

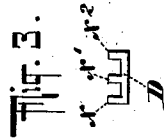
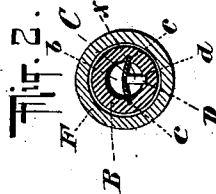
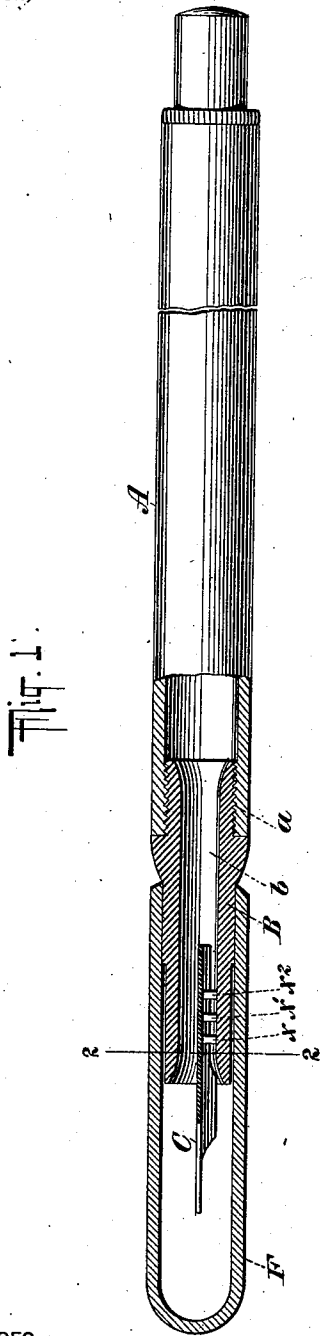
No. 668,760.

Patented Feb. 26, 1901.

W. W. STEWART.
FOUNTAIN PEN.

(Application filed Dec. 13, 1900.)

(No Model.)



WITNESSES:

Gustav Dietrich
Charles E. Smith

INVENTOR

William W. Stewart

BY *O'Brien & Keaney*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM W. STEWART, OF BROOKLYN, NEW YORK.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 668,760, dated February 26, 1901.

Original application filed July 14, 1900, Serial No. 23,572. Divided and this application filed December 13, 1900. Serial No. 39,636. (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, the view being taken on the line 2 2 of Fig. 1. Fig. 3 is a detail side view showing one form of the so-called "controlling-piece." Fig. 4 is a detail plan view of the 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. 4 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, when the so-called "controlling-piece" is made in the form indicated in Fig. 3 of the drawings. What I have designated a "controlling-piece" D comprises a plurality of trans-

versly-extending pins $x x' x^2$, which are preferably spaced apart, as indicated in the drawings. These pins may be separate pins secured in place in any suitable manner, or they may be formed by suitably slitting a plate, as indicated in Fig. 3 of the drawings, and the controlling-piece may be maintained in place by securing the pins or the piece in which the pins are formed to a wall of the bore of the nozzle or to the pen-nib. The pins are, however, preferably maintained in contact with the pen-nib. From an examination of Fig. 1 of the drawings it will be observed that the so-called "controlling-piece," comprising the pins, terminates at the inner and outer ends within the nozzle. Thus the outer pin *x* constitutes the forward terminal, while the inner pin x^2 constitutes the rear terminal. These terminal pins and the intermediate pin x' constitute what I term "abutments," which are within the field of the pen-nib for purposes which will be hereinafter more fully explained. It will be observed that the plane formed by the pins $x x' x^2$ extends longitudinally of the bore, so as to form a passage at each side thereof.

By the provision of the controlling-piece of the character 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 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 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-rapid 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 up-

per 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 the ink from flowing out of the pen through this channel, whereas the ink will be retained and what I 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 conveyed to the pen-nib 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 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 present invention the abutment or pin x^2 of the controlling-piece arrests the film in its upward movement, 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 the specific ends to be attained.

The subject-matter embodied herein constitutes a division of my application, Serial No. 23,572, filed July 14, 1900.

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 situated in the bore of said nozzle so as to divide the same and a controlling-piece contained within the bore of said nozzle beneath the pen-nib, said controlling-piece comprising a plurality of pins.

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 situated in the bore of said nozzle so as to divide the same, and a controlling-piece contained wholly within the bore of the nozzle beneath the pen-nib, said controlling-piece comprising a plurality of pins which are in contact with the pen-nib and with the wall of the bore.

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 and a controlling-piece contained within the bore of the nozzle beneath the pen-nib, said controlling-piece comprising a plurality of pins, the plane formed by said pins extending longitudinally of the bore.

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 plurality of transversely-extending pins which are spaced apart.

5. 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 plate which is slitted to form a plurality of pins.

WILLIAM W. STEWART.

Witnesses:

CHARLES E. SMITH,
BELLE PEYSER.