

No. 836,906.

PATENTED NOV. 27, 1906.

J. N. WHITEHOUSE.  
SELF FILLING FOUNTAIN PEN.  
APPLICATION FILED MAR. 30, 1906.

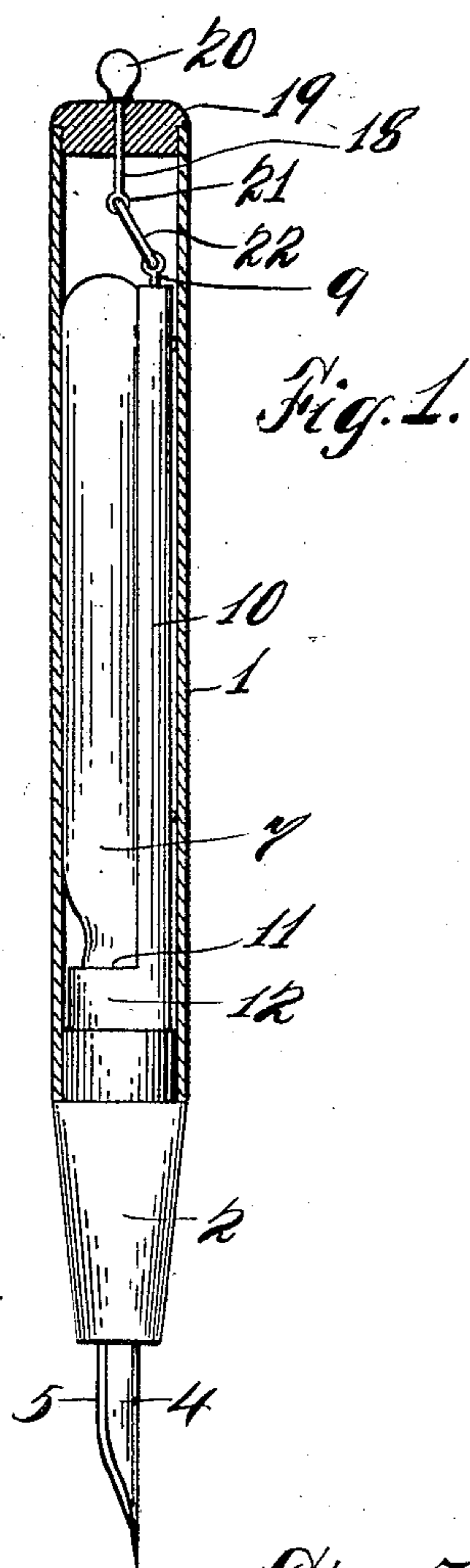


Fig. 1.

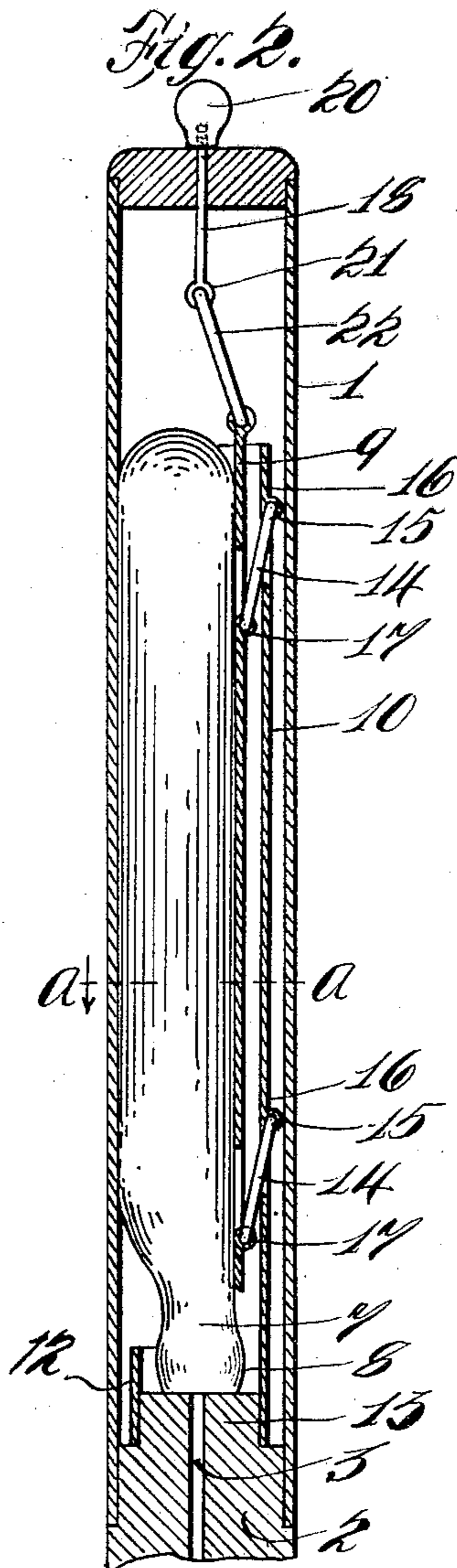


Fig. 2.

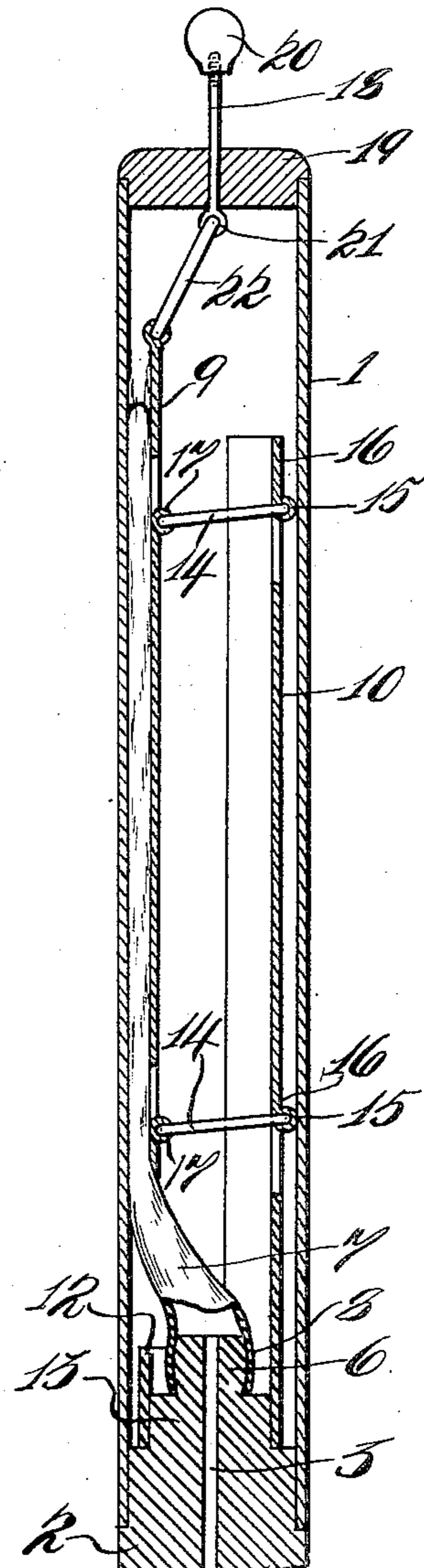


Fig. 3.

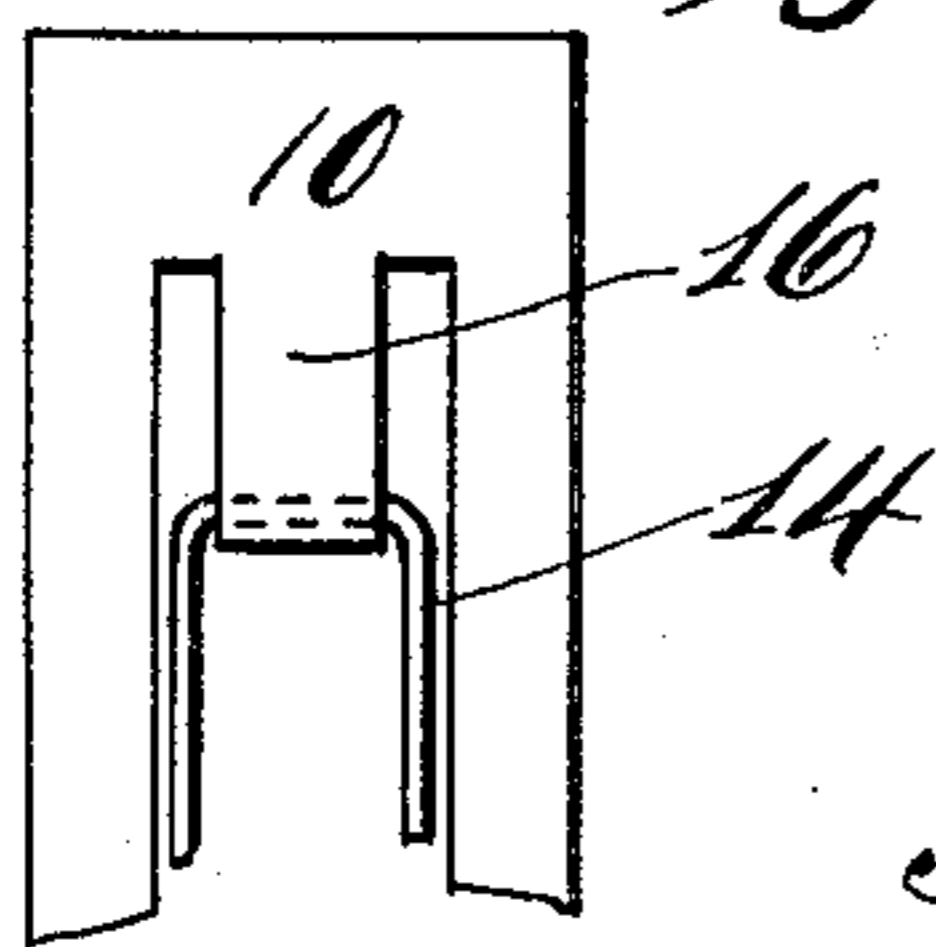


Fig. 4.

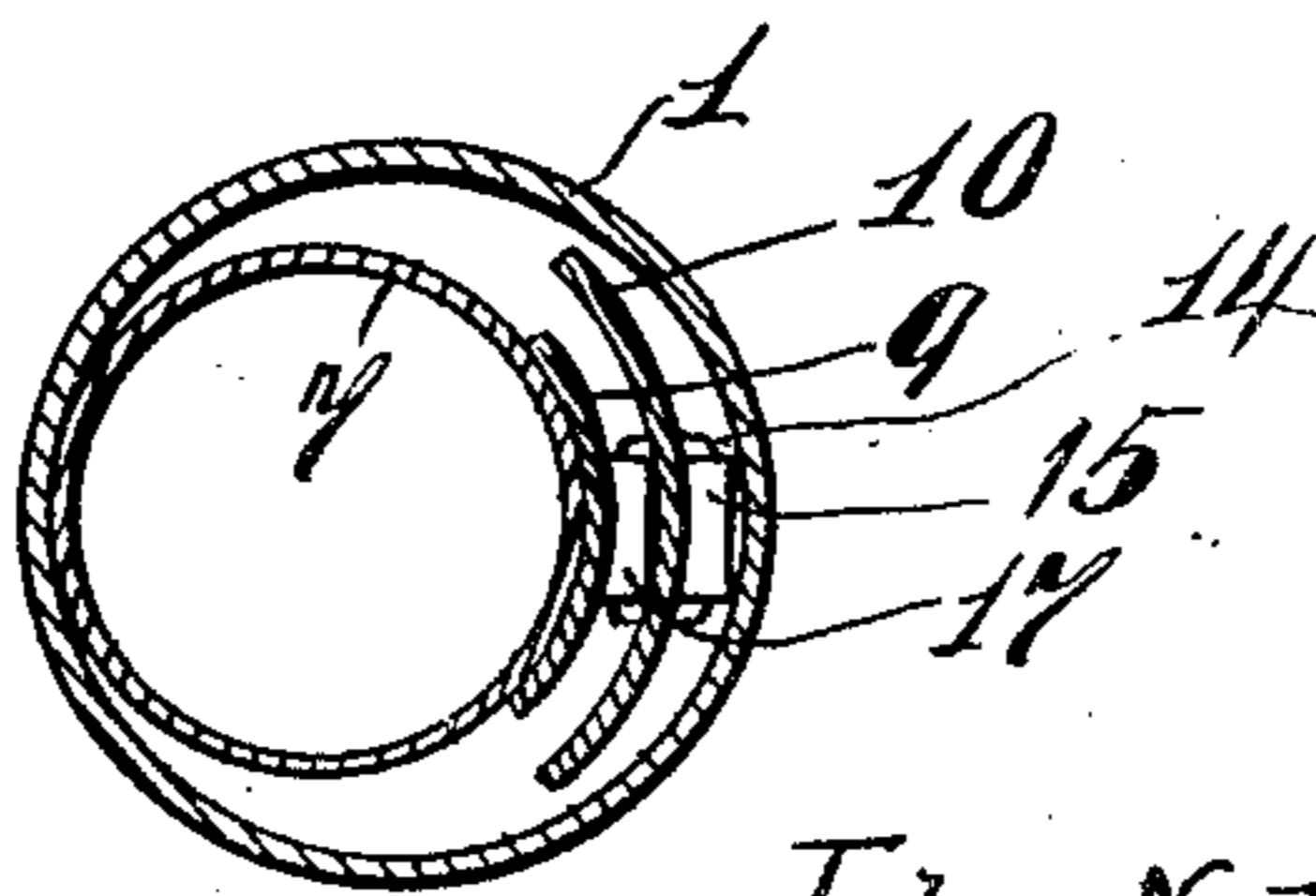


Fig. 5.

Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOHN N. WHITEHOUSE, OF NEW YORK, N. Y., ASSIGNOR TO LE-WHITE MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## SELF-FILLING FOUNTAIN-PEN.

No. 836,906.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed March 30, 1906. Serial No. 308,873.

*To all whom it may concern:*

Be it known that I, JOHN N. WHITEHOUSE, a citizen of the United States, residing at New York city, Manhattan borough, county and State of New York, have invented certain new and useful Improvements in Self-Filling Fountain-Pens, of which the following is a clear, full, and exact description.

This invention relates to an improved fountain-pen known as the "self-filling" type, in which simplicity of construction and effectiveness of operation are embodied.

The invention comprises the novel features of improvement and combination and arrangement of parts, which I will now proceed to describe and hereinafter claim in connection with the accompanying drawings, forming part of this specification, wherein—

Figure 1 illustrates a side elevation of my improved fountain-pen, partially in section, the sac and collapsing device being shown in elevation. Fig. 2 is an enlarged longitudinal central section of my improved fountain-pen, the sac being in elevation and the pen-stock on nozzle broken away. Fig. 3 is a view similar to Fig. 2 and showing the manner in which the sac is collapsed. Fig. 4 is an enlarged cross-sectional view taken on a line *a* *a* in Fig. 2 and looking in the direction of the arrow, and Fig. 5 is a fragmentary view showing the manner of pivotally mounting the links and the tongue which supports the same.

Similar numerals of reference indicate corresponding parts in the several views.

In the drawings, the numeral 1 indicates the barrel of my improved fountain-pen which supports or carries in any desired manner, such as screw-connected or frictionally held, the usual pen stock or nozzle 2, which in turn is provided with a passage 3 for the writing fluid. The passage 3 communicates with the pen 4 and feeder-bar 5 in the usual way. I provide the upper end of the nozzle 2 with a reduced portion or neck 6, with which the passage 3 connects. To the neck 6 a rubber sac 7 is attached.

Various connections may be employed, but I prefer to stretch the lower end 8 of the sac 7 over the neck 6, thereby holding it in position by the elasticity of the rubber. As will be seen, Fig. 3, the neck is undercut at the base

thereof, thus precluding any tendency of the sac to work off.

In order to fill the sac or reservoir 7, I provide an improved means adapted to collapse or flatten it. When the sac is thus collapsed or flattened, which by my improvements occurs for the greater part of its length, the air therein has been forced out, whereby a partial vacuum is caused, and when the sac is again allowed to expand the pressure of the outside atmosphere will force the ink into the sac.

In order to properly exhaust or force the air from the sac, it is necessary that the flattening or pressure should be uniform, and to produce such an effect I provide a shoe 9, which is adapted to partially surround the sac 7, as shown in Fig. 4. The shoe 9 is pivotally supported by a frame 10, which at its lower end 11 is provided with a cylindrical clamp or loop 12, which is adapted to tightly fit a shoulder 13, carried by the nozzle 2.

As shown, the shoe 9 is approximately the length of the sac 7 and is, as has been stated, pivotally supported by the frame 10 by means of the links 14. The links 14 are supported by the frame 10 in eyes 15, which are formed on the ends of the tongues 16, the latter being integral with the frame 10, and are formed by stamping in a manner well known, as shown in Fig. 5. The shoe 9 is provided with eyes 17 in a similar manner. The links 14 are of equal length, so that when the shoe is operated or pulled up a parallel motion is produced, whereby the shoe 9 is caused to impinge upon the sac 7 equally throughout its length. For operating the shoe I provide a spindle 18, which passes through the cap or head 19 at the upper end of the barrel. An operating-knob 20 is provided for manipulation. The spindle 18 is provided with an eye 21, which supports a link 22, the other end of said link being connected to the shoe 9 by means of the eye 21. The cap or head 19 serves to limit the upward movement of the spindle 18 to prevent the links 14 from crossing the center.

If desired, the links 14 may be of such length as to prevent their crossing the center by reason of the total collapse of the sac before said links can attain a horizontal position.

As the pen is supposed to be held vertical, or nearly so, during the filling operation, the links would assume a horizontal position if not long enough. The spindle 18, link 22, and the manner of connection, as herein shown and described, is merely illustrative, and I do not limit myself to this particular construction.

With my improved construction of supporting the frame 10 by the nozzle 2 as well as the sac 7 the whole device may be drawn out and cleaned by unscrewing knob 20. When collapsing the sac, the shoe forces the same against the opposite wall of the barrel. Fig. 2 shows the sac in about its normal position.

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

1. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac or reservoir attached to the nozzle, and means carried by said nozzle adapted to collapse the sac throughout the length thereof.
2. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac communicating with and connected to the nozzle, a frame carried by the nozzle, a shoe movably mounted upon said frame and adapted to impinge upon said sac throughout substantially the length thereof, and means for operating said shoe.
3. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac communicating with and connected to the nozzle, a frame carried by the nozzle, a shoe pivotally mounted upon said frame and adapted to impinge against said sac throughout substantially the length thereof, and means for operating said shoe.

4. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac communicating with and connected to the nozzle, a frame carried by said nozzle provided with a plurality of pivotal links, a shoe carried by said links adapted to impinge against said sac, and means adapted to operate said shoe.

5. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac communicating with and connected to the nozzle, a frame carried by said nozzle provided with a plurality of pivotal links, a shoe carried by said links adapted to impinge against said sac throughout substantially the length thereof, and an operating-rod carried by said shoe and extending through the rear end of the barrel.

6. A fountain-pen, comprising a barrel, a nozzle carried thereby, a collapsible sac communicating with and connected to the nozzle, a frame carried by the nozzle and provided with a plurality of pivotal links, a shoe carried by said links adapted to impinge against said sac throughout substantially the length thereof, means adapted to operate said shoe, and means adapted to limit the movement thereof.

7. A device for collapsing the flexible reservoirs of "self-filling" fountain-pens, comprising an elongated frame, an elongated shoe pivotally connected to the frame and adapted for a movement in parallelism therewith, and means for operating said shoe.

Signed at New York, N. Y., this 28th day of March, 1906.

JOHN N. WHITEHOUSE.

Witnesses:

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