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PROVISIONAL SPECIFICATION.

Improvements in or connected with Reservoir-pens.

I, ERNEST MACAULEY WADE, of 13, Hope Street, Liverpool, in the County of Lancaster, Manufacturer, do hereby declare the nature of this invention to be as follows:—

5 This invention has reference to reservoir pens, and more particularly to that kind of such pens in which the reservoir for containing the ink is adapted to be filled or charged by a liquid induction or forcing means, within it.

10 There have been a great variety of proposed means for accomplishing this object, all of which have objections in some one or other direction. In some, the means employed for this purpose is not lasting or durable, and others entail the diminution of liquid reservoir space in a pen of given dimensions; whilst in other cases, the means employed for accomplishing this object is objectionable, on the score of appearance, or for being unmechanical or unsatisfactory. The object of the present invention is to provide means in or in connection with such pens, which shall not have the objections hitherto existing; and in the 15 following description of pen, the improvements hereunder are comprised.

20 Within the pen, that is, in the reservoir, there is provided a piston which is adapted to be moved up and down in it, and it is so constructed as to be engaged by a rod or the like for actuating it, but which is normally detached from it. That is to say, the piston may be provided with a thread, or part of a bayonet joint, or other catch or engaging device, and the rod or the like by which the piston is to be operated, will be correspondingly provided with a threaded end, or part of a bayonet joint, or other catch or engaging device or part, so that this rod or device can be coupled up or engaged with the piston, and the piston thereby pressed in or out, whereby if the nib end of the pen be 25 inserted in an ink container, it will become filled, and then the rod or the like is unscrewed or disconnected and withdrawn. Access to the piston is effected by the removal of a screwed cap or plug in the outer end of the container.

30 The piston operating rod or means, is, under this invention, so constructed and arranged in conjunction with the cap for closing or covering the nib end of the pen, as to serve not only as a means for engaging the piston as above, but also as a means for retaining the pen in a case or pocket, the latter being effected by so attaching the said rod to the closing or covering cap of the nib as to enable the rod to be used in the ordinary way of such pens, by hooking over and gripping the edge of a pocket or the like. Or, it may be combined 35 with such a hook, and be so formed or covered as not to be visible, but readily available and used for the purpose referred to.

40 In one form of this piston rod or device, which serves also as a hook, or in conjunction with a hook connected with the nib protector or cap, it may consist of two parts, slidable or extendable lengthwise, so as to provide a rod of considerable length when extended, and to be relatively short when collapsed or closed; it being so formed that when extended, by turning it, or by a catch or the like, the two parts of the rod in the direction of their length will be rigid and held.

[Price 8d.]



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In some cases, where desired, or for special purposes, this piston operating rod or device may be separate from the cap or pen.

A pen constructed as above described, for given dimensions will have a relatively large capacity of reservoir; or, conversely, it will be relatively short for a given diameter of reservoir, and will be neat, and, externally, present mainly the same appearance as an ordinary reservoir pen; and will be durable, and without objectionable features. 5

Dated this 10th day of March, 1909.

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265, Strand, London, W.C. 10

**COMPLETE SPECIFICATION.****Improvements in or connected with Reservoir-pens.**

I, ERNEST MACAULEY WADE, of 13, Hope Street, Liverpool, in the County of Lancaster, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:— 15

This invention has reference to reservoir pens, and more particularly to that kind of such pens in which the reservoir for containing the ink is adapted to be filled or charged by a liquid induction or forcing means within it. 20

There have been a great variety of proposed means for accomplishing this object, all of which have objections in some one or other direction. In some, the means employed entail the diminution of the liquid reservoir space in a pen of given dimensions; whilst in other cases, the means employed for accomplishing this object are removable from the reservoir, but are objectionable, on the score of appearance, and because they are entirely separate from the pen. The object of the present invention is to provide improved means, which is attached to or adapted to be attached to a part of such pens and which shall not have the objections hitherto existing, and which shall be of a more serviceable character; and in the following description of pen, the improvements hereunder are comprised. 25 30

The invention will be described with the aid of the accompanying drawings, which illustrate it, in which

Figure 1 shows the pen in the condition in which the parts stand in relation to each other, when the liquid induction parts are being used. 35

Figure 2 is a view showing the same parts when not being used; and

Figure 3 shows a modification in detail.

Within the pen body *a*, that is, in the reservoir, there is provided a piston *b*, which is adapted to be moved up and down in it; and it is so constructed as to be readily engaged by and disengaged from a rod or the like for actuating it, but which is normally detached from it; and, in the case shown in the drawings, the piston is provided with a short threaded stem *c*. 40

The means by which this piston is operated, consists of a rod or the like, which is normally detached from it, and which is provided at its lower end with an engaging means, adapted to temporarily engage with the piston *b*, so that when the stopper *d*—shown in Figure 2—normally fitting in the upper end of the body *a*, is unscrewed therefrom, and the rod end inserted, and coupled up with the piston, such piston can be pressed down towards the nib end of the pen; and if this end be inserted in an ink container, and the piston then drawn 45 50

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up again, the pen reservoir will become filled. And then the rod or the like is disconnected and withdrawn, and the stopper *d* is then screwed into the upper end of the body *a*, shown in Figure 2.

5 In the construction and arrangement shown in the drawings, this piston or plunger actuating means or device is fixed on the cap *e* enclosing the nib, and it is arranged and adapted to constitute a hook; which fits over the lappet or cloth of the waistcoat pocket in which such pens are mostly carried, or any special means for carrying it.

10 This combined piston or plunger actuating means or hook is, in some cases, extendable, as in the case shown in the drawing, and comprises two parts, which are movable in relation to each other, so as to render it relatively long when being used for actuating the plunger, and on the other hand short at other times, and when serving as only a hook.

15 The extendable rod or device in the drawing consists of a stationary part *g*, the inner end of which is rigidly secured to the cap *e* whilst its lower end is provided with a boss *h*, with an aperture through it. And the removable part is designated *i*, and slides in the aperture in the boss *h*, and is provided at its upper end with a boss *j*, similar to *h*, which embraces the stationary rod *g*. By this means, the two rods *g* and *i* are rigid in relation to each other, except  
20 in the direction of their length.

To hold the rod *i* in its outer position, a spring *k* is provided in connection with the device, which lies parallel with the rod *g*; and when the rod *i* is pulled out, the end of this spring *k* will come behind the boss *j*, and hold it with a degree of firmness, which, when the rod *i* is engaged with the piston *b*, will  
25 enable this piston to be pressed down and pulled out. But, on the other hand, the top of the boss *j* may be slightly tapered or inclined, so that when the boss *j* is pressed hardly inwards, the lower end of the spring *k* will be pressed outwards, and allow the rod *i* to pass under it, and lie between it and the rod *g*, as shown in Figure 2.

30 To engage the piston with this actuating device, the rod *i* is provided with an internally threaded socket *l*, which screws onto the threaded stud *c*; and after filling the reservoir *a* by pressing the piston *b* down and up by means of the actuating device, the socket *l* is simply unscrewed off the pin *c*; and then the stopper *d* is screwed into the end of the body *a*.

35 Instead of the engaging means of the piston, and its actuating rod or device being a threaded device of the character described, the piston *b* may have a hollow short stem *e* on it, with a hole *m* through it, as shown in Figure 3, and a slot *n* extending between the upper end of the stem *e* and the hole; and if  
40 the enlarged end of a rod such as *i*, slightly larger than the slot *n* be employed, and pressed into the hole *m* through the slot *n*, this will enable the piston to be simply moved up and down in the barrel or body *a*. Instead, however, of these means, any known suitable engaging and disengaging device, such as a bayonet joint, or any suitable catch device, can be used.

45 In the case shown, the piston operating rod or means is constructed and arranged so as to serve not only this purpose, but also as a hook connected with the nib end enclosing or covering cap *e*; and it is used in the ordinary way of such pens by hooking it over the edge of a pocket or the like. Nevertheless, it may be combined with such hook, and be so formed or covered, as not to be visible, but readily available and used for the purposes referred to. Or, again,  
50 in some cases, where desired, or for special purposes, the piston operating rod or device may be separate from the cap and be adapted to be attached thereto.

A pen constructed as above described, for certain given dimensions will have a relatively large capacity of reservoir; or, on the other hand, it will be relatively short for a given diameter of reservoir, and will be neat, and externally  
55 present the same appearance as an ordinary reservoir pen, and will be durable, and without objectionable features.

It will be understood that it is not broadly new to provide a "self-filling"

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reservoir pen with a piston and a detachable rod for actuating it for the purpose of re-charging the pen, and no broad claim is made to these features alone.

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 what I claim is:—

1. In or connected with a "self-filling" reservoir pen of the kind herein referred to, a piston operating rod fixed or adapted to be fixed upon the nib cap, having its outer end so constructed as to be capable of engaging the piston, and disengaging same after the stopper at the rear end of the body has been removed; substantially as set forth.

2. In or connected with a "self-filling" reservoir pen having the characteristics as specified and covered under Claim 1, a piston actuating means disposed in a parallel plane at a distance from the axis of the cap substantially greater than the radius of said cap, and adapted to serve as a hook; substantially as set forth.

3. In or connected with a "self-filling" reservoir pen having a piston constructed and adapted to be engaged by and be disengaged from the actuating means, an extendable rod device carried from the cap and consisting of two parts, with engaging and disengaging means at its outer end; substantially as set forth.

4. The "self-filling" reservoir pen having parts constructed and adapted to be used, as set forth with reference to the drawings.

Dated this 7th day of September, 1909.

E. R. ROYSTON & Co.,  
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265, Strand, London, W.C.

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

Fig. 1.

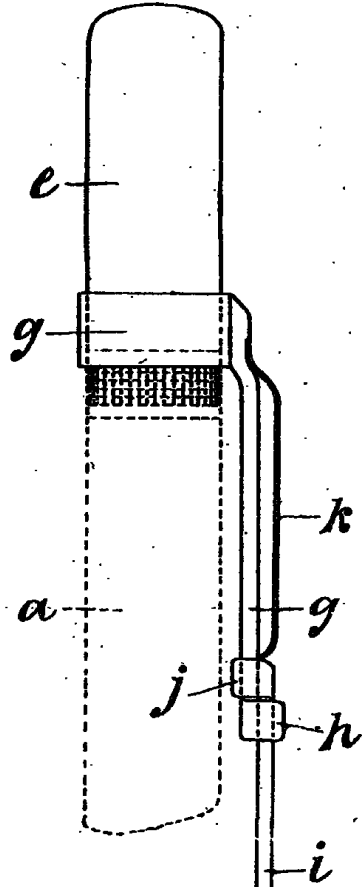


Fig. 2.

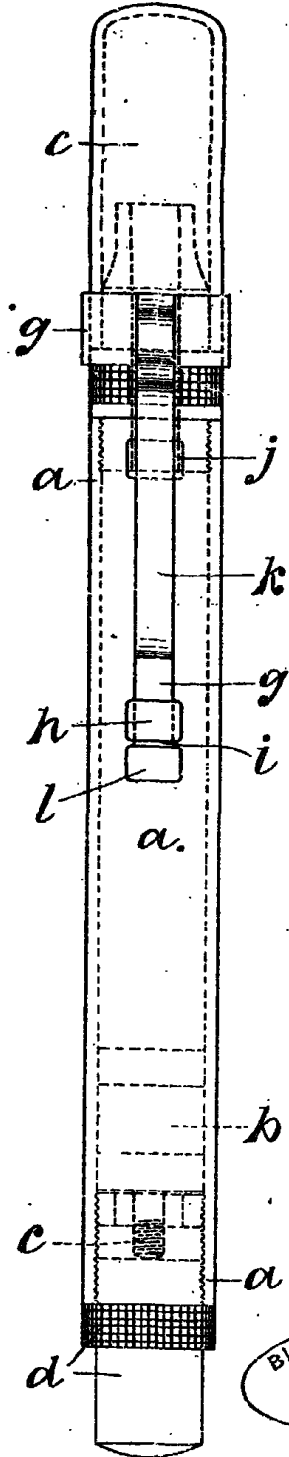
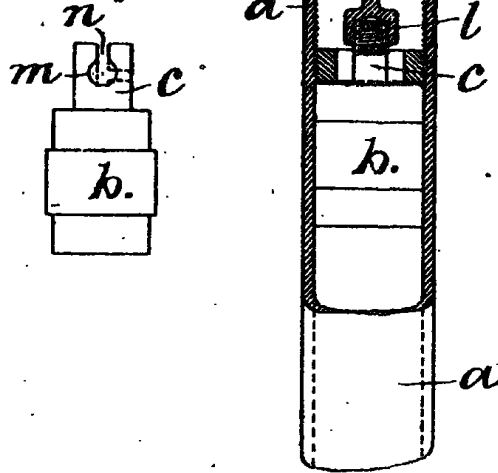


Fig. 3.



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