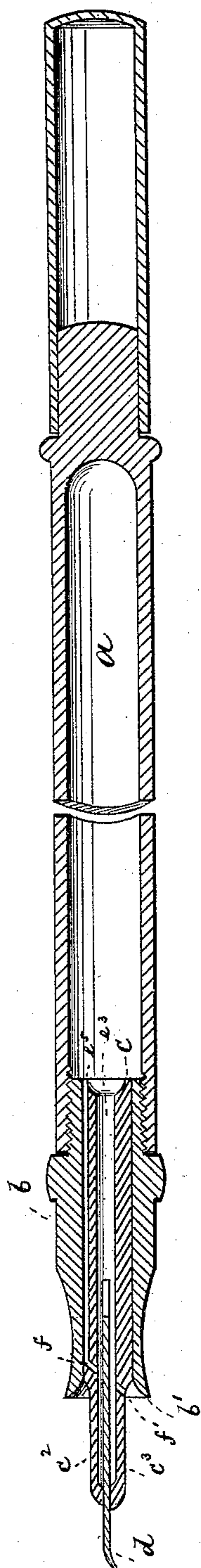


(No Model.)

N. F. PALMER.
FOUNTAIN PEN.

No. 445,600.

Patented Feb. 3, 1891.



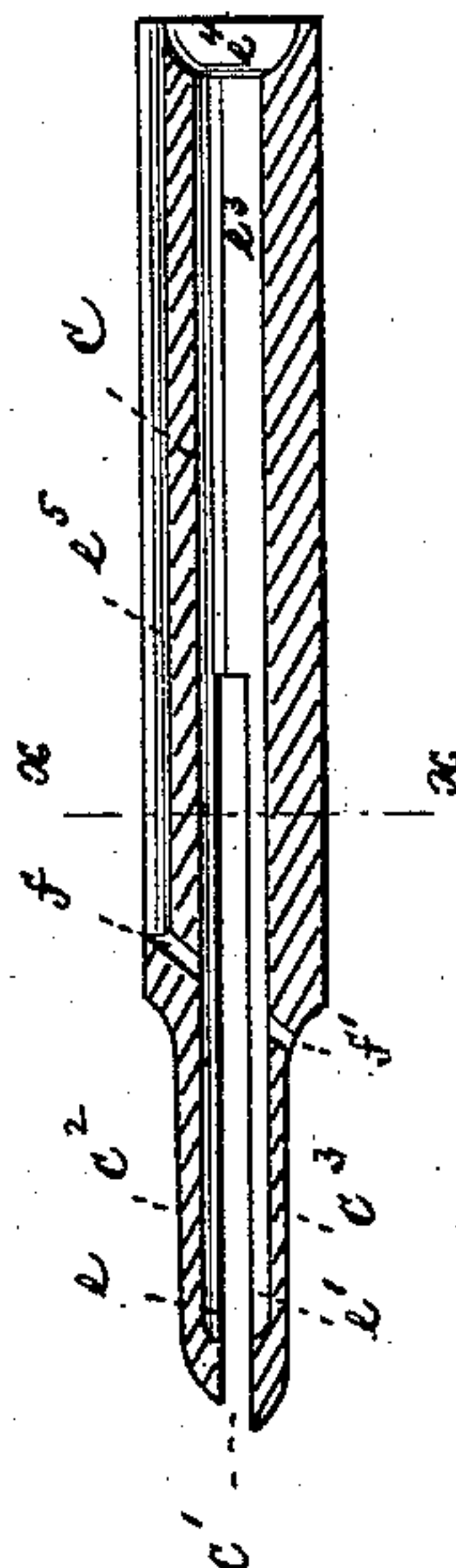
15-5



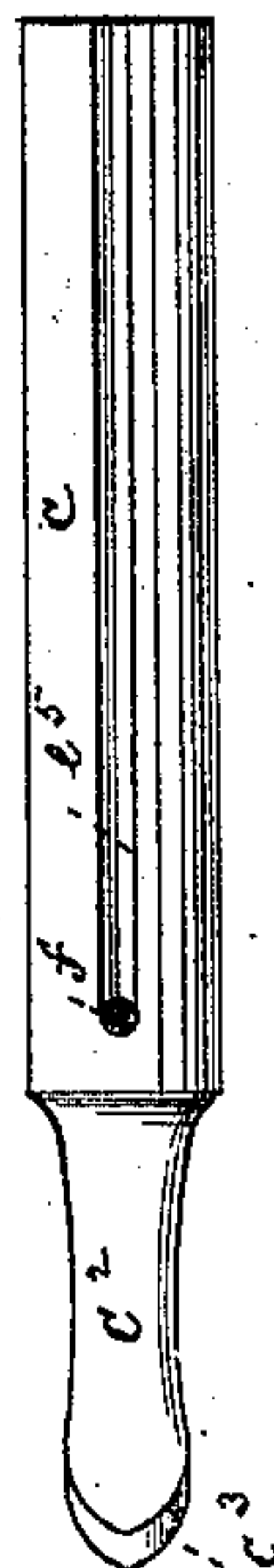
25-1



五



3
L
—
L



4. 1. 1.

WITNESSES

Wm. A. Howe
Wm. Wagner

INVENTOR

A. F. Palmer
by his attorneys
Roeder & Brien

UNITED STATES PATENT OFFICE.

NOYES F. PALMER, OF BROOKLYN, NEW YORK.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 445,600, dated February 3, 1891.

Application filed September 11, 1890. Serial No. 364,629. (No model.)

To all whom it may concern:

Be it known that I, NOYES F. PALMER, of Brooklyn, New York, have invented an Improved Fountain-Pen, of which the following is a specification.

This invention relates to an improvement in fountain-pens, and more particularly to a novel construction of the feed-plug that permits a free flow of the ink and a ready insertion and removal of the pen-nibs.

The invention consists in the various features of improvement, more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved fountain-pen; Fig. 2, a side view of the pen-plug; Fig. 3, a longitudinal section thereof; Fig. 4, a top view thereof, and Fig. 5 a cross-section on line $x x$, Fig. 3.

The letter a represents the tubular body of a fountain-pen having a screw-tapped end for the attachment of the pen-section b , which is preferably provided with a bell-shaped mouth b' . Into the pen-section b there is inserted the pen or nib holding tubular plug c , held within section b by frictional contact only. The forward end of plug c is divided by a longitudinal slit c' , so as to form an upper feed-tongue c^2 and a lower feed-tongue c^3 , between which the pen d is held. The feed-tongues c^2 c^3 are on their inner faces—i. e., the face in contact with the pen—provided with the longitudinal ink-ducts $e e'$ that merge into the main central duct or bore e^3 of the plug. This bore is enlarged at its end, as at e^4 , for the better release or discharge of the air bubbles. Along the surface of plug c there extends an additional channel or duct e^5 , which communicates with the duct e and hence with the main central bore e^3 by a perforation f . A second perforation or vent f' connects the duct e' with the atmosphere.

The operation of the pen will be readily understood. The ink is divided by the heel of the pen and flows to its upper and lower surfaces by the ducts $e e'$. The necessary air is admitted through the vent f' and passes

through duct e' and channel e^5 in a sufficient quantity to compensate for the volume of the discharged ink. As the air passes through the channel e^5 and forms bubbles therein, it is apt to interfere with the proper flow of ink, and therefore the second ink-channel e^5 is provided, which furnishes an additional and independent supply through perforation f . The ink flowing through this channel does not only supply the upper face of the pen with ink, but it also flows around the heel of the pen, and thus equally supplies its lower face.

In a fountain-pen constructed according to this invention, the ink will flow freely without blotting the paper, and the pen may be readily adjusted by drawing the pen-plug to a greater or less extent out of the pen-section.

What I claim is—

1. The combination of a fountain-pen a with a divided pen-plug having a central feed-duct e^3 , delivering to the heel of the pen, an upper feed-duct e^5 , delivering to the top of the pen, and a vent f' , substantially as specified.

2. The combination of a fountain-pen a with a tubular pen-plug having a pair of feed-tongues, a central feed-orifice, and an additional duct e^5 , communicating with the central feed-orifice, substantially as specified.

3. The combination of a fountain-pen a with a tubular pen-plug having a pair of feed-tongues c^2 c^3 , ducts $e e'$ on the contiguous faces of said tongues, an additional communicating duct e^5 , and a vent f' , substantially as and for the purpose specified.

4. The combination of a fountain-pen a with a pen-section b , having a bell-shaped mouth, and with a tubular pen-plug having a pair of feed-tongues, a central feed-orifice, and an additional communicating duct e^5 , the pen-plug being held in the pen-section by frictional contact, substantially as specified.

NOYES F. PALMER.

Witnesses:

F. V. BRIESEN,
A. JONGHMANS.