

PATENT OFFICE

(No Model.)

M. W. MOORE.

FOUNTAIN PEN.

No. 435,900.

Patented Sept. 2, 1890.

Fig. 1.

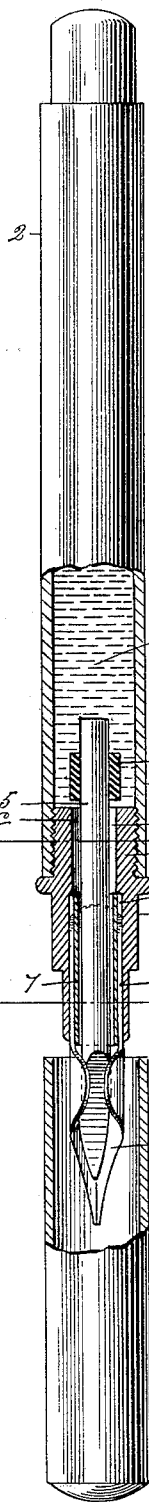


Fig. 5.

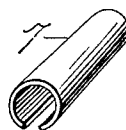


Fig. 2.

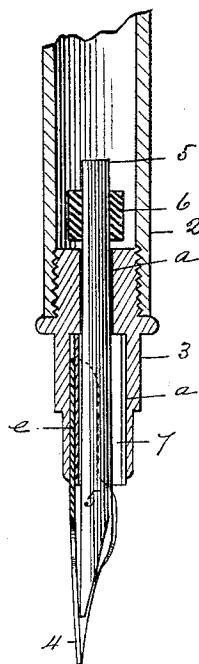


Fig. 6.



Fig. 3.

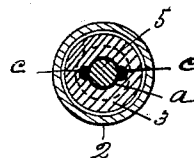
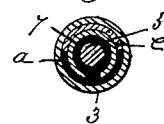


Fig. 4.



Witnesses:

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Inventor,
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by *Chapman*
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UNITED STATES PATENT OFFICE.

MORRIS W. MOORE, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO FREDERICK ZUCHTMANN AND WILLIAM P. DRAPER, OF SAME PLACE.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 435,900, dated September 2, 1890.

Application filed April 18, 1890. Serial No. 348,577. (No model.)

To all whom it may concern:

Be it known that I, MORRIS W. MOORE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Fountain-Pens, of which the following is a specification.

This invention relates to fountain-pens, the object being to provide a pen of this class of improved construction in relation to means for controlling the flow of ink from the reservoir to the pen; and the invention consists in the peculiar construction and arrangement of the pen-supporting and ink-feeding parts of the pen, all as hereinafter fully described and pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a side elevation, partly in section, of a fountain-pen constructed according to my invention. Fig. 2 is a longitudinal sectional view of the lower portion of the pen, excepting the feed-bar thereof, which is not shown in section. Fig. 3 is a transverse section on line 3 3, Fig. 1. Fig. 4 is a transverse section on line 4 4, Fig. 1. Fig. 5 is a perspective view of the cylindrical pen-holding spring. Fig. 6 is a perspective view of the valve which controls the flow of ink from the reservoir.

In the drawings, 2 indicates the reservoir of the pen, constructed, preferably, of hard rubber or similar non-corrosive material, and having its upper end hermetically closed and its opposite end open and internally screw-threaded, as shown. The tip 3 of the pen-fountain, also preferably made of hard rubber, is screwed into the lower end of the said fountain 2, as shown in Figs. 1 and 2, and is thus made conveniently removable from the open end of the fountain, for the purpose of filling the latter with ink B, and of adjusting the parts of the pen, as below described, which control the flow of ink from the fountain to the tip of the pen proper 4. The said tip 3 has a cylindrical longitudinal passage through it from end to end, said passage being indicated by *a*, and said passage *a* in its upper portion, or that which is within the end of the fountain 2 when the parts are assembled, as in Figs. 1 and 2, is of less diameter than that portion of

said passage below the end of the said fountain. The said upper end of the passage through the tip 3 is made, as aforesaid, of a smaller diameter than the lower end thereof to adapt it to the diameter of the shank of the ink-feeding bar 5, said shank being adapted to fit fairly easy in said passage and to be movable endwise therein for the purpose of adjusting its outer end or point to a proper position relative to the point of the pen proper 4. The said upper and smaller portion of the passage *a* through the tip 3 has formed in the walls thereof one or more longitudinal grooves *c*, which serve to convey ink from the reservoir through the upper end of the tip 3 into the lower enlarged portion of the passage *a* in said tip, and thence along the sides of the feed-bar 5 to the point thereof, and thence to the pen 4. The said grooves *c* in the walls of the passage through the tip 3 serve as ample conduits for the ink B, which must necessarily flow unobstructedly to the pen 4; but it is obvious that without proper means for controlling the flow of ink through said conduits *c* (and said conduits must be of suitable depth to prevent them from being clogged by thick ink) an oversupply of ink would be delivered at the point of the pen 4, and hence there is provided on the inner end of the shank of the pen-bar 5 an adjustable cylindrical valve 6, which may be made of any suitable material; but rubber is the preferable one. Said cylindrical valve 6 is movable up and down on the shank of said pen-bar opposite the inner end of the tip 3 of the pen, and said valve is of such diameter or thickness beyond the sides of said feed-bar shank as provides for covering the upper ends of the said feed grooves or conduits *c* in the inner walls of the tip 3, which adjoin the sides of said feed-bar shank, so that if said valve 6 be moved on said shank down against the upper end of said tip 3 the ink passages or conduits *c* would be entirely closed and no ink would flow therethrough, and to secure the proper flow of ink from the reservoir through said passages, as aforesaid, to the pen 4 the said valve is adjusted to such position above or away from the adjoining up-

per end of the tip 3 as may be necessary to permit the ink, should it possess more or less fluidity, to flow in proper regular quantities through said conduits *c*. The lower or enlarged portion of the passage *a* through the tip 3 is adapted to receive therein the cylindrical pen-holding spring 7, and said spring serves to hold firmly the shank *e* of the pen 4 when the latter is forced into said passage *a* between the wall thereof and said spring 7, the latter being made, preferably, of sheet metal, and is held tightly in the lower end of the tip 3 by frictional engagement therewith. The ink-feeding bar 5 extends through said spring 7, as shown in the drawings.

The usual cap, which protects the pen 4 and adjoining parts when the device is not in use or arranged to be carried in the pocket, is indicated by D, the upper end of the fountain

2 being of suitable reduced size, as shown, to receive and hold said cap thereon temporarily.

The parts of the pen are shown in the drawings as considerably enlarged, in order to more clearly illustrate their construction and relations.

What I claim as my invention is—

In a fountain-pen, a tip therefor having a passage therethrough to receive the ink-feeding bar, and having one or more ink-conducting grooves in the walls thereof, combined with said feeding-bar, a valve movable on said bar toward and from the ends of said grooves, and an ink-reservoir connected with said tip, substantially as set forth.

MORRIS W. MOORE.

Witnesses:

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W. S. BELLOWS.