

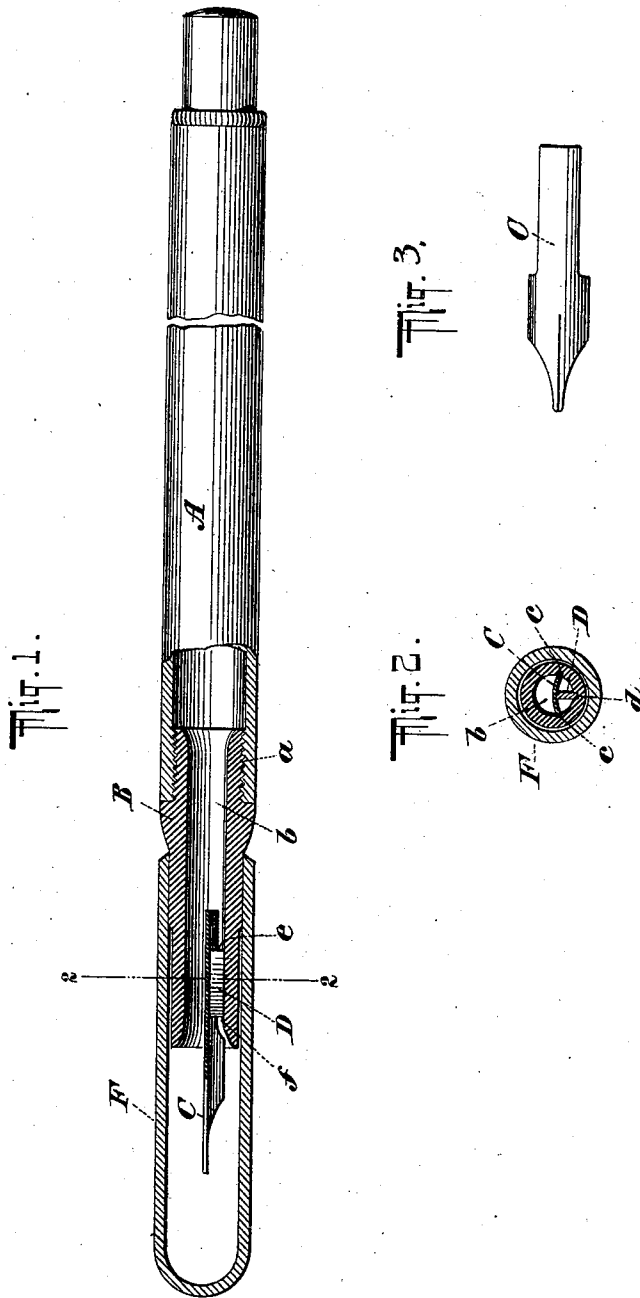
No. 668,759.

W. W. STEWART.
FOUNTAIN PEN.

Patented Feb. 26, 1901.

(Application filed July 14, 1900.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM W. STEWART, OF BROOKLYN, NEW YORK.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 668,759, dated February 26, 1901.

Application filed July 14, 1900. Serial No. 23,572. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. STEWART, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to fountain-pens; and the object of said invention is to provide a simple, cheap, and efficient fountain-pen; and to this end my invention consists in the novel arrangement and combination of parts to be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view, partly in section, of one form of fountain-pen embodying my invention. Fig. 2 is a transverse sectional view of the same on line 2 2 of Fig. 1. Fig. 3 is a detail plan view of a pen-nib which I prefer to use.

Referring to the drawings, A indicates the hollow handle of a fountain-pen, which constitutes the ink-reservoir. Connected to the reservoir A is a nozzle B, which is in open communication with the reservoir and with the open air. This nozzle may be formed integral with the handle or reservoir or may, as shown in the drawings, be adapted to be connected thereto by suitable connection, as indicated at *a*. The nozzle B has a central bore *b* extending therethrough, and seated within this bore is a pen-nib C. The pen-nib C is preferably constructed with a reduced shank, as indicated in Fig. 3 of the drawings, and is seated within the nozzle, so as to divide the bore thereof, as indicated in Fig. 2 of the drawings, it being understood that suitable grooves *c* may be provided in the bore for the reception of the pen-nib. Beneath the pen-nib C is situated what I term a "controlling-piece" D. This controlling-piece is preferably made of gold or equivalent material and may be seated in a groove *d*, as indicated in Fig. 2 of the drawings, so that one edge of the thin flat plate or strip, which constitutes the controlling-piece, is in contact with a wall of the bore of the nozzle.

From an examination of Fig. 1 of the drawings it will be observed that the controlling-piece D terminates at the inner and outer ends *e*, *f*, respectively, within the nozzle and that the upper edge of said controlling-piece

is in contact with the under side of the pen-nib. Thus the ends *e* and *f* of the controlling-piece constitute what I term "abutments" for purposes which will be hereinafter fully explained. It will likewise be observed that the plane of strip D extends longitudinally of the bore, so as to form passages at the sides thereof. If desired, the controlling-piece D may be connected to and carried by the pen-nib. By the provision of the controlling-piece in the manner described I am able to provide against a too-rapid inlet of air to the reservoir, which would occasion a too-free flow of ink or the dropping of the ink from the pen, as is common in fountain-pens of certain constructions. The air in entering the nozzle below the pen-nib will, with the ink, form a film, which will be retained against a rapid movement to the interior of the reservoir by the controlling-piece when the pen is used in the act of writing. At the same time the controlling-piece retains a quantity of ink at the position where it is situated for the ready supply of ink to the pen-nib. The controlling-piece likewise forms a nucleus for the ready flow of ink from the lower wall of the bore of the nozzle to the under side of the pen-nib, where it may flow with the necessary freedom around the film. It will thus be understood that means are provided to prevent the too-ready inlet of air to the reservoir from below the pen-nib and that what I term a "choking of the air" is provided at this point. On the other hand, the opening in the bore at the upper side of the pen-nib is or may be free from obstruction and the air in its passage to the interior of the reservoir will follow this course. The inlet of air from above the pen-nib will form, together with the ink, a film which will prevent ink from flowing out of the pen through this channel, whereas the ink will be retained and what I might term an "auxiliary supply" provided by the controlling-piece at the under side of the pen. This is the natural means for the inflow of air and the flow of ink to the pen-nib for the reason that the air, being the lighter fluid, naturally should pass into the reservoir from above, whereas the ink, which is the heavier fluid, should be fed to the pen from below. Again, the controlling-piece has material advantages in that it provides a clean

pen under all circumstances and conditions. When the pen is inverted and maintained in the pocket, for instance, it ordinarily occurs that the heat from the body will cause an efflux of air from the reservoir, and it often occurs that the efflux of this air from the reservoir will, with the ink, produce a film which is discharged from the free end of the nozzle into the cover F of the pen, where it explodes and smears the cover and nozzle of the pen. However, in accordance with my invention, the abutment or edge *e* of the controlling-piece arrests the film in its upward passage, and thereby prevents it from being discharged from the free end of the nozzle. Thus it will be seen that a clean and efficient pen, which is simple in construction, is provided by my invention. It will be understood that the controlling-piece may be employed together with any other auxiliary or additional features which may be deemed necessary for specific ends to be attained.

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

1. In a fountain-pen, the combination of a nozzle having a bore therein which is in open communication with the reservoir and with the air, a pen-nib seated in the bore of said nozzle so as to divide the same into a plurality of passages and a thin controlling-piece contained within the bore of the nozzle beneath the pen-nib and terminating at both ends within the nozzle, the plane of the controlling-piece extending longitudinally of the bore so as to form passages at the sides thereof.

2. In a fountain-pen, the combination of a nozzle having a bore therein which is in open

communication with the reservoir and with the air, a pen-nib seated in the bore of said nozzle so as to divide the same into a plurality of passages and a controlling-piece contained within the bore of the nozzle beneath the pen-nib and in contact with the pen-nib and with a wall of the bore, said controlling-piece being thin enough to leave openings at the sides thereof and terminating at the front and rear thereof within the nozzle.

3. In a fountain-pen, the combination of a nozzle having a bore therein which is in open communication with the reservoir and with the air, a pen-nib seated in the bore of said nozzle so as to divide the same into a plurality of passages and a gold or equivalent controlling-piece contained within the bore of the nozzle beneath the pen-nib and terminating at the front and rear within the nozzle, the plane of the controlling-piece extending longitudinally of the bore so as to form passages at the sides thereof.

4. In a fountain-pen, the combination of a nozzle having a bore therein which is in open communication with the reservoir and with the air, a pen-nib seated in the bore of said nozzle so as to divide the same and a controlling-piece contained within the bore of the nozzle beneath the pen-nib, said controlling-piece comprising a flat strip seated in a wall of the bore so as to leave passages at the sides thereof and maintained in contact with the pen-nib and terminating at front and rear thereof within the nozzle.

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Witnesses:

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