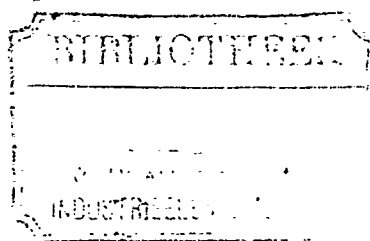


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31 AUG 1922



PATENT SPECIFICATION



Application Date: Aug. 24, 1921. No. 22,481/21.

184,071

Complete Accepted: Aug. 10, 1922.

COMPLETE SPECIFICATION.

Improvements in or relating to Reservoir Pen-holders.

We, EDWARD STEPHEN SEARS, of 22, Akerman Road, Brixton, in the County of London, Fountain Pen Maker, a British subject, and MARIE TODD & Co. LIMITED, whose registered office is at Swan House, 133/135, Oxford Street, London, W. 1, a company incorporated under the laws of Great Britain and Ireland, 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:—

This invention relates to reservoir pen-holders of the type in which the ink supply is contained in a collapsible sac adapted to be compressed by a pressure plate disposed thereon, said pressure plate being actuated by a spring free to move at one end longitudinally relatively to the penholder and at the other end held against the longitudinal movement relative to said penholder, the spring being bent by the pressure exerted on one end thereof by a cam device.

The object of this invention is to provide improved means for operating said spring.

A reservoir penholder of the type described made in accordance with this invention is characterised in that at least one member of the said cam device is rotatable and in that said member may be capable of movement only in a rotary and not in a longitudinal sense thereby causing deflexion of the said spring.

Referring to the drawings:—

Figure 1 is a longitudinal sectional elevation of one form of device made in accordance with this invention with the sac distended.

Figure 2 is a similar longitudinal sectional elevation of the form of device

shown in Fig. 1 with the sac compressed;

Figures 3 and 4 show details.

In the drawings *a* is the barrel of the penholder of which the nib-holder *b* is externally threaded at *c*, and has a duct *d* terminating in an annular projection *e*, to which is hermetically sealed or secured the collapsible sac *f*, longitudinally of which lies the pressure plate *g*.

The barrel *a* is provided at the nib-end with a fixed ring *h* adapted to grip one end of a leaf-spring *j* of which the medial portion *k* is secured to the pressure plate *g*, and the other end *m* is secured to a plug *n*, which is adapted to fit and longitudinally slide in the barrel *a* of the pen.

The plug *n* is provided with a bevelled cam-face *o* which is adapted, in the inflated condition of the sac *f* (Fig. 1), to lie substantially parallel with the bevelled cam face *p* of the rotary plug *q* which is held against the shouldered end *r* of the barrel *a* by the stem *s* passing through the tubular orifice *t* in the end *r*. The stem *s* ends in a screw threaded portion *u* adapted to screw into a cap *v* milled on its exterior. The cap *v* is adapted to grip the stem *s* and on rotation to turn the plug *q*. The pen-holder is provided with the usual cap *w*.

In operation the nib holder *b* is inserted in the ink and the cap *v* given a semi-turn whereby the plug *q* is rotated to the same extent; and, in consequence, the cam-face *p* moves out of substantial parallelism with the cam face *o*. The plug *q* now forces the plug *n* along the pen-barrel *a* towards the nib-end, thus bending the leaf-spring of which the other end *j* is held against longitudinal movement by the ring *h*. The medial portion *k* of the leaf spring presses upon the pressure plate *g* compressing the sac *f* and

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deflating it by forcing any residual ink and air out through the conduit *d*. A further semi-turn of the cap *n* rotates the cam-face *p* into substantial parallelism with the cam-face *o*, releasing the pressure on the plug *n*, and leaf-spring, whereby the pressure plate *g* allows the sac *f* to inflate under the hydraulic pressure of the ink, and to become filled therewith through the conduit *d*. The nib-holder *b* is now removed from the ink, the pen being filled for use.

In a modified form of device made in accordance with this invention, the action is obtained by a cam on the rotating head working on the end of the leaf spring.

In a further modified form of device made in accordance with this invention, other suitable methods of fixing the leaf spring at the nib end are employed.

In still further modified forms of devices made in accordance with this invention *c* is not threaded, and/or *u* is not threaded.

Having now particularly described and ascertained the nature of our said inven-

tion and in what manner the same is to be performed, we declare that what we claim is:—

1. A reservoir penholder of the type described characterised in that at least one member of the said cam device is rotatable.

2. A reservoir penholder of the type described characterised in that a cam member is provided which is capable of rotary, but not of longitudinal movement, said cam member being adapted by its rotation to cause the deflexion of the spring.

3. A reservoir penholder as claimed in Claims 1 and 2 further characterised in that the cam device comprises two cam-faced members.

4. A reservoir penholder constructed, arranged and adapted to operate substantially as described with reference to the accompanying drawings.

Dated this 24th day of August, 1921.

MEWBURN, ELLIS & Co.,
70—72, Chancery Lane, London, W.C.,
Chartered Patent Agents.

Fig.1.

Fig.2.

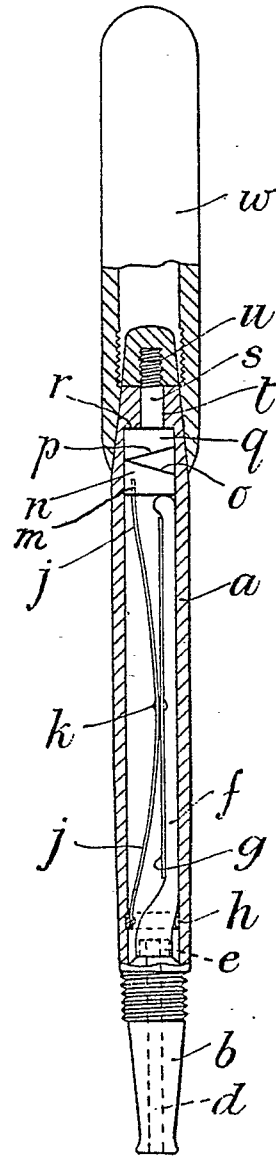
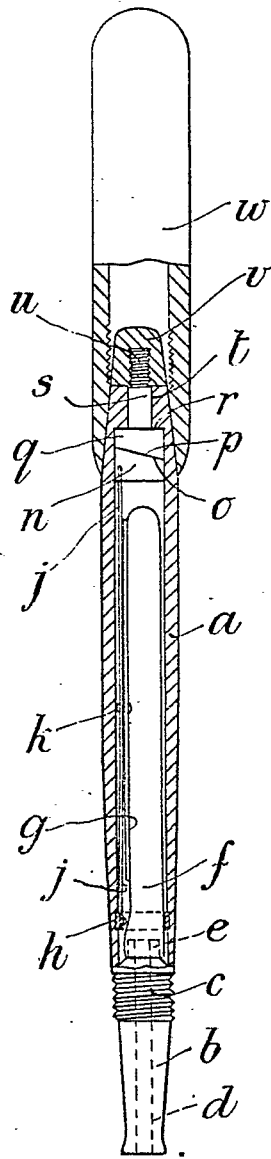


Fig.3.

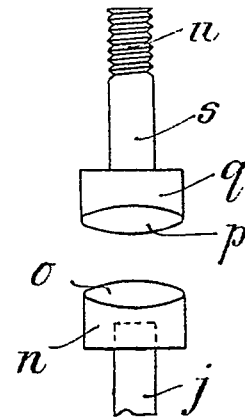


Fig.4

[This Drawing is a reproduction of the Original on a reduced scale]