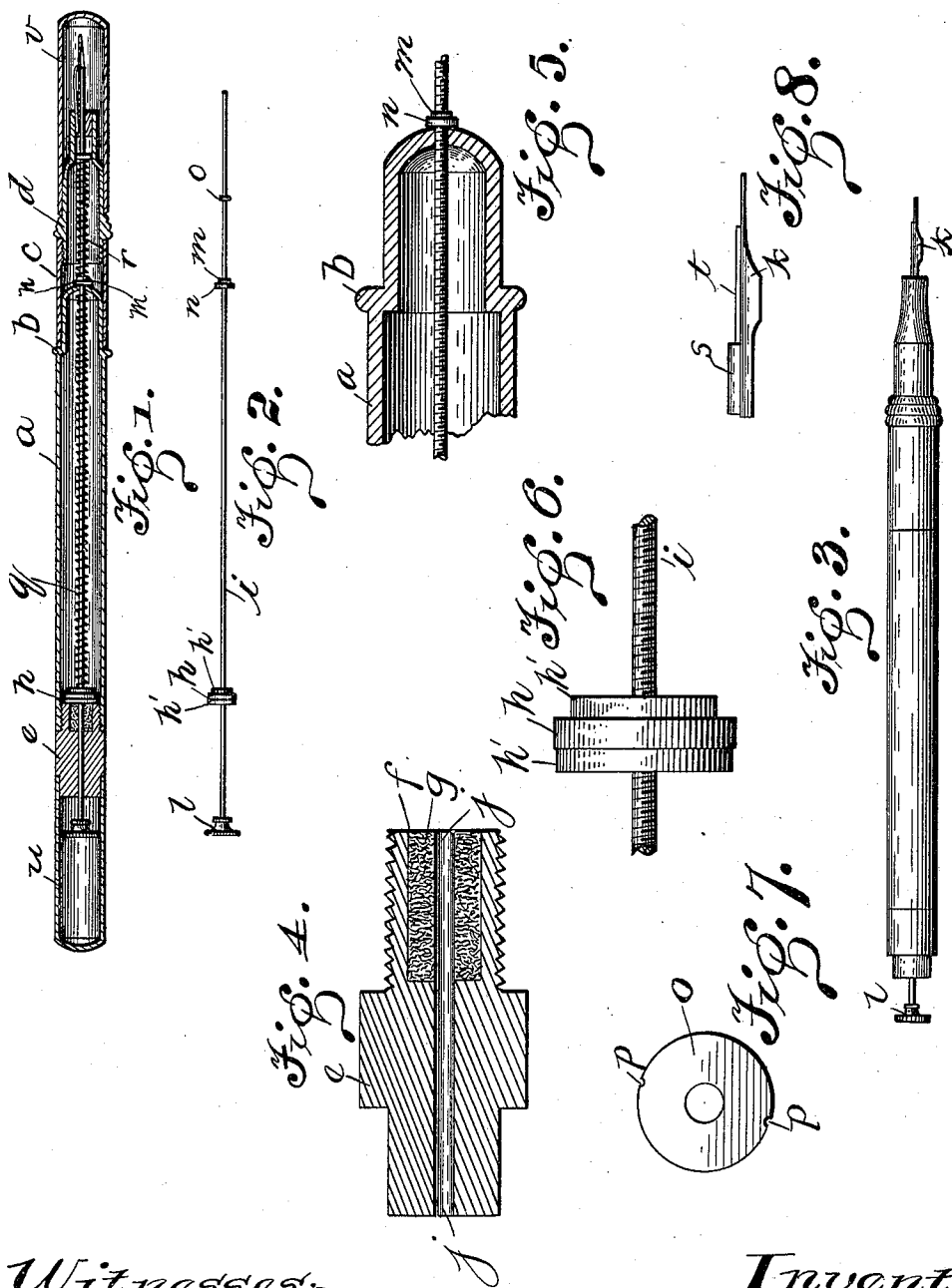


(No Model.)

G. A. SPIES.
FOUNTAIN PEN.

No. 577,932.

Patented Mar. 2, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

GUSTAV A. SPIES, OF IRWIN, PENNSYLVANIA.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 577,932, dated March 2, 1897.

Application filed April 18, 1896. Serial No. 588,090. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. SPIES, a citizen of the United States of America, residing at Irwin, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in fountain-pens, and has for its object to construct a fountain-pen which will feed the ink to the pen-point evenly and regularly when the point is in contact with the paper, and when not in contact with the paper the ink will be prevented from flowing from the reservoir.

15 A further object of the invention is to construct a fountain-pen whereby the flow of ink may be increased at will by the operator, if so desired; furthermore, that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

25 A still further object of the invention is to construct the feeding mechanism of my improved fountain-pen in such a manner as to permit of the same being attached to many of the different constructions of fountain-pens which may have become damaged; furthermore, a fountain-pen that will not be liable to get out of order easily, which is a serious fault with most of this nature.

30 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

35 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

40 Figure 1 is a longitudinal sectional view of my improved fountain-pen. Fig. 2 is a detail view of the feeding-rod. Fig. 3 is a side view with the end caps removed. Fig. 4 is an enlarged sectional view of the plug in the upper end of the reservoir. Fig. 5 is an enlarged sectional view of the lower portion of the ink-

reservoir, showing a portion of the feeding-rod. Fig. 6 is an enlarged view, in side elevation, of the upper seal and a portion of the feeding-rod. Fig. 7 is an enlarged plan view of the feed-regulating collar. Fig. 8 is a side view of the pen-point and support.

In the drawings, *a* represents the ink-reservoir and holder proper, which is provided near the lower end with an exterior flange *b*, the diameter of the holder being less below this flange to receive the sleeve *c*, connecting the pen-point holder *d* to the ink-reservoir. The upper end of the ink-reservoir *a* is screw-threaded to receive the screw-threaded plug *e*, which is provided in its lower end with a hole *f*, in which is inserted packing *g* to prevent any ink passing from the holder at this end when the seal *h*, secured on the rod *i*, is out of engagement with the lower end of the plug *e*, the latter being its normal position. This rod *i* extends through the hole *j*, provided therefor in the plug *e*, and through the lower end of the ink-reservoir *a*, its lower end resting on the underneath face of the pen-point *k*, which fits in the lower end of the pen-point holder.

The rod *i* carries on its upper end a knob or button *l* and below the lower end of the ink-reservoir *a* a sliding collar *m*, between which and the ink-reservoir is a washer *n*. The rod is also screw-threaded, as shown in the enlarged view of a portion of the rod in Fig. 6, and carries a feed-regulating collar *o*, provided at the sides with grooves *p p*. The collar fits in the neck portion of the pen-point holder and allows the ink to feed gradually to the pen through the grooves *p p*. A coil-spring *q* is arranged on the rod between the seal *h* and the base of the ink-reservoir, and a spring *r* is also arranged between the collar *o* and the collar *m*. A plug *s* is inserted in the pen-point and carries a rod or wire *t*, which serves to make the pen-point more rigid. A cap or shield *u* is adapted to fit on the upper end of the rod, and a similar cap or shield *v* fits on the pen-point holder and protects the pen-point and also the rod *i* when it is desired to carry the pen in the pocket.

The seal *h* is preferably composed of three washers of different material, the center washer or seal proper, *h*, of which may be composed of rubber, leather, or other flexi-

ble material, and the washers *h' h'*, secured on either side of the same, are preferably composed of a hard material, such as brass, glass, or the like, which will serve to hold the washer *h* in its proper position.

The operation of my improved fountain-pen will be readily apparent from the views of the same which I have shown in the drawings and from the foregoing description and lettering of the parts, but to enable those unskilled in the use of pens of this description to use the same I will more fully describe the operation.

We will assume that the parts have all been secured in their respective positions and it is desired to fill the ink-reservoir so as to use the pen, the plug *e* is unscrewed from its socket and the rod *i* pulled upward until the seal *h* passes out of the reservoir, when the seal is rested at one side on the top of the reservoir, leaving an opening in which the ink may be forced either by a suction-tube, as ordinarily employed, or in any suitable manner. This lift on the rod *i* also compresses the spring *r*, thus forcing the washer *n* and collar *m* tightly against the ink-reservoir and preventing the flow of ink from the same while being filled. When the desired quantity of ink has been placed in the reservoir, the plug *e* is again placed in position, which will allow the rod *i* to descend and release the tension on the spring *r* and permitting the ink to ooze out at the aperture in the lower end of the ink-reservoir and is fed down the rod and through the grooves *p p* on the collar *o* to pen-point. This collar *o* will prevent the ink from flowing too freely to the pen-point should it become accumulated in the lower reservoir, and when it is desired to admit more ink in this reservoir the cap *u* is removed and the rod *i* pressed downward by means of the knob *l*, which will force the washer *n* away from the opening in the lower end of the reservoir, permitting the ink to flow through freely.

By this construction of a fountain-pen it will be found that there will be no accumulation of ink on the pen-point to drop on the paper when the holder receives a slight jar or shake, and it will also be observed that it is readily regulated to admit a freer flow of ink, if desired, by pressing on the rod of the knob. The packing in the plug *e* will prevent any ink from oozing through past the seal *h* when the pen is being carried in the pocket, and the cap *v* over the pen-point will prevent any damage to the same.

It will be observed that the pen can be carried in the pocket with either end downward without any danger of the ink leaking out, and when properly adjusted the ink will be effectually prevented from passing to the lower reservoir until the button is pressed, releasing the washer from the aperture in the res-

ervoir. It will also be observed that various changes may be made in the details of construction of my improved pen without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fountain-pen, the holder proper forming the reservoir, a plug in the upper end of the reservoir and the lower end being adapted to receive a sleeve securing the pen-point holder thereto, a rod extending through the plug and holders and engaging the pen-point, said rod having a collar forming a seal against the plug, a collar and washer to engage the lower end of the reservoir and an adjustable feed-regulating collar, and springs on the rod between the said collars to retract the rod when depressed, substantially as shown and described.

2. In a fountain-pen, the combination of the holder proper forming the reservoir, the reservoir being connected to the pen-point holder by a sleeve, a rod extending through said holders and engaging the underneath side of the pen-point, said rod carrying a collar at the outlet and inlet part of the reservoir, an adjustable feeding-collar in the pen-point holder, and being also provided with coil-springs between said collars to retract the rod when depressed, substantially as shown and described.

3. In a fountain-pen, the combination of the holder forming the reservoir, said holder having a plug in its upper end, a rod extending through said plug and holder and engaging the pen-point, said rod having a collar at the outlet and inlet part of the reservoir, washer *h'* at the inlet-collar, an adjustable feeding-collar in the pen-point holder, said rod having a coil-spring engaging the end of the reservoir and the washer *h'* to retract the rod when depressed and the holder provided with removable cap ends, substantially as shown and described.

4. In a fountain-pen, the reservoir and pen-point holder connected by a sleeve, a plug in the end of the reservoir, a rod extending through the plug, reservoir and sleeve with its end adapted to lie under the pen-point, a washer guarding the aperture of the plug, a collar controlling the flow from the reservoir, an adjustable feeding-collar arranged in the rod, a spring arranged in the reservoir encircling the rod for holding the rod elevated and a spring arranged in the sleeve to hold the collar in contact with the reservoir-discharge substantially as described.

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

GUSTAV A. SPIES.

Witnesses:

JOHN D. BROWN,
D. A. SOUDERS.