No. 803,927. PATENTED NOV. 7, 1905.

E. REISERT.

FOUNTAIN PEN.

APPLICATION FILED JULY 27, 1903.

Fig. 3

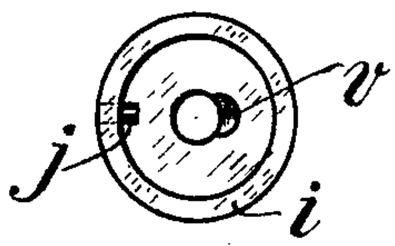


Fig. 4

Fig. 5

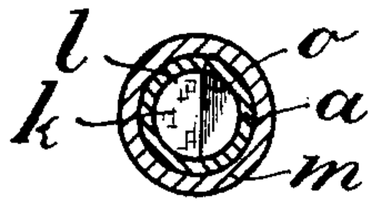


Fig. 6

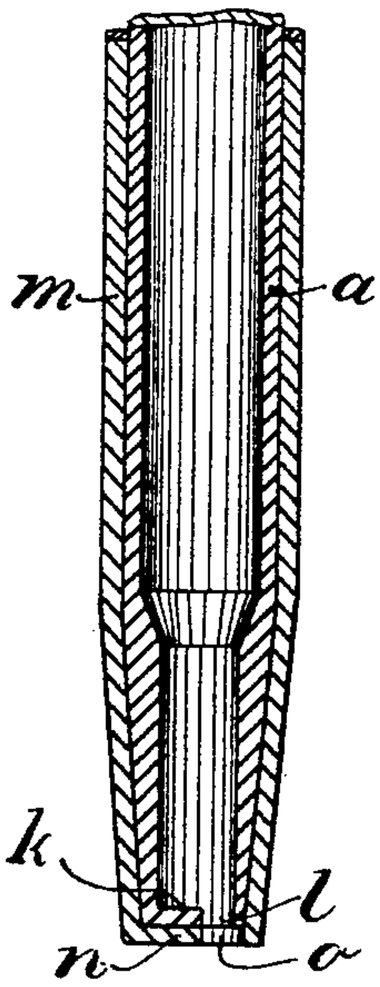


Fig. 1

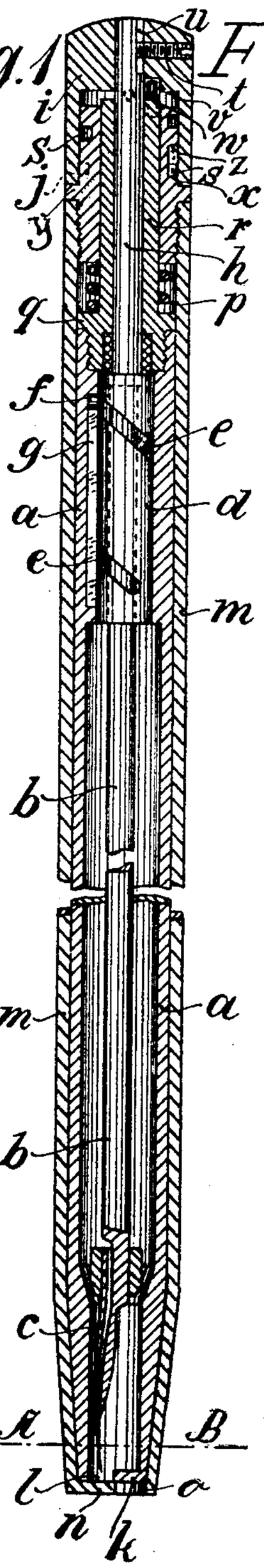
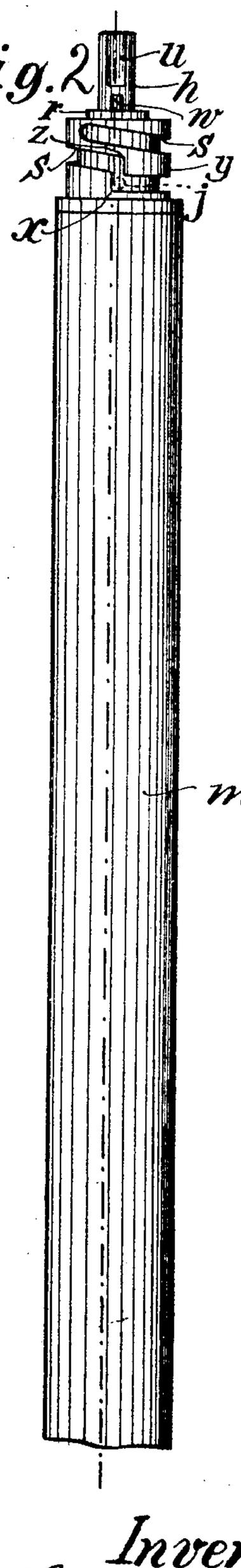


Fig. 2



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UNITED STATES PATENT OFFICE.

EDUARD REISERT, OF HENNEF, GERMANY.

FOUNTAIN-PEN.

No. 803,927. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed July 27, 1903. Serial No. 167,183.

To all whom it may concern:

Be it known that I, EDUARD REISERT, a subject of the King of Prussia, German Emperor, and a resident of Hennef-on-the-Sieg, in the Province of the Rhine, Kingdom of Prussia, German Empire, have invented a new and useful Fountain-Pen, of which the following is a specification.

This invention relates to fountain-pens for penholders, and especially to that type in which the pen after use is withdrawn into the ink-holder and when it is to be used is protruded therefrom. In such penholders it was formerly necessary after the drawing in of the pen into the ink-holder to close the aperture for the pen by means of a cap inserted or screwed in, which cap during the use of the holder was stuck upon the other end of the penholder in order to retain it. This operation involves not only a troublesome manipulation, but also is liable to ink the fingers, because obviously ink may remain in the interior of the closing-cap, and, moreover, ink easily accumulates on the part surrounding the entrance-opening for the pen of the holder end. In order to simplify the manipulation and to avoid as far as possible the blackening of the fingers, I have devised an undetachable closing organ for the aperture for the pen. This undetachable closing organ consists in a slide which can be operated in various ways; but I prefer to open and to close the aperture for the pen by revolving the slide.

In order to make the invention clearer, reference is made to the accompanying drawings.

In the drawings there is shown, on an enlarged scale, in Figure 1 a longitudinal section through a penholder with the improved closing organ and mechanism; Fig. 2, an elevation of the holder, the hollow knob *i* forming the upper end of the holder being taken away; Fig. 3, a view of the said hollow knob *i* from below; Fig. 4, a section on the line A B, Fig. 1, with the slide in the closed position; Fig. 5, the same section with the slide in the open position; Fig. 6, a longitudinal section through the under part of the penholder, the slide having a position corresponding to that shown in Fig. 5.

A tube *a* serves as the ink-holder, in which tube there is placed at its lower end the rod *b*, bearing the pen *c*. The upper end of the rod *b* engages in a sleeve *d*, having cut-out threading *e*. A pin *f*, fastened to the rod *b*, engages through the cut-out threading *e* and in a longitudinal groove *g* of the tube *a*. The spindle *h*, directed upward, attached to the sleeve *d*, leads through the stopper *q*, firmly connected with the tube *a*, and bears at its free end the hollow knob *i*. If this knob *i* is revoluble, then the rod *b* will move according to the direction of revolution either downward or upward, so that the pen *c* emerges from the holder or is withdrawn within the same. This general arrangement is already well known; but what follows is new.

The lower aperture of the tube *a* is rather more than half closed by means of the segment *k*, so that for the passage of the pen there only remains the opening *l*. Over the tube *a* is placed a second tube *m*, the lower opening of which is also more than half closed by means of a segment *n*, so that there remains open only the aperture *o*. The said segments *k* and *n* together form a rotary slide. A spring *p*, which is supported upon the stop *q*, presses the hollow cylinder *y* upward, which is screwed into the tube *m*, so that the lower ends of the tubes *a* and *m*—*i. e.*, the segments *k* and *n*—are pressed together and caused to close efficiently. The stopper *q* has a prolongation *r* reaching through the hollow cylinder *y* and bearing a pin *w* at its upper end, which pin *w* engages in a recess *v* of the hollow knob *i*, Figs. 1 and 3. If the outer tube *m* be held fast with one hand and with the other hand the knob *i* be turned to the right or to the left, then the two tubes *a* and *m* may be so adjusted with regard to one another that the segments *k* and *n* lie one over the other, as shown in Figs 5 and 6, or opposite to one another, as shown in Figs. 1 and 4. In the first case the aperture *l* for the pen is left free. In the latter case, however, the aperture is closed.

Since, as mentioned above, by the revolution of the knob *i* also the motion of the pen *c* shall be caused, which motion requires a greater degree of revolution than that of the segments *k* and *n*, means must be provided for preventing the tube *a* from being turned as soon as the aperture *l* is opened. For this purpose there is arranged a groove *u* at the upper end of the spindle *h*, and to the hollow knob *i* there is fixed a pin *t*, which engages in the said groove *u*. By this means the knob *i* can

be pulled out without interrupting the connection with the spindle *h*, while the pin *w* leaves the recess *v*, and thus the tube *a* is prevented from turning, when the revolution of the knob *i* will be continued.

In order exactly to control the degree of turning necessary for opening the aperture *l* and for pushing out the pen *e* and in order to prevent the pin *w* from reëntering the recess *v* before such reëntering be intended, the following arrangement is provided: the hollow cylinder *y* has cut-out threading *s*, in which a pin *j*, fixed to the knob *i*, engages. The under part of the threading *s*, having the extension of a semicircle, is precisely horizontal, the following part from *x* to *z* is vertical, and the remaining part is spiral-shaped.

The operation is as follows: If the knob *i* is turned on an angle of one hundred and eighty degrees, the pin *j* will have reached *x*, and the aperture *l* will then be opened. The pen *c*, however, has not yet commenced to move, since the spindle *h* and the stopper *q*, with the tube *a*, and consequently the threading *e* and the pin *f*, have been turned together without changing their respective positions. It is impossible to continue the revolution of the knob *i* before the latter is pulled out and the pin *j* is raised from *x* to *z*. The pin *w* has then left the recess *v*, thus interrupting the connection between the knob *i* and the tube *a*. If now the knob is turned again, the pen *c* will be protruded, while the segments *k* and *n* remain in their positions. The pin *j* moves upward in the spiral-shaped part of the threading *s*, thereby increasing the distance between the knob *i* and the pin *w*, so that the latter cannot reënter into the recess *v*. As soon as the pin *j* has reached the upper end of the threading *s* the pen has the position ready for use and further turning is impossible. It will be seen that the withdrawing of the pen *c* and the closing of the aperture *l* will be done in the reverse way. When the openings *o* and *l* are in alinement, the outcoming of the ink is prevented by the stopper-formed lower end of the rod *b*.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. A fountain-pen having an ink-holder with an aperture serving as passage for the pen, and a slide adapted to open and to close the said aperture, as and for the purpose set forth.

2. A fountain-pen having an ink-holder with an aperture serving as passage for the pen, and a rotary slide adapted to open and to close the said aperture, as and for the purpose set forth.

3. In a fountain-pen, the combination with the ink-holder, having an aperture for the passage of the pen, the pen, and means for protruding the pen and for withdrawing the same, of rotary slides for closing and opening the said aperture of the ink-holder, and of means for revolving the said rotary slides, as and for the purpose set forth.

4. In a fountain-pen, the combination with an inner tube *a* serving as ink-holder and having a segment *k* at its lower end leaving an aperture *l*, the pen *c* and means for protruding the pen and for withdrawing the same through the aperture *l*, respectively, of an outer tube *m* having at its lower end a segment *n* leaving an aperture *k* and means for turning the said tubes *a* and *m* with regard to one another, as and for the purpose set forth.

5. In a fountain-pen, in combination, an ink-holder *a*, having an aperture *l*, rotary slides *k n* for opening or closing the said aperture *l*, a knob *i*, connections between the knob *i* and one rotary slide *k*, a rod *b* bearing the pen *c*, connections between the rod *b* and the knob *i* for moving the rod *b* to and fro on turning the knob *i*, and means for interrupting the connection between the knob *i* and the rotary slide, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDUARD REISERT.

Witnesses:
W. FOHRR VON LYNDHERZ,
CARL W. SCHMITT.