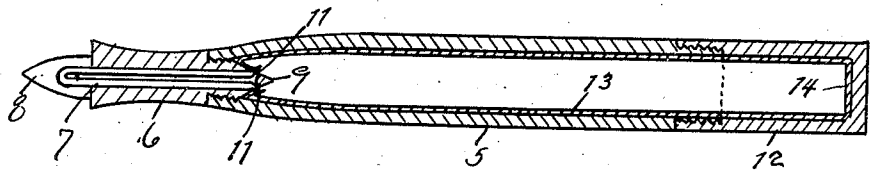
Oct. 16, 1928. 1,688,236

C. W. HORN

FOUNTAIN PEN

Filed March 24, 1928

Fig. I.



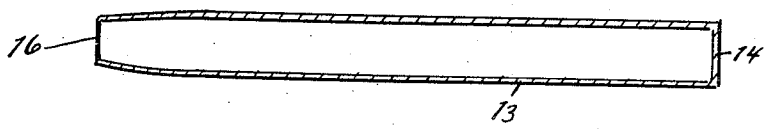


Fig. II.



Fig. III.

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UNITED STATES PATENT OFFICE.

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FOUNTAIN PEN.

Application filed March 24, 1928. Serial No. 264,478.

This invention relates to improvements in fountain pens and has particular reference to means for filling a fountain pen through the medium of a cartridge.

The principal object is to produce a fountain pen which is so constructed that a cartridge of ink may be inserted within the pen in such a manner that the cartridge will automatically deliver its contents to the pen point as desired.

Another object of the present invention is to produce a device of this character which is simple and therefore economical to manufacture.

A further object of the invention is to produce a device which may be applied to the ordinary fountain pen without materially altering its construction.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure I is a vertical cross-section of a fountain pen constructed in accordance with my invention,

Figure II is a vertical cross-section of a cartridge constructed in accordance with my invention, and

Figure III is the end view of the tip portion of my pen.

At the present time it is common to employ fluid ink in a bottle or like container, which ink is soaked up into the pen by employing a depressed rubber sack within the pen, or else by employing a dropper which first sucks up the ink and later dispenses the same into the barrel of the pen. Both of these methods are very inconvenient, in that the hands are soiled during the filling process.

With my invention this inconvenience is entirely eliminated. I employ a cartridge which is preferably made of thin metal, filled with ink and then hermetically sealed at one end with a thin tin or lead cap which is capable of being punctured when it is desired to use the contents of the cartridge.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the main barrel portion of the pen to which a tip 6 is preferably secured, which tip has the usual spoon 7 extending therethrough, which spoon overlies a pen point 8.

The inner end of the tip 6 is reduced and threaded and the threaded portion has formed thereon a tapered inner end which terminates in a penetrating point, and the tapered end is formed with converging openings or bores communicating at their inner ends and with a groove formed longitudinally in the spoon as suggested in Figure 1. A cap 12 is threadedly engaged with the portion 5 of the pen and serves the function forming a cartridge as shown at 13 in the barrel of the pen. This cartridge has one end closed as at 14 and has its opposite end closed as at 16 by a relatively thin wall which may be readily punctured.

The manner of using my device is as follows:—

Assuming the pen to be constructed in accordance with Figure I, the cap 12 is removed, the old cartridge withdrawn and thrown away and a new cartridge inserted within the pen, after which the cap is replaced and screwed on the pen body. This will force the cartridge against the point 9 which will puncture the wall 16 thus releasing the contents of the cartridge which will flow through the lateral openings or bores and groove 11 of the spoon 7 to the pen point 8.

It will thus be seen that I have produced a simple device which will accomplish all of the objects herein mentioned.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes relative to the size, shape, material and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

In a fountain pen, the combination with a barrel, a tip threadedly secured in one end of the barrel and having a tapered end terminating in a penetrating point disposed centrally of the barrel at the tip receiving end thereof, said tapered end having converging bores disposed in communication at their inner ends, a spoon received in said tip and

being formed with a groove adapted to communicate with the communicating ends of the bores, a cap threadedly secured to the opposite end of the barrel, a cartridge having one end closed and a relatively thin wall for the opposite end thereof, and said cartridge being adapted to be positioned in said barrel and moved by the cap to cause the penetrating point to penetrate the thin wall to allow for the flow of fluid in the cartridge through the bores and groove of the spoon.

In testimony whereof I affix my signature.

CHARLES W. HORN.