CLAIMS

1. A writing instrument, comprising: a writing instrument body provided with a pen point to be a writing tip end at a front end of a barrel; and a replacement ink cartridge provided with a tubular container having an opened front end and a closed rear end, wherein

the ink cartridge has a plug fitted in an inner circumferential surface of an opening of the container and blocking the opening,

the plug is provided with a plug portion having an outer circumferential surface capable of being fitted in the inner circumferential surface of the opening of the container and an ink intake portion provided in a rear of the plug portion and allowing ink in the container to flow therethrough,

the writing instrument body has a projection pressing the plug portion rearward when inserted into the opening of the container to release fitting between the plug portion and the inner circumferential surface of the opening of the container,

in a procedure of attaching the ink cartridge to the writing instrument body, the projection and the plug portion are fitted and the fitting between the plug portion and the inner circumferential surface of the opening of the container is released, and

in a procedure of detaching the ink cartridge from the writing instrument body, fitting between the projection and the plug portion is released and the plug portion is fitted again in the inner circumferential surface of the opening of the container.

2. The writing instrument according to claim 1, wherein the inner circumferential surface of the opening of the container is formed in a tapered shape widened rearwardly.

3. The writing instrument according to claim 1 or 2, wherein the projection is an ink-guiding tube having an outer circumferential surface to be air tight fitted in the inner circumferential surface of the opening of the container and the ink-guiding tube has a wall provided with an ink intake portion allowing ink to flow through the ink-guiding tube in a state of fitting in the plug portion.

4. The writing instrument according to claim 1, wherein any one of the plug portion and the projection is provided with a male fitting portion and the other is provided with a female fitting portion,

the male fitting portion and the female fitting portion are fitted in the procedure of attaching the ink cartridge to the writing instrument body, and,

in the procedure of detaching the ink cartridge from the writing instrument body, fitting between the male fitting portion and the female fitting portion is released and the plug portion is fitted again in the inner circumferential surface of the opening of the container.

5. The writing instrument according to claim 4, wherein the male fitting portion is a small protrusion with a diameter less than diameters of the plug portion and the projection and the female fitting portion is a small bore smaller than the diameters of the plug portion and the projection,

in the procedure of attaching the ink cartridge to the writing instrument body, the small protrusion is inserted into the small bore and the small protrusion is fitted in the small bore, and,

in the procedure of detaching the ink cartridge from the writing instrument body, fitting between the small protrusion and the small bore is released and the plug portion is fitted again in the inner circumferential surface of the opening of the container.

6. The writing instrument according to claim 5, wherein a part of an outer circumferential surface of the small protrusion is provided with a first shape and a part of an inner circumferential surface of the small bore is provided with a second shape corresponding to the first shape, and

a fitted state of the small protrusion and the small bore is formed by coupling the first shape to the second shape.

7. The writing instrument according to any one of claims 4 through 6, wherein the inner circumferential surface of the opening of the container includes a cylindrical inner circumferential surface with an identical diameter provided in a front and a tapered inner circumferential surface with a rearwardly increasing diameter continuously provided in a rear of the cylindrical inner circumferential surface.

8. An ink cartridge constituting the writing instrument according to any one of claims 1 through 7, having the plug fitted in the inner circumferential surface of the opening of the container, wherein

the plug is provided with a plug portion having an outer circumferential surface capable of being fitted in the inner circumferential surface of the opening of the container and an ink intake portion provided in a rear of the plug portion and allowing ink in the container to flow therethrough,

the plug portion is, in the procedure of attaching the ink cartridge to the writing instrument body, pressed rearward by the projection to release the fitting with the inner circumferential surface of the opening of the container and to be fitted in the projection, and,

in the procedure of detaching the ink cartridge from the writing instrument body, releases the fitting with the projection and is fitted again in the inner circumferential surface of the opening of the container.

9. The ink cartridge according to claim 8, wherein the inner circumferential surface of an opening of the container is formed in a tapered shape widened rearwardly.

10. The ink cartridge according to claim 8 or 9, wherein

the plug portion is provided with any one of the male fitting portion or the female fitting portion, and

the plug portion is, in the procedure of attaching the ink cartridge to the writing instrument body, pressed rearward by the projection to release the fitting with the inner circumferential surface of the opening of the container and the male fitting portion or the female fitting portion provided in the plug portion is fitted in the female fitting portion or the male fitting portion provided in the

projection, and

in the procedure of detaching the ink cartridge from the writing instrument body, releases fitting between the male fitting portion or the female fitting portion provided in the plug portion and the female fitting portion or the male fitting portion provided in the projection and is fitted again in the inner circumferential surface of the opening of the container.

11. The ink cartridge according to claim 10, wherein the male fitting portion is a small protrusion with a diameter less than diameters of the plug portion and the projection and the female fitting portion is a small bore smaller than the diameters of the plug portion and the projection,

the plug portion is provided with any one of the small protrusion or the small bore,

in the procedure of attaching the ink cartridge to the writing instrument body, the small protrusion or the small bore provided in the plug portion is fitted in the small bore or the small protrusion provided in the projection, and,

in the procedure of detaching the ink cartridge from the writing instrument body, fitting between the small protrusion or the small bore provided in the plug portion and the small bore or the small protrusion provided in the projection is released and the plug portion is fitted again in the inner circumferential surface of the opening of the container.

12. The ink cartridge according to claim 10 or 11, wherein the container is in a cylindrical shape with the opened front end and the closed rear end and has an outer diameter on a front end side to be inserted into a rear end opened area of the barrel of the writing instrument body of 12 mm or less.

13. The ink cartridge according to claim 12, wherein the opening of the container has an inner diameter within a range from 3 to 8 mm.