

N° 13,768



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Complete Specification Left, 28th Aug., 1905—Accepted, 23rd Nov., 1905

PROVISIONAL SPECIFICATION.

“Improvements in Fountain Pens.”

I, GEORGE SWEETSER, of 25 Camden Hill Road, Upper Norwood, in the County of London, Mechanical Engineer, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to fountain pens of the kind that contain their own filler, and has for its main object the provision of an arrangement by which the filling can be accomplished in a more simple manner than heretofore. There are other improvements in detail, as hereinafter set forth.

10 In carrying out my invention I slightly enlarge or longitudinally groove the bore of the reservoir for a short distance at the bottom, or pen end, and fit it with a lightly packed piston, and rod extending through a stuffing box at the top end of the pen. The projecting end of this rod being fitted with a knob or handle. When charging, the nozzle of pen section is immersed in ink, and the knob or handle pulled out, the imprisoned air in the reservoir leaks past the piston into the bottom portion of the reservoir. Upon depressing 15 the knob or handle, this air is ejected, a vacuum formed in top portion of the reservoir, and upon the piston arriving at the end of the stroke where the bore is enlarged, allows the ink to flow around the piston, and fill the reservoir by the pressure of the outside air. As it would be difficult to change the ink or wash out the pen by this arrangement, I sometimes employ a valve 20 to allow the ink to pass from the top of the piston; by substituting a cup-leather for the packed piston, with the cupped portion down, so that it will act like a valve. Or the end of the piston rod, where it connects with the piston, may form the valve, so that the act of pulling out or pushing in the piston rod, respectively opens or shuts the valve.

25 As it requires a considerable depth of ink to entirely immerse the nib, in charging, I sometimes fit the pen section with a sliding sheath, so that it may be pulled over the nib, thus allowing the use of a very much shallower source of ink supply. And I sometimes utilize the cap for this sheath, by making the closed end removable.

30 That the pen may be carried in any position without leakage, the bottom of the piston is reduced in diameter, so as to wedge into the ink duct in pen section, by pressure on the aforesaid knob or handle on piston rod.

Dated this Fourth day of July 1905

GEORGE SWEETSER.

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COMPLETE SPECIFICATION.

“Improvements in Fountain Pens.”

I, GEORGE SWEETSER, of 25 Camden Hill Road, Upper Norwood, in the County of London, Mechanical Engineer, do hereby declare the nature of

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Sweetser's Improvements in Fountain Pens.

this invention 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 fountain pens of the kind that contain their own filler, and has for its main object the provision of an arrangement by which the filling can be accomplished in a more simple manner than heretofore. 5
There are other improvements in detail, as hereinafter set forth.

In carrying out my invention I slightly enlarge or longitudinally groove the bore of the reservoir for a short distance at the bottom, or pen end, and fit it with a lightly packed piston, and rod extending through a stuffing box at the top end of the pen. 10

The drawing is a longitudinal section of a pen made according to this invention.

a is the reservoir, *b* the pen carrier, *c* is a longitudinal rod passing through the top end of the reservoir and terminating in a screw cap or handle *c*¹. *d* is the piston on the rod *c* lightly packed to fit the bore for the greater 15 part of its length. At the pen end however as will be seen from the drawing the bore is enlarged at *e* or longitudinal grooves are formed in the sides thereof so as to allow of the passage of ink around the piston when it is at the enlarged part of the bore. When charging, the nozzle of the pen is immersed in ink, and the cap or handle *c*¹ unscrewed and pulled back, the imprisoned air in 20 the reservoir leaks past the piston into the bottom portion of the reservoir. Upon the rod being pushed in, this air is ejected, a vacuum is formed in the top portion of the reservoir, and when the piston arrives at the end of the stroke where the bore is enlarged, ink flows round the piston, and fills the reservoir owing to the pressure of the atmosphere. I may employ a valve in 25 the piston to allow the ink to pass from the top of the piston, or I may substitute a cup-leather for the packed piston, with the cupped portion down, so that it will act like a valve. Or the end of the piston rod, where it connects with the piston, may form the valve, so that the act of pulling out or pushing in the piston rod, respectively opens or shuts the valve. 30

As it requires a considerable depth of ink to entirely immerse the nib, in charging, I sometimes fit the pen carrier with a sliding sheath, so that it may be pulled over the nib, thus allowing the use of a very much shallower source of ink supply. I sometimes utilise the cap for this sheath, by making the closed end removable. 35

In order that the pen may be carried in any position without leakage the piston rod may carry a valve *f* which seats itself on a seating *f*¹ in the pen carrier.

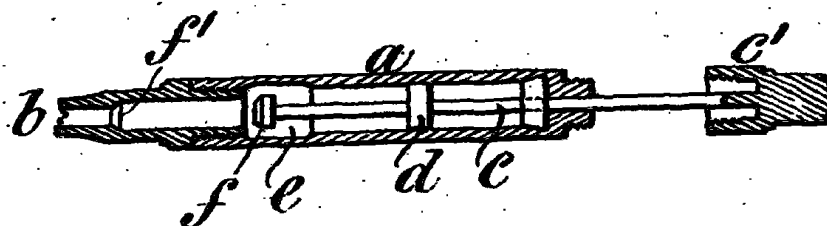
Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that 40 what I claim is:—

1. In a fountain pen the combination with a piston lightly fitting the bore, of an enlargement or grooves at the forward end of the bore to allow of the passage of ink round the piston, substantially as described.
2. Filling a fountain pen by first creating a vacuum and then allowing the 45 ink to enter the pen substantially as described.
3. A fountain pen substantially as described and illustrated.

Dated this 24th day of August 1905.

GEORGE SWEETSER.

[This Drawing is a full-size reproduction of the Original.]



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