No. 767,208 PATENTED AUG. 9, 1904.

S. S. CROCKER.

FOUNTAIN PEN.

APPLICATION FILED MAY 28, 1904.

NO MODEL.

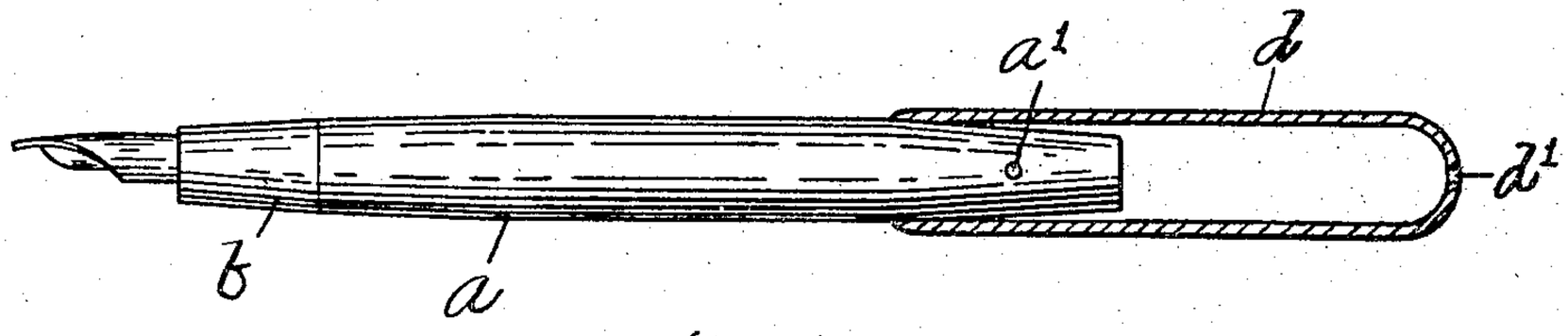

Fig. 1.

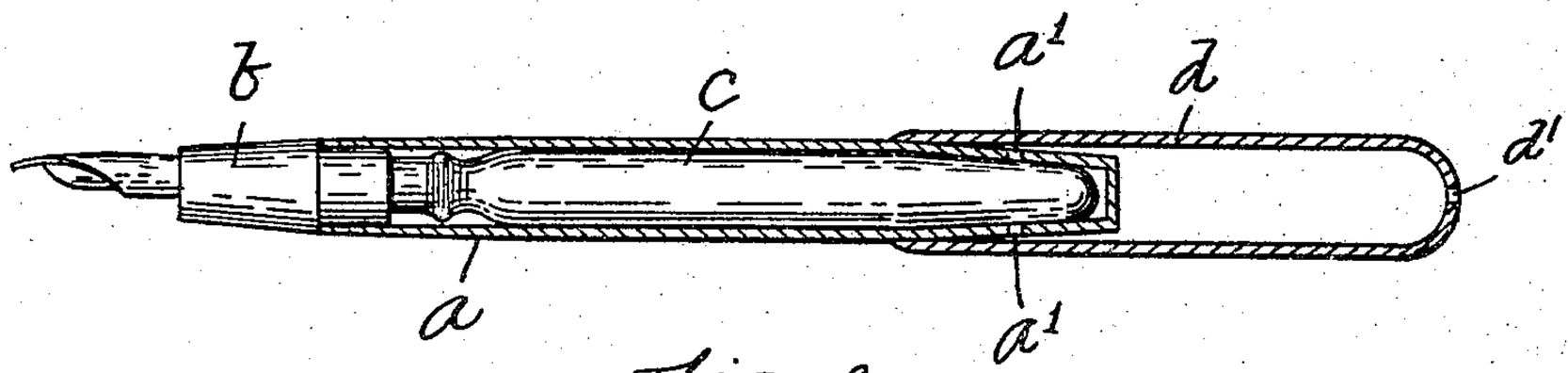

Fig. 2.

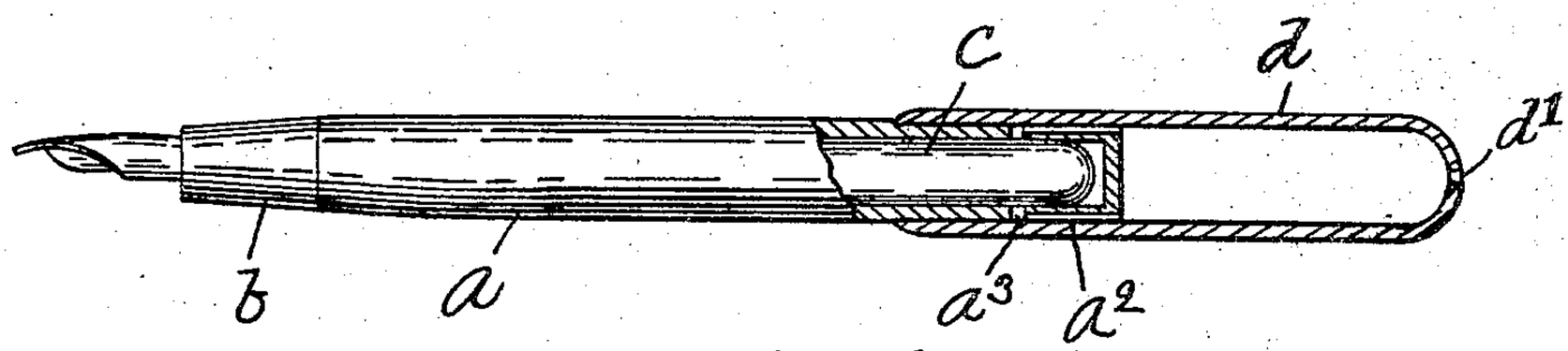

Fig. 3.

Witnesses:
H. B. Davis.
D. A. Howard.

Inventor:
Seth S. Crocker
by Noyes Sherman
Atty's.

No. 767,208. Patented August 9, 1904.

UNITED STATES PATENT OFFICE.

SETH S. CROCKER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO RALPH C. CROCKER, OF CLIFTON, MASSACHUSETTS.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 767,208, dated August 9, 1904.

Application filed May 28, 1904. Serial No. 210,166. (No model.)

To all whom it may concern:

Be it known that I, SETH S. CROCKER, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Fountain-Pens, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to certain improvements upon the fountain-pen disclosed in Patent No. 678,547 issued to me July 16, 1901, in which I have disclosed a fountain-pen which is adapted to be filled by blowing into the end of the barrel of the pen to collapse a rubber sack, so that when the air-pressure is relieved the sack may expand and suck in the ink.

While the above-described construction enables the fountain-pen to be filled readily, yet said construction is open to several objections, which are as follows: By having the aperture through which air is forced in the end of the barrel the air-pressure is first applied to the end of the sack, and if the sack should fit the barrel tightly the application of the air-pressure to the end of the sack alone makes it difficult to collapse the same, so that it is necessary to make the sack loosely fitting in the barrel, thereby enabling the air to pass the inner end of the sack and be applied to the sides thereof. Obviously any reduction in the size of the sack correspondingly decreases the holding capacity of the pen, thereby necessitating more frequent filling.

Another disadvantage of the above construction is that in case the sack should leak slightly, as sometimes happens, the ink may run down the barrel through the hole in the end of the barrel when the pen is carried in the pocket in the usual manner. The hole in the end of the barrel also sometimes becomes filled with dirt or lint, thereby preventing the ready passage of air into the barrel.

The object of my invention is to provide a construction of pen which is adapted to be filled by introducing air-pressure into the barrel, whereby the air-pressure may be applied to the sides of the sack instead of against the end thereof, although the sack may tightly fit the barrel, and whereby the aperture in the end of the barrel and its attendant disadvantages may be done away with.

In the drawings, Figure 1 is a side elevation of a fountain-pen provided with my invention, the cap being shown in cross-section. Fig. 2 is a central longitudinal section of the barrel and cap of a fountain-pen provided with my invention. Fig. 3 is a sectional view of a modified form of my invention.

As shown in the drawings, the barrel *a* is provided with the usual pen-section *b* and sack *c*, of rubber, which is connected at its open end to the inner end of the pen-section. This sack is designed to fit the barrel of the pen closely and to have its inner end extend nearly to the inner end of the barrel. The opposite end of the barrel from the pen-section is preferably tapered, and the usual cap *d*, having an aperture *d'* in its closed end, is provided, the open end of which is adapted to fit the barrel tightly at a point some distance from the end of the barrel, and the barrel preferably being slightly tapered from this point. One or more apertures *a'* are formed in the sides of the barrel between the end thereof and the point where the cap fits onto the barrel, the tapered end of the barrel providing an open passage between the interior of the barrel through the apertures *a'* to the interior of the cap *d*.

With the above-described construction to fill the pen the pen-section is placed in the ink and air-pressure is introduced into the interior of the cap in the usual manner, so that the air will pass through the apertures *d'* against the side walls of the sack, collapsing the same and expelling the air, so that when the air-pressure is liberated the sack will be filled with ink.

Instead of making the end of the barrel tapering I may provide a groove a^2 in the surface of the barrel, which connects a corresponding aperture through the barrel, as a^8, with the interior of the cap. This construction enables a sack of greater capacity to be used than is possible with the construction described in Figs. 1 and 2. With either of the above-described constructions the sack may be made to fit the barrel closely, and the

air-pressure will be applied to the side walls thereof, so as to collapse the same readily. The end of the barrel being closed, a pocket is formed between the apertures and said end, which is adapted to hold the small quantity of ink which might possibly leak through the sack or past its mouth. When the pen is carried in the pocket, there is also less likelihood that the apertures *a'* will be clogged or filled with dirt than would be the case if the apertures were in the end of the barrel.

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

A fountain-pen comprising the pen-section, a collapsible rubber sack connected thereto, a barrel having an air-tight connection with said pen-section and into which said sack is fitted, a cap having an air-passage through its closed end, its open end being adapted to form an air-tight connection with the barrel at a point more or less remote from its closed end, said barrel having an aperture leading through the side thereof between said point of connection and the closed end of the sack, and being formed to provide a passage between said aperture and the chamber included by said cap and the end of the barrel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SETH S. CROCKER.

Witnesses:

L. H. HARRIMAN,

H. B. DAVIS.