent said other end of the barrel.







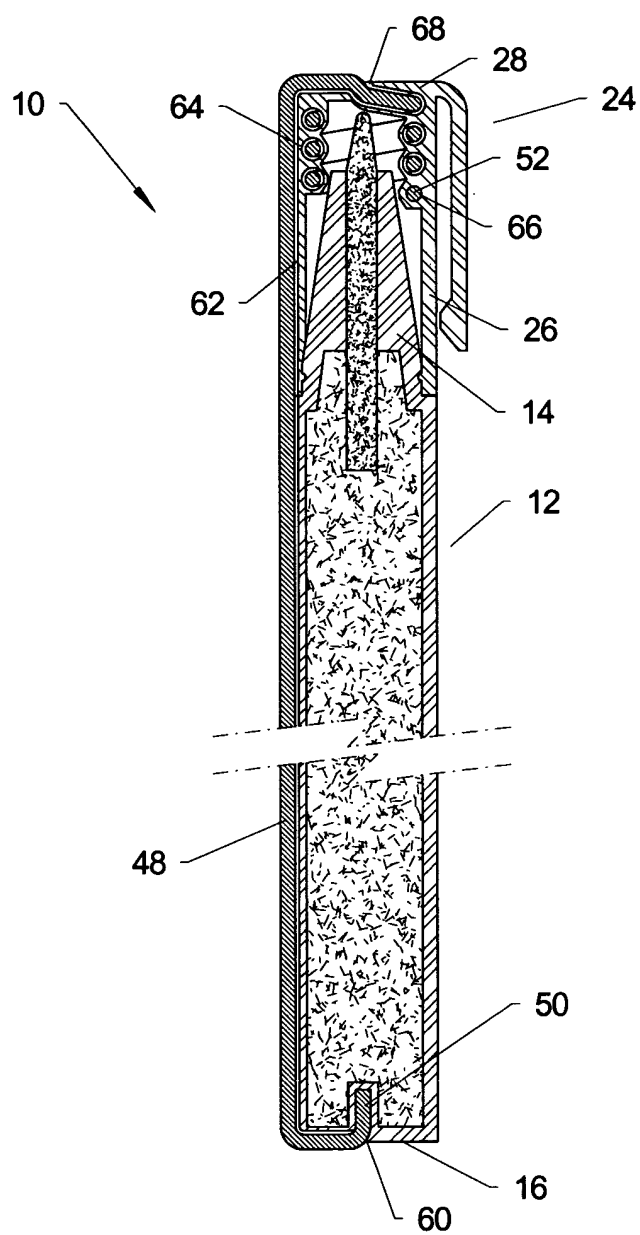


FIG. 12

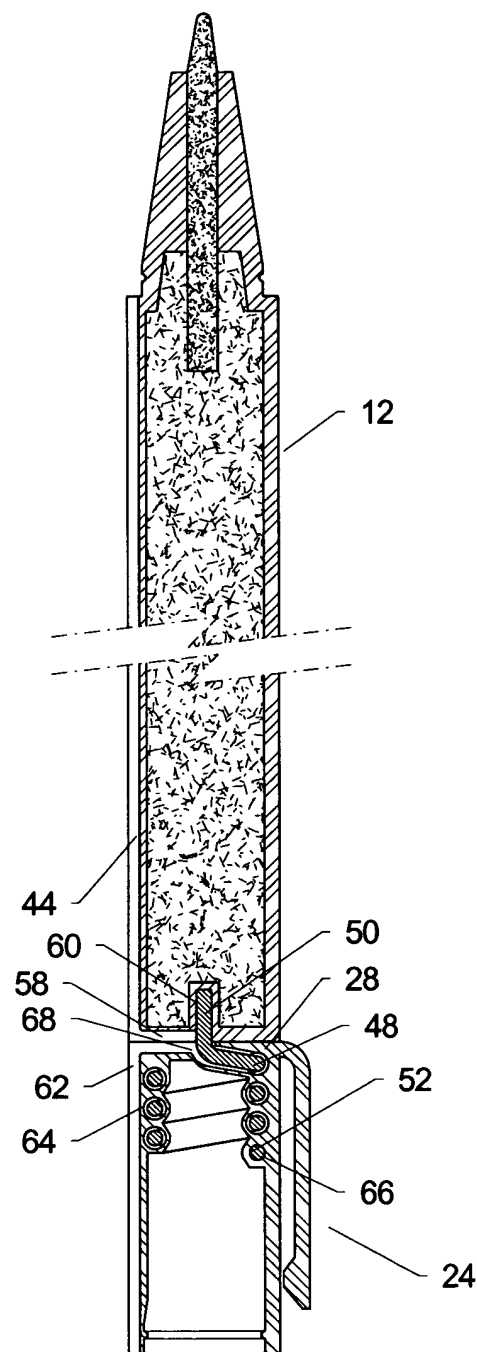


FIG. 13

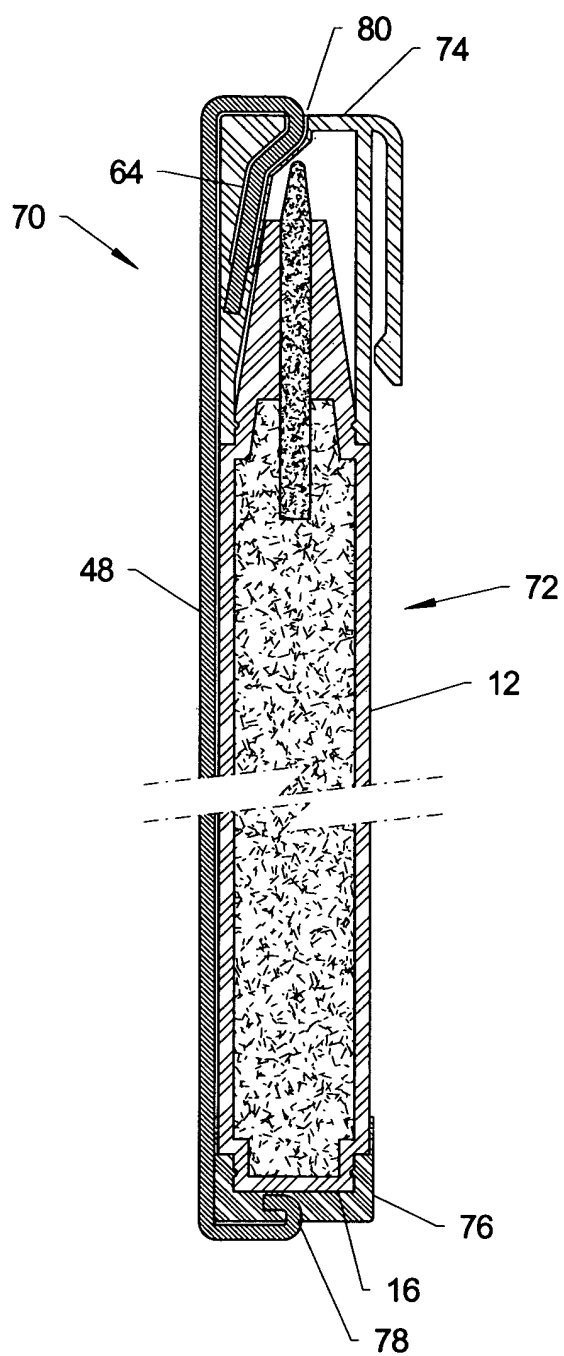


FIG. 14

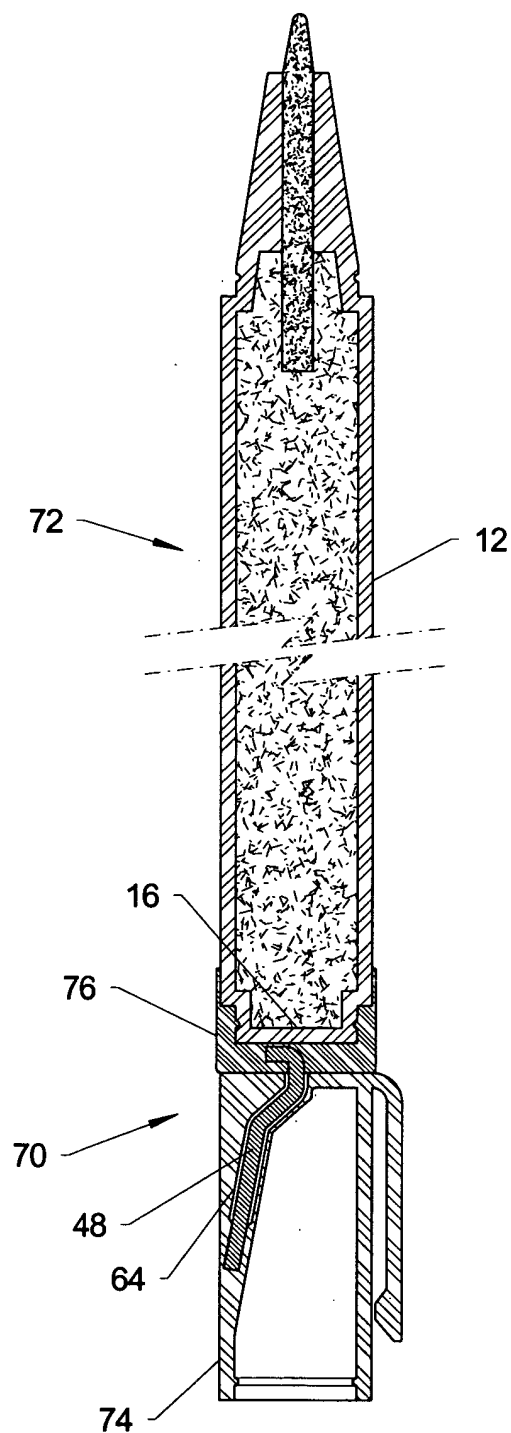


FIG. 15