No. 766,560. PATENTED AUG. 2, 1904.

O. E. WEIDLICH.

FOUNTAIN PEN.

APPLICATION FILED MAY 16, 1904.

NO MODEL.

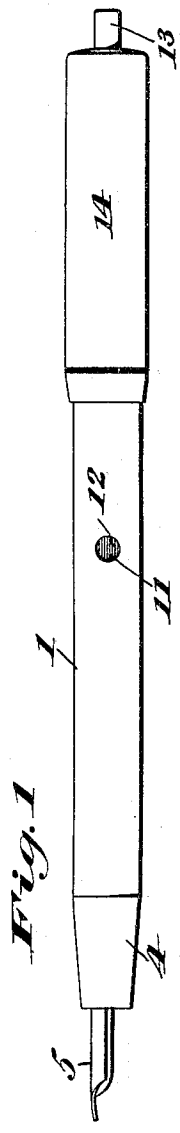

Fig. 1

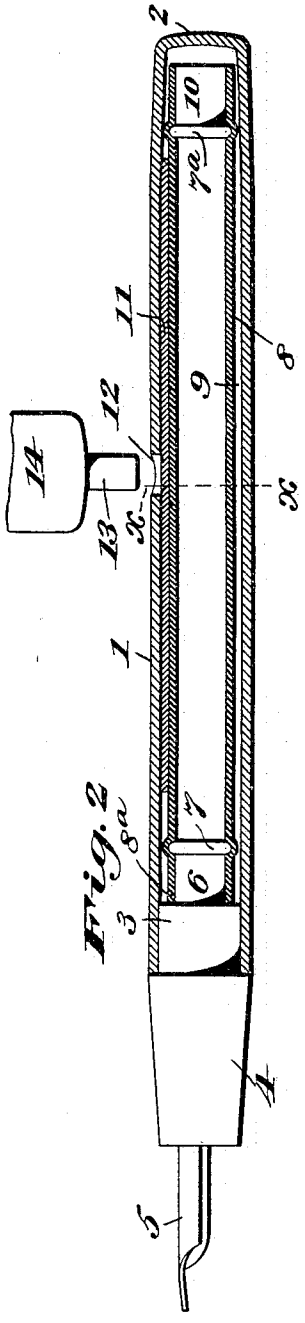

Fig. 2

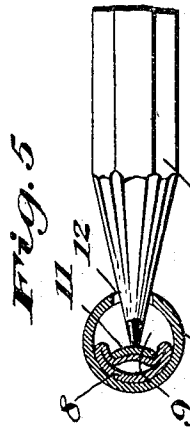

Fig. 5

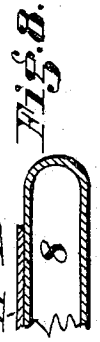

Fig. 8.

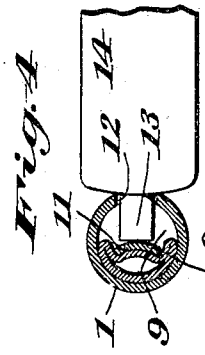

Fig. 4

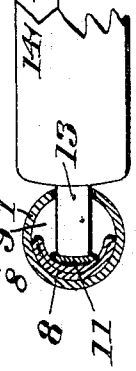

Fig. 7.

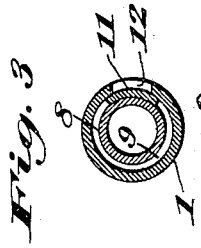

Fig. 3

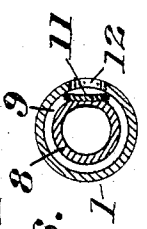

Fig. 6.

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No. 766,560. Patented August 2, 1904.

UNITED STATES PATENT OFFICE.

OTTO E. WEIDLICH, OF CINCINNATI, OHIO.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 766,560, dated August 2, 1904.

Application filed May 16, 1904. Serial No. 208,183. (No model.)

To all whom it may concern:

Be it known that I, OTTO E. WEIDLICH, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

This invention relates to certain improvements in fountain-pens, and more especially in that class of such devices which have filling means contained within them as a part of the pen, so that the pen may be readily and conveniently filled with ink; and the object of the invention is to provide a pen of this general character having filling means of an improved and simplified nature by the employment of which the operation of filling is capable of being more readily and quickly performed, the improved filling means being of such a character as not to interfere in any way with the free handling or use of the pen in writing.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved fountain-pen and its filling means whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claim.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation; Fig. 2, an enlarged axial section partly in elevation; Fig. 3, a transverse section taken on dotted line *x x*, Fig. 2, through the barrel and elastic ink-reservoir of the pen, showing the normal expanded position of the said reservoir; Fig. 4, a transverse section similar to Fig. 3, but illustrating one form of the ink-reservoir in collapsed condition as it appears when compressed to discharge the air therefrom as a preliminary to filling the reservoir with ink; Fig. 5, a view similar to Figs. 3 and 4, but showing how the elastic ink-reservoir may be collapsed by means of a pencil or similar device, such as may be ready at hand; Fig. 6, a transverse section similar to Fig. 3, (above it,) but showing another form of ink-reservoir having a preferred practically flat shape of presser-bar; Fig. 7, a view similar to Fig. 4, (above it,) but showing the form of presser-bar seen in Fig. 6; and Fig. 8, a broken longitudinal section of the rear end of the ink-reservoir in its preferred form, the plug seen in Fig. 2 being discarded from this view, and said rear end of the reservoir being continued round from the body thereof, and thus integrally closed.

As shown in the views, 1 indicates the barrel or body portion of the pen, this part being closed and imperforate at one end, as seen at 2, and being made with a longitudinal hollow or bore in the ordinary way and having its opposite end open and adapted to snugly receive a reduced part or plug 3 formed on the pen-section 4, which latter is adapted to receive the pen-point 5 and the feeding devices, which may be of the ordinary or any desired kind. Upon the pen-section 4 inside of the reduced portion or plug 3 is provided a nipple 6, which is of still more reduced diameter and is housed within the hollow of the barrel 1 and has at its extremity a rounded enlargement or annular flange 7, and upon said nipple 6 is engaged one end portion, 8^a, of the elastic or compressible ink-reservoir 8, which is extended lengthwise within the longitudinal hollow 9 of the barrel 1, as clearly indicated on Fig. 2. The ink-reservoir 8 will be by preference formed of a soft-rubber tube, and the walls thereof at the end portion 8^a will tightly engage upon the nipple 6 and also upon the flange or enlargement 7 thereof in such a way as to hold that end of the reservoir securely upon the nipple. For further security of attachment of the end of reservoir 8 to the nipple 6 cement or glue of a suitable character may be employed.

The compressible ink-reservoir 8 is, as herein shown, extended substantially the entire length of the hollow or bore 9 of the barrel 1, although this is immaterial to my invention, and the opposite end of said tubular reservoir 8 adjacent to the closed end 2 of the barrel 1 is closed by means of a plug 10 of a formation similar to the nipple 6 on the pen-section and likewise provided with an enlargement

or annular flange 7^a, and the plug 10 is held in position by the elastic engagement of the walls of reservoir 8 thereon, glue or cement being employed for further security, if desired. By preference I form the rear end of the ink-reservoir 8 closed or integrally rounded with its body portion, as seen in Fig. 8, and the plug 10 is thus unnecessary.

Along one side of the compressible ink-reservoir 8 is secured to it by means of cement, glue, or the like an elongated plate or strip 11, which may be of some metal—as phosphor-bronze, for example—and in one side of barrel 1 and at a point substantially midway of the length of the strip or plate 11 is produced a rounded minute unobstructed opening 12, through which ready access is afforded to the plate or strip 11 upon the side of the compressible reservoir 8.

As herein shown, the pen-section 4 is connected with the barrel 1 by means of an ordinary slip-joint, the reduced portion or plug 3 fitting snugly within, but being capable of being readily withdrawn from the open end of the barrel, and by this means it will be seen that when the ink-reservoir is inserted within the barrel it may be turned in either direction, so as to bring the strip or bar 11 into registry with the opening 12 in the barrel; but it is evident that a screw connection may be provided between pen-section plug 3 and the barrel 1, in which case, of course, care must be taken in attaching the strip 11, so that it shall when the said plug is screwed home in the barrel come into proper registry with said opening 12.

The strip or plate 11 is extended substantially the entire length of the compressible ink-reservoir, and since the central part of said strip is located beneath the said unobstructed minute opening 12 in the side of the barrel it will be evident that a device of any kind inserted in said opening may be caused to bear upon said strip 11 in such a way as to move it bodily across the interior hollow or bore 9 of the barrel, so as to expel substantially all the air from the reservoir, especially when the latter is compressed by the form of plate seen in Fig. 7, after which if the feeding devices at the pen-point be dipped within an ink bottle or well a supply of ink will be drawn within the reservoir to replace such expelled air, as pressure is withdrawn from the strip 11 and the reservoir is permitted to expand by its own elasticity.

Any suitable instrument may be employed for pressing strip 11 in this way to expel air from the reservoir; but I preferably provide on the closed end of the cap 14 ordinarily provided for the protection of the pen-point when not in use a pin or projection 13 of a diameter suitable to the opening 12 and of a length sufficient to properly press the strip 11 laterally in the barrel when inserted in said opening, and the use of this projection 13 for compressing the elastic reservoir is clearly illustrated in Figs. 2, 4, and 7; but it will be evident that other means may be employed for this purpose equally well, and in Fig. 5 I have shown the employment of the point of a lead-pencil for this purpose, the pencil being indicated at 15.

The improved fountain-pen constructed according to my invention is of an extremely simple and inexpensive nature and is especially well adapted for use, since the filling means has no parts projecting upon the exterior of the pen which when pressed would unless locked cause ink to be spilled from the pen in writing or on the insertion or withdrawal of the pen in or from the pocket. The nature of the filling means is also such as not to be liable to become easily deranged or broken, so that repairs are dispensed with, and since the strip 11 is perfectly straight from end to end it interferes in no way with the ready removal or insertion of the ink-reservoir from or into the barrel, but by adding stiffness thereto aids such insertion. It will also be obvious from the above description that the improved fountain-pen is capable of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts of the device as herein set forth in carrying out my invention in practice.

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

A fountain-pen comprising a barrel having an opening in its side, a collapsible ink-reservoir contained in the barrel and having a presser-bar or stiff portion extended along one side thereof and registering with the opening in the side of the barrel, and a cap having a pin or projection on its outer end adapted to be inserted in said opening in the side of the barrel for compressing said ink-reservoir.

Signed at Cincinnati, Ohio, this 7th day of May, 1904.

OTTO E. WEIDLICH.

Witnesses:
JOHN ELIAS JONES,
WILLIAM SCHUCHARDT.