

UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN

SPECIFICATION forming part of Letters Patent No. 512,319, dated January 9, 1894.

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To all whom it may concern:

Be it known that I, GEORGE S. PARKER, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Fountain-Pens; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to obviate the defects usually found in fountain pens, on account of which there is, first, difficulty in starting the flow of ink when beginning to write; second, a deficient, excessive or irregular flow of ink; third, the dripping of ink from the pen when the reservoir is nearly empty, and, fourth, the overflowing of ink upon the exterior of the pen section when the pen is inverted after using.

The invention consists in a novel construction of the feed piece and contiguous parts which secures and maintains an equipoise between the columns of ink and air in their several passages and compels them to harmony of action.

The various features of the invention are illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my pen having portions of the exterior broken away to expose the interior arrangement of some of the parts. Fig. 2 is a side view of the feeder. Fig. 3 is a vertical section of the feeder. Fig. 4 is a plan of the feeder with the nib in position. Fig. 5 is a plan of the underside of the feeder, and Fig. 6 is an enlarged end view of the pen section on the line $x-x$ of Fig. 1.

Like letters of reference denote corresponding parts in the different views.

The letter A. indicates the body or ink reservoir of a fountain pen.

B is the cap fitted upon the reduced end a . of the body, and also fitting upon the pen section to cover the nib when not in use.

The pen section C. is attached to the body A. by its threaded portion v . The bore of the pen section is uniform throughout except at its outer end, in which is formed the annular

depression or recess d . which forms a rest or seat for the projections i, i . on the nib I. and also temporarily stores a small quantity of ink for immediate use when making heavy lines in writing.

E. indicates the feed tube or feeder. It is cylindrical and fits removably in the pen section C. At the forward end of the feeder is a cross slit e . to receive the heel of the nib I. That part of the feeder above the slit e . is prolonged to form a tongue f . which extends along upon the nib I. to near its extreme point. A small hole j . constituting an ink conduit, is made longitudinally through the central part of the feeder, one side of which being continued along the tongue f . forms the groove g . therein. The vertical slit k above the heel of the nib, connects with the conduit j . and acts with the groove g . to keep the nib moist. The upper one half, more or less, of the middle portion of the feeder is removed, leaving an air chamber h . which connects through the hole j . with the cross slit e . described above, and through it with the outer air. Internally the chamber h . communicates with the reservoir A. through an inlet l . formed between the inner end of the pen section and the flattened upper surface of the feeder, whereby air is supplied to the reservoir as the ink flows out. That part of the feeder which projects beyond the pen section into the reservoir is bent or deflected downward or to one side so that its extreme end o . is brought into contact with the inner side of the reservoir. A groove n . across the end of the pen section and intersecting the conduit j . secures and moderates the flow of ink from the reservoir.

When the pen is held as in writing the ink is conveyed from the reservoir through the groove n . and the conduit j . and along the groove g in the tongue f . to the tip of the nib I. where it comes in contact with the paper, the air entering through the conduit j . at e . into the chamber h . and thence by the inlet l . into the reservoir. When the pen is inverted after using, the ink collected in the recess d . and about the nib, flows back through the ink channels described above into the reservoir, a drop remaining at the juncture of the feeder and reservoir which keeps those parts wet and insures a prompt outflow of ink when beginning to write. By this construction of the

feeding device the column of air occupying the chamber *h*, and its outlets is found to evenly balance the column of ink in its channels while the terminal curvature of the feeder
5 and the peculiar entrance to the conduit control the movement of the ink so as to maintain an even and constant flow of it to the last drop in the reservoir.

Any preferred materials may be used in the
10 construction of my fountain pen, but excepting the metal nib, all the parts are preferably made of hard rubber.

What I claim, and desire to secure, is—

1. A feeder for a fountain pen having a
15 central longitudinal ink conduit and an inner projecting end bent into contact with the side of the reservoir for the purposes set forth.

2. A feeder for fountain pens having a central ink conduit and a cross groove intersecting said conduit at the inner end of the feeder
20 which is bent into contact with the reservoir.

3. A feeder for fountain pens having a central longitudinal ink conduit, and its inner projecting end bent into contact with the side
25 of the reservoir, a cross groove at its end intersecting said conduit, an air chamber cut in its upper central half and connected through said conduit with the outer air and an inlet to the reservoir passing over the flattened
30 rear part of the feeder substantially as described.

4. In a fountain pen a pen section having an annular recess at its forward end, a feeder removably fitting into said pen section having

a cross slit to receive the heel of the nib a
35 grooved tongue extending upon the nib to near its point, a vertical slit *K* above the nib a central air chamber connected with the slit
40 *e*. by the hole *j*. and communicating with the reservoir through an inlet *l*. a central longitudinal ink conduit through the feeder and a groove crossing said conduit at the rear end of the feeder which is deflected into contact with the side of the reservoir as herein set forth.

5. A fountain pen having a reservoir body and cap, a pen section threaded for attachment to the body and having an annular recess *d*: at its forward end, a feeder removably fitting the pen section and having a central
50 ink conduit *j*. lengthwise through it, a slit *e* to receive the heel of the nib whose shoulders rest in the said recess *d*. a vertical slit *K* and a grooved tongue extending upon the nib to near its point a central air chamber in the
55 upper half of the feeder and connecting with the outer air through the conduit *j*. and slit *e*. and with the reservoir through an inlet *l*. and a cross groove on the inner end of the feeder which is bent into contact with the side of the
60 reservoir substantially as herein set forth.

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

GEO. S. PARKER.

Witnesses:

W. S. JEFFRIS,
S. M. SMITH.