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PULL CHAIN PEN

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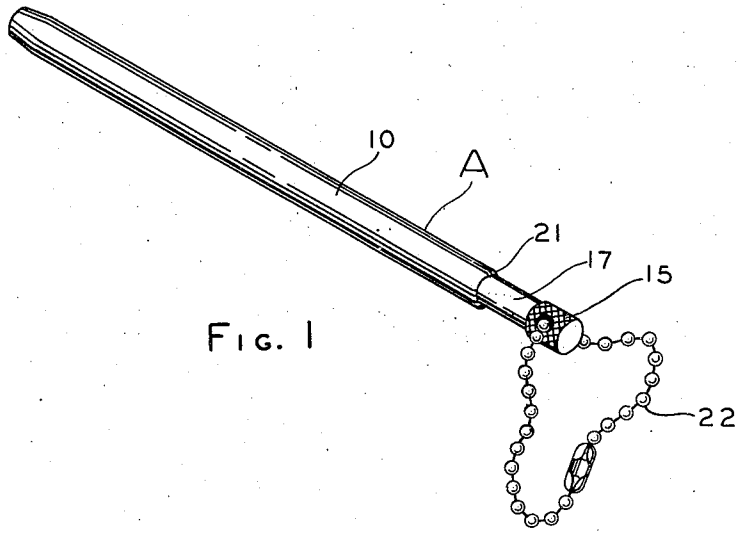


FIG. 1

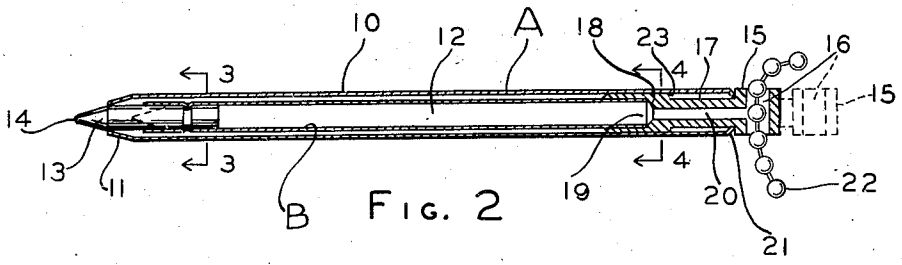


FIG. 2

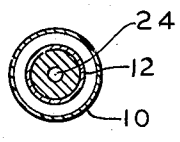


FIG. 3

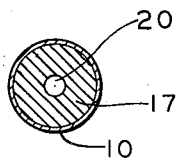


FIG. 4

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PULL CHAIN PEN

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2 Claims. (Cl. 120—42.03)

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My invention relates to a writing instrument in the form of a pen with a ball point writing end and a retractable ink reservoir to which a writing point is attached. A feature resides in providing a ball point pen with an ink reservoir in combination with a chain attached to the rear end of the reservoir which is adapted to draw the reservoir into an outer casing which conceals the ball writing point when it is not desired for use.

It is also a further feature of my invention to provide a writing instrument where the ink reservoir frictionally is held within a casing slideably and longitudinally to conceal the writing instrument when not in use and wherein the rear end of the ink reservoir is formed with a head having a transverse hole extending through the same which connects with a longitudinal hole extending into the ink reservoir to provide an air passageway into the ink reservoir. In this type of writing instrument, the ink is of a paste-like nature and does not flow like liquid. However, the ink is attracted to the writing ball and to balance the air pressure in the reservoir, an opening must be provided to the outer atmosphere.

It is a feature to provide a pull chain which may be of a beaded chain type and which acts to form a loop which is slideably secured through the transverse opening formed in the head of the reservoir. This chain permits the user of the pen to pull the reservoir into position in the casing to conceal the writing tip. Further, the rear end of the ink reservoir is provided with a reduced shank portion and a shoulder so that when the pen is assembled, the rear end of the casing is rolled in annularly to form a stop to limit the backward movement within the casing. The head of the reservoir is pushed inwardly toward the casing to force the writing point out of the casing, and the same is maintained in writing position by the tight frictional fit of the reservoir within the outer casing.

These features, together with other details and objects, will be fully defined throughout the specification and claims.

In the drawings forming part of this specification:

Figure 1 is a perspective view of my writing instrument with a pull chain hanging from the rear end and with the writing end of the ink reservoir concealed within the casing.

Figure 2 is a longitudinal section through my writing instrument illustrating the ink reservoir in forward position with the writing ball exposed out of the forward end of the casing.

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Figure 3 is an enlarged section on the line 3—3 of Figure 2.

Figure 4 is an enlarged section on the line 4—4 of Figure 2.

My writing instrument A is made up of a small number of parts which include the outer casing 10 formed with an elongated, cylindrical body and having a forward conical end 11.

The ink reservoir B of my writing instrument A is formed with a writing tip 13 having a steel writing ball 14 mounted in the end thereof, so that the ball will rotate freely. The cylindrical base of the writing tip 13 is in tight frictional contact with the forward inner edge of the conical end 11, which construction aids in maintaining the tip 13 in a forward position for writing.

The inner chamber 12 of the reservoir B is adapted to support a supply of paste-like writing ink which feeds through the tip 13 to the ball 14 in the ordinary well-known manner.

The rear end of the inner chamber 12 is formed with a head portion 15. A transverse air hole 16 is formed through the head portion 15. Extending from the head portion 15 is a reduced shank portion 17 and on the inner end thereof, I provide a socket 18 which is adapted to receive the rear end 19 of the tubular, hollow reservoir chamber 12. The rear end of the ink chamber 12 is rigidly secured in the socket 18 so that the socket 18, the shank 17 and the head 15 are virtually integrally connected to the rear end of the reservoir B. The shank portion 17 is constructed so that the large forward portion, thereof, which receives the rear end 19 of the chamber 12, maintains tight frictional contact with the inner surface of the outer casing 10. This tight frictional contact maintains the writing tip 13 in an exposed forward position for writing, as illustrated in Fig. 3, when the chamber 12 is moved forwardly in the casing 10 by applying pressure on the head 15.

A longitudinal air passageway 20 is formed through the shank 17 to provide an air passageway which is connected with the transverse passageway 16 to connect the inner chamber 12 of the reservoir B with the outer atmosphere. This permits the air to enter the reservoir chamber 12 as the ink therein is used up in writing.

In assembling my writing instrument A, the casing 10 is secured to the shank 17 against disengagement therefrom by forming an annular inturned shoulder 21 on the inner end of the casing 10. This shoulder 21 engages the head 15 when the ink reservoir B is in the position

illustrated in Figure 2, where the writing ball 14 is exposed out of the casing 10. The shoulder 21 is formed to maintain a tight frictional contact with the shank 17 which aids in holding the tip 13 exposed from the conical tip 11 when the chamber 12 is moved forwardly in the casing 10 by exerting pressure on the head 15.

The head 15 is preferably formed with a knurling around the same for gripping as well as for decorative purposes.

It is also desirable to provide a flexible ball chain 22 threaded through the opening 16 which forms a convenient means of pulling the ink reservoir B into the casing 10, in which position the inner shoulder 21 engages the annular inner shoulder 23 to limit the telescopic movement of the casing 10 and the reservoir B. When the chain 22 is engaged, the reservoir B may easily be pulled back into the casing 10 which act conceals the writing ball 14 within the casing 10. This operation is made easier by the flexible chain 22 and takes place when the writing instrument A is not being used for writing. The casing 10 forms a convenient means of identification around the outer surface thereof or may bear any indicia for advertising purposes, but which is not illustrated in the drawings.

The section 3 illustrates the annular hole 24 which leads to the writing ball 14 from the inner ink chamber 12.

The section 4 illustrates the hole 20 formed through the shank 17 which permits air to pass into the ink chamber at any time.

I claim:

1. A writing instrument including a casing, an ink reservoir slideably positioned within said casing, a writing ball tip formed on said reservoir, a rear end formed on said reservoir tightly engageable within said casing including an enlarged head, a longitudinal air passageway through said end, a reduced shank portion, a transverse air passageway connecting said longitudinal air passageway in said rear end of said reservoir, and a shoulder formed on the rear end of said casing adapted to tightly engage said reduced shank portion on said rear end of said reservoir.

2. A writing instrument including an ink reservoir, a casing, a writing end formed on said reservoir, a writing ball mounted freely rotatable in said writing end, a longitudinal ink passageway extending through said writing end to feed ink from said reservoir to the writing ball on said writing tip, an operating rod connected to the rear end of said reservoir, the body of said reservoir being formed of a tubular nature, an enlarged end formed on said rod adapted to tightly engage the inner surface of said casing; a socket in the inner end of said enlarged rod end for receiving the rear end of said reservoir, an enlarged head formed on the outer end of said rod, a reduced cylindrical shank between said socket and said head formed in said rod and longitudinal and transverse air passageways extending and connecting in said rod to admit the outer air pressure to said ink reservoir, and a shoulder formed on said casing adapted to engage said shank to limit the telescopic movement of said casing in said ink reservoir.

JOHN A. VIERLING.

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