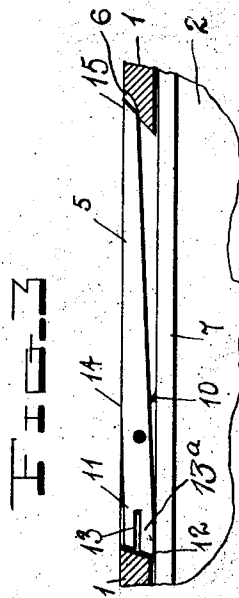
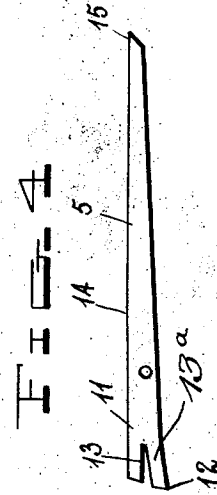
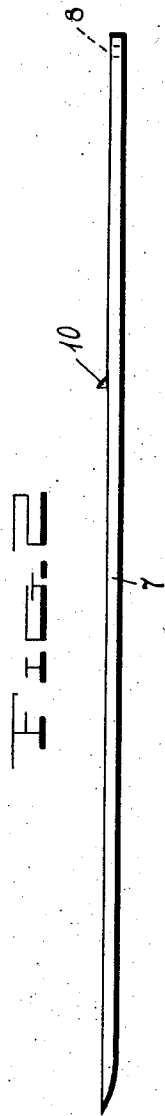
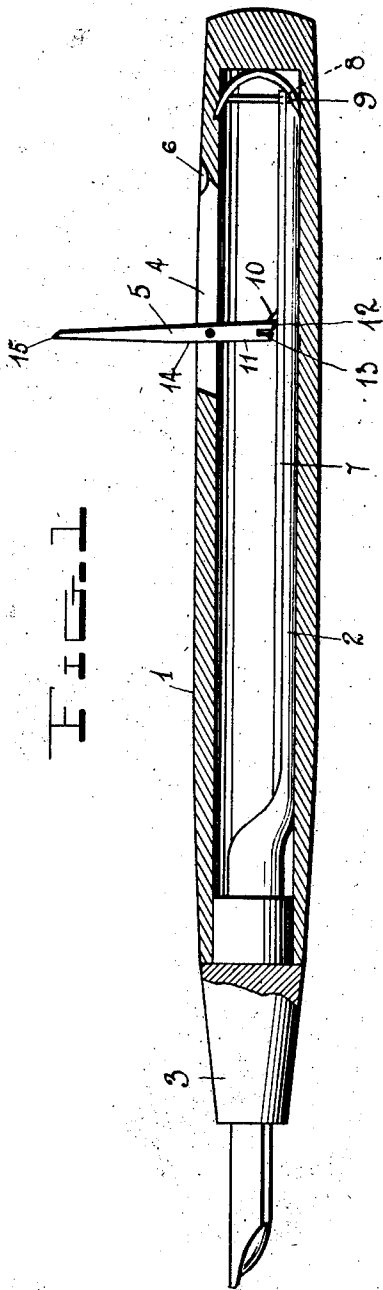


W. A. SHEAFFER.
 FOUNTAIN PEN.
 APPLICATION FILED NOV. 18, 1912.

1,114,052.

Patented Oct. 20, 1914.



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FOUNTAIN-PEN.

1,114,052.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER A. SHEAFFER, a citizen of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Fountain-Pens; and I do 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.

This invention relates to improvements in fountain pens in which an elastic reservoir is employed, and more particularly to the compressing means for the reservoir to create a vacuum therein.

One object of the invention is to provide a reservoir compressing member and lever having cooperating means for limiting the opening movement of the lever.

Another object is to provide a compressor operating lever so constructed as to prevent all danger of said lever being accidentally depressed and the consequent expelling of the ink.

Another object is to so shape said lever as to cause it to be self-locking.

Still another object is to provide means for varying the tension of said lever without marring or changing its exposed face.

With these and other objects in view the invention consists of certain novel features of construction, and the combination of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 represents a central longitudinal section of a pen with the ink reservoir compressed by the compressing means; Fig. 2 is a side elevation of the compressing plate; Fig. 3 is a similar view of the compressor actuating lever; Fig. 4 is a side elevation of said lever showing the slotted end arranged to increase the tension of the lever.

In the embodiment illustrated an outer casing 1, an elastic reservoir or tube 2 and a pen holder section 3 of a fountain pen are shown which may be of any ordinary or approved construction and therefore require no particular description. This casing 1 is formed with a longitudinally extending slot 4 between the walls of which and at a point preferably adjacent to the inner end of the slot is pivoted an operating lever 5, said lever when in normal position extending the full length of the slot and forming a

closure therefor. A notch 6 is preferably formed at the outer end of the slot 4 to facilitate the insertion of the finger nail for opening the lever when it is desired to compress the ink reservoir.

A compressing member 7 preferably in the form of a flat rectangular metallic plate is arranged between the ink reservoir or tube and the outer casing, the outer end of the plate being formed with a transversely arranged slot 8 designed to engage a securing element 9 which holds the plate reliably in position in the pen barrel or casing and permits it to move freely thereon in a direction transversely of the casing but prevents its longitudinal movement within the casing. This plate 7 is provided on its outer face with a projection 10 which is perpendicular on one side and beveled on its other side as shown clearly in Fig. 2, the perpendicular portion being arranged on the side against which the lever 5 is designed to abut to prevent the lever from riding over said projection and should it, however, be forced over the projection the beveled or inclined face of said projection will facilitate its return to operative position.

The lever 5 is constructed as shown in Fig. 3 having one end thicker than the other, the thick end 11 thereof being beveled as shown at 12 and slotted longitudinally intermediately of its width as shown at 13. The upper or outer face of this lever 5 is inclined from a point 14 downwardly toward its beveled end whereby when the lever is applied within the slot of the pen barrel this inclined face will be disposed below the outer surface of said barrel thereby preventing this thickened end of the lever from being accidentally depressed which would cause the ink to be expelled.

The thickened end of the lever is beveled, as shown at 12, so that its knife edge will be the only point of contact with the plate 7 when the lever is operated; and when the lever is at right angles to the pen body, it will have depressed plate 7 as far as it can be depressed and said plate will be held in this position (shown in Fig. 1) by reason of the engagement of the lever with the stop 10 and the elasticity of the rubber ink reservoir. If the thick end of the lever were straight, the forward or innermost corner of such end would travel in an arc of greater radius than the center of such end and consequently when the lever would

reach the limit of its opening movement (that is at right angles to the pen body) the plate 7 would not be depressed as far as it was during the movement of the lever.

5 This is objectionable because it will not permit the ink reservoir or bag to be filled with ink to its full capacity. Furthermore, since in a straight end lever, its forward corner depresses the plate 7 lower than the
10 position of such plate when the lever has reached the limit of its opening movement, there is a tendency of the lever to jump over the stop 10 and swing past its right angular position when the device is quickly or care-
15 lessly handled. It will therefore be seen that the beveling of the lever combined with the stop 10 arranged on a presser plate or bar which cannot move longitudinally in-
20 sures an effective self filling pen even when roughly or carelessly handled.

The slot 13 in the thick end of the lever is designed to permit the adjustment of said end by deflecting or bending inwardly the lower portion or tongue 13^a formed by the
25 slot to compensate for any irregularities in manufacture and to adapt said lever to be securely held in closed position by the bar or plate 7 when the reservoir is expanded. For instance should the elastic reservoir not
30 be sufficiently resilient to hold the lever tightly closed this tongue 13^a would be bent downwardly into a position such as that shown in Fig. 4 which would cause the free
35 end of the tongue to receive greater pressure from the metal bar which is forced out by the reservoir thereby tending to hold the lever closed without in any way marring
40 or changing the contour of the outer face of the lever. If the lever 5 were not held securely in closed position it would wobble and the end 15 thereof would be liable to
45 hook into contacting or adjacent objects and force the ink out of the reservoir which would be most objectionable. The lower
50 face of this lever 5 tapers toward the end 15 and thus prevents the lower face of the lever from engaging the projection 10 on the plate 7 when the lever is in closed position which would tend to cause the lever to
55 oscillate, the inclination of the lower face of said lever causes the point at the beveled end thereof only to engage the plate 7 and thus forms a locking device for the lever as the pressure of the reservoir exerts its tension to force said beveled end upwardly or
60 outwardly and the tapered end inwardly, thereby resiliently holding the lever in closed position.

While I have described my invention
65 with more or less minuteness as regards details and as being embodied in certain precise forms, I do not desire to be limited thereto unduly any more than is pointed out in the claims. On the contrary, I contemplate all proper changes in form,

construction and arrangement, the omission of immaterial elements and substitution of equivalents as circumstances may suggest or render expedient.

I claim as my invention:

70 1. In a fountain pen, the combination of a casing having a longitudinally extending slot, an elastic ink reservoir in the casing, a reservoir compressing plate mounted to
75 move transversely in the casing, means to prevent longitudinal movement of the plate, a stop on the outer side of the plate, and a plate compressing lever arranged in the slot in the casing and fulcrumed inter-
80 mediate its ends, both of said ends being free and the inner one being thick and beveled, and adapted to engage said stop when the lever is substantially at right angles to the casing.

2. In a fountain pen, the combination of 85 a casing, an elastic ink reservoir therein, a reservoir compressing plate mounted in the casing to move transversely, means for preventing longitudinal movement of the plate, a stop projection on the outer side of the
90 plate of triangular shape in side elevation, one face of said projection being perpendicular to the length of the plate and the other inclined longitudinally toward one end of the plate and a lever fulcrumed to
95 the casing intermediate its ends and having both ends free, the inner end of the lever being thick and beveled, and adapted to coact with said stop substantially as and for the purposes set forth.

3. In a fountain pen, the combination of 100 a casing having a longitudinal slot, a compressible ink reservoir in said casing, a reservoir compressing member arranged in the casing between one of its walls and said
105 reservoir and adapted to be pressed into contact with such wall of the casing by the reservoir, a lever arranged in the slot in the casing and fulcrumed intermediate its ends, one end of said lever having a longi-
110 tudinally extending open slot to form a ductile element adapted to be bent out of alignment with the lever and to be connected by said member when the reservoir is distended whereby the lever is held in closed position,
115 and means for limiting the closing movement of said lever.

4. A lever for compressing a fountain pen reservoir having one end thick and the other thin, the thick end having a longi-
120 tudinally extending open slot therein to form a ductile element adapted to be bent out of alignment with the lever.

5. A lever for compressing a fountain pen reservoir having a longitudinally extending
125 open slot in one end thereof to form a ductile element adapted to be bent out of alignment with the lever.

6. A fountain pen comprising a casing with an opening therein, an elastic ink res- 130

ervoir within said casing, a pressure plate located between said reservoir and casing, a lever arranged to contact with said plate, and a stop on said plate for limiting the opening movement of said lever.

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10 7. A fountain pen comprising a casing, an elastic ink reservoir located within the casing, a lever pivotally connected with the casing, a plate located between the reservoir and casing with which one end of the lever comes in contact, said plate having a

stop for limiting the opening movement of said lever and means for preventing longitudinal movement of the plate in the casing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 15

WALTER A. SHEAFFER.

Witnesses:

J. C. SCHLARBAUM,
GEORGE B. STEWART.