April 16, 1946. D. P. MOORE 2,398,548

FOUNTAIN PEN

Filed July 5, 1945

Fig. 2.

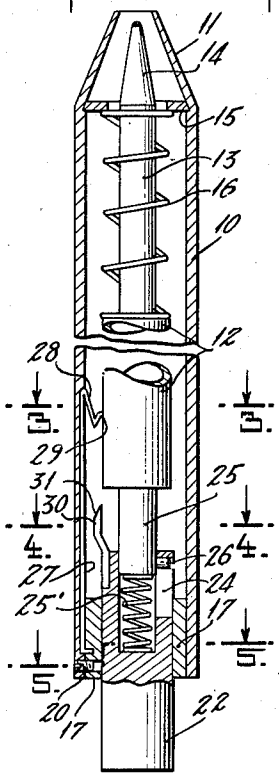


Fig. 1.

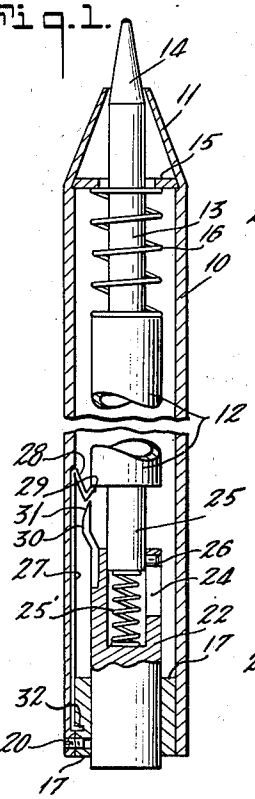


Fig. 3.

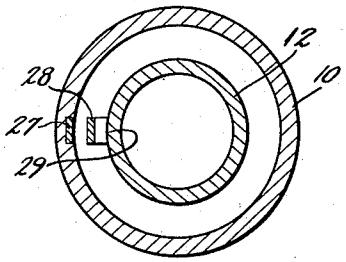


Fig. 4.

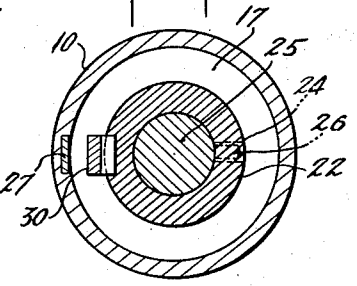


Fig. 5.

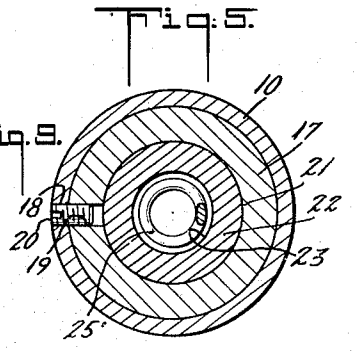


Fig. 6.

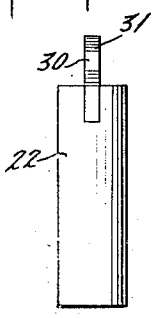


Fig. 7.

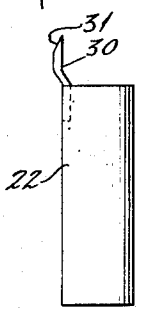


Fig. 8.

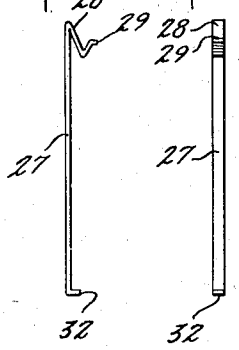


Fig. 9.




INVENTOR

David P. Moore.

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# UNITED STATES PATENT OFFICE

2,398,548

## FOUNTAIN PEN

David Pelton Moore, Forest Hills, N. Y., assignor to Premium Merchandising Corporation, a corporation of New York

Application July 5, 1945, Serial No. 603,319

5 Claims. (Cl. 120—49)

The present invention relates to improvements in fountain pens, and more particularly to that type of pen which has ball nib, and in which the pen proper is mounted within the barrel to be moved longitudinally to be housed when not in use and be projected outwardly for use, one object of the invention being the provision of a fountain pen having a readily accessible manually operated means for projecting the pen and for releasing the same.

Another object of the present invention is the provision of a novel combination of elements so disposed as to project and lock a spring retracted main pen element, and by a similar movement to release the lock to permit the main pen element to automatically retract.

In order that the invention may be fully understood and its numerous advantages appreciated, attention is invited to the accompanying drawing, in which:

Figure 1 is a longitudinal section through the barrel with the main pen element in side elevation and in projected position the complete pen being broken intermediate of its ends.

Figure 2 is a similar view with the main pen element in retracted position.

Figure 3 is a section on line 3—3 of Fig. 2.

Figure 4 is a section on line 4—4 of Fig. 2.

Figure 5 is a section on line 5—5 of Fig. 2.

Figures 6 and 7 are detail views of the actuating member or cylinder.

Figures 8 and 9 are details of the main pen element lock.

Referring to the drawing, the numeral 10 designates the barrel or carrying member having the open truncated end 11, said member being constructed tubular in shape with both ends open.

Insertible through the enlarged open end of the barrel, is the main pen element 12, which constitutes a writing paste container having the outlet tube 13 with the removable ball nib member 14. Within the barrel at a point adjacent to the junction of the main portion and end 11 is an inwardly projecting ring 15, which forms a shoulder against which the upper end of the coil extension spring 16 abuts, while it surrounds the tube 13 and has its lower end abutting the upper end of the barrel portion of the pen 12. This spring tends to hold the pen in retracted position as shown.

A sleeve 17 fits snugly as a plug in the enlarged end of the barrel 10, and is held against rotation therein through the medium of the screw 18 mounted in the aligned screw threaded openings 19 and 20, of the respective sleeve and barrel.

Slidably mounted in the bore 21 of the sleeve 17, is an operating member or cylindrical piece 22, in whose socketed inner end is also slidably mounted the pen abutting cylinder 25, held in its extended position by a spring 25', which is of greater strength than the spring 16, the purpose of which will presently appear. To limit the movement of the cylinder 25, a slot 24 is provided in the wall of the socket of the operating member 22, while a pin 26 carried by the cylinder 25 rides in said slot.

In order that the member 12 may be locked in forward or writing position, a locking device is used, and which consists of a supporting portion 27, having the spring terminal 28 having a hook 29, which has a tension to engage the wall of the member 12, and when it has been pushed outwardly by the members 22 and 25 to the dot-and-dash position Fig. 2, will snap below the bottom of the member 12 and thus hold the pen member in projected or writing position.

As the spring 25' is of such tension that when the operating member 22 is pushed inwardly, the member 25 engages and pushes the main pen member against its spring 16, without compressing the spring 25', so that the lock releasing device 30 carried by the member 22 is not brought in to play. However, as and when the member 22 is pressed sufficiently to overcome the tension of the spring 22, the spring 16 of lesser strength having been compressed before the spring 22 was compressed, and after the lock 29 has snapped to hold the pen 12 projected, the cam end 31, will ride under the lower pointed end of the spring hook 29, to push it toward the barrel 10 and out of engagement with the edge of the bottom of the member 12, which released to the action of its spring 16, will then assume the position as shown in Figs 1 and 2.

Also it will be noted that, as the tension of the spring 25' is greater than that of the spring 16, the member 22 when released will be moved rearwardly so that its extended end will be in ready position to be pressed inwardly for the releasing operation. By this arrangement, the member 22 is the sole means for projecting the pen in to writing position and for releasing its lock, to permit the pen to assume encased retracted position.

It will be noted that the end 32 of the locking device 27 fits in a recess of the plug sleeve 17, and the greater portion of its length lies in a longitudinal recess in the inner wall of the barrel, while the locking releaser 30 is fitted and at-

tached to the operating member 22, making all parts easily and quickly assembled and taken apart, as all elements are insertible through the enlarged end of the barrel 10, and held in place therein by the screw 18.

What is claimed, is:

1. A fountain pen, including in combination, a main tubular barrel open at both ends, and one end being conical in shape, a main pen body slidably mounted in the barrel and having a ball nib adjacent the conical end of the barrel for projection through said conical end, a spring for normally holding the pen retracted with the ball nib within the barrel, a longitudinally slidable manually operable member mounted in the enlarged open end of the barrel and having its inner end engaging the inner end of the main pen body, whereby the pen is moved into writing position with the ball nib extended out through the conical end of the barrel, a spring lock for holding the main pen body so projected, and means carried by the manually operable member for releasing the lock to permit the spring to move the nib back into the barrel.

2. A fountain pen as claimed in claim 1, wherein the manually operable member is composed of two telescopic spring extended sections, means for limiting the movement between the sections, the spring of the same being of greater strength than the spring for retracting the main pen body, whereby when the manually operable member is pushed inwardly the spring thereof due to its greater resistance is not compressed and the spring lock is permitted to engage and hold the main pen body projected in to writing position.

3. A fountain pen as claimed in claim 1, wherein the manualy operable member is composed of two telescopic sections, a spring for separating the two sections, means for limiting the movement between the sections, said spring being of greater strength than the spring for retracting the main pen body, whereby when the manually operable member is pushed inwardly to project the main pen body the last spring is not compressed, and a releasing cam carried by the manually operable member and in the path to engage and release the spring lock when the manually operable member is pressed to compress its spring.

4. A fountain pen, including in combination, a main carrying barrel open at both ends, one end being in the shape of a truncated cone, a main pen body mounted for longitudinal sliding movement within the barrel and having a ball pen nib adjacent the truncated end of the barrel for movement exteriorly and internally of the barrel, a spring for holding the main pen body retracted and housed within the barrel, a two sectioned operating member mounted in the end of the barrel remote from the truncated end and having its inner end in contact with the inner end of the main pen body and its other end exteriorly of the barrel, a spring lock mounted in the barrel and having a hooked terminal in the path to engage and hold the main pen body in projected writing position when the operating member has been pushed inwardly to project the main pen body, and means carried by the operating member to release the spring lock to permit the first spring to move the main pen body to retracted position.

5. A fountain pen as claimed in claim 4, wherein the two sectioned operating member is provided with a spring to hold the section apart, means for limiting such separation, said spring being of greater strength than the first spring, whereby when the main pen body is moved against its spring such spring is compressed without the last spring being compressed, a continued and greater pressure upon the operating member compressing the spring thereof and causing the lock releasing means to be brought in to play to engage and release said lock and permit the main pen body to be retracted by its spring.

DAVID PELTON MOORE.