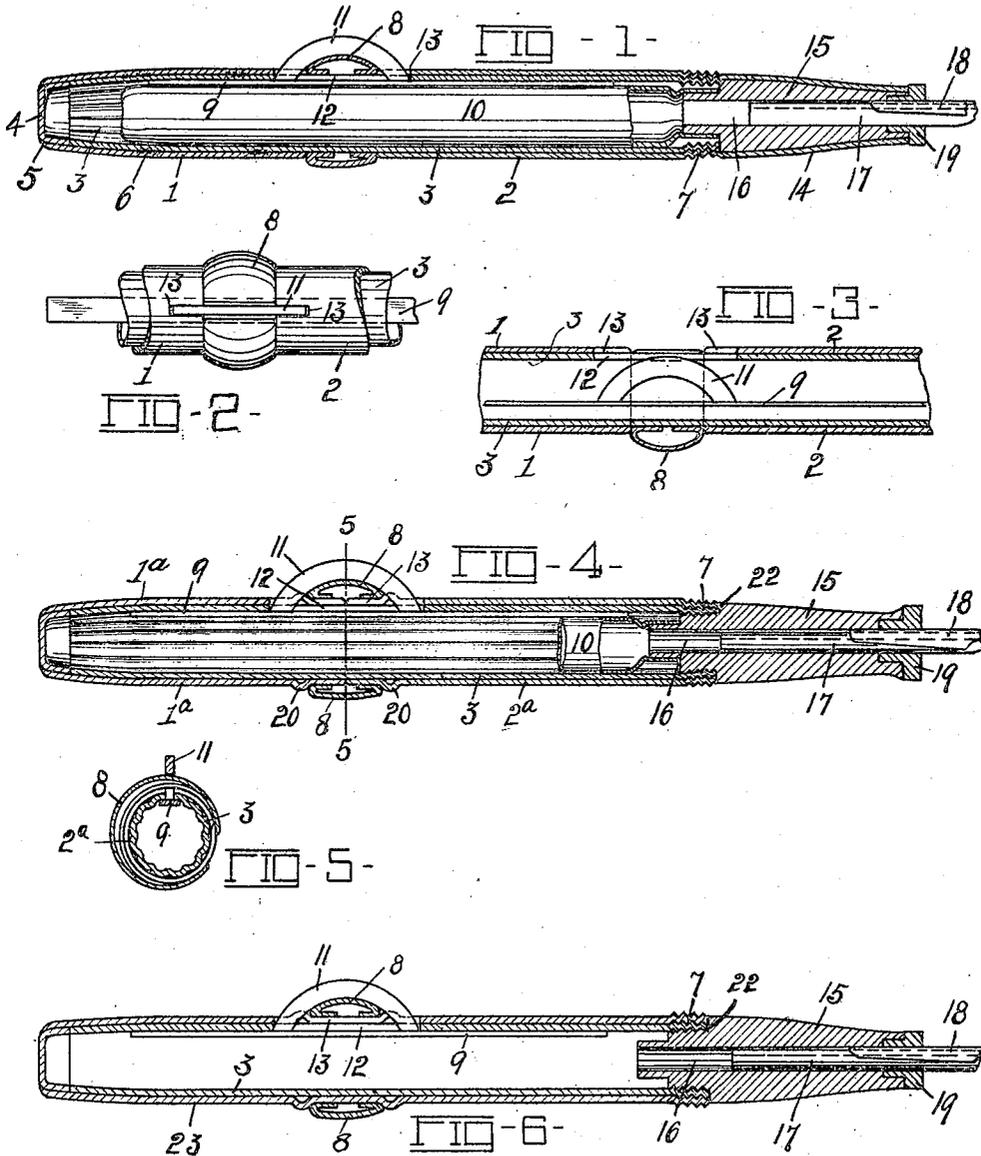


C. A. LUCK.
FOUNTAIN PEN.

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1,380,109.

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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. LUCK, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Fountain-Pen; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to a fountain pen; and has for its primary object the provision of a novel construction of the barrel and the cap member thereof, adapting them to be made from thin metal, or other suitable material, in place of the hard rubber now commonly employed in fountain pen construction. The invention, however, does not exclude the use of hard rubber, but is more particularly directed to a construction which renders the use of metal practicable as a substitute for hard rubber.

Further objects and advantages of the invention will be apparent from the following detailed description thereof, and by reference to the accompanying drawings, which illustrate separate embodiments of the invention, and in which,—

Figure 1 is a central longitudinal section of a fountain pen embodying one form of the invention with parts in full and parts broken away. Fig. 2 is a fragmentary detail of the compression-bar locking feature in relation to the inner and outer shells of the barrel. Fig. 3 is a fragmentary central longitudinal section, similar to Fig. 1, with the compression-bar in depressed position. Fig. 4 is a central longitudinal section, similar to Fig. 1, of a slightly modified form of the invention. Fig. 5 is a section on the line 5—5 in Fig. 4, and Fig. 6 is a central longitudinal section of another form of the invention.

Referring particularly to Figs. 1, 2 and 3 of the drawings, 1 and 2 designate the longitudinally alined rear and front end sections, respectively, of the external shell or casing of a fountain pen barrel embodying the invention, and 3 the internal reinforcing shell or casing thereof, which shells are tubular

in form and may be of thin metal or other suitable material. The shell 3 is preferably longitudinally corrugated to render it stiffer in its nature and thereby form a more rigid reinforcement for the outer shell.

The outer end of the rear section 1 is closed by a plug 4, which, in the present instance, may be of stamped metal and is inserted into the section from the inner end thereof and prevented from complete passage therethrough by coaction with the tapered outer end portion of the section and by the inwardly turned end edge 5 thereof. The inner shell 3 is intended to fit closely within the outer shell sections 1 and 2 and is fixedly secured in the rear section 1 by soldering at different points, as at 6, and with its rear end in abutment with the alined edge portion of the end closing plug 4 to firmly hold said plug to its seat in the outer end of the section 1. If desired, the plug 4 may be soldered or otherwise fixedly united to the section 1, but this is not necessary with the end of the inner shell 3 abutting thereagainst. The outer shell section 2 has a turning fit on the inner shell 3 and is threaded to the forward end of the inner shell 3 at 7. The thread is preferably rolled in the section 2 so as to form the section with both the inner and outer threads, the former for engaging with the threads of the inner shell 3 and the latter for engaging with the retaining threads of the customary pen point inclosing cap.

The inner ends of the shell sections 1 and 2, when in assembled relation on the reinforcing shell 3, are spaced to cooperate with the reinforcing shell to form a groove or run-way for the compression-bar locking-ring or member 8, which is adapted to have turning movements therein. The locking member 8 which, in the present instance, is of split eccentric form, as in fountain pens of the "Conklin" type, may be stamped from sheet metal or formed in any other suitable manner. The usual compression-bar 9 for the ink-bag 10, inclosed within the barrel, is provided intermediate its ends with the outwardly projecting looped locking-ring coacting member or portion 11 which is adapted to project transversely from the barrel through registering slots 12 and 13 in the respective inner and outer shells thereof. The slot 13 in the outer shell section, is

broken or interrupted by the spacing of the adjacent ends of said sections to form the ring groove so that such slots will in reality be merely notches or recesses provided longitudinally in alined relation in the adjacent ends of said sections. It is evident that when the split portion of the locking-ring 8 is in register with the coacting locking-ring 11 of the compression-bar, such member may be forced inward to impart a bag compressing movement to the bar 9, and that when said bar is in normal position and the locking ring turned through the opening in the locking member 11, said member and bar will be firmly held by the camming action of the ring in their retracted or normal positions. United States Letters Patents Nos. 685,258 and 745,481, issued October 29, 1901, and December 1, 1903, respectively to Roy Conklin covering the "Conklin" form of compression-bar locking means discloses several forms of such locking means and it is, therefore, not thought necessary to include illustrations of such different locking means in the present case. It will be understood, therefore, that the form shown herein is merely illustrative of the idea and is not intended to limit the invention herein covered to the use thereof.

The outwardly projecting or control member 11 for the compression-bar 9 is intended, when in its normal or outwardly projected position, to perform the additional function of locking the inner shell 3 together with the rear outer section when attached thereto, and the removable outer shell section 2 in assembled position by reason of the member 11 passing through the slot 12 of the inner shell and through the slot or notch 13 in the outer shell section 2, thereby locking the members 2 and 3 against relative turning movements and preventing a consequent unscrewing of the section 2 from the shell 3. Such unscrewing or removal of the section 2 from the shell 3 may be accomplished, however, when the compressing bar 9 and its control member 11 are sufficiently depressed within the barrel to withdraw the member 11 from within the slot or notch 13 of the barrel section 2. It is, therefore, evident, so far as the barrel section locking feature of the member 11 is concerned, that it may be of any other form, suitable for the purpose, than that illustrated, as any outwardly projecting part or control member for the bar 9 might accomplish the same purpose.

In this form of the invention the section 2 of the outer barrel shell is formed at the outer end of its thread 7 with an extension 14, which gradually reduces in diameter toward its outer end to resemble in appearance the customary pen point carrying end or section of a fountain pen. The pen point carrying section proper, which is designated

15 and is preferably of hard rubber to avoid corrosion, by reason of its contact with the ink, is fitted into the extension 14, being inserted into the shell section 2 from the inner end thereof, and is held firmly to its seat in the extension 14, by reason of the abutment of the threaded end of the inner shell 3 against its inner end when the barrel section 2 is screwed home in proper position on the inner or reinforcing section 3. The pen carrying section 15 is provided longitudinally therethrough with an ink feed passage 16 in communication at its inner end with the ink bag 10, which is carried by said section, and the customary feed-bar 17 and pen-point 18 are secured in this feed passage, as well understood in the art. In the present instance, the pen-point and feed-bar are shown as secured within the passage 16 by an eccentric locking nipple 19 forming the subject matter of my Patent No. 1,315,373, dated September 9, 1919.

In the form of the invention illustrated in Figs. 4 and 5, the outer shell of the barrel has its sections, which are designated 1^a and 2^a, in abutment at their inner ends and the retaining groove for the locking-ring 8 is formed by the provision of longitudinally spaced annular ridges or beads 20 formed in the outer shell, one at each side of the line of division or abutment of its sections. The outer shell in this form is shown as terminating with the threads 7 so that the pen carrying section 15 may thread into the threaded portion 7 of the inner shell 3 and have the shoulder 22 at the base of its thread abutting against the adjacent ends of the inner and outer shells.

The form of the invention illustrated in Fig. 6 differs from that illustrated in Fig. 4 in that the outer shell, which is designated 23, is formed in a single instead of in two sections, the inner shell 3 being free for longitudinal movement and to turn within the entire outer shell.

It is evident that I have provided a simple and cheap construction of pen barrel, which may be of metal or other suitable material; that the sections of the barrel may be quickly assembled; that the sections of the barrel are locked in assembled relation by the control member of the ink-bag compressing bar, and may be released by a movement of such control member from its normal position.

It is also evident that if it is desired to make a gold finished barrel, the outer shell thereof may be composed of thin rolled gold or plated as desired, the inner shell being of sufficient strength and rigidity to reinforce the outer shell against compressing, twisting or bending stresses.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is

capable of numerous changes and modifications other than those illustrated without departing from the spirit of the invention as defined in the claims.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A fountain pen barrel having inner and outer telescoped shells, the inner shell being
10 corrugated and reinforcing the outer shell, and the outer shell comprising two sections, one of which is fixed and the other removably threaded to the inner shell.

2. A fountain pen barrel having inner
15 and outer telescoped sections, with the outer shell divided intermediate its ends, and one section thereof fixed to the inner shell, and its other section removably attached thereto, and having an extension projecting be-
20 yond an end of the inner shell and adapted to receive and hold a pen point carrying section.

3. A fountain pen barrel having inner and outer separable ink bag receiving sections, and a pen point carrying member releasably connected to one of the sections, the inner end of the inner section being externally threaded and the adjacent end of the
25 outer section being fashioned to form an internal thread to engage with said first thread and an external thread with which a cap may be engaged.

4. A fountain pen having detachably connected inner and outer sections forming a
35 barrel, a pen point carrying member connected thereto, an ink reservoir inclosed within the barrel and connected to said member, and means separate from said member for releasably locking the barrel
40 sections in assembled relation.

5. A fountain pen barrel having inner and outer telescoped sections in detachably threaded engagement, and an ink bag compressing bar means for releasably locking
45 the sections in assembled relation.

6. In a fountain pen, a barrel having detachably connected inner and outer sections having slots therein adapted to register, and means releasably interengaging with said
50 slots to prevent relative movements of the sections.

7. In a fountain pen, a barrel having detachably connected inner and outer sections provided with slots adapted to register, an
55 ink bag compressing member within the barrel having a control part extending outward through said slots and cooperating therewith to lock the barrel sections in assembled relation when the compressing
60 member is in normal position.

8. In a fountain pen, a barrel having detachably connected inner and outer sections provided with slots adapted to register, an ink bag compressing member within the barrel having a control part extending outward
65 through said slots and cooperating therewith to lock the barrel sections in assembled relation when the compressing member is in normal position, and means releasably co-acting with the control part of said mem-
70 ber to hold it in locking position.

9. In a fountain pen, a barrel having inner and outer sections in detachably threaded engagement and having slots adapted to register when the sections are in assembled
75 position, an ink bag compressing bar within the barrel, a control member projecting from the bar into said slots to cooperate therewith to prevent a relative turning of the sections, except when the control mem-
80 ber is moved from normal position.

10. In a fountain pen, a barrel comprising separable inner and outer telescoped sections, the outer section extending at its pen point carrying end beyond the inner
85 section, and a pen point carrying section disposed within the extended end of said outer section.

11. In a fountain pen, a barrel having inner and outer telescoped sections in detachably threaded engagement at their inner ends, the inner end of the outer section being extended beyond its threaded portion and the inner end of the inner section, and a pen point carrying section removably
90 mounted in the extended portion of said outer section.

12. In a fountain pen, a barrel having inner and outer telescoped sections in detachably threaded engagement at the pen carrying end of the barrel, the outer section being extended and gradually contracted beyond its threaded portion and the adjacent end of the inner section, and a pen point and ink bag carrying section removably mounted
105 in said extended end of the outer section and held to its seat therein by shouldering against the threaded end of the inner section.

13. In a fountain pen, a barrel having inner and outer shells, the inner shell having a longitudinally extending compressing-bar groove, an ink bag compressing-bar disposed in said inner shell and adapted to seat in said groove, and means for holding
110 the compressing-bar in said groove.

In testimony whereof, I have hereunto signed by name to this specification.

CHARLES A. LUCK.