NOTE.—*The application for a Patent has become void.*
This print shows the Specification as it became open to public inspection.

PATENT SPECIFICATION

Convention Date (France): March 5, 1923. **212,564**

Application Date (in United Kingdom): March 5, 1924. No. 5694/24.

Complete not Accepted.

COMPLETE SPECIFICATION.

Improvements in and relating to Pen-holders.

I, LOUIS BADOIS, of 212, Boulevard Pereire, Paris, France, a citizen of the French Republic, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

It is already known to give pens a special conformation which permits them to retain a very considerable quantity of ink when they are dipped into the ink-well, such pens having for this purpose a number of folds in the metal; the efficacity of such pens is, however, very poor.

The present invention consists in furnishing the pen with feeding arrangements fitted thereto in any suitable manner, and allowing sufficient ink for writing several pages to be taken and retained on dipping into the ink-well.

These feeds, constructed in one or more parts, have cavities of any suitable form which on the one hand are open on their exteriors to permit easy entry of the ink at the moment the pen is dipped into the ink-well and on the other hand communicate with the nib by means of openings or orifices which ensure regular feeding.

The invention is shown by way of example and to facilitate understanding of the description, in the accompanying drawings, in which—

Figures 1, 2 and 3 are views respectively in plan from underneath, in vertical section on the line II, II, of Figure 1 and in plan from above, of a first form of execution of the invention.

Figures 4, 5 and 6 are corresponding views of a second method of construction.

Figures 7, 8 and 9 corresponding views of a third example of construction.

Figure 10 is a vertical section on the line X—X of Figure 2, showing how the ink passes into the interior of the arrangement.

Figures 11, 12, 13, 14 and 19, are views of five further variations of construction of the present invention.

It will be seen from the examples that the pen is furnished with arrangements having by their particular form, or forming by the manner in which they are fitted on the pen, spaces or cavities of suitable form and position.

These cavities are more particularly described to fulfill the following condition: They must work by capillary action in such a manner as to draw up and retain the ink when the pen is dipped into the ink-well and to prevent the flow from being irregular, they must communicate with the exterior in such a manner as to offer a free passage for entry of the ink at the moment when the pen is dipped into the ink and in such a manner as to allow the atmospheric pressure on the surface of the ink to act; they must communicate either directly or indirectly with the slit in the pen in such a manner as to assure feeding.

In the example shown in Figure 1, the feed arrangement is provided with two vertical capillary slots 3 passing right through, but leaving at the front a partition 4 which gives the arrangement great strength. At the moment when the pen is dipped into the ink-well, the ink enters and the air leaves the free spaces left for this purpose. It is advantageous, further, to provide a capillary space 6 between the nib and the feed, so as to augment the quantity of ink retained and to place the nib and the various cavities in communication with one another.

[*Price* 1/-]

Figure 10 shows how the ink passes over the interior of such an arrangement.

In the example shown in Figures 4, 5 and 6 the partition 4 is omitted, the slots 3 reaching not only from the top to the bottom, but also to the front of the arrangement.

In the example shown in Figures 7, 8 and 9, the slots 3, in place of being of the same width throughout, are wider at the bottom than the top. This arrangement gives a very regular flow.

The arrangements described above comprise solely a member placed below the pen. To increase the quantity of ink retained it is advantageous to provide the nib with an arrangement of the same kind above as well as below. Thus in the example shown in Figure 11, the food consists of a part 7 placed above the nib and a part 8 placed below. In this particular construction a certain amount of play 9 is provided between the parts 7 and 8 to allow free play for the nib and to provide a supplementary capillary space to augment the reserve of ink. These parts placed below or above the nib can further be combined, separately or together, with other arrangements of any suitable form permitting the addition of new capillary spaces to those already existing and of retaining thus a still greater quantity of ink. Such auxiliary arrangements can be of any suitable form. In the example shown in Figure 12 they consist of one or more concentric tubes 10, 11, surrounding the pen and furnished with slits or orifices 12, permitting the passage of air and ink. It is evident that they form between themselves and the nib capillary spaces of considerable total capacity. These tubes can themselves be provided with cavities satisfying the required conditions and augmenting still further the capillary capacity.

In Figure 13 an example is shown in section having the combination of the members 7, 8 of Figure 11 with one of the tubes of Figure 13 and comprising in consequence capillary spaces placed in the two parts 7 and 8, between these two parts and the nib, and finally between the assembly formed by the parts 7 and 8, and the tube 10.

In Figure 14 another example having the tube 10 is shown. In this arrangement, the tube is provided with radial capillary slits 5 which increase the capacity still further.

In Figure 15 the feed arrangement comprises a simple half-tube 10^1 of the same diameter as the pen-nib and separated therefrom by a small space 13 serving for the passage of ink and air.

Rigid tubes such as 10, shown in Figures 12 and 13, can further be replaced by any other members of suitable shape forming with the nib and the food members with which it is furnished, spaces adapted to retain the ink. For example, in place of the tube 10, a sheath can be arranged on the pen, of elastic material such as rubber, or of plastic and easily moulded material such as celluloid, open at the front to allow the ink to pass towards the point of the pen, and at the rear to allow it to enter the arrangement when the pen is dipped into the ink-well.

It will of course be understood that the invention is not limited to the particular forms of construction described above by way of example. Thus the feed instead of having two longitudinal slots, could have any number, arranged in any convenient manner, and on the other hand, the feed instead of being provided with slots could be of any other suitable form for example a tube provided with conveniently placed orifices, or even a simple blade placed above or below the nib at a suitable distance to permit the entry of air and ink. The pen can equally be combined, not only with tubes or sheaths similar to those described above, but with any arrangement designed to create, by its adaptation to the nib, capillary spaces capable of retaining the ink. In general, the invention comprises the combination with a pen of any form, of any arrangement forming cavities adapted to hold ink in contact therewith and having on the one hand the external openings necessary for the entry of the ink in dipping into the ink-well, and on the other hand a conformation suitable for leading this ink to the slit in the nib, in fine an assembly of capillary spaces as extended as possible for the purpose of taking up and retaining over the length of the nib and considerable quantity of the ink supply by dipping into the ink-well.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A device adapted to be mounted adjacent to the nib of a pen having therein and/or forming in combination with the nib a series of capillary spaces for retaining a relatively large quantity of ink when dipped into the ink-well.

2. A device according to Claim 1, comprising a member mounted below the nib and shaped conformably thereto, and having vertical slots therethrough forming capillary ink spaces, a small space

being left between the member and the nib forming an additional ink space.

3. A device according to Claim 2, in which a front wall is left at the end of the slots for strengthening purposes.

4. A device according to Claim 2 or 3, in which the slots are wider at the bottom than at the top.

5. A device according to Claim 2, in which a second member similar to the first is mounted above the nib.

6. A device according to any of the preceding claims in which one or more concentric tubes, half-tubes or sleeves of rigid, elastic or plastic material are mounted so as to surround the nib and feed members, so as to form additional capillary ink spaces, radial holes being formed in the tubes to add to such spaces and to permit the ink to enter easily.

7. The devices substantially as described with reference to the accompanying drawings.

Dated this 5th day of March, 1924.

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Agents for the Applicant.

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Fig_1

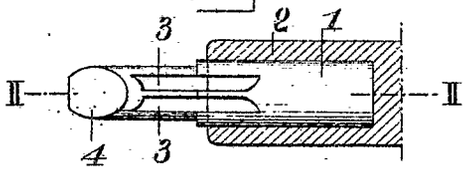


Fig_4

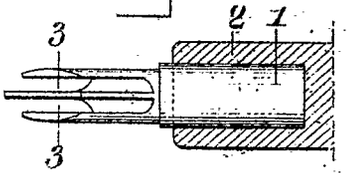


Fig_2

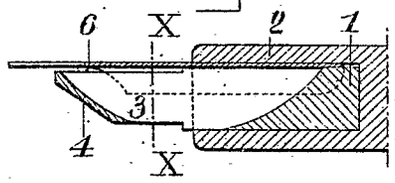


Fig_10

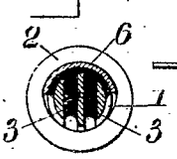


Fig_5

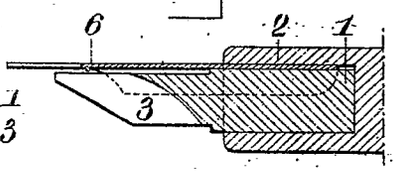


Fig_3

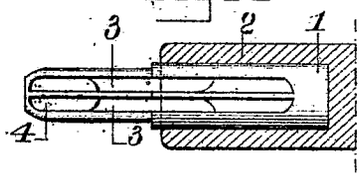


Fig_6

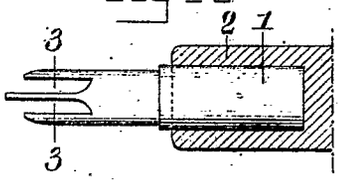


Fig_7

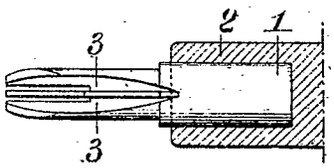


Fig_15

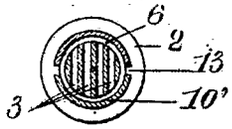


Fig_8

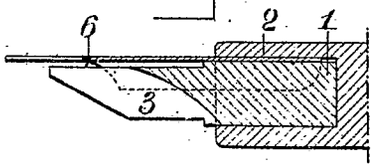


Fig_9

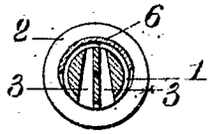


Fig_11

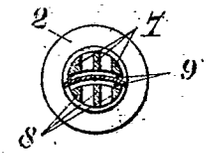


Fig_12

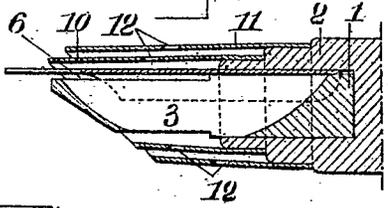


Fig_13

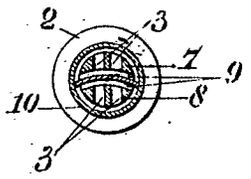
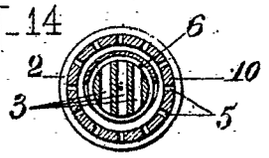


Fig_14



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