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(54) Ink cartridge for ball point pens with integral gripping section

(57) *Point (1) for ballpoint pens (2) presenting an ink cartridge (10), a brass tip (3) provided with a ball, and a main body (5) provided with a writing portion (6) which*

is connected to the tip (3), and with an engaging portion (7) which is suitable for being connected to a tube of the ballpoint pen (2); the ink cartridge (10) forming a single body with the main body (5).

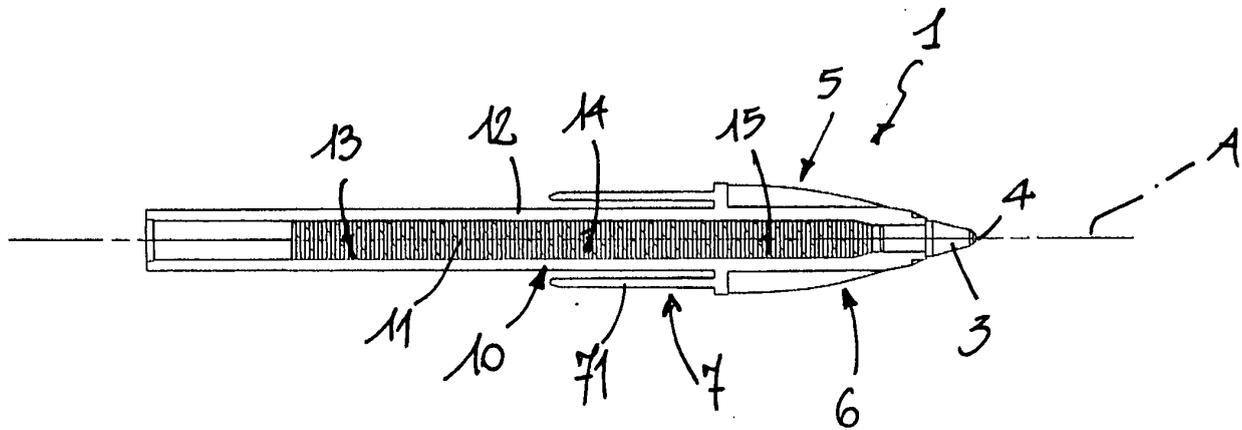


Fig. 2

EP 1 800 893 A1

Description

[0001] The present invention refers to a point for ballpoint pens.

[0002] In the field of ballpoint pens, points of a well-known kind comprise a brass tip provided with a ball, and a conical body made of plastic material, which presents a tapering portion connected to the tip, and a cylindrical engaging portion which is suitable for being connected to the ink cartridge, as well as to the tube of the ballpoint pen.

[0003] It may be derived from the above description that, in order to produce a complete ballpoint pen, the points of the kind described above require at least two assembly phases: a first phase in which the cartridge is engaged inside the cylindrical engaging portion, and a second phase in which the tube is engaged externally to the cylindrical engaging portion itself.

[0004] The aim of the present invention is to produce a point for ballpoint pens, which will permit a reduction in the number of assembly phases as well as a reduction in the number of components of the ballpoint pens themselves.

[0005] According to the present invention, a point for ballpoint pens will be produced, comprising a tip, and a main body presenting an outer portion which is connected to the tip, and an engaging portion which is suitable for being connected to a tube of the ballpoint pen; the point being characterised by the fact of comprising an ink cartridge which forms a single body with the main body.

[0006] The present invention will now be described with reference to the attached drawings, which illustrate a non-limiting form of embodiment of the present invention, and in which:

- FIGURE 1 shows, with parts in section, a lateral view of a preferred form of embodiment of a point for a ballpoint pen produced according to the present invention; and
- FIGURE 2 shows, on an enlarged scale, the point for ballpoint pens which is shown in FIGURE 1.

[0007] With reference to FIGURE 1, the number 1 refers to a point for ballpoint pens 2 in its entirety.

[0008] The point 1, as is better illustrated in FIGURE 2, presents a longitudinal axis A, and comprises a brass tip 3 provided with a ball 4, and a main body 5, which is provided with an engaging portion 7 suitable for being connected to a tube 8 of the pen 2, and with a conical portion 6 which is interposed between the portion 7 and the tip 3, and which is arranged outside the tube 8.

[0009] In addition, the point 1 also comprises a cartridge 10, which is suitable for containing ink 11, and which forms a single body with the main body 5 being produced together with the main body 5 itself by means of a procedure of injection moulding thermoplastic material.

[0010] The cartridge 10 comprises a cylindrical body 12 which extends through the engaging portion 7, and presents an inner cylindrical cavity 13 which defines, in part, a reservoir 14 for the ink 11. In particular, the reservoir 14 is further defined by an additional cylindrical cavity 15, which extends through the writing portion 6 as far as the tip 3 and which is connected to the cavity 13.

[0011] In the form of embodiment which is illustrated in the attached drawings, the engaging portion 7 is defined by a flexible cylindrical body 71 which is arranged around the cylindrical body 12 of the cartridge 10 as far as a length which is less than a length of the body 12 itself, and may be engaged inside the tube 8. According to a form of embodiment of the point 1 which is not illustrated, the engaging portion 7, instead of being defined by a continuous cylindrical body 71, or rather produced in a single piece, may also be defined by a discontinuous flexible cylindrical body, or rather produced in several pieces by means of the production of longitudinal sections, or may even be defined by a flexible cylindrical ring portion.

[0012] However it is conformed, the body 71 is elastic enough to be able to deform when the tube 8 is introduced and to be able to exert an elastic return action on the tube 8 itself in order to avoid the accidental separation of the tube 8 from the point 1.

[0013] It is intended that the present invention should not be limited to the form of embodiment which is herein described and illustrated, which is to be considered as an example of a form of embodiment of the point for ballpoint pens, and which may instead be subject to further modifications relating to the shape and disposition of its parts, as well as to details pertaining to construction and assembly.

Claims

1. Point (1) for ballpoint pens (2) comprising a tip (3), and a main body (5) presenting an outer portion (6) which is connected to the tip (3), and an engaging portion (7) which is suitable for being connected to a tube (8) of the ballpoint pen (2); the point (1) being **characterised by** the fact of comprising an ink cartridge (10) which forms a single body with the main body (5).
2. Point according to Claim 1, **characterised by** the fact that the ink cartridge (10) is produced together with the main body (5) by means of a procedure of injection moulding thermoplastic material.
3. Point according to Claim 2, **characterised by** the fact that the cartridge (10) of ink (11) comprises a cylindrical body (12) which extends through the said engaging portion (7), and defines a first portion (13) of a reservoir (14) for the ink (11).

4. Point according to Claim 3, **characterised by** the fact of comprising a second reservoir portion (15) for the ink (11) which extends through the said writing portion (6) as far as the tip (3) and which is connected to the said first reservoir portion (13). 5
5. Point according to any of the preceding Claims whatsoever, **characterised by** the fact that the engaging portion (7) is defined by a flexible cylindrical body (71) which is arranged around the inner cylindrical body and which may be engaged inside the said tube (8). 10
6. Point according to Claim 5, **characterised by** the fact that the said flexible cylindrical body (71) is a continuous body. 15

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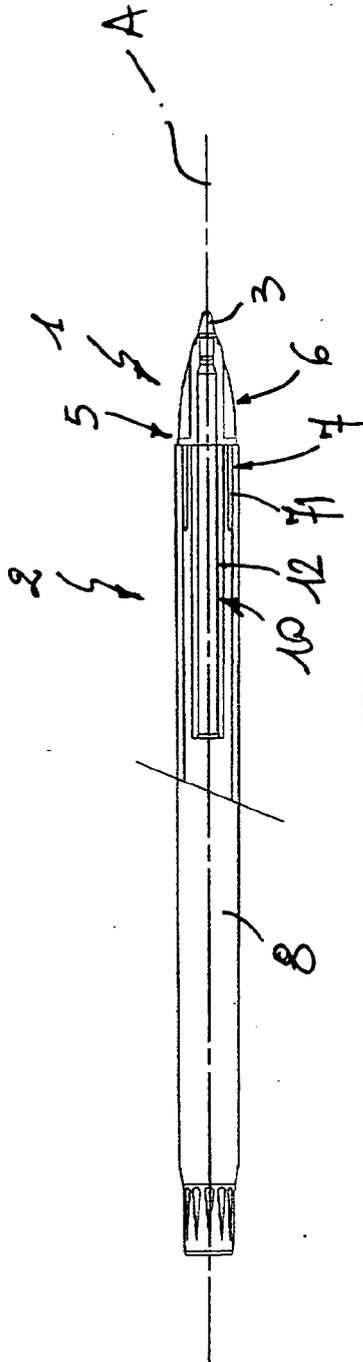


Fig. 1

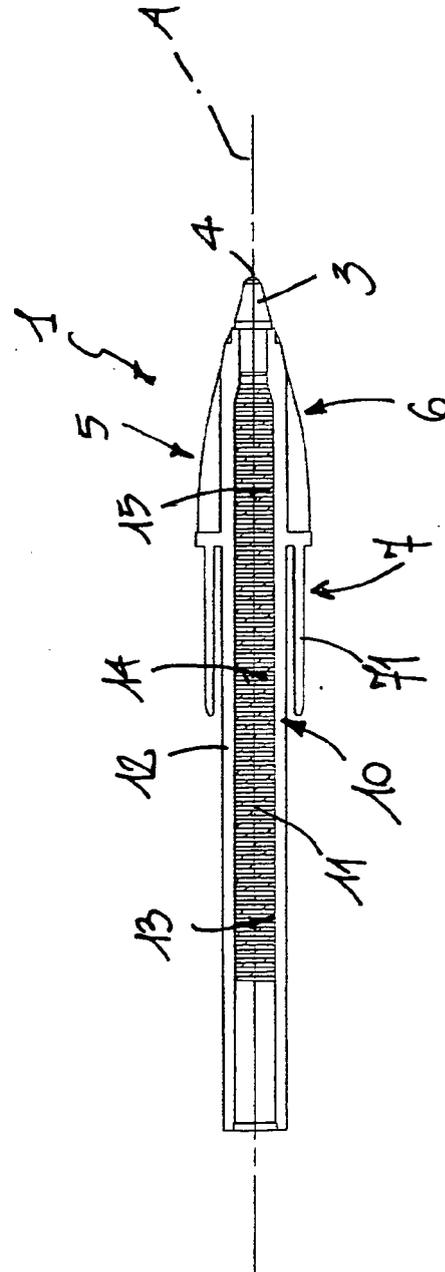


Fig. 2



DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	WO 99/48702 A (BIC CORP [US]) 30 September 1999 (1999-09-30) * page 4, line 3 - page 5, line 5; figures 1,2 * -----	1-6
		CLASSIFICATION OF THE APPLICATION (IPC) INV. B43K7/02
		TECHNICAL FIELDS SEARCHED (IPC) B43K
The present search report has been drawn up for all claims		
Place of search Munich	Date of completion of the search 13 February 2007	Examiner Kelliher, Cormac
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 06 02 6380

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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13-02-2007

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