J. MONAGHAN.
Fountain-Pen Holder.

No. 226,768. **Patented April 20, 1880.**

Fig. 1.

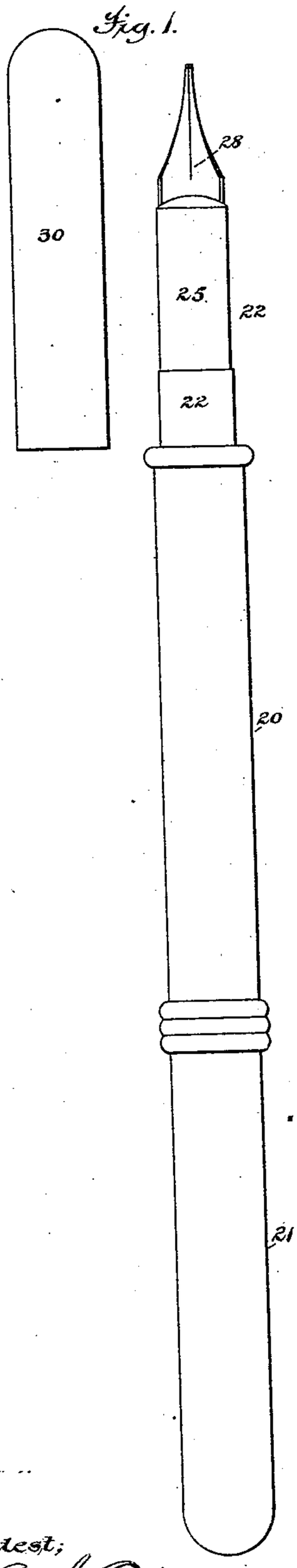

Fig. 2.

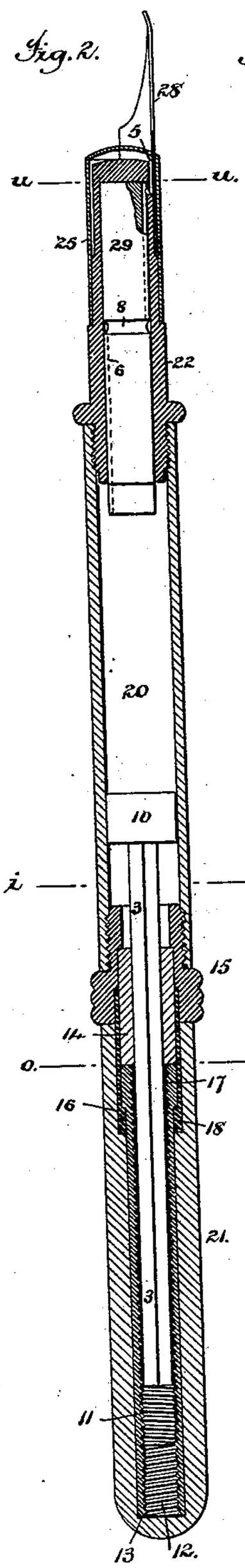

Fig. 4.

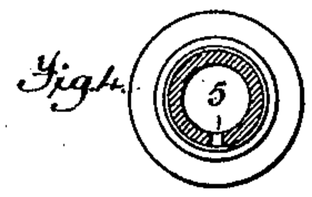

Fig. 3.

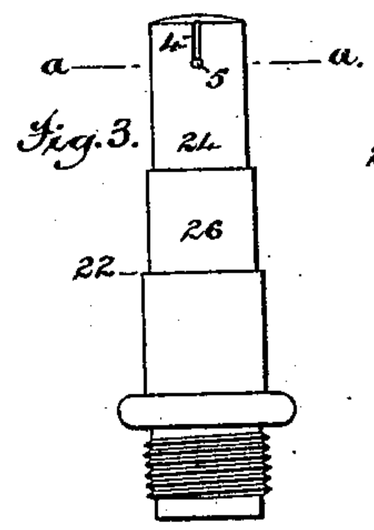

Fig. 5.

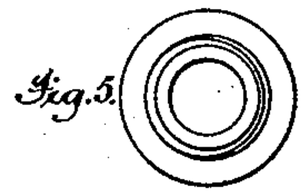

Fig. 8.

Fig. 6.

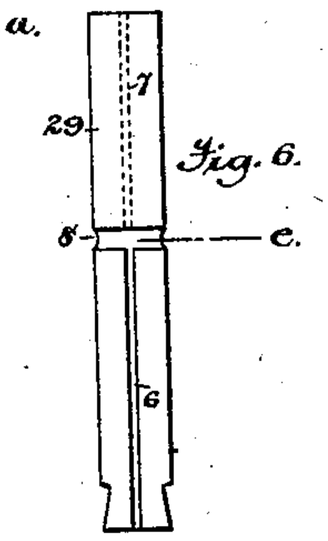

Fig. 7.

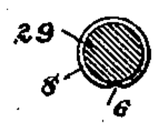

Fig. 9.

Fig. 10.

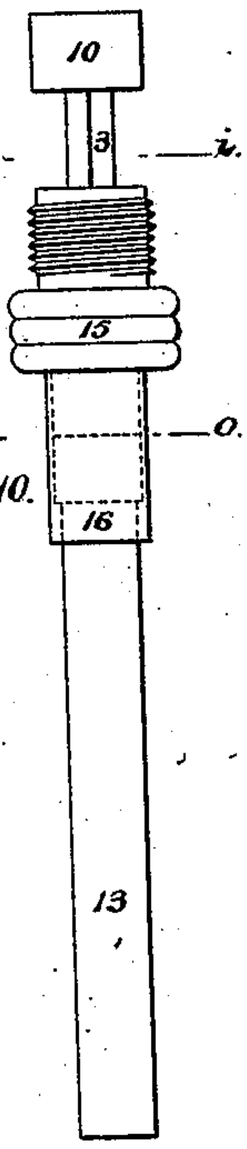

Fig. 11.

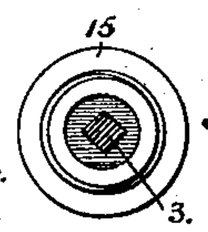

Fig. 12.

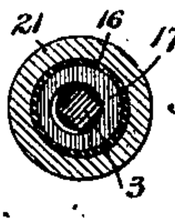

Fig. 13.

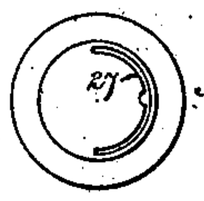

Fig. 14.

Attest;
Geo. H. Graham
Geo. Hy. Hewes

Inventor,
Joseph Monaghan,
by Munson & Philipp
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH MONAGHAN, OF BROOKLYN, NEW YORK.

FOUNTAIN PEN-HOLDER.

SPECIFICATION forming part of Letters Patent No. 226,768, dated April 20, 1880.

Application filed February 18, 1880.

To all whom it may concern:

Be it known that I, JOSEPH MONAGHAN, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Fountain Pen-Holders, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

In said drawings, Figure 1 represents an exterior view of my improved pen-holder with end-cover 30 removed. Fig. 2 represents a longitudinal sectional view of the same. The remaining figures represent the several parts detached from each other as follows: Fig. 3 is an exterior view of the tip, of which Fig. 4 is a section on the line *a a*, and Fig. 5 a bottom-end view. Fig. 6 is an exterior view of the internal valve-plug, of which Fig. 7 is a section on line *e e*, while Figs. 8 and 9 are views of its opposite ends. Fig. 10 is an exterior view of the plunger mechanism, of which Fig. 11 is a section on lines *i i*. Fig. 12 is a section on line *o o*. Fig. 13 is an end view of Fig. 2. Fig. 14 is a section on lines *u u* of Fig. 2.

This invention relates to that class of pen-holders which are provided with fountains and means for automatically supplying ink to the pen; and said invention consists in a novel structure and combination of the devices composing such fountain pen-holders, whereby they are adapted to receive and support an ordinary pen, and to supply ink to the same.

The invention also includes an improved construction of the means for propelling the fountain-piston.

The pen-holder embodying my improvements, as illustrated by the drawings, has a body, 20, carrying at one end a rotating head, 21, and at the other a fixed tip, 22, all of which parts are made hollow to provide them with interior chambers. The chamber in the body 20 constitutes the ink-fountain, and within it a piston, 10, is snugly fitted, so that when reciprocated it will draw fluid ink into said chamber and expel it therefrom. The piston 10 has a rod, 3, extending from it and provided at its free end with a screw-threaded cylindrical head, 11, that travels in the internal thread, 12, of a propelling-tube, 13, that lines the walls of the chamber in the head 21.

The rod 3 is made rectangular in cross-section, but may be of any polygonal form, and travels in a guide-block, 14, having a correspondingly-shaped aperture through it. This guide-block is fitted tightly into a nut, 15, that unites the rotating head 21 to the body 20, the union-joint that renders the head 21 capable of rotating consisting of a sleeve, 16, that embraces the shouldered end 17 of the tube 13 by means of its hub 18, and fits over the circular end of the block 14. The sleeve 16 is fitted tightly into the entrance of the block 14 and nut 15, and the head 21, with its tube 13, rotates upon it. As the head 11 is provided with a left-handed thread and the propelling-tube 13 has a similar screw, it follows that when the head 21 is rotated to the right the piston 10 will be propelled toward the tip 22, and that when it is turned to the left the contrary effect will be produced.

The structure of the mechanism for propelling the piston 10 is such that the parts subjected to frequent manipulation, and therefore great wear, are constructed of great strength. Thus, by providing the nut 15 with a guide-aperture, in which the rod 3 is adapted to reciprocate without turning, said rod 3 may be made comparatively large, and the head 11, that travels in the screw-threaded propelling-tube 13, may be made of large proportions and be provided with a continuous thread, thus rendering its travel in the thread of the propelling-tube smooth and regular.

Such structure has a great advantage over that commonly employed, in which a spline on the head 11 travels in a guideway extending from the block 14, whereby the screw-thread of said head 11 is necessarily divided, so as to provide it with many edges that operate as cutters, and consequently soon destroy the thread of the tube 13.

The tip 22, which is fixed in the end of the body 20 by a screw-joint, has its end reduced, as at 24, so as to provide a pen-receiving cavity between its exterior and a hood, 25, that is seated upon a shoulder, 26, of the tip, so as

to envelop its end. The hood 25 has a curved pen-opening, 27, that admits the passage of a common pen, as 28, the stem of which enters the opening 27 and is embraced between the surface 24 and the wall of said hood.

The tip 22 has a shallow cavity, 4, extending from its end to a hole, 5, made through the wall of the tip, so as to communicate with its hollow interior or chamber, and this cavity 4 and hole 5 are formed at that side of the tip which is adapted to receive the pen 28, as before described.

In the chamber of this tip a cylindrical plug, 29, is fitted, said plug being provided at one side with a shallow longitudinal cavity, 6, that unites about midway the length of said plug with a circular cavity, 8, from which, at the side opposite to that occupied by the cavity 6, a second longitudinal cavity, 7, extends to the end of the plug. This plug is so placed in the chamber of the tip that the end of its cavity 7 stands directly beneath the hole 5 through said tip, in which position the cavities 6, 8, 7, and 4, with the hole 5, unite to form a duct communicating from the ink-fountain in the body 20 to the under side of the pen 28, and through which the ink may flow to supply the pen.

Supposing the body 20 to be filled with ink, the operation of the parts will be as follows: Upon rotating the head 21 to the right the rod 3 will be moved so as to carry the piston 10 toward the tip 22. This will force a portion of the ink in the fountain through the ducts 6 8 7, thence through the hole 5 and duct 4 and onto the under surface of the pen 28, over which it will flow and be held by the curved sides of the pen in a suitable quantity to be used in writing in the ordinary way, and as the quantity of ink is exhausted in the process of writing it may be augmented by a further rotation of the head 21.

In order to fill the fountain with ink it is only necessary to place the tip in communication with a supply, and to operate the piston 10 in the opposite direction by turning the head 21 toward the left, whereupon a suitable quantity will be drawn into the fountain through the ducts 4 5 7 8 6, which manipulation of the piston constitutes the mode of cleaning the pen when it is to be put out of use, and whereby the ink remaining on the pen is withdrawn into the holder.

The plug 29 constitutes, by means of its peculiar cavities, a controlling-valve which prevents the escape of ink to the pen when the article is not adjusted for writing purposes, the filled cavity 8 forming a fluid packing or stop, which, aided by atmospheric pressure at the duct 4 and hole 5, effectually prevents the escape of any ink to the exterior of the holder.

What is claimed is—

1. The combination, with the body 20, having a fountain or internal chamber, within which a piston, as 10, is propelled, of a tip, as 22, provided with a cavity to receive an ordinary removable pen, and a duct leading from the fountain through one side of the tip, so as to communicate with the under surface of the pen at its rear end, substantially as described.

2. The combination, with the body 20, the block 14, having a polygonal guiding-recess, the piston 10, carrying a polygonal rod, 3, that runs in the block 14, and a screw-threaded head, 11, of the propelling-tube 13, whose solid interior wall is screw-threaded, the structure of said parts being such that the head 11 and tube 13 are provided with continuous threads and the rod 3 with a transverse body of great strength, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH MONAGHAN.

Witnesses:

H. T. MUNSON,

GEO. H. GRAHAM.