

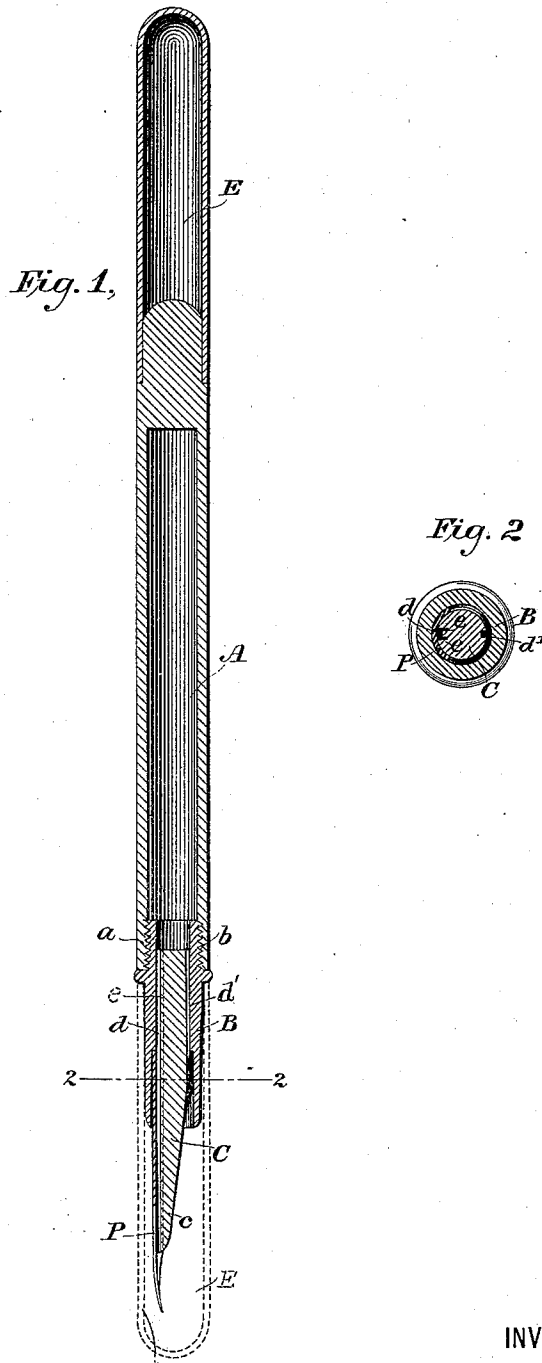
(Model.)

L. E. WATERMAN.

FOUNTAIN PEN.

No. 307,735.

Patented Nov. 4, 1884.



WITNESSES

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# UNITED STATES PATENT OFFICE.

LEWIS E. WATERMAN, OF BROOKLYN, NEW YORK.

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 307,735, dated November 4, 1884.

Application filed June 30, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, LEWIS E. WATERMAN, a citizen of the United States, residing in Brooklyn, 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 that class of fountain-pens in which the nib of the ordinary writing-pen is supplied with fluid ink from a barrel or reservoir, which may conveniently form the handle or holder of the pen.

The object of the invention is to secure and automatically regulate a certain and uniform flow of ink to the pen, and also to prevent the excessive discharge of the ink when the pen is in use.

By my invention a fountain-pen composed of but comparatively few parts is produced, and the general construction of this class of pen greatly improved and simplified.

The subject-matter claimed as new will be hereinafter specifically designated.

In the accompanying drawings, which illustrate my invention, Figure 1 is a longitudinal section of my improved fountain-pen, and Fig. 2 is a cross-section on the line 22 of Fig. 1.

Referring to Fig. 1, A represents a barrel or tube for containing the ink, and it may be formed of rubber or other suitable material. A tubular piece, B, preferably of the same material as the barrel A, is shouldered and screw-threaded at *b*, and is made to fit within the correspondingly-threaded extremity, *a*, of the barrel A. The feed-piece which I employ for conveying the ink from the barrel A to the nib of the pen P consists of a bar, C, formed of rubber or other suitable material, having one extremity, *c*, tapering conically from one side to the other of the body C. The other extremity of the body is formed to fit tightly within the tubular piece B. The upper side of the bar C is provided with a groove, *d*, extending throughout its entire length, and communicates with the ink-reservoir in the same plane—that is, without leaving the surface of the bar. The depth of this groove preferably gradually decreases as it approaches the extremity *c*. I form one or more very narrow slits or fissures, *e e*, (see Fig. 2,) longitudinally throughout the length of the groove *d*,

as shown, for facilitating the flow of ink to the pen, as hereinafter described. The pen P, which may be of any of the forms in common use, is secured between the pieces B and C, as shown in Fig. 1, and a portion of the lower surface of the pen projecting from the tube B is in contact with the upper and somewhat flattened surface of the bar C. Upon the under side of the bar C, opposite the groove *d*, is a second groove, *d'*, which serves to admit air to the barrel independently of the groove *d*. If now the barrel A be partly filled with ink, and the parts assembled as in Fig. 1, the pen will be ready for use, the ink being supplied to the nib in the following manner: The downward flow of the ink by gravity and through the action of capillary attraction in the act of writing causes it to pass through the groove *d*, and tends to create a vacuum within the reservoir, which is met by the influx of air passing upward through the groove *d'*. The motion caused by the receding and advancing of the lower surface of the pen from and toward the bar C, caused by the ordinary operation of writing, increases the flow of ink from the barrel, and permits the steady supply of the ink to the slot in the pen, from whence it is conveyed to its point and to the surface being written upon. A cap, E, is employed for protecting the nib of the pen when not in use. The cap may be placed upon the extremity of the barrel when the pen is being used, and when in such position it serves to lengthen the holder.

By my invention I do away with the tubular ink-duct usually employed in connection with pens of this class, and which has heretofore been objectionable for the reason, among others, that it is very liable to conduct more ink to the nib than is necessary. The gradual decrease in size toward the nib of the ink-conducting groove in my improved pen provides against the excessive flow of ink, which by reason of a large portion of the groove being in direct contact with the pen a sufficient quantity of ink is supplied.

I do not intend to confine myself to the precise construction shown in the drawings or described herein, as it is obvious that the same may be modified without departing from the principles of my invention.

The form of the ink-duct may be modified, and, instead of one groove being formed in its upper surface, several may be employed, and the number and size of the fissures in said groove or grooves may be varied, if desired.

I am aware that fountain-pens have heretofore been made with a bar having a groove in its surface next to the pen, and extending part way of the length of the bar, and thence by an angular orifice into the reservoir; but such construction is defective, as stoppages and interruptions frequently occur in the neighborhood of the angular orifice.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An ink-duct for a fountain-pen, consisting of a groove in a bar on the side next the pen, extending throughout its entire length on the same plane, and communicating with the ink-reservoir, for conducting the ink from the reservoir to the point of the pen.

2. An ink-duct for a fountain-pen, consisting of a groove in a bar extending through-

out its entire length in the side which is to be next the pen and on the same plane, and communicating with the ink-reservoir, and of gradually-decreasing depth from the end which enters the reservoir to the end near the point of the pen.

3. A fountain-pen consisting of a barrel or reservoir having a bar in a tubular piece in the extremity of the barrel, said bar having a longitudinal groove in its side which is to be in proximity to the pen, and an additional longitudinal groove on the other side, whereby air may be admitted to the reservoir independently of the ink-conveying groove, substantially as hereinbefore set forth.

In testimony whereof I have hereunto subscribed my name this 19th day of June, A. D. 1883.

LEWIS E. WATERMAN.

Witnesses:

DANIEL W. EDGECOMB,  
CARRIE E. DAVIDSON.