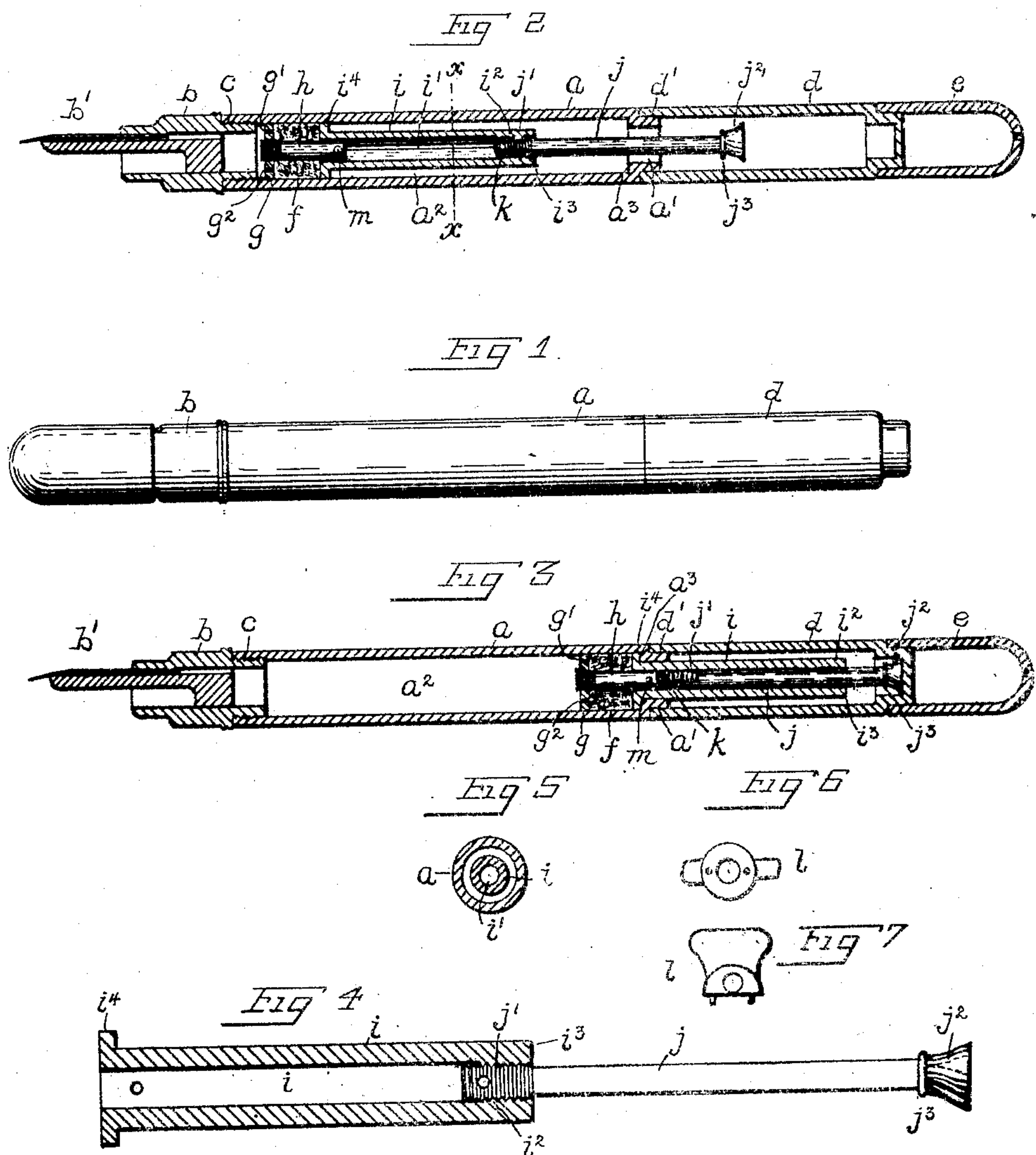


No. 826,552.

PATENTED JULY 24, 1906

C. DUNN.
FOUNTAIN PEN.
APPLICATION FILED JULY 3, 1905.



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FOUNTAIN-PEN.

No. 826,552.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES DUNN, a citizen of the United States, and a resident of New York city, in the county of Kings 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 particularly to that class in which a piston is used to draw the reservoir of the device full of ink and becomes a part of the mechanism of the pen.

The objects of my invention are to increase the ink-carrying capacity of a pen of this character, to reduce the weight and parts, and to provide means for keeping the piston tight in the reservoir and improved means whereby the piston may be more easily operated.

My invention consists in the details of construction whereby the above objects are attained.

Manufacturers of this class of pen use every effort to provide a pen of a given diameter and length of barrel with as large a reservoir as possible, and any change in construction which will give this result and not unduly increase the cost or number of parts is considered an advance and an advantage.

Referring to the drawings which form part of this specification, Figure 1 is a general view of the exterior of the pen when closed. Fig. 2 is a central sectional view of the device with the piston in position for drawing the reservoir full of ink. Fig. 3 is a central sectional view with the parts in the position they normally occupy when the reservoir is full of ink and the pen ready for use. Fig. 4 is an enlarged view of the piston-holder shown in section. Fig. 5 is a cross-section on lines $x x$ of Fig. 2. Fig. 6 is an end view of the key used for adjusting the diameter of the piston, and Fig. 7 is a side view of the key.

a indicates the casing, b the pen-section, and b' the pen-point.

c is a screwed joint which holds the parts a and b together.

d is the rear cap and is held to the part a by a friction-joint at d' .

e is the pen-cap.

f is the piston; g , the adjustment-ring therefor; h , the stem; i , the piston-holder, which is formed with a hollow center i' .

j is the extension-rod, which is provided with a threaded end j' at one end, which is adapted to engage with a thread formed on

the interior of the piston-holder at its end at i^2 . The extension-rod j is provided with an enlarged end j^2 , which is made as large as possible, but small enough in diameter to pass through the opening a' in the end of the casing a .

a^2 is the reservoir for ink formed in the casing a .

The stem h is secured firmly to the piston-holder i by a small pin m , which is driven through both stem and holder.

Referring to Fig. 4, the perforation in the end of the tube i is adapted to receive the end of the pin m to secure the stem h to the tube i . The pin is preferred to a screw for the reason that a screwed joint might be unscrewed by accident in connecting and disconnecting the extension-rod from the piston-holder. The stem h is provided at its opposite end with a screw thread which engages with the adjusting-ring g , and said ring is provided with two small holes g' and g^2 , into which the projections on the key l (see Figs. 5 and 6) fit.

Referring to Fig. 4, the length of the extension-rod j measured from the pin k to the abutment j^3 is just long enough so that the pin k may be inserted when the abutment j^3 is against the end i^3 of the piston-holder, so that the end of the threaded portion j' extends beyond the end i^4 of the piston-holder. This pin k is for the purpose of preventing the screwed portion j' from being unscrewed from the piston-holder i and effects this purpose by abutting the thread i^2 when screwed to the position, as shown.

The pen is assembled as follows: The end of the extension-rod j is screwed through the threaded end of the piston-holder at i^2 and then projected from its opposite end and the pin k inserted firmly in place, after which the threaded portion j' is drawn into the space i' . The stem h is then secured to the piston-holder by the pin m , and the piston f is slipped thereon and secured by the adjustment-ring g being screwed onto the stem h , as shown. The piston and holder is then inserted in the casing a with the extension-rod j screwed into engagement with the piston-holder i , as shown in Fig. 1, so that the end j^2 will extend through the opening a' and the piston may be drawn into the casing a a short distance and the piston further extended laterally to a tight fit after being inserted in the casing by the key l . This is an important advantage, for the reason that the piston can be

made to fit exactly to the best adjustment and wear can be taken up without removing the piston from the casing *a*. The pen-section *b* is next screwed into place in casing *a* and the pen filled by inserting the end of the pen-section *b* into the ink and then drawing the piston back to the position shown in Fig. 3. The extension-rod *j* is next unscrewed from its connection with the piston-holder and telescoped within the same, as shown in Fig. 3, after which the rear cap *d* is attached with the pen-cap *e* in position as shown, and the pen is then ready for use.

The shoulder *a*³, formed at the end of the casing *a*, prevents the withdrawal of the piston from the rear end of the casing *a*, and the opening *a*¹ limits the diameter of the part *j*², which is formed integral with the extension-rod, for the reason that if formed with a screw joint it adds another part and also would be apt to become unscrewed in coupling and uncoupling the extension-rod *j* from the piston-holder *i*.

By making the pen-section and casing in two parts instead of integral, I am able to supply a new pen-section in case of breakage of either part and also use different sections for carrying large or small pens, as may be desired, with the casing *a*, and am also enabled to use a piston of the full diameter of the casing *a*, leaving the walls thereof as light as possible, and the entire construction is such that the parts will not easily become deranged and may be operated with certainty and ease. Furthermore, the extension-rod

may be of considerable diameter in this construction, whereby hard rubber may be employed instead of metal, which has heretofore been employed, and thereby the device may be lighter and still strong enough to perform its function.

Having thus described my invention, I will proceed to point out in the claim what I claim as new and desire to secure by Letters Patent:

In a pen of the character described, a casing provided with an abutment at its rear end and integral therewith and an opening therethrough, a pen-section located at the opposite end of said casing, a piston-holder cylindrical in form, an extension-rod provided with an enlarged end and of greater length than said piston-holder, and provided with a threaded end which is adapted to engage with said piston-holder, an abutment located on the end of said extension-rod which serves to prevent the extension-rod from withdrawing from the piston-holder at its rear end, a stem removably attached to said piston-holder, a piston mounted thereon, and a disk connected to said stem to secure said piston in place; substantially as described.

Signed at New York city, in the county of New York and State of New York, this 29th day of June, A. D. 1905.

CHARLES DUNN.

Witnesses:

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