

N° 7408



A.D. 1915

Date of Application, 17th May, 1915

Complete Specification Left, 17th Nov., 1915—Accepted, 20th Jan., 1916

PROVISIONAL SPECIFICATION.

Improvements in or relating to Fountain Pens.

I, CECIL BRISTOW, of 20, St. German's Road, Forest Hill, in the County of London, Works Manager, do hereby declare the nature of this invention to be as follows:—

This invention relates to fountain pens of the type in which an elastic bag 5 disposed in the holder is adapted to be compressed by a lever and plate, said bag being allowed to expand to create a suction whereby ink is drawn into the bag which forms an ink reservoir to the pen.

The object of this invention is to provide an improved pen of this type.

In a pen made in accordance with this invention the lever is provided with 10 trunnions which bear in an annular groove formed on the inside of the holder. Within the holder is disposed a spring which is held at the end nearest the nib against the side of the holder and the other or free end is fastened at or near the end of the plate which bears on the elastic tube. One end of said plate 15 being free. When the lever is raised the short end thereof bears against the spring and presses the free end and the end of the plate attached thereto on to the bag. On continuing the movement of the lever the free end of the plate is pressed down on to the bag until this drives the air out of the bag commencing from the end furthest from the nib.

The drawing is a diagrammatic section of part of a fountain pen made in 20 accordance with this invention.

a is the holder provided with an annular groove *b*, *c* is a lever provided with 25 trunnions *d* said trunnions engaging with the groove *b*. *e* is a spring made in one with or secured to a plate *f* which keeps the end of the spring nearest the nib against the holder *a*. *g* is a plate fastened to the spring at *h*. *j* is the rubber bag forming the ink reservoir. When it is 30 desired to fill the pen with ink the lever *c* is raised as shown in dotted lines, first forcing down the end *h* of the spring *e* on to the bag *j* and then the free end *k*. This compresses the bag and drives out the air. On lowering the lever *c* the bag expands and draws in ink from an external source when the nib is injected therein.

The lever *c* being mounted on trunnions and disposed in the groove *b* and the 35 disposition of the spring *e* and plate *g* are the characteristic features of the invention and avoid difficulties experienced in pens of this type.

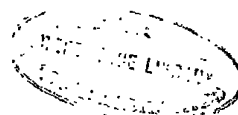
In some cases a band may be disposed on the casing surrounding the bag 40 and spring to prevent the long arm of the lever being pressed on to the bag and causing the ink to be expelled.

Instead of the spring being fastened as shown in Fig. 1 it might be shorter and fastened nearer the centre of the plate; or the spring might be turned over to form a stop for the lever.

Or the spring might be provided with a kink or bent to form a stop.

In some cases trunnions or like projections might be fixed to the extreme 45 inner end of the lever to steady same when in the open or compressed position.

[Price 6d.]



Bristow's Improvements in or relating to Fountain Pens.

by presenting a broader contact to the spring, in which case a second annular groove is provided for same.

Dated this 17th day of May, 1915.

MEWBURN, ELLIS & PRYOR,
70 & 72, Chancery Lane, London, W.C., 5
Chartered Patent Agents.

COMPLETE SPECIFICATION.

Improvements in or relating to Fountain Pens.

I, CECIL BRISTOW, of 20, St. German's Road, Forest Hill, London, England, Works Manager, 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:— 10

This invention relates to fountain pens of the type in which an elastic bag disposed in the barrel of the pen is adapted to be compressed by a lever and plate, said bag being allowed to create a suction whereby ink is drawn into the bag, which forms an ink reservoir to the pen. 15

The object of this invention is to provide an improved pen of this type.

In a pen made in accordance with this invention the lever is pivotally mounted on trunnions or on a member which is adapted to lie in a groove formed on the inside of the barrel. Within the barrel is disposed a spring which is held at the end nearest the nib against the side of the barrel and the other or free end is fastened to the said plate (hereinafter called the presser plate) which bears on the elastic tube. When the lever is raised the short end thereof presses down the spring and the presser plate attached thereto on to the bag, compressing it and driving the air out. 25

Fig. 1 is a diagrammatic section of one form of fountain pen made in accordance with this invention;

Fig. 2 is a plan;

Fig. 3 is a plan of the presser plate and spring, the wings of the spring being flattened out; 30

Fig. 4 is a cross section of presser plate and spring;

Fig. 5 is an elevation of the bag;

Fig. 6 is a side view of the spring bent over to form a stop;

Fig. 7 is a perspective view of the collar;

Fig. 8 is an elevation showing means for holding the operating lever in position; 35

Fig. 9 is a perspective view of the leaf *v*;

Fig. 10 is a side view showing the leaf formed in one with the wings by which it is secured in position in the barrel of the pen, the spring being attached to the wings. 40

Fig. 11 is a perspective view of a modified construction showing the lever pivoted on an annular ring which is adapted to lie in the groove.

(*a*) is the barrel of the fountain pen which is provided with a longitudinal slot *b* having a sloping end *c* and a recess *e*. A lever *f* provided with trunnions *g*, a shallow groove *h* and one end sloping off as at *j* is disposed in the slot *b*, the trunnions having suitable supports which may be provided by causing them to engage in an annular groove *d* in the barrel, the groove *h* corresponding with recess *e* and the sloping end *j* resting on *c*. 45

The short end of the lever *f* is provided with a heel *k* to ensure contact with spring when the lever is closed and thus keeping same down in the slot *b*. 50

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An elastic bar *m* attached to the nib holder *n* is adapted to lie in the barrel *a*. Between the bag *m* and the barrel *a* is a spring *o*, one end of which is attached to a presser plate *p*. The other end is shaped with wings *q q* which can be bent to the curve of the barrel, so as to hold the spring firmly within the barrel and against the inner surface thereof. *r* is a stop disposed on the spring against which the lever *f* bears when it is in its raised position. If the trunnion or the lever *f* is supported as illustrated in the groove *d* means are preferably provided for holding the trunnion in place such as a split collar *s* so disposed that the slit registers with the longitudinal slot in the barrel and supports the trunnions in the annular groove.

The presser plate is or may be flanged at *t* to give it sufficient rigidity.

The stop *r* may be of a separate piece as shown in Fig. 1 or it may be formed by bending over the end of the spring *o* as shown in Fig. 6.

In some cases as shown in Figs. 8 and 9 the trunnions *g* on the lever *f* may be held in a forked metal leaf *v* which is fastened at *w* to the spring *o*. The leaf has its free end curled over at *x* to receive the trunnions *g*.

The trunnions *g* and curled over end *x* lie in the groove *d*.

In the view shown in Fig. 10 the leaf *v* is formed in one with the wings *q* and the spring *o* is attached to the wing *q*.

In the perspective view shown in Fig. 11 the lever *f* is pivotally mounted on a ring *y* which lies in the groove *d* and passes through the eyes *x* of the metal leaf *v*. In this manner the parts are held securely in position.

In operation when it is desired to fill the pen with ink the lever *f* is raised as shown in Fig. 1 forcing the presser plate *p* on to the bag so as to compress it and drive out the air. On lowering the lever *f* the bag expands and draws in ink from an external source, when the nib is inserted therein.

The lever *f* being pivotally mounted on a member disposed in the groove *d* and the disposition of the spring *o* and plate *p* are the characteristic features of the invention and avoid difficulties experienced in pens of this type.

Instead of the spring being fastened as shown in Fig. 1 it might be shorter and fastened nearer the centre of the plate.

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 fountain pen of the type described characterised in that the operating lever is pivotally mounted on a member adapted to lie in an annular groove in the barrel of the pen.

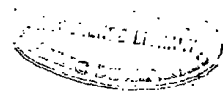
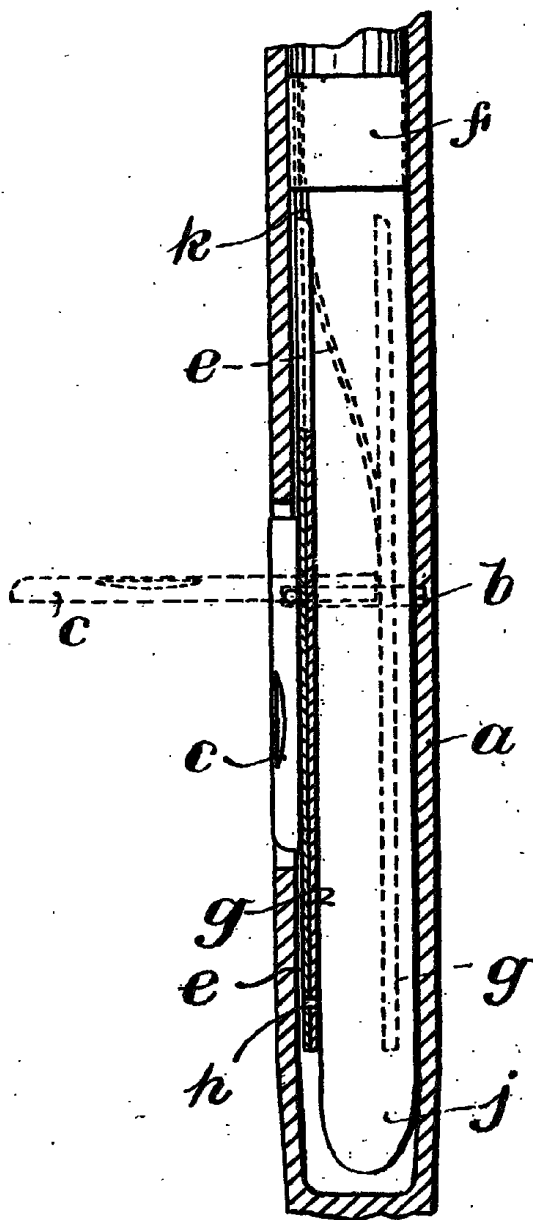
2. In a fountain pen as claimed in Claim 1 means for holding the leaf and spring in position by forming them in one with wings such as *q* or attaching them thereto substantially as described.

3. The self-filling fountain pen constructed, arranged and adapted to be operated substantially as described with reference to Figs. 1 to 7 and to the modifications shown in the drawings.

Dated this 16th day of November, 1915.

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

[This Drawing is a full-size reproduction of the Original]



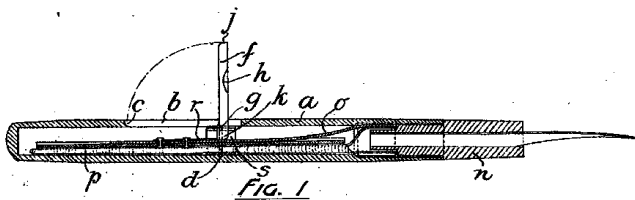


FIG. 1

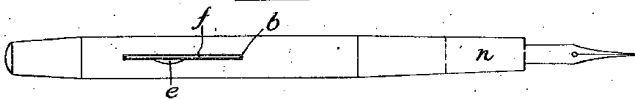


FIG. 2

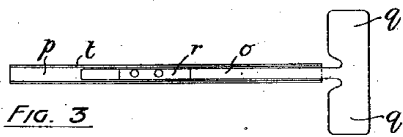


FIG. 3

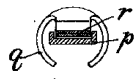


FIG. 4

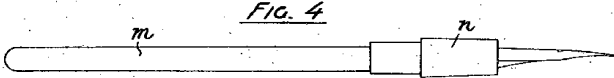


FIG. 5

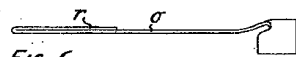


FIG. 6



FIG. 7



FIG. 8

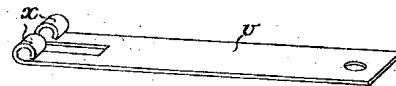


FIG. 9

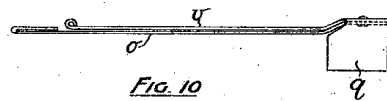


FIG. 10

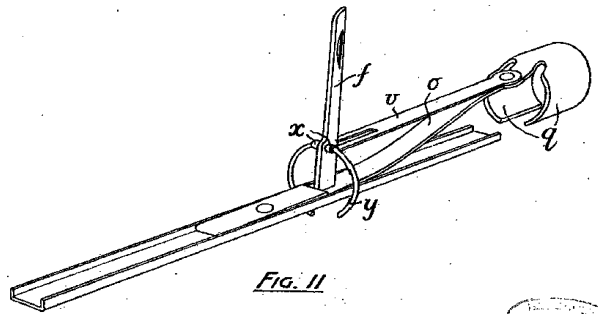


FIG. 11



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

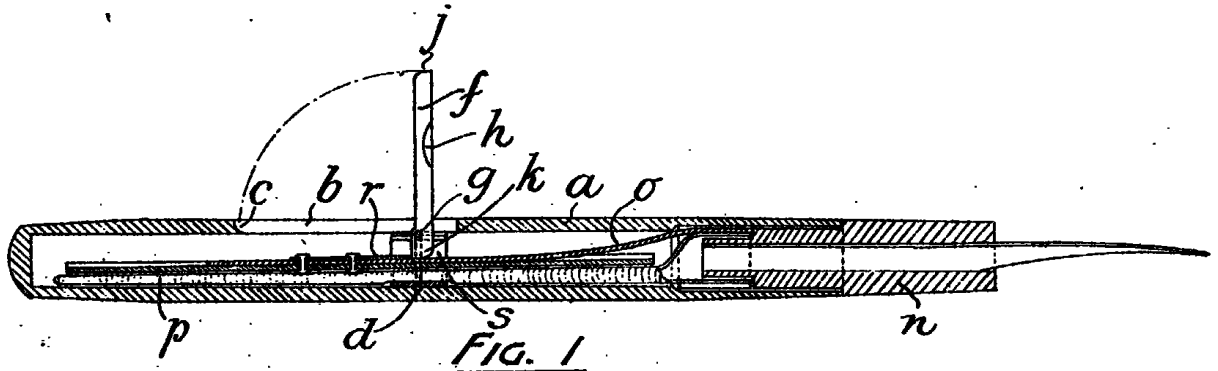


FIG. 1

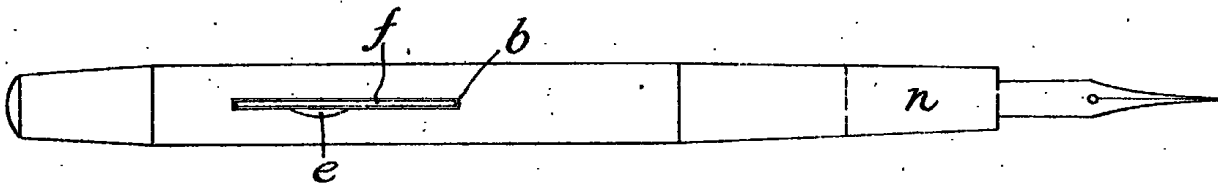


FIG. 2

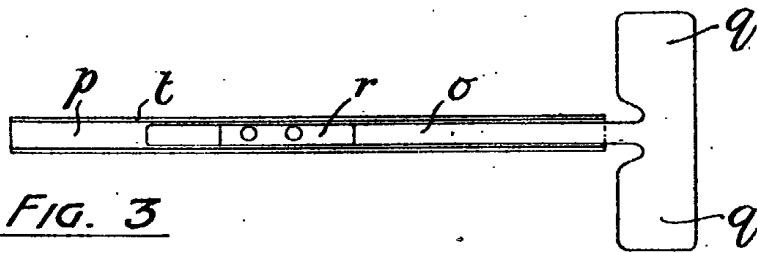


FIG. 3

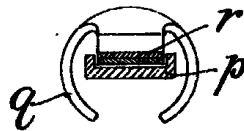


FIG. 4

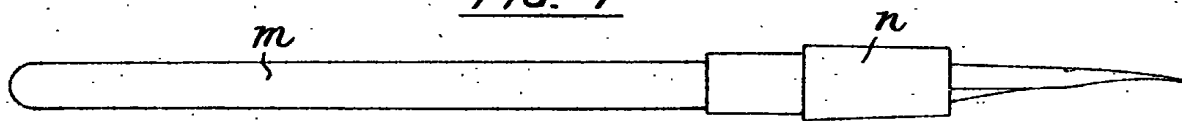


FIG. 5

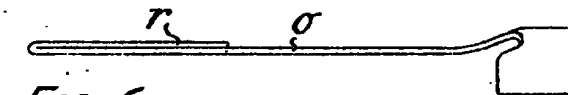


FIG. 6

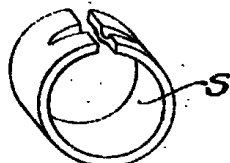


FIG. 7

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

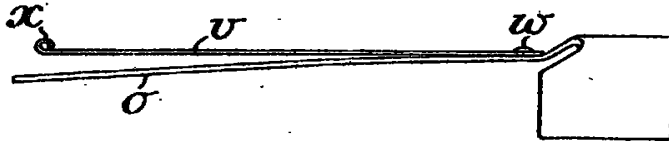


FIG. 8

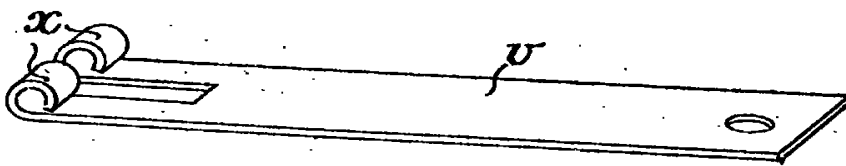


FIG. 9

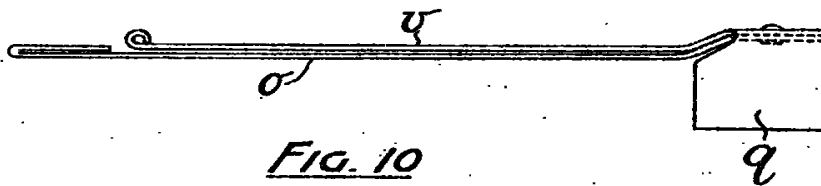


FIG. 10

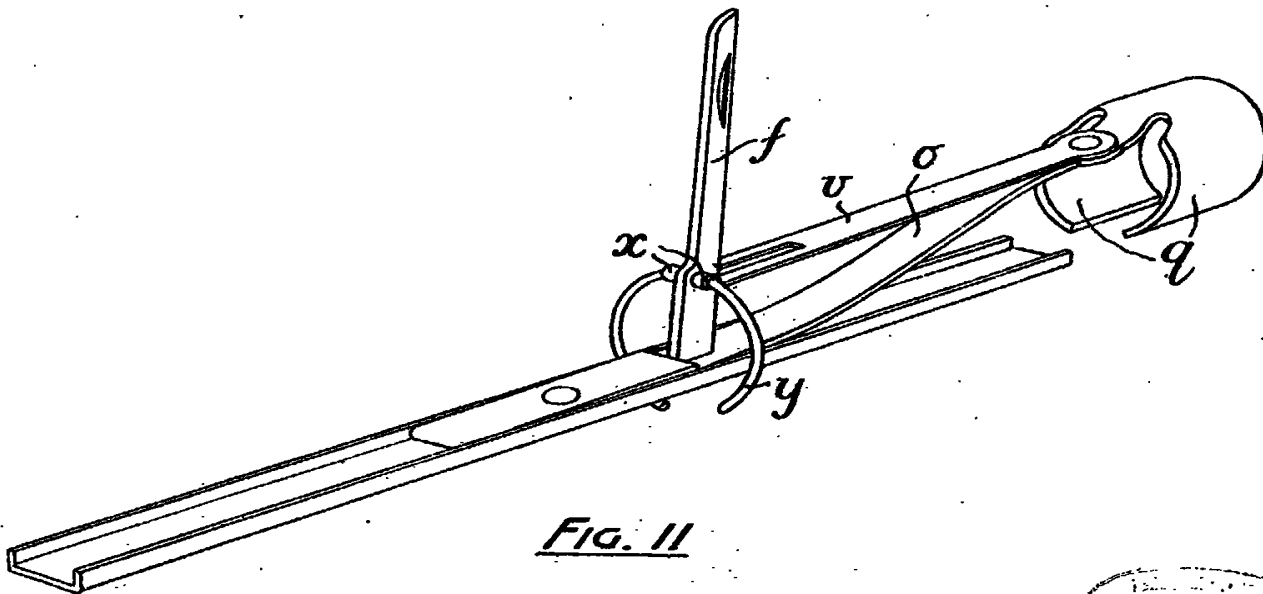


FIG. 11

