

(19)



(11)

EP 4 159 468 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
05.04.2023 Bulletin 2023/14

(51) International Patent Classification (IPC):
B43K 24/02 ^(2006.01) **B43K 24/03** ^(2006.01)
B43K 24/08 ^(2006.01)

(21) Application number: **21200156.4**

(52) Cooperative Patent Classification (CPC):
B43K 24/026; B43K 24/03; B43K 24/084

(22) Date of filing: **30.09.2021**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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(54) **WRITING INSTRUMENTS**

(57) The present disclosure relates to a writing instrument (10)) comprising:

- a barrel (12) having a longitudinal axis (X),
- a writing tip (22),
- a writing tip extension-retraction system (20) configured to slide axially inside the barrel between an extended position and a retracted position wherein the writing tip respectively extends outside the barrel and is retracted inside the barrel,
- a locking system (34) movable between a locked position wherein the locking system is engaged with the sys-

tem (20) in the extended position to lock the latter in this position and an unlocked position wherein the locking system is disengaged from the system (20).

The system (20) comprises a movable unlocking member (44) configured to be moved rearwardly when the instrument is moved from a writing to a rest position. This movement causes the locking system (34) to move from the locked position to the unlocked position under the action of a weight of the movable unlocking member (44).

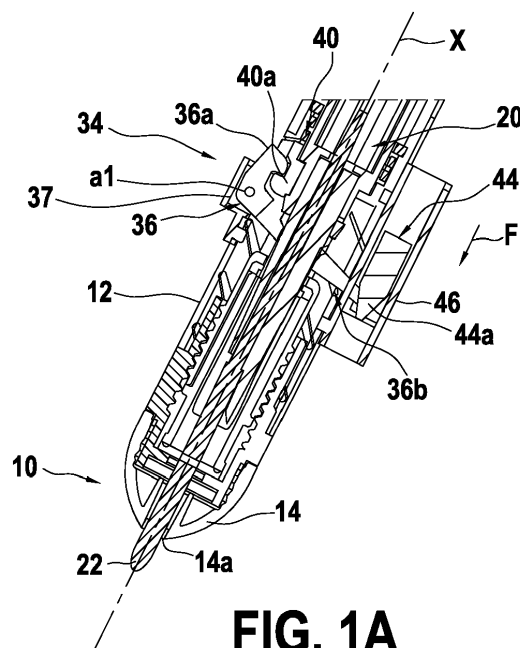


FIG. 1A

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Description

Technical Field

[0001] The present disclosure relates to the field of writing devices. More specifically, the present disclosure relates to writing devices with a writing tip that can be extended and retracted.

Background

[0002] Writing instruments comprising a barrel and a writing tip that can be extended outside the barrel for writing purpose when a user actuates a writing tip extension-retraction system inside the barrel and retracted inside the barrel when the user does no longer need to use the writing instrument are largely known.

[0003] Further, prior art systems which automatically retract the writing tip of a writing instrument inside the barrel are also known, such as systems described in patent documents US 10,532,601 B2, US 2004/228671 A1 and US 8,100,598 B2.

[0004] However, these systems need actuation by the user which may forget to retract back the writing tip after using the writing instrument thereby e.g. drying writing tip for those writing implements using ink or keeping the writing tip more vulnerable e.g. in the writing implement falls down.

[0005] The present disclosure aims to address one or more problems in the prior art.

Summary

[0006] In a first aspect, the present disclosure relates to a writing instrument. The writing instrument comprises a barrel having a longitudinal axis, a writing tip, and a writing tip extension-retraction system configured to slide axially inside the barrel between a first extended forward position wherein the writing tip extends outside the barrel and a second retracted rearward position wherein the writing tip is retracted inside the barrel from the first extended forward position along an axial rearward direction. The writing instrument further comprises a locking system movable between a locked position wherein the locking system is engaged with the writing tip extension-retraction system in the first extended forward position to lock the latter in this position and an unlocked position wherein the locking system is disengaged from the writing tip extension-retraction system. The writing tip extension-retraction system comprises a movable unlocking member configured to be moved in the axial rearward direction when the writing instrument is moved from a writing position to a rest position, wherein the rest position is a horizontal position or a position with the writing tip oriented upwardly, the movement of the movable unlocking member in the axial rearward direction causing the locking system to move from the locked position to the unlocked position under the action of a weight of the mov-

able unlocking member.

[0007] According to the first aspect, the writing tip extension-retraction system may be easily and reliably caused to move to a second retracted rearward position by merely moving (through a user) the writing instrument to an horizontal position or a position with the writing tip oriented upwardly without carrying out any other action such as exerting an effort on an actuation member, e.g. pulling, pressing etc.. An horizontal position or a position with the writing tip oriented upwardly or facing up may be considered as a rest position; i.e. a position in which the writing instrument is no longer configured for writing purpose. In the present disclosure, the horizontal orientation or upward orientation is defined relative to the floor or ground or a lying surface or support, e.g. a table, on which the writing instrument can be laid down in a rest position. The upward orientation of the writing tip more particularly defines an orientation that is opposed to the floor/ground (or a lying surface or support) where the writing tip faces up with respect to the floor/ground. The writing tip of the writing instrument would, in contrast, be oriented downwardly if it were facing the floor/ground or a lying surface or support. In the present disclosure the retraction movement may be automatically achieved through re-orienting the writing instrument as described above, in particular through lifting the writing tip upwardly. More particularly, the natural movement of the user after writing is to lift the writing tip from the writing surface and positioning the writing instrument either horizontally or even with the writing tip facing up. The gesture of the user may cause a weight to move relative to the writing instrument and, notably the locking system thereof, thereby causing unlocking of the latter thanks to the displacement of the weight.

[0008] In some embodiments, the locking system comprises a first part configured to be engaged with the writing tip extension-retraction system and a second movable part configured to be subject to forwardly oriented pressure forces.

[0009] In some embodiments, the second movable part is moveable between a first forward position wherein it is subject to forwardly oriented pressure forces and at least one second rearward position wherein it is no longer subject to forwardly oriented pressure forces, the first part being kept engaged with the writing tip extension retraction system in the locked position as long as the second movable part is in the first forward position, the movement of the movable unlocking member causing the second movable part to move from the first forward position to the at least one second rearward position.

[0010] In some embodiments, the locking system comprises a trigger member which comprises the first part configured to be engaged with the writing tip extension-retraction system.

[0011] In some embodiments, the trigger member has a head which is the first part of the locking system and a tail.

[0012] In some embodiments, the trigger member or

at least the head thereof is able to pivot about an axis that is perpendicular to the longitudinal axis of the barrel.

[0013] In some embodiments, the head has a hooked shape at one end to engage with a first portion of the writing tip extension-retraction system.

[0014] In some embodiments, the tail is the second movable part.

[0015] In some embodiments, the movable unlocking member comprises a weight that is axially movable between a first forward position wherein the weight is configured to attract downwardly by gravity the tail of the trigger member in the first forward position when the writing instrument is in the writing position and at least one second forward position wherein the weight is no longer configured to attract downwardly the tail when the writing instrument is moved to an horizontal position or a position with the writing tip oriented upwardly, thereby enabling tail of the trigger member to move rearwardly toward at least one second rearward position which causes pivoting of the head of the trigger member and disengagement from the writing tip extension-retraction system.

[0016] In some embodiments, the movable unlocking member weight is born by the tail.

[0017] In some embodiments, the movable unlocking member is a weight member external to the trigger and configured to push on the tail by gravity when the writing instrument is in the writing position.

[0018] In some embodiments, the writing instrument comprises a lateral housing fixed to the barrel and the weight member configured to slide axially within the housing.

[0019] In some embodiments, the housing has an inner forward portion that is tapered toward a forward most end of the housing.

[0020] In some embodiments, the writing instrument comprises a biasing member configured to bias the writing tip extension retraction system in the rearward direction.

[0021] In some embodiments, the biasing member is a spring.

Brief Description of the Drawings

[0022]

Figures 1A to 1C show a first exemplary embodiment of a writing instrument of the present disclosure.

Figure 1D shows a variant embodiment of the exemplary embodiment of figures 1A-1C.

Figures 2A to 2C show a second exemplary embodiment of a writing instrument of the present disclosure.

Detailed Description

[0023] Hereinafter, a detailed description will be given

of the present disclosure. The terms or words used in the description and the aspects of the present disclosure are not to be construed limiting as only having common-language or dictionary meanings and should, unless specifically defined otherwise in the following description, be interpreted as having their ordinary technical meaning as established in the relevant technical field. The detailed description will refer to specific embodiments to better illustrate the present disclosure, however, it should be understood that the presented disclosure is not limited to these specific embodiments.

[0024] In the present disclosure the term "gravity" naturally refers to the newtonian gravitational acceleration created by the earth and the term "gravity direction" refers to the direction of the acceleration which is oriented downwardly with respect to the location where the writing instrument is located.

[0025] In a first exemplary embodiment, the present disclosure relates to a writing instrument as shown in figures 1A to 1C of which the description follows. Figure 1A is a schematic partial view of a writing instrument oriented in a writing position, i.e. oriented obliquely when handled by a user for writing purpose. Figures 1B and 1C are schematic overall views of the writing instrument and the following description will be made with reference to figures 1A to 1C simultaneously as some details of the writing instrument do not appear on all the figures. The writing instrument may be a marker, a felt pen, a highlighter, a ball point pen, a permanent or non-permanent marker or any other type of writing instrument with an extension and retraction mechanism for extending and retracting a writing tip of the instrument when necessary.

[0026] The writing instrument 10 may comprise a barrel or tubular body 12 having a longitudinal axis X. The tubular body may be a unitary body, or may comprise multiple components. In Figure 1A, a portion of the length of the barrel has been withdrawn to show the internal mechanism involved in the present disclosure.

[0027] The writing instrument 10 may comprise at a first forward end of the instrument a tip component 14 comprising a writing orifice 14a which is located at the distal end of the tip component 14. The writing instrument 10 may comprise, at a second opposed rearward end of the instrument (only visible on figures 1B and 1C), a clip 16 for clipping the instrument onto a support, a piece of clothes etc. The clip may be actuated by a user, e.g. by pressing the latter with a finger (e.g. the thumb) forwardly along the axis X so as to cause extension of the writing tip of the instrument through the writing orifice 14a in a known manner. To be noted that other actuating members may alternatively be used for causing writing tip extension. The writing instrument 10 may further comprise in the tubular body a tank (not shown in Figure 1A) for storing a writing ink used by the writing tip. The writing instrument 10 may further comprise a filler cap 18 disposed between the barrel 12 and the clip 16 (figs. 1B-C). The clip 16 may be firmly engaged around the protruding end of the filler cap 18 so as to cover the latter as shown

in figures 1B-C. The barrel 12 may extend longitudinally from the tip component 14 toward the rear part of the instrument where the clip 16 is located. As shown in figures 1B and 1C, the barrel 12 may extend longitudinally in a rearward direction so as to cover as a sheath the internal components of the writing instrument, including a forward end of the filler cap 18 while leaving the clip 16 uncovered.

[0028] The writing instrument 10 may comprise, within the barrel 12, a writing tip extension-retraction system or mechanism 20 that is configured to slide axially (along axis X) inside the barrel between a first extended forward position wherein the writing tip 20 extends outside the distal writing orifice 14a (figures 1A and 1B) and a second retracted rearward position illustrated in figure 1C in which the writing tip 22 has been retracted inside the barrel along an axial rearward direction (arrow R on figure 1B) from the first extended forward position of figures 1A and 1B.

[0029] The writing tip extension-retraction system 20 may further comprise other internal components such as a nib 24 of which a first end forms the writing tip 22 and a nib holder 26 (e. g. a sleeve surrounding the nib) which may at least partly surround the nib 24 and firmly maintain the latter inside the nib holder 26 (figures 1D-E). The nib 24 is fixed inside the nib holder 26 and the latter is fixed to an inner tube 28 (containing the ink tank), e.g. through tight engagement or insertion of the second opposed end of the nib 24 into an opened first end of the inner tube 28. The inner tube 28 extends rearwardly and is configured to move in accordance with the mechanism 20 between a position that is located proximate the rear end of the barrel 12, in the first forward extended position of figure 1B, and a position located beyond the rear end of the barrel 12 in the second rearward retracted position of figure 1C. The filler cap 18 may be tightly mounted inside a second opposed end of the inner tube 28, e.g. by press-fit, so as to ensure air tight and prevent ink from evaporating. To be noted that the clip can be used as a filler cap: thus, instead of having a filler cap and a clip, one piece may serve for both elements.

[0030] The writing instrument 10 may further comprise a biasing member 30 (e.g. a spring) that is longitudinally disposed in the instrument and has two opposite ends along its longitudinal dimension: one end, 30a, may rest against at least one fixed stop 32 that is arranged on an inner surface of the barrel 12 (figs. 1B-C), e.g. under the form of a peripheral inner ridge, and the opposite end 30b of biasing member 30 may press against a rear part of the inner tube 28, here on an outside shoulder 28a thereof. Thus the biasing member 30 is positioned between a fixed part 32 of the barrel and the inner tube 28 so as to exert permanent rearward pulling forces on the latter (in rearward direction R) which tend to pull rearwardly the inner tube 28, and therefore the writing tip extension-retraction system 20 toward the second retracted position of figure 1C.

[0031] The writing instrument 10 may further comprise

a locking system 34 that is movable between two positions:

- a first locked position wherein it engages with the writing tip extension retraction system 20 in the first extended forward position of figures 1A-1B so as to lock the latter in this position and withstand the biasing forces exerted in the rearward direction by the biasing member 30;
- and a second unlocked position wherein it is disengaged from the writing tip extension-retraction system 20, and does therefore no longer counter the biasing forces, thereby enabling rearward sliding of the system 20 as shown in figure 1C which reaches the second retracted rearward position.

[0032] More particularly, as shown in the enlarged drawings of figures 1B and 1C, the locking system 34 may comprise both a first part which may be part of a trigger member 36 and configured to be engaged with a first portion of the writing tip extension-retraction system 20 and a second movable part which is configured to be subject to forwardly oriented pressure forces which press forwardly, i.e. toward the forward tip component 14 in the direction of arrow F in figure 1A when the writing instrument is in a writing position..

[0033] The trigger member 36 may have an head 36a which corresponds to the first part of the locking system 34 and a tail 36b which corresponds to the above second movable part. The trigger member may have an overall shape of an ax or a hammer.

[0034] As shown in figure 1A, the head 36a is able to pivot about a pin axis a1 that is perpendicular to the longitudinal axis X of the barrel in the section planes of the figures. The remaining part (body) of the trigger member including the tail 36b may be movable, e.g. pivoting, in embodiments. In the present case the trigger member 36 is pivotally mounted about pin axis a1 so that under a pivoting motion of the the trigger member 36 the head 36a can move forwardly while the tail 36b moves rearwardly (rearward direction R) as shown in figure 1B To be noted that the head 36a could pivot differently relative to the body of the trigger member. For instance, the pin could be a separate component as a metallic pin that is assembled with the trigger member 36. The head 36a may have a hooked shape at one end so as to engage with a first portion of system 20. The head 36a of the trigger member 136 may be accommodated in a hole in the barrel and maintained therein by a holder component 37 which may be laterally disposed relative to the longitudinal axis X of the writing instrument. The holder component 37 can be mounted on the barrel by press-fit, snap-fit or by using glue. The writing tip extension-retraction system 20 may further comprise a member 40, called shock absorber, that is fixed, e.g. through snap-fit, to the first end of the inner tube 28 where the nib 24 is engaged. The shock absorber 40 has an overall shape of a ring or an annular component surrounding the inner tube first

end with a longitudinally (here downwardly on figure 1A when the writing instrument is in a writing position) protruding portion or extended tab 40a provided with an externally-oriented edge, groove or the like on which the hook shape of the trigger head 36a may engage in the locked position of figures 1A-B. The longitudinally extended tab 40a may extend beyond the inner tube first end so as to be able to elastically deform in a transverse or radial direction relative to the longitudinal axis X (e.g. inwardly). Thus, the writing instrument 10 has a locking zone formed by engagement of the trigger member head 36a with the protruding portion 40a of the shock absorber 40 of the writing tip extension-retraction system 20.

[0035] The writing tip extension-retraction system 20 may further comprise a movable unlocking member 44 that is configured to be moved in the axial rearward direction (R) when the writing instrument is moved from a writing position as shown in figures 1A to a rest position such as an horizontal position as shown in figures 1B-C that is parallel to the floor or ground or to a lying surface (e.g. table etc.).

[0036] The above-mentioned forwardly oriented pressure forces exerted on the tail 36b of the trigger member 36 may be exerted by the movable unlocking member 144 which may be a weight member external to the trigger member 36 and the barrel 12 and configured to push on the tail 36b by gravity when the writing instrument is in the writing position of figure 1A. The writing instrument may further comprise a lateral housing 46 that is laterally fixed to the barrel 12 outside thereof as shown in figures 1A-C, here in an axial position that substantially corresponds to the location in the writing instrument of the trigger member 36. The housing 46 has an overall elongate shape and is hollow so as to accommodate the movable unlocking member 44 therein and allow the latter to slide axially within the housing, depending on the inclination of the writing instrument as shown in figures 1A and 1B. The housing 46 may be mounted in the barrel by snap-fit, press-fit or by using glue. The housing 46 may be located in a diametrically opposite position relative to the holder component 37.

[0037] The housing 46 may be further configured internally at its forward most end with an inner tapering portion that is tapered forwardly, i.e. toward a forward most end of the housing, and flares out rearwardly. In examples, the inner tapered portion may take the shape of internal inclined ribs 48 (figs. 1B-C) which may form a seat for receiving the weight member 44 (movable unlocking member) in the writing position of figure 1A. Here, the seat may have a conical geometry (the tip of the cone is oriented forwardly), which makes it possible for the movable unlocking member 44 to be aided in sliding rearwardly inside the housing when the writing instrument is placed in a rest position as the horizontal position of figures 1B-C. In embodiments, the weight member 44 has an elongate shape as a cylinder and, more particularly, has a conical geometry at its forward end 44a so as to

intimately cooperate with the conical geometry of the seat. However, other geometries can be envisaged for the seat and the weight member 44.

[0038] As long as the tail 36b is submitted to the forwardly-oriented forces (arrow F) exerted by the weight of the weight member 44 (due to gravity attraction which attracts the member downwardly) in the writing position of figure 2A (the writing instrument 10 is placed in an inclined writing position relative to the floor or the lying surface or support, e.g. a table, on which a user intends to use the instrument), the tail is pushed forwardly in a first forward position, which maintains the trigger member head 36a engaged with the writing tip extension retraction system 20 in the locked position (first extended forward position of the writing tip extension-retraction system 20 where the writing tip 22 extends outside the barrel). The above-described locking mechanism in the locked position makes it possible to withstand the biasing forces exerted by the biasing member 30 in the rearward direction R.

[0039] When the writing instrument 10 is moved from the writing position to a rest position such as an horizontal position relative to the floor as shown in figure 1B (or a position not represented on the drawings with the writing tip oriented upwardly, i.e. in a direction away from the floor), the weight member 44 is naturally moved rearwardly within the housing 46, sliding axially therein, due to its weight and to the inner tapering portion 48 of the housing. The rearward displacement of the weight member 44 releases the forwardly oriented pressure forces exerted on the tail 36b. Owing to the absence of such pressure forces on the tail 36b the trigger member head 36a can no longer withstand on its own the rearwardly-oriented biasing forces exerted by biasing member 30 and disengages from protruding portion 40a of shock absorber 40 (unlocking). This causes the trigger member 36 to pivot rearwardly about pivot axis a1 in direction R as shown in figures 1B and the system 20 to move rearwardly to the second retracted unlocked position of figure 1C (the locking system is thus caused to move from the locked position to the unlocked position).

[0040] The writing tip extension-retraction system 20 is thus automatically released without any specific action from a user (except the change in position of the writing instrument from a writing position to a rest position such as an horizontal position or even to a position where the writing tip is facing upwardly and the clip 16 downwardly) and can slide rearwardly inside the barrel under the action of biasing member 30, which is no longer compensated for, to occupy the second retracted unlocked position of figure 1C.

[0041] As shown in figure 1D, a variant embodiment of a writing instrument 10' is depicted with a movable unlocking member formed by a sphere or ball 44' that is configured to push forwardly on the tail 36b' of the trigger member 36' in a writing position of the writing instrument (locked position) where sphere or ball 44' plays the same role as cylindrical weight 44 of figure 1A. As for the figures

1A-1C embodiment, the sphere or ball 44' is accommodated in a housing 46' where it can slide axially when the writing instrument is moved to a rest position such as a horizontal position as that of figure 1B. With such a change in position the sphere or ball 44' is naturally moved rearwardly toward the unlocked position (similar to that of figures 2B and 2C), thanks to its weight and the tapered inner portion 48' of the housing, thereby alleviating the pressure forces exerted on trigger member tail 36b' and enabling unlocking of the mechanism and retraction of the writing tip as already explained with reference to figures 1A-1C. To be noted that all the above description of the figures 1A-1C embodiment also applies here and will not be repeated.

[0042] A second exemplary embodiment of a writing instrument 110 is illustrated in figures 2A-2C.

[0043] All the corresponding numeral references of figures 1A-1C are taken over here, preceded by "1" and will not be repeated unless necessary. As for the previous embodiment, the trigger member 136 is pivotally mounted and engaged through its head 136a (first part of a locking system 134) with the protruding portion or extending tab 140a (longitudinally-extending portion) of the shock absorber 40 (writing tip extension-retraction system 120).

[0044] In embodiments, the second movable part of the locking system which is here the trigger member tail 136b is movable between:

- a first forward position (figure 2A) wherein it is subject to forwardly oriented pressure forces (arrow F) and the writing instrument 110 is in a writing position, and
- at least one second rearward position wherein it is no longer subject to forwardly oriented pressure forces as shown in figure 2C (arrow R).

[0045] The first part 136a of the locking system is kept engaged with the writing tip extension retraction system 120 in the locked position as long as the second movable part 136b is in the first forward position.

[0046] As for the previous embodiment, the movement of a movable unlocking member caused by change in position of the writing instrument will cause the second movable part 136b to move rearwardly (R) from the first forward position to the at least one second rearward position.

[0047] In embodiments, the trigger member tail 136b bears or embodies a weight 136b1 that forms here the movable unlocking member (this is an additional weight to the normal weight of the mere tail which is generally made of plastic). When the writing instrument 110 is in a writing position as shown in figure 2A, the weight of the tail 136b (i.e. with the added weight 136b1) attracts the latter downwardly (in a forward direction F), which therefore enables locking of the writing tip extension-retraction system 120 through the engagement locking zone 136a-140a as described above.

[0048] When the writing instrument 310 is moved by a

user from a writing position such as that of figure 2A to a rest position in which the writing tip 322 is oriented upwardly (figure 2B), (the remaining part of the instrument, in particular clip 116, is oriented downwardly and lower than the writing tip 122), the weight 136b1 borne by the tail 136b is pulled rearwardly under the action of gravity (attraction forces) as indicated by arrow R. This movement causes pivoting of the trigger member 136 about its pivoting axis a' and disengaging of the head 136a from the protruding portion 140a of the shock absorber 140, thereby unlocking writing tip extension-retraction system 120 (the biasing member 130 exerts rearward forces on the system which tend to retract the latter in a second retracted rearward position where the writing tip 122 is in a retracted position). To be noted that, as for the previous embodiments, the head 136a may be accommodated in a hole in the barrel and maintained therein by a holder component 137 which may be laterally disposed relative to the longitudinal axis X of the writing instrument. The holder component 137 can be mounted on the barrel by press-fit, snap-fit or by using glue.

[0049] Therefore the mere change in position of the writing instrument 110 as described above makes it possible to automatically unlock the writing tip extension-retraction system 120 and cause the latter to move to a second retracted rearward position wherein the writing tip 122 is retracted inside the barrel (figure 2C).

[0050] To be noted that all the above description of the figures 1A-1D embodiment also applies here, except for incompatible aspects, and will not be repeated.

[0051] Although the embodiments of the present disclosure have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications and alterations are possible, without departing from the spirit of the present disclosure. It is also to be understood that such modifications and alterations are incorporated in the scope of the present disclosure and the accompanying claims.

Claims

1. A writing instrument (10; 110) comprising:

- a barrel (12; 112) having a longitudinal axis (X),
- a writing tip (22; 122),
- a writing tip extension-retraction system (20; 120) configured to slide axially inside the barrel between a first extended forward position wherein the writing tip extends outside the barrel and a second retracted rearward position wherein the writing tip is retracted inside the barrel from the first extended forward position along an axial rearward direction,
- a locking system (34; 134) movable between a locked position wherein the locking system is engaged with the writing tip extension retraction system in the first extended forward position to

lock the latter in this position and an unlocked position wherein the locking system is disengaged from the writing tip extension-retraction system,

the writing tip extension-retraction system (20; 120) comprising a movable unlocking member (44; 136b1) configured to be moved in the axial rearward direction when the writing instrument is moved from a writing position to a rest position, wherein the rest position is a horizontal position or a position with the writing tip oriented upwardly, the movement of the movable unlocking member in the axial rearward direction causing the locking system to move from the locked position to the unlocked position under the action of a weight of the movable unlocking member (44; 136b1).

2. The writing instrument of claim 1, wherein the locking system comprises a first part (36a; 136a) configured to be engaged with the writing tip extension-retraction system and a second movable part (36b; 136b) configured to be subjected to forwardly oriented pressure forces.
3. The writing instrument of claim 2, wherein the second movable part (36b; 136b) is moveable between a first forward position wherein it is subject to forwardly oriented pressure forces and at least one second rearward position wherein it is no longer subject to forwardly oriented pressure forces, the first part (36a; 136a) being kept engaged with the writing tip extension retraction system (20; 120) in the locked position as long as the second movable part (36b; 136b) is in the first forward position, the movement of the movable unlocking member (44; 136b1) causing the second movable part to move from the first forward position to the at least one second rearward position.
4. The writing instrument of claim 2 or 3, wherein the locking system comprises a trigger member (36; 136) which comprises the first part configured to be engaged with the writing tip extension-retraction system.
5. The writing instrument of the preceding claim, wherein the trigger member has a head (36a; 136a) which is the first part of the locking system and a tail (36b; 136b).
6. The writing instrument according to the preceding claim, wherein the trigger member or at least the head thereof is able to pivot about an axis that is perpendicular to the longitudinal axis of the barrel.
7. The writing instrument of claim 5 or 6, wherein the head (36a; 136a) has a hooked shape at one end to engage with a first portion of the writing tip extension-

retraction system (20).

8. The writing instrument of any of claims 5 to 7 when the latter depends on claim 3, wherein the tail (36b; 136b) is the second movable part.
9. The writing instrument of claim 5 or 8 when they depend on claim 3, wherein the movable unlocking member comprises a weight (44; 136b1) that is axially movable between a first forward position wherein the weight is configured to attract downwardly by gravity the tail of the trigger member in the first forward position when the writing instrument is in the writing position and at least one second forward position wherein the weight (44; 136b1) is no longer configured to attract downwardly the tail (36b; 136b) when the writing instrument is moved to an horizontal position or a position with the writing tip oriented upwardly, thereby enabling the tail (36b; 136b) of the trigger member to move rearwardly toward at least one second rearward position which causes pivoting of head (36a; 136a) of the the trigger member and disengagement from the writing tip extension-retraction system (20; 120).
10. The writing instrument of the preceding claim, wherein the movable unlocking member weight (136b1) is borne by the tail (136b).
11. The writing instrument of claim 8, wherein the movable unlocking member is a weight member (44) external to the trigger member (36) and configured to push on the tail by gravity when the writing instrument is in the writing position.
12. The writing instrument of the preceding claim, wherein the writing instrument comprises a lateral housing (46) fixed to the barrel (12) and the weight member (44) is configured to slide axially within the housing.
13. The writing instrument of the preceding claim, wherein the housing (46) has an inner forward portion (48) that is tapered toward a forward most end of the housing.
14. The writing instrument of any one of the preceding claims, wherein the writing instrument (10; 110) comprises a biasing member (30; 130) configured to bias the writing tip extension retraction system (20; 120) in the rearward direction.
15. The writing instrument of claim 14, wherein the biasing member (30; 130) is a spring.

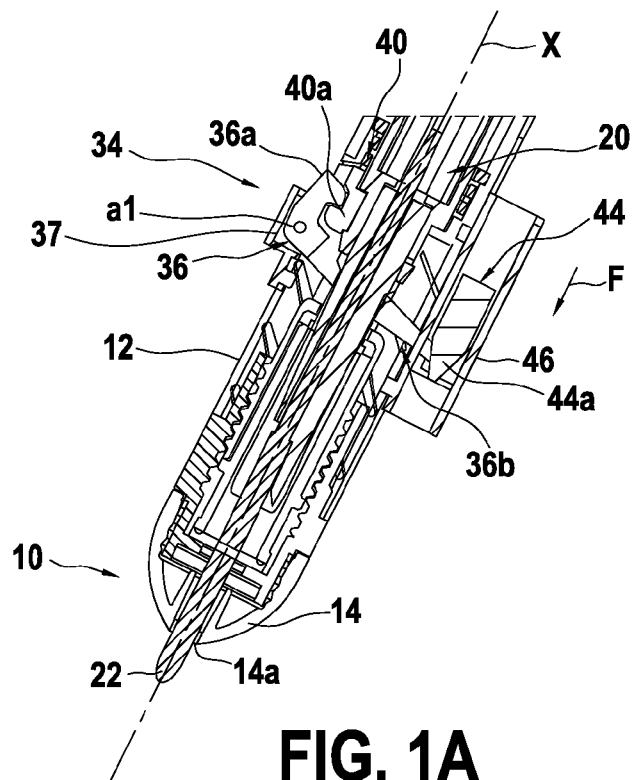


FIG. 1A

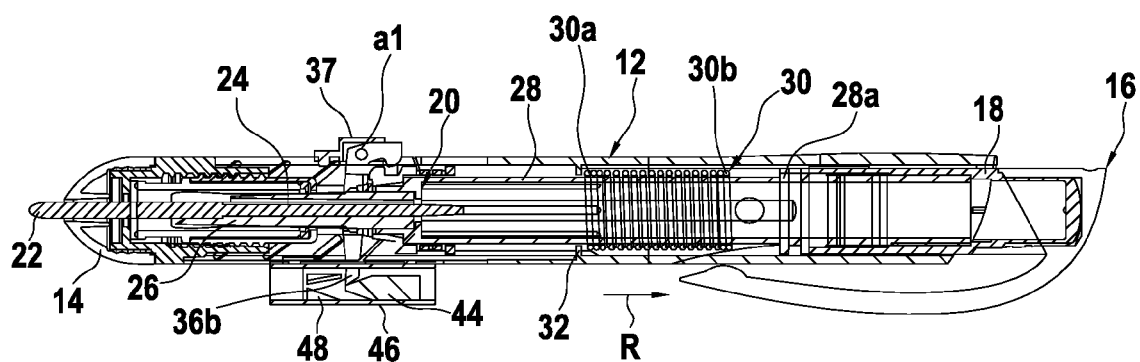


FIG. 1B

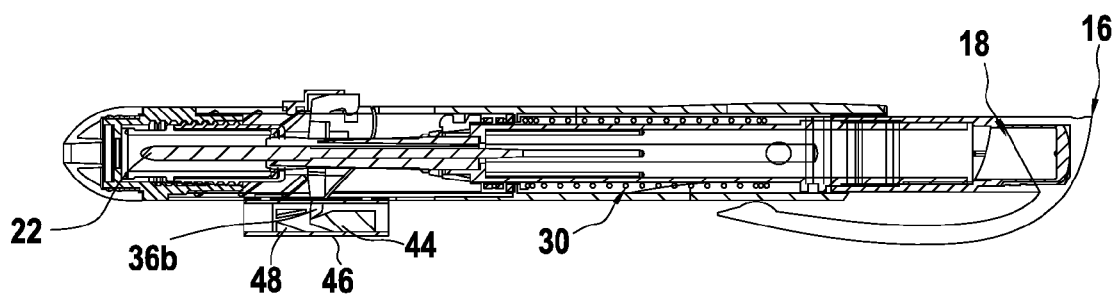


FIG. 1C

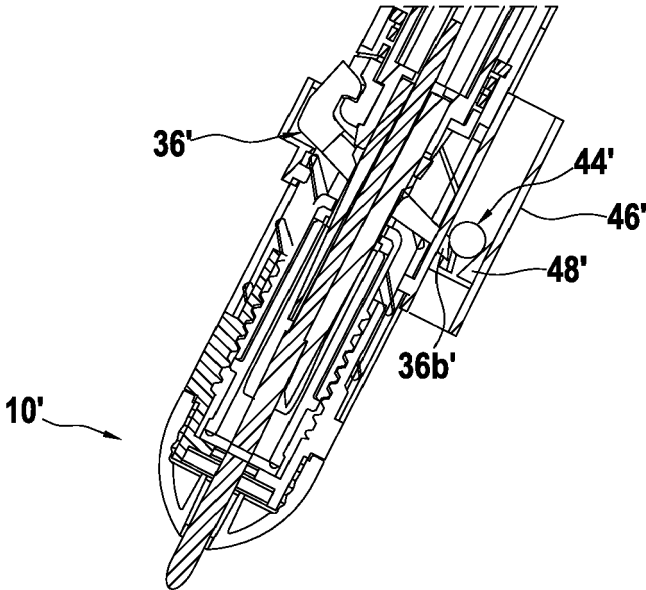


FIG. 1D

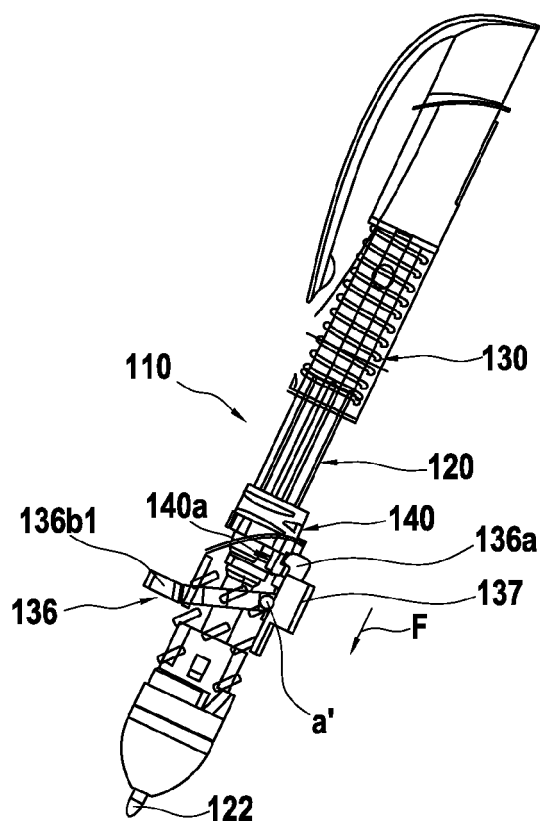


FIG. 2A

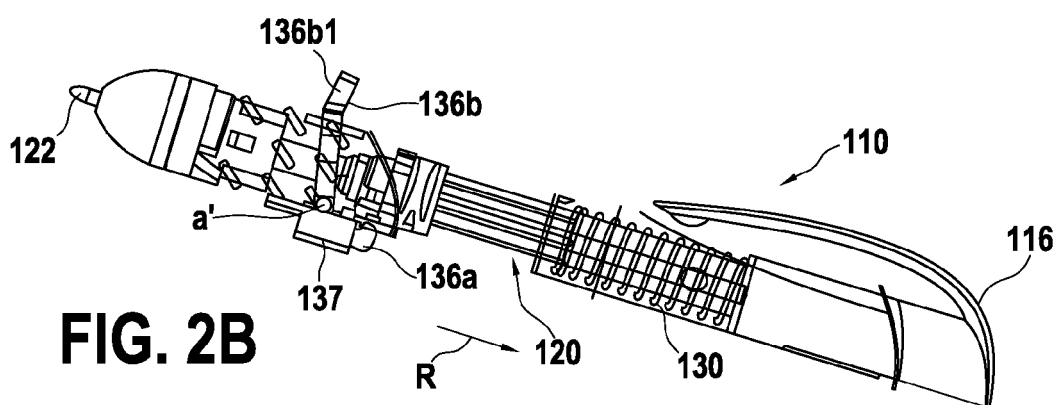


FIG. 2B

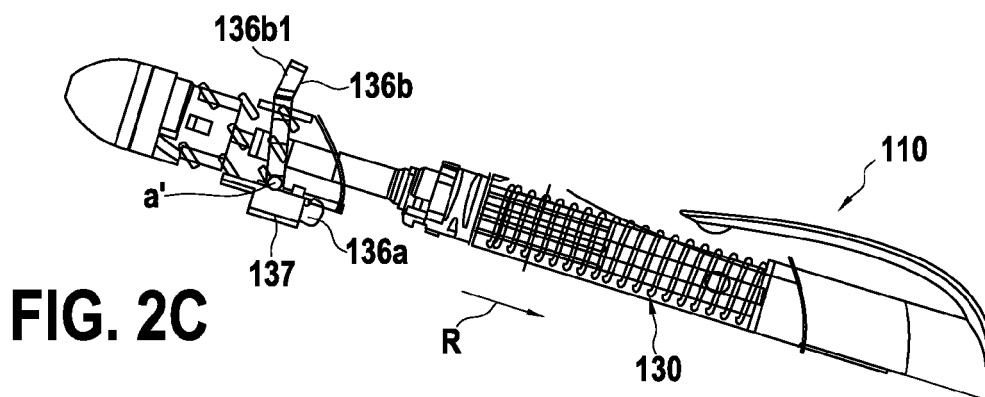


FIG. 2C



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