H. G. CRAIG.

FOUNTAIN PEN.

APPLICATION FILED APR. 9, 1914.

1,242,323.

Patented Oct. 9, 1917.

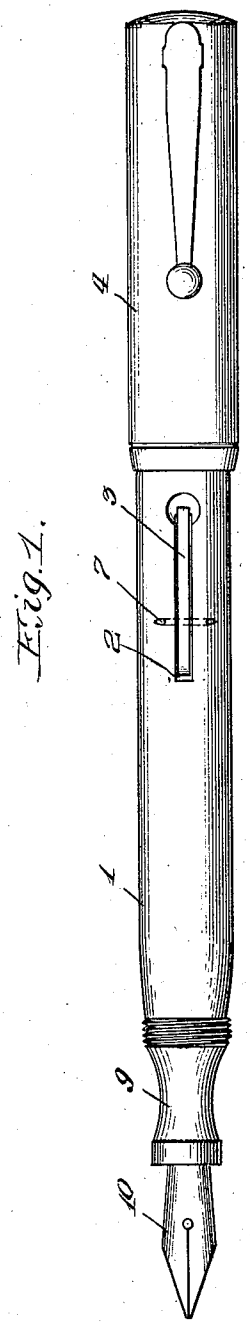

Fig. 1.

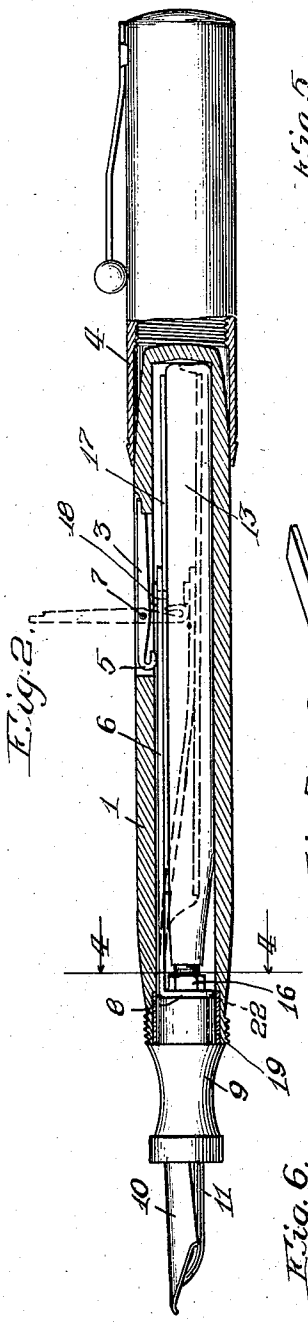

Fig. 2.

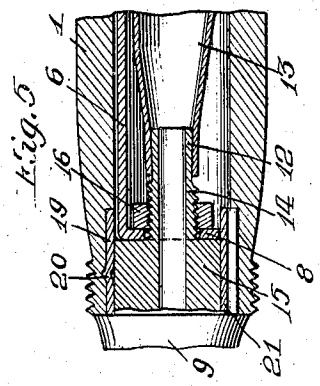

Fig. 5.

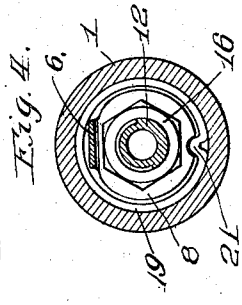

Fig. 4.

Fig. 3.

Fig. 6.

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FOUNTAIN-PEN.

1,242,323. Specification of Letters Patent. Patented Oct. 9, 1917.

Application filed April 9, 1914. Serial No. 830,637.

To all whom it may concern:

Be it known that I, HARVEY G. CRAIG, citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Fountain-Pens; 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.

My invention relates to fountain pens equipped with flexible ink sacks adapted to be compressed by means of pressure bars, and more particularly to pens of this class equipped upon their casings with levers for actuating the pressure bars. One object of my invention is to provide spring means for returning the pressure bar to its normal position and means for alining the said spring means with the actuating lever. Another object is to provide a simple and effective stop for limiting the movement of the actuating lever in one direction. A further object is to provide means for supporting the pressure bar from the removable section or pen-carrier of the fountain pen, so that the said pressure bar may be inserted or removed simultaneously with the removable section and the ink-sack carried by the latter, thereby affording access to the entire interior of the barrel for inspecting or cleaning the latter. Still another object is to provide simple means for detachably securing the compression member of the fountain pen to the removable section of the latter, so that the said pressure-member may readily be detached or replaced in case the spring portion thereof weakens after prolonged service.

In the drawings:

Figure —1— is a plan view of a pen embodying my invention.

Fig. —2— is a fragmentary longitudinal section through the pen of Fig. —1—.

Fig. —3— is a perspective view of the compression member of the pen.

Fig. —4— is an enlarged transverse section through Fig. —2— along the line 4—4.

Fig. —5— is a fragmentary longitudinal sectional through the forward end of the barrel and the parts housed thereby.

Fig. —6— is a similar section through another embodiment of my invention.

In the drawings, I have shown my invention as applied to a fountain pen equipped with the adjustable actuating lever more specifically described in my copending application for fountain pens filed February 27, 1914, Serial No. 821358. In Figs. —2—, —4—, and —5— the pen of my invention includes a barrel 1 equipped at one side with a longitudinal slot 2 housing a lever 3, the rear end of which lever may be raised with the thin edge of the cap 4 of the fountain pen so as to be manually grasped and moved to the position shown in dotted lines in Fig. —2—. The other or shorter end 5 of the said lever is continuously in engagement with a spring member, which member comprises a shank 6 extending longitudinally of the barrel 1 to a point somewhat back of the pivot 7 of the said lever and equipped at its forward end with an annular portion 8 disposed substantially at right angles to the said shank 6. Mounted upon the forward end of the barrel 1 is a holder or removable section 9 carrying a pen point 10 and a feeder tube 11, these portions being arranged in accordance with the customary practice. The said holder 9 is equipped at its rear or inner end with a tubular stem having a mouth portion 12 adapted to receive the open end of an ink-sack 13, the said stem having also a threaded portion 14 interposed between the mouth portion 12 and the diametrically larger portion 15 which fits the open end of the barrel. The threaded portion 14 is preferably of such a size as barely to slide through the perforation in the annular portion 8 of the spring member, so that the said annular portion may be slid over the said tubular stem and abutted against the end portion of the portion 15, whereupon it may be locked or clamped in its said position by means of a threaded locking nut or ring 16 engaging the threads of the portion 14.

The shank 6 of the said spring member is secured near its rear end approximately to the center portion of a pressure bar 17 by suitable fastening means, such as a rivet 18, the said pressure bar being preferably relatively inflexible. The rivet head or outwardly directed portion of the said fastening means 18 is preferably so positioned as to engage the end 5 of the actuating lever when the latter is in the position shown in dotted lines in Fig. —2—, that is to say, in the position in which it has flexed the spring shank 6 inwardly and has obliged the pres-

sure bar 17 to compress the ink-sack 13. Consequently, when the lever has been moved to its said position, the said exposed portion of the fastening means will serve as a stop for limiting the motion of the lever in the said direction, it being evident that the clamping of the portion 8 of the spring member to the removable section of the pen will prevent a longitudinal movement of the said spring member (and hence of the said fastening means 18) with respect to the barrel of the pen.

To insure a proper alinement of the lever 3 with the spring shank 6 engaged thereby and with the said fastening and limiting means 18, I provide means associated with the spring member and the barrel for preventing relative rotation thereof. The means used for this purpose may be varied as desired, two different forms being shown in Figs. —5— and —6—. In Fig. —5—, the barrel 1 is equipped at its forward end with an inner reinforcing tube 19 secured non-rotatably to the barrel by suitable indentations 20 and equipped with an inwardly projecting ledge formation 21, which ledge formation is adapted to register both with a longitudinal groove in the outer surface of the plug portion 15 of the pen-carrier and with a corresponding peripheral notch 22 in the annular portion of the spring member. It will be evident from Figs. —4— and —5—, that when the members are assembled, the said ledge or ridge 21 will coöperate with the said groove and notch to prevent a rotary movement of both the pen-carrier and the spring or pressure-bar carrier with respect to the barrel of the pen. Consequently, the lever 3 will at all times be maintained in radial alinement with the spring shank 6 engaged thereby and with the stop formation of the fastening means.

However, I do not wish to be limited to this or other details of the construction heretofore disclosed, as the same might be modified in many ways without departing from the spirit of my invention. For example, instead of equipping the annular portion 8 of the spring member with a peripheral notch, the portion of the said annular member diametrically opposite the shank may be bent forwardly of the pen to form a lip engaging a recess upon the rear end of the plug portion 15 of the pen-carrier, thereby preventing the said spring from rotating with respect to the pen-carrier, while the latter in turn may be locked against rotation by means of a groove engaging a corresponding formation in the bore of the barrel.

It will be evident from the drawings, that both the ink-sack and the spring member (together with the pressure-bar carried by the latter) may be secured to the pen-carrier or removable section of the pen before the latter is inserted in the barrel, and that likewise both the ink-sack and the pressure mechanism may be simultaneously removed from the barrel along with the pen-carrier to permit access to the entire interior of the barrel. Likewise, if the resiliency of the spring member of the device should deteriorate after prolonged service, the latter may readily be detached from the pen-carrier by removing the locking member 16, thereby permitting this portion to be readily replaced.

I claim as my invention:

1. A fountain pen including a barrel equipped on one side with a slot, a pen-carrier carried thereby, a compressible ink-sack housed by the barrel and connected to the pen-carrier; and sack-compressing means including a resilient bar interposed between the barrel and the ink-sack and extending longitudinally of the latter opposite the slot therein, the latter adapted to receive bar-actuating means, said bar equipped with a portion extending transversely of the barrel and abutting against a portion of the pen-carrier, an auxiliary member carried by the pen-carrier and clamping the said transverse portion of the resilient bar thereon, there being coöperating formations upon the barrel and the said transverse portion of the resilient bar for preventing relative rotation thereof about the axis of the barrel and thereby maintaining said bar opposite said slot.

2. A fountain pen including a barrel, a pen-carrier carried thereby; a compressible ink-sack housed by the barrel and connected to the pen-carrier; a pressure-bar interposed between the said sack and barrel; a spring member secured to the said pressure bar and extending longitudinally of the barrel and equipped at its forward end with a portion extending transversely of the barrel, and abutting against a portion of the said pen-carrier; and an auxiliary member carried by the pen-carrier and engaging the said transverse portion of the spring member to clamp the latter between the said auxiliary member and the said abutting portion of the pen-carrier.

3. A fountain pen including a barrel, a compressible ink-sack housed thereby, a pressure-bar interposed between the said sack and barrel, a spring member secured to the said pressure-bar and equipped at one end with an annular portion extending transversely of the barrel, a pen-carrier mounted in the barrel and having a portion extending through the said annular portion of the spring member, and an auxiliary member mounted upon the pen-carrier and engaging the said transverse portion of the spring member to clamp the latter between the said auxiliary member and the pen-carrier.

4. A fountain pen including a barrel, a

pen-carrier carried thereby, a compressible ink-sack housed by the barrel and connected to the said pen-carrier, a pressure-bar interposed between the ink-sack and the barrel; a spring secured to the said pressure-bar, the said spring having an end portion equipped with a perforation, the said pen-carrier having a threaded portion projecting through the said perforation in the spring; and a locking member threaded upon the said threaded portion of the pen-carrier and engaging the said perforated portion of the spring to clamp the latter between said locking member and a portion of the pen-carrier.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

HARVEY G. CRAIG.

Witnesses:
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M. M. BOYLE.