

No. 841,475.

PATENTED JAN. 15, 1907.

P. E. WIRT.
SELF FILLING FOUNTAIN PEN.
APPLICATION FILED APR. 13, 1906.

Fig. 1.

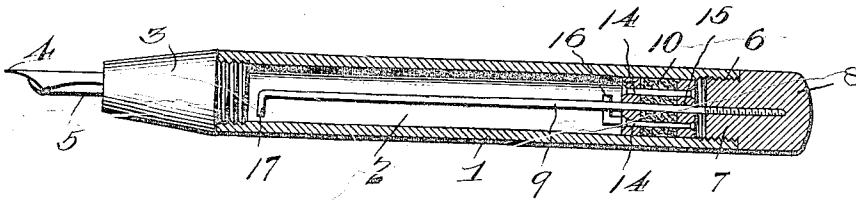


Fig. 2.

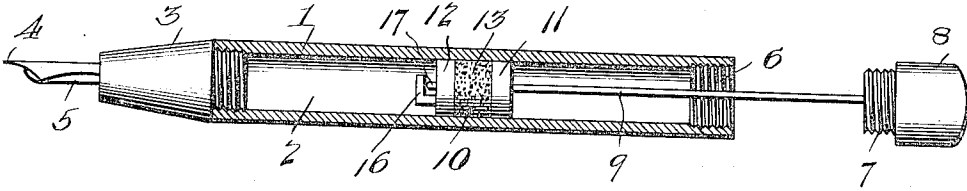


Fig. 3.

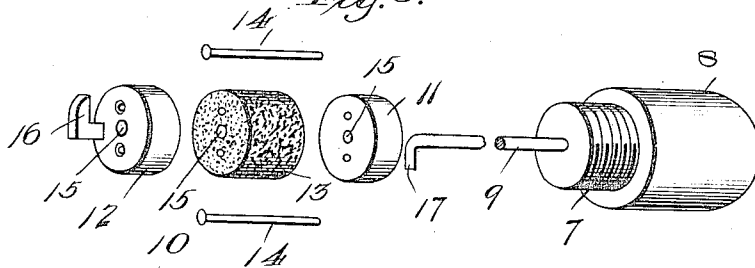
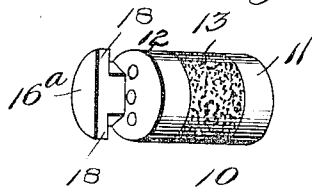


Fig. 4.



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SELF-FILLING FOUNTAIN-PEN.

No. 841,475.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed April 13, 1906. Serial No. 311,421.

To all whom it may concern:

Be it known that I, PAUL E. WIRT, a citizen of the United States, residing at Bloomsburg, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Self-Filling Fountain-Pens, of which the following is a specification.

This invention relates to self-filling fountain-pens of the plunger type, wherein a plunger or piston is employed within the holder or case for creating the necessary vacuum or suction to effect a filling of the reservoir.

To this end the invention has specially in view the provision of a practical form of pumping attachment for fountain-pens embodying simplicity of construction, a minimum number of parts, and reliability of action.

In this connection the invention has for a general object dispensing with the employment of collapsible rubber sacks or bags as a reservoir for the pen and also obviating the use of press-bars, levers, cams, and the various kinds of auxiliary devices and attachments that are ordinarily associated with the rubber sack common to many self-filling pens.

In carrying out the above objects the present invention provides a plunger-pumping device or attachment which does not increase in any way the desirable proportions of a fountain-pen, while at the same time involving a simple arrangement of parts which can be quickly and easily brought into play for the filling action and also quite as easily returned to their normal inoperative positions entirely out of the way without affecting or disturbing the ordinary functions of the fountain-pen.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in the construction and relation of the plunger-head and the controlling-stem therefor are susceptible to some structural modifications without affecting the scope of the invention, a preferred embodiment of which is shown in the accompanying drawings, in which—

Figure 1 is a sectional view of a fountain-

pen equipped with the filling attachment contemplated by the present invention and showing the plunger-head and its controlling-stem disconnected and in the position which they occupy when the pen-reservoir is filled. Fig. 2 is a similar view showing the plunger-head and stem releasably hooked together or engaged to permit of the reciprocation of the plunger-head for filling purposes. Fig. 3 is a perspective view of the complete pumping attachment or device, showing the various parts thereof separated. Fig. 4 is a detail in perspective, showing a modification which may be resorted to in the construction of a plunger-head.

The improvements contemplated herein are capable of application to the ordinary types of fountain-pens, so for illustrative purposes there is shown in the drawings a fountain-pen embodying in its general organization a reservoir-holder 1, whose interior chamber 2 constitutes the reservoir of the pen. Also, in the construction illustrated, the holder 1 is equipped at one end with the pen-bearing section or nozzle 3, fitted with the pen-point 4 and the feeder 5.

It is preferable in carrying out the present invention to provide the holder, container, or case 1 at the end opposite the pen-bearing section with a threaded socket 6, adapted to receive the exteriorly-threaded fastening-collar 7, formed at the inner side of an operating-knob 8, to which is permanently screwed the front end of the reciprocating plunger-stem 9, which in conjunction with the plunger-head 10 constitutes a pumping attachment or device for filling the pen-reservoir.

A distinctive feature of the invention resides in the specific construction of the plunger-head 10 and its relation to the stem 9. Referring to the plunger-head structure, it will be observed that the same essentially and preferably consists of a pair of oppositely-arranged head-disks 11 and 12, respectively, and an interposed larger packing-disk 13, preferably of cork. The several disks 11, 12, and 13 are placed in closely-assembled relation and are united in said relation through the medium of a plurality of fastening-pins of rivets 14, extending through aligned openings in the several disks and upset or riveted at their ends onto the head-disks.

The plunger-head 10 as an entirety is provided therethrough with what may be termed a "stem slide-opening" 15, which slidably

receives the plunger-stem 9, and in this connection it will be observed that the cork packing-disk 13 not only serves to pack the interior surface of the holder, but also packs the plunger-stem, thereby obviating leakage. Also the said cork packing grips the interior surface of the holder with sufficient firmness to hold the plunger-head stationary in any position in which it may be left by the stem.

To provide for the releasable or interlocking engagement between the plunger-stem and the plunger-head, the latter is preferably provided on one of its head-disks 12 with an integral offset keeper-hook 16, adapted to be engaged by a laterally-projecting catch projection 17 at the inner terminal of the plunger-stem 9. In this connection a modification that may be resorted to is the one suggested in Fig. 4, wherein the keeper-hook 16^a is illustrated as of a duplex construction having oppositely-arranged hook elements 18, so that an engagement of the plunger-stem catch may be made with the keeper by turning the stem in either direction. However, the single type of hook seems to be the preferable one, inasmuch as it simply requires the turning of the stem in one direction for engagement purposes and in the other direction for disconnecting the stem and the plunger-head.

When it is desired to fill the pen, the parts being in the positions shown in Fig 1, it is simply necessary to unscrew the operating-

knob, draw out the stem, and turn the latter to bring its catch beneath and into engagement with the keeper-hook of the plunger-head. This locks the parts together, so that the plunger-head can be reciprocated to draw in a supply of ink for the reservoir. After this is done and the plunger-head brought to the outer end of the container the stem is turned to disconnect the same and then moved back into the holder and the operating-knob secured by screwing in the fastening-collar thereof.

I claim—

In a fountain-pen, the combination with the holder, of a filling device comprising a plunger-head consisting of opposite head-disks and an interposed packing-disk united together, one of the head-disks having an eccentrically-disposed keeper-hook, and a plunger-stem slidable through the head and provided with a terminal catch projection adapted to be turned into and out of engagement with said hook, the said packing being arranged to pack the head in the holder and also to pack the plunger-stem.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

PAUL E. WIRT.

Witnesses:

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