Oct. 7, 1930. J. SALZ 1,777,736

FOUNTAIN PEN

Filed April 13, 1927

Fig. 1.

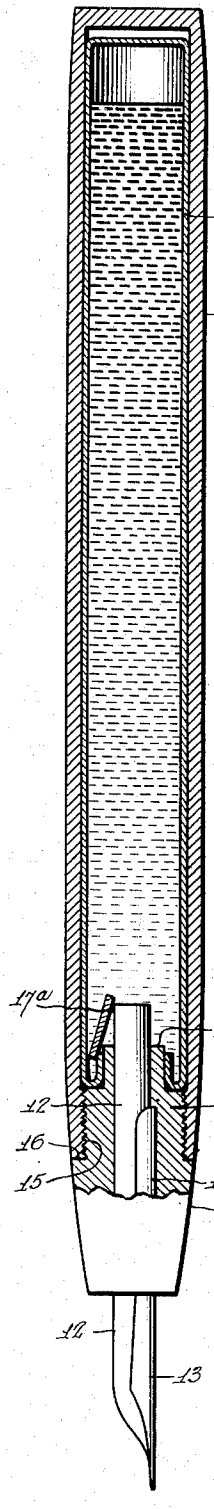


Fig. 2.

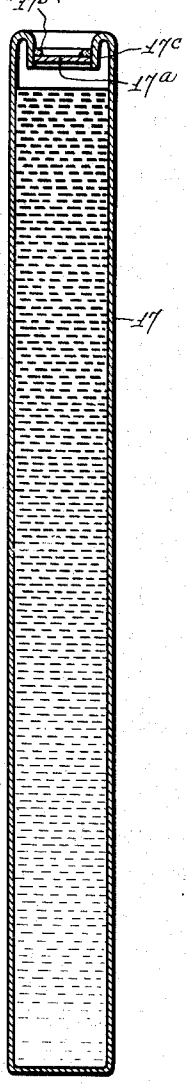
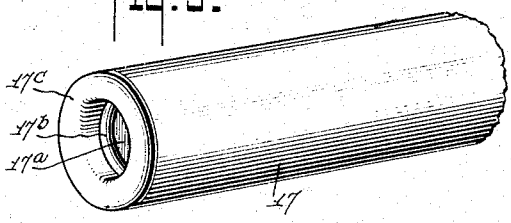


Fig. 3.



INVENTOR
James Salz
BY
Dean, Fairbank, Obright & Hirsch
his ATTORNEYS

Patented Oct. 7, 1930 1,777,736

UNITED STATES PATENT OFFICE

JAMES SALZ, OF NEW YORK, N. Y.

FOUNTAIN PEN

Application filed April 13, 1927. Serial No. 183,247.

My present invention is concerned with fountain pens of the general character in which the ink supply is replenished by the insertion of an ink-filled cartridge into the barrel of the pen.

The invention is further concerned with the provision of a novel type of ink cartridge, constructed and designed for convenient introduction into various standard makes of pens, without leak or rattle when in place.

The cartridge preferably interfits directly with the feed plug or stock of the pen in such a manner that ink flows from the cartridge to the nib without contact with the inner walls of the barrel. Thus, even though the barrel or the union of barrel and stock be defective, or the two parts be carelessly connected together by the user, there will be no leakage of ink.

Another feature is the use of an ink cartridge, which may be conveniently and carelessly carried in the pocket, without danger of breakage or leakage, so that it is always available for insertion into the pen barrel when required.

In one form of the invention, the cartridge is frangibly connected to its closure or sealing cap, so as to break and release the ink when pressure is applied to the cap as an incident to assembling the stock to the barrel, after the cartridge has been dropped in place. To avoid fracture while the cartridge is carried prior to insertion into the barrel, the sealed cap is disposed in a recess or depression at one end of the cartridge, so that it is entirely protected from casual or inadvertent displacement while carried, for instance, in the user's pocket.

My cartridge construction being suitable for use in the conventional fountain pen of the non-refill type, the pen is not disabled should it become empty when no refill cartridge is available, for in that case, the pen can be refilled in the manner of an ordinary pen.

More general objects of the invention are to provide a pen and cartridge of simple practical construction which will be rugged, durable and efficient in use and well suited to the requirements of economical manufacture.

The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein,

Fig. 1 is a view mainly in longitudinal section through a pen embodying the present invention showing one of my improved cartridges in applied position.

Fig. 2 is a longitudinal section view through the cartridge,

Fig. 3 is a fragmentary perspective view of the cartridge.

Referring first to Figs. 1 to 3 of the drawings, the pen itself may be more or less conventional including the usual barrel 10 (preferably transparent) having a threaded connection with the stock 11, the latter carrying the usual grooved feed bar 12 and nib 13. The feed bar, as usual, extends through and projects slightly beyond the reduced inner end 14 of the stock. The reduced end 14 of the stock 11 is threaded as at 15, defining an annular shoulder 16. The open end of barrel 10 is screwed onto the threaded end of the stock, abuts shoulder 15 and lies flush with the outer face of the stock.

The cartridge 17 is also formed of some transparent, yet fairly stiff material such as celluloid or the like and is of generally elongated cylindrical shape for reception within the barrel 10. A cap 17^a at one end of this cartridge is depressed or set inwardly, being frangibly connected as at 17^b to a reversely bent inwardly turned collar 17^c at the end of the cartridge. End-piece or cap 17^a is preferably secured in position after the cartridge has been loaded with ink and may be held in any suitable manner, as, for instance, by a suitable cement 17^b. The cap 17^a being set in-

wardly is protected by the adjacent fairly rigid doubled rim of the cartridge from casual rupture or accidental breakage while being carried about in the pocket of a user.

With the cartridge in position in the barrel, however, the screwing home of the stock will cause the projecting inner end of the feed bar to exert the necessary inward pressure on the cap 17 displacing the same by breaking the fragile connection at 17^b, thereby permitting free flow of ink from the cartridge through the feed bar. It will be noted that the cap 17^a is not punctured but displaced inward as a whole,—it is broken away from its anchorage or connection with the collar, thus permitting flow of ink from the barrel to the feed, as freely as if the barrel itself were filled with ink.

To apply the cartridge, the barrel is unscrewed. The cartridge dumped into the barrel with its weakened end forward and the barrel reunited to the stock. The relatively springy collar 17^c may snugly embrace and frictionally fit the extended neck portion 20 of the stock, if desired, thereby avoiding leak into the barrel or wetting the exterior of the cartridge, which can be handled in removal when empty and without soiling the fingers. Preferably, the parts are so proportioned that the collar grips the neck before the cap 17^a is displaced by the feed bar, thereby preventing ink from flowing between the inner wall of the barrel and the outer wall of the cartridge, even though the barrel be screwed home to break the cartridge while the pen is in normal writing position.

It may be noted that the cartridge cap is not necessarily completely broken away by the insertion of the stock, but that a short length of connection may remain unbroken and serve as a hinge about which the sealing cap is flapped.

It will thus be seen that there is herein described apparatus in which the several features of this invention are embodied, and which apparatus in its action attains the various objects of the invention and is well suited to meet the requirements of practical use.

As many changes could be made in the above construction, and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

An ink cartridge for fountain pens comprising an elongated tubular member having a closed end and an open end, an inwardly turned flange defining said open end and spaced from the adjacent side walls of the cartridge to provide a seat for a closure member, a closure member in the form of a disc arranged within the end of the cartridge and in engagement with said seat, and a fragile adhesive medium for sealing the joint between said closure member at the seat and for removably securing the closure member to the seat.

Signed at New York city, in the county of New York and State of New York this 11th day of April, A. D. 1927.

JAMES SALZ.