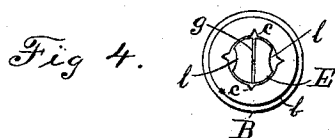
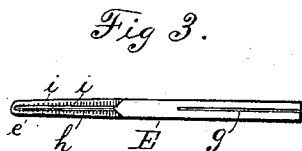
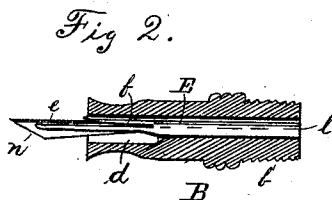
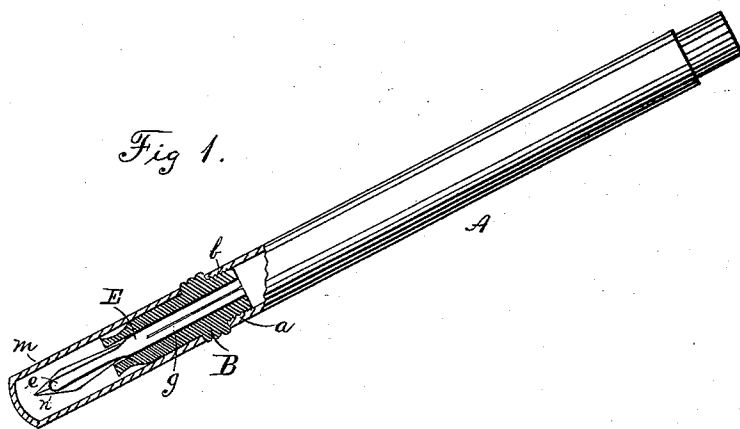


(No Model.)

F. S. COOLEY.
FOUNTAIN PEN.

No. 471,506.

Patented Mar. 22, 1892.



WITNESSES:

J. M. Copenhaver.
Chas. D. Smith.

INVENTOR

Franklin S. Cooley.
BY
Chas. D. Smith.
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANKLIN S. COOLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO JOHN E. GOODRICH.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 471,506, dated March 22, 1892.

Application filed January 11, 1892. Serial No. 417,664. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN S. COOLEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Fountain-Pens; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to fountain-pens having a removable feed-bar, and is so constructed that the feed-bar is reversible, conducting the ink to the upper or under side of the pen and giving greater or less elasticity to the pen-point. By my construction of the nozzle and feed-bar all liability of too rapid a flow of ink is prevented and any kind of writing ink or fluid may be used.

The various parts of the invention are shown in the drawings, the same being indicated by letters, similar letters denoting corresponding parts in the several views.

Figure 1 is a full-length view, partly in section, and the feed-bar applied as an over feeder. Fig. 2 is a profile of the feed-bar applied as an under feeder and the nozzle in section. Fig. 3 is a plan of the under side of feed-bar. Fig. 4 shows rear end of nozzle and feed-bar enlarged.

The letter A indicates the body or hollow barrel of my fountain-pen, internally threaded at *a* to receive the threaded portion *b* of the nozzle B.

c c are longitudinal grooves in the nozzle, serving as air-passages. One or more may be used. I prefer to have four, as shown in Fig.

4. The bore of the nozzle is enlarged in its front section *d*, which is occupied in part by the pen-nib *n*.

E indicates the feed-bar, preferably made of hard rubber or gold and having a flexible point *e* and a pen-recess *f*.

g is an ink-duct cut through the feed-bar from the rear to and connecting with the pen-recess *f*, and *h* is an ink-conducting groove extending from the duct *g* along the feed-bar on its side next to the pen and reaching almost to its extreme point. Crossing the groove *h* are a number of corrugations *i i*, which serve to hold in readiness a supply of ink and to modify its flow to the pen-point. On each side of the feed-bar opposite the slit *g* are longitudinal concavities *l l*, coinciding with the air-passages *c c* in the nozzle and having a common purpose with them.

M is the pen-cap.

What I claim and desire to secure is—

1. In a fountain pen, a reversible feed-bar having a pen-recess, an ink-duct connecting therewith, a grooved point, cross-corrugations along said point, and longitudinal concavities opposite said ink-duct, substantially as described.

2. A fountain-pen having a body A and nozzle B, screwed therein, said nozzle having air-ducts *i i* and its bore enlarged at its forward portion, a feed-bar E, having a pen-recess *f*, ink-duct *g*, point *e*, having a groove *h*, cross-corrugations *i i*, and lateral concavities *l l*, a pen-nib *n*, and cap M, substantially as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANKLIN S. COOLEY.

Witnesses:

GEO. W. REED,
SAMUEL L. BAILY, Jr.