

RESERVE COPY  
PATENT SPECIFICATION

410,437

Application Date: Dec. 15, 1933. No. 35,389/33.

Complete Accepted: May 17, 1934.

COMPLETE SPECIFICATION.



Improvements in or relating to Reservoir Pens.

We, THE NAMIKI MANUFACTURING COMPANY LIMITED, a British Company, of 87, Bishopsgate, London, E.C.2, do hereby declare the nature of this invention, which has been communicated to us by KABUSHIKI KAISHA NAMIKI SEISAKUSHO, a Company organised under the laws of Japan, of 1356, Sugamo-Machi, Kitatoyoshima, Tokyo, Japan, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to self-filling reservoir pens of the type in which a piston is provided, said piston being movable between stops on the piston rod, the upper stops being adapted to close an axial passage through the piston to enable a vacuum to be created in the reservoir when the piston is pushed in and the other stop being arranged to leave the passage open to permit the passage of air or ink.

In such pens the movement of the piston between the stops is caused by the piston being held back by friction on the wall of the reservoir.

The object of the invention is to provide an improved construction of the above mentioned type of pen.

To this end, a self-filling reservoir pen of the type set forth is characterized in that when the rod is drawn out the piston is caused to tilt or incline between the stops so that air thereabove may escape.

The said piston preferably consists of a ring or annulus having two diametrically opposite lugs formed on one face thereof.

The wall of the reservoir may be provided with a lining of india-rubber or the like against which the said piston is adapted to contact.

Referring now to the accompanying drawings; Figure 1 is a longitudinal section of one form of self-filling reservoir pen constructed in accordance with this invention; Figure 2 is a similar view to Figure 1 but shewing the piston and rod in another position; Figure 3 is a similar view to Figure 2 but shewing the piston in a different position; Figure 4 is a

detail view and Figure 5 is a perspective view of the piston ring.

The pen comprises a barrel *a* to which is screwed a nib-section *b*, and a knob *c*. Inside the barrel *a* is fitted an india-rubber lining *d*. *e* is a piston rod fitted in the knob *c*.

To the other end of the rod *e* is fitted a piston which consists of a ring or annulus *g* loosely mounted on a head *f*. Said head is formed with two flanges *h* and *j* which serve as stops between which the said ring can move axially.

The said ring or annulus *g* is formed with two diametrically opposite lugs *o, o*, adapted to co-act with the flange or stop *j* when the ring travels up thereagainst and cause the ring to tilt or incline.

The end of the head *f* is cone-shaped at *k* to fit into a correspondingly shaped recess *l* in the ink passage *m*.

In order to fill the pen, the nib is placed in the ink and the knob *c* is unscrewed and the rod *e* is gradually pulled out. By doing this the ring *g*, when it contacts with the lining *d*, will move axially until it abuts against the flange or stop *j* and tilts, as seen in Figure 2.

The air inside the barrel will escape between the ring *g* and the head *f*.

After the rod has been pulled out to its full extent, it is then pushed in and in so doing the ring *g* resumes its normal position and moves axially until it abuts against the flange or stop *h*, as seen in Figure 3. On further movement, a vacuum is created in the barrel until the ring *g* passes the lining *d* when the ink passes into the barrel.

When the knob *c* is screwed down, as seen in Figure 1, the cone *k* enters the recess *l* and seals the passage *m*, thus making the pen leak-proof.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. A self-filling reservoir pen of the type set forth, characterized in that the piston is caused to tilt or incline between the stops when the rod is drawn out so that air above the piston may escape.

[Price 1/-]

2. A self-filling reservoir pen as claimed in claim 1, characterized in that the piston consists of an annulus or ring having two diametrically opposite lugs formed on one face thereof. 15
- 5 3. A self-filling reservoir pen as claimed in either of the preceding claims, characterized in that the wall of the reservoir is provided with a lining of india-rubber or the like. 20
- 10 4. A self-filling reservoir pen as claimed in any one of the preceding claims, characterized in that the head on which the piston is mounted is cone-shaped to enter a correspondingly shaped recess in the ink passage for the purpose set forth.
5. A self-filling reservoir pen constructed, arranged and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings. 20

Dated the 15th day of December, 1933.  
WM. BROOKES & SON,  
No. 1, Quality Court,  
Chancery Lane, London, W.C.2,  
Chartered Patent Agents.

Fig. 1.

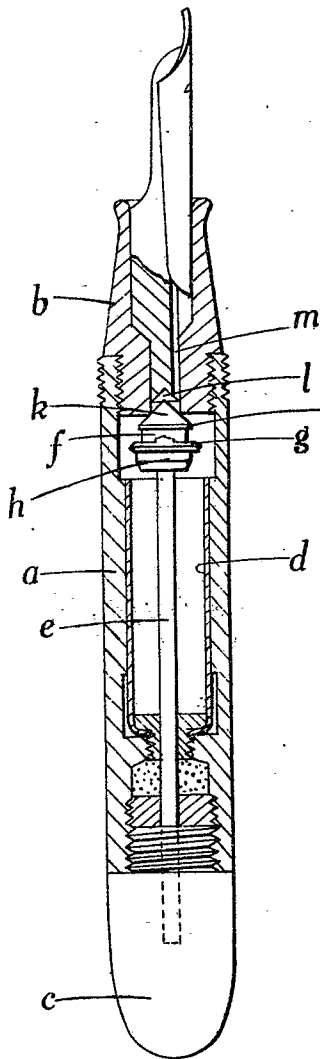


Fig. 2.

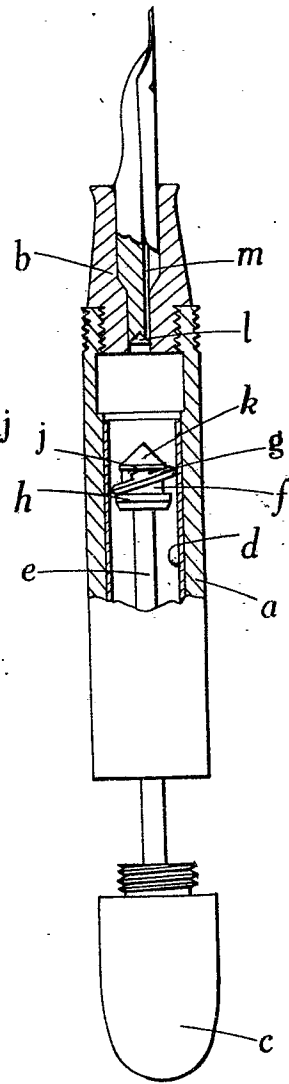
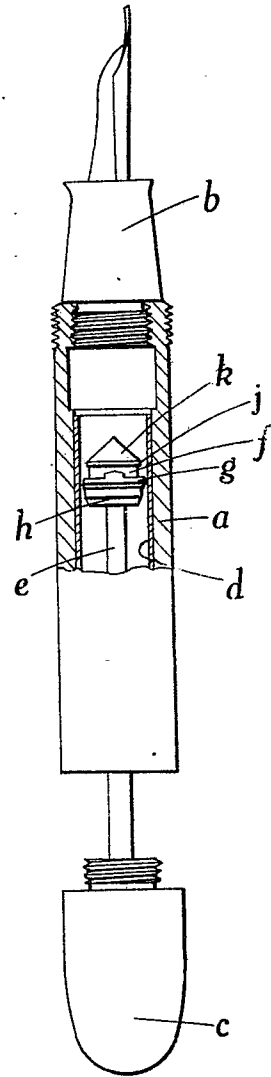


Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 4.

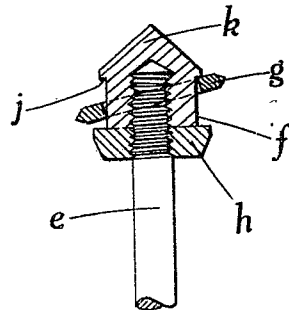


Fig. 5.

