

The present invention relates to a pen or a similar object having an improved clip.

By pen is understood, according to the invention, any writing implement such as, especially, a fountain pen, ball-point pen, propelling pencil, felt-tip pen or similar comprising a tubular body and a rigid fastening clip extending in the longitudinal direction of the body and capable of moving, by pivoting, with respect to this body. The body which is concerned here can be composed either of the pen itself or of a removable cap.

The similar objects can be any object comprising a clip which especially allows its fastening, for example in a pocket of a garment.

Pen clips of the known types are either retractable, pivoting, or rigidly fixed to the body. In the latter case the clip works by the fact of its own resilience, which exhibits various drawbacks. In particular, it is difficult to make it possible for this clip to be adapted to pockets of garments of different thicknesses.

Known retractable clips and pivoting clips exhibit on their part the drawback of comprising a fragile and complex mechanism both for the fastening of the clip to the body and for the resilient return of the clip towards the body.

Thus, known pivoting clips are generally articulated in the region of their upper part on the body or on a part added to the latter, and comprise for their resilient-return towards the body a leaf spring extending the length of the clip and fixed at its lower part in the vicinity of the free end of the clip and at its upper part to the body or to a part added to the latter.

In luxury pens it is necessary, for reasons of prestige and aesthetics, that the assembly of the fastening and return mechanism and in particular the leaf spring be particularly reliable and invisible from the outside, so that the spring is usually housed inside the clip. This implies that the clip is at least in part hollow, which reduces its rigidity and renders it

fragile. Moreover, the clip is generally susceptible to a relatively significant lateral displacement in the region of its free end, and this, following repeated stresses of the clip, can lead to a damaging of the fastening and return mechanism of the latter.

The present invention proposes to supply a pen comprising an improved fastening and resilient return mechanism of the clip, especially avoiding the drawbacks mentioned hereinabove and allowing a solid rigid clip to be used, the mechanism for fastening and for resilient return of the clip being perfectly invisible.

The invention proposes to enhance a pen, known in each of the documents GB-A-853,896, FR-A-2,279,568 and/or US-A-2,691,805, comprising a tubular body and a rigid fastening clip extending in the longitudinal direction of the body, the clip being integrally connected, at its upper part at at least one point, to a resilient member housed in the said body and immobilised with respect to the latter in the longitudinal direction and in the transverse direction. The pen according to the invention is essentially characterised in that the resilient member is composed of two superposed spring leaves extending in the longitudinal direction of the body, one, the inner one, immobilised with respect to the said body in the longitudinal direction and in the transverse direction, and the other, the outer one, in contact over part of its length with the clip and comprising an upper end part offset towards the outside, the two leaves being joined together and to the clip by a fixing member such as a screw. Preferably, the upper end part, offset towards the outside, of the outer spring leaf is also joined to the clip by a fixing member such as a screw.

In a preferred embodiment, the positioning of the clip in the longitudinal direction is obtained by the engagement of lateral curved tabs of the inner spring leaf in an annular groove section of the body.

With lateral tabs of great length, it is also possible to ensure a positioning of the inner leaf and

thus of the clip in the transverse direction.

However, in a preferred embodiment, this positioning in the transverse direction is obtained by the engagement of the longitudinal ends of the inner spring leaf in aligned longitudinal grooves, an upper and a lower respectively, formed in the inner wall of the body and/or in the outer wall of a sleeve arranged inside the body and integrally connected thereto.

In a particular embodiment, the inner spring leaf is of a greater length than the outer spring leaf and comprises, beyond the upper end of the outer spring leaf, an upper end part offset towards the inside and positioned in the said upper longitudinal groove.

Advantageously, in this embodiment, the lower ends of the two spring leaves coincide, and the lower end parts of the two spring leaves are housed in the lower longitudinal groove of the said sleeve. These lower end parts of the two spring leaves are preferably constructed slightly offset towards the inside.

In the case where an inner sleeve is provided, and in order to permit a simple assembly of the clip, the tubular body is made in two parts, an upper part and a lower part, capable of being put in place around the sleeve. The separating plane of the two parts of the body may be horizontal but is preferably inclined by an angle lying between 30 and 60° with respect to the longitudinal axis of the pen, preferably approximately 45°.

With the aim of making the invention better understood, an embodiment will now be described by way of an example which is in no way limiting, and referring to the appended drawing in which:

- Figure 1 is a view in cross-section of a pen lid according to the invention,
- Figure 2 is a diagrammatic breakdown view substantially in the direction of the arrow A of Figure 1, the clip having been removed for more clarity,
- Figure 3 is a cross-sectional view through III-III of Figure 1, and

- Figure 4 is a cross-sectional view through IV-IV of Figure 2.

5 In the drawing is illustrated a pen lid comprising a tubular body formed in two parts, an upper part 1, and a lower part 2, joined along a joining plane 3 which, in the example illustrated, is inclined substantially at 45° with respect to the longitudinal axis of the pen.

10 Inside the body 1, 2 is mounted a tubular sleeve 4 joined to the upper part of the body 1 by a fastening mechanism such as a conventional type screw and socket mechanism 5.

15 The pen according to the invention comprises a rigid solid clip 6 extending parallel to the longitudinal axis of the pen and comprising in the vicinity of its upper end a head part 7 projecting towards the inside.

For assembling the clip 6 onto the body, according to the invention there is provided a resilient member composed of two superposed spring leaves made from a flexible metal, for example made of spring steel, one 20 inner one 8, and one outer one 9.

The inner leaf 8 exhibits a greater length than the outer leaf 9.

25 As is seen in Figure 1, the leaves 8 and 9 bear against each other over part of their length and are joined together and to the head 7 of the clip by a member such as a fixing screw 10 passing through aligned orifices 11 and 11' of the leaves 8 and 9 and a bore 12 in the head 7 of the clip. The orifices 11 and 11' are 30 arranged in such a manner that the head of the screw 10 is housed in the thickness of the two superposed leaves 8 and 9.

35 As is best seen in Figure 1, the outer leaf 9 exhibits at its upper end a part 13 which is offset towards the outside and in which is made a hole 14 for the passage of a fastening member such as a screw 15 engaging in a bore 16 made in the head 7 of the clip above the bore 12.

Thus, the clip 6 is fastened at two points in the region of its head 7 to the outer leaf 9 which is itself joined by the screw 10 to the inner leaf 8.

5 This inner leaf 8 comprises, as is best seen in Figures 2 and 4, at the region of its part comprising the hole 11, two folded lateral lugs 17, the leaf 8 being put in place, in the zone comprising the folded lugs 17, in an annular groove section 18 of the outer wall of the upper part 1 of the body.

10 The respectively upper 19 and lower 20 end parts of the inner spring leaf 8, made offset towards the inside with respect to the part of the inner leaf 8 in contact with the outer leaf 9 in the zone of their common fastening, are engaged and held laterally in longitudinal
15 grooves, that is to say parallel to the axis of the pen, respectively an upper one 21 and a lower one 22, made in the outside wall of the sleeve 4.

In the embodiment shown, the two leaves 8 and 9 coincide in the region of their lower part, so that the
20 lower part 23 of the leaf 9 is also housed in the lower groove 22 of the sleeve 4.

Thus the resilient member formed by the two spring leaves 8 and 9 is immobilised both in the longitudinal direction as well as in the transverse direction
25 by the engagement of the corresponding parts of the spring leaves 8 and 9 in the grooves 18, 21 and 22.

When the pen equipped with the clip according to the invention is put in place in the pocket of a garment, the lower free end of the clip 6 is distanced, by the
30 thickness of the cloth, from the lower part of the body 2, the head 7 of the clip being brought to pivot against the effect of the spring leaves 8 and 9. Due to the longitudinal and transverse immobilisation of the resilient assembly composed of the leaves 8 and 9, the clip
35 pivots in a vertical plane without lateral displacement.

When the pen is removed, the effect of the resilient return of the spring leaves 8 and 9 returns the lower free end of the clip to the position illustrated in

Figure 1. This return is also made without any lateral displacement.

As is seen particularly in Figure 1, the two parts 1 and 2 of the body as well as the sleeve 4 exhibit, in the zone intended for the assembly of the clip, corresponding cavities for putting the spring leaves 8 and 9 in place and in order to allow the rocking of the head 7 of the clip in the direction of the body.

Assembly is done simply by fixing the two leaves 8 and 9 onto a clip with the aid of the screws 10 and 15, fitting the assembly thus composed onto a sleeve 4 and engaging the ends 19 and 20 of the spring leaf 8 in the corresponding longitudinal grooves 21 and 22 of the sleeve, and then putting the two parts 1 and 2 of the body in place on the sleeve respectively from above and from below and fixing them, the upper part 1 of the body being put in place in such a way that the curved lugs 17 of the spring leaf 8 engage in the annular groove section 18 of the body.

Although the invention has been described in relation to a particular embodiment, it is of course evident that it is in no way limited to this and that different variants and modifications can be introduced without in any way departing from its scope as claimed by the claims.

Thus, in particular, it is not necessary the two parts 1 and 2 of the body be assembled on a plane 3 arranged obliquely with respect to the longitudinal axis of the pen.

It is necessary only that in the zone of the body, in relation to the clip, that the plane of separation between the upper part of the body and the lower part of the body be below the lower end of the head 7 of the clip.

Finally, as already indicated, the clip can be made not on a lid but on the pen itself, the body 1, 2 then being the body of the pen, the part 1 composing the upper part of it.



Claims

1. Pen comprising a tubular body and a rigid fasten-
ing clip extending in the longitudinal direction of the
body and capable of moving, by pivoting, with respect to
5 this body, the clip (6) being integrally connected, at
its upper part (7) at at least one point, to a resilient
member (8,9) housed in the said body (1,2) and immo-
bilised with respect to the latter in the longitudinal
direction and in the transverse direction, characterised
10 in that the said resilient member is composed of two
superposed spring leaves (8,9) extending in the longitud-
inal direction of the body, one, the inner one (8),
immobilised with respect to the said body in the long-
itudinal direction and in the transverse direction, and
15 the other, the outer one (9), in contact over part of its
length with the clip and comprising an upper end part
(13) offset towards the outside, the two leaves (8,9)
being joined together and to the clip by a fixing member
such as a screw (10).
- 20 2. Pen according to Claim 1, characterised in that
the upper end part (13), offset towards the outside, of
the outer spring leaf (9) is also joined to the clip by
a fixing member such as a screw (15).
3. Pen according to either of Claims 1 and 2,
25 characterised in that, in order to position the clip in
the longitudinal direction, the inner spring leaf (8)
comprises lateral curved tabs (17) engaging in an annular
groove section (18) of the body.
4. Pen according to any one of Claims 1 to 3,
30 characterised in that, in order to position the clip in
the transverse direction, the longitudinal ends (19,20)
of the inner spring leaf (8) engage in aligned longitud-
inal grooves (21,22), an upper and a lower respectively,
formed in the inner wall of the body and/or in the outer
35 wall of a sleeve (4) arranged inside the body (1,2) and
integrally connected thereto.
5. Pen according to Claim 4, characterised in that
the inner spring leaf (8) is of a greater length than the



outer spring leaf (9) and comprises, beyond the upper end (13) of the outer spring leaf, an upper end part (19) offset towards the inside and positioned in the upper longitudinal groove (21).

- 5 6. Pen according to either of Claims 4 and 5, characterised in that the lower ends of the two spring leaves coincide, and the lower end parts (20,23) of the two leaves are accommodated in the said lower longitudinal groove (22).
- 10 7. Pen according to Claim 6, characterised in that the lower end parts (20,23) of the two spring leaves (8,9) are constructed slightly offset towards the inside.
8. Pen according to any one of the preceding claims, characterised in that the body is made in two parts, an
- 15 upper part (1) and a lower part (2).
9. Pen according to Claim 8, characterised in that the separating plane of the two parts of the body is inclined by an angle lying between 30 and 60°, and preferably approximately 45°, with respect to the
- 20 longitudinal axis of the pen.