

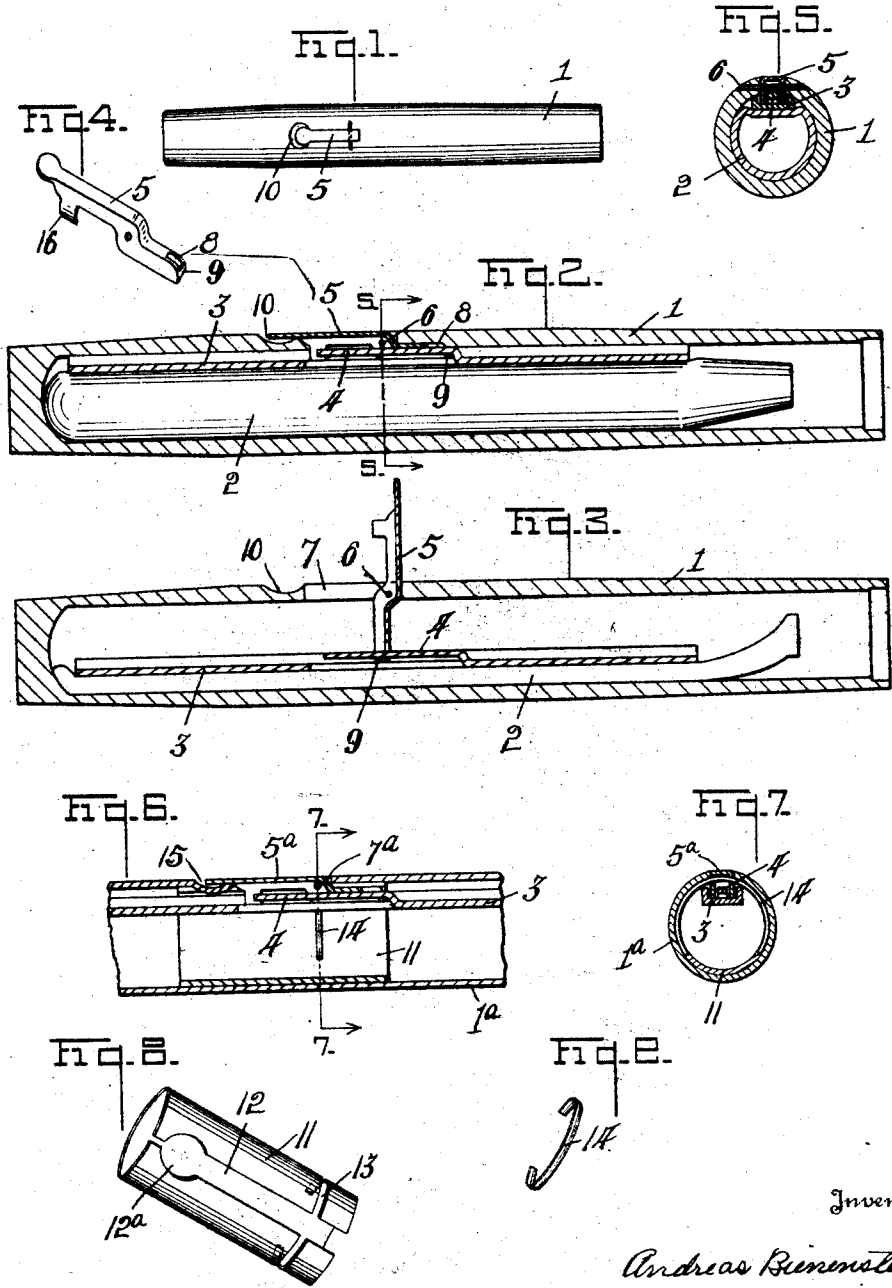
Nov. 17, 1925.

1,561,590

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FOUNTAIN PEN

Filed Feb. 25, 1924



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Patented Nov. 17, 1925.

1,561,590

# UNITED STATES PATENT OFFICE.

ANDREAS BIENENSTEIN, OF TOLEDO, OHIO, ASSIGNOR TO THE CONKLIN PEN MANUFACTURING COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

FOUNTAIN PEN.

Application filed February 25, 1924. Serial No. 694,824.

*To all whom it may concern:*

Be it known that I, ANDREAS BIENENSTEIN, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Fountain Pen, which invention is fully set forth in the following specification.

This invention relates to self-filling fountain-pens, and has for its object the provision of certain improvements in the ink bag compressing means thereof whereby to enhance the practicability and commercial value of pens of this character.

A further object of the invention is the provision of simple and efficient means for securing ink bag compressing means of the lever operated type in the barrels of fountain pens when such barrels are of metal or thin wall construction.

The invention is fully described in the following specification, and while in its broader aspect it is capable of embodiment in numerous forms, preferred embodiments thereof are illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of a fountain pen barrel with the pen point carrying section removed. Fig. 2 is an enlarged central longitudinal section thereof with the bag compressing means in inoperative position. Fig. 3 is a similar view thereof with the bag compressing means moved to compressing position. Fig. 4 is a perspective view of the lever member of the compressing means. Fig. 5 is a cross-section on the line 5—5 in Fig. 2. Fig. 6 is a fragmentary central longitudinal section of a metallic fountain pen barrel with the bag compressing means mounted therein. Fig. 7 is a cross-section on the line 7—7 in Fig. 6. Fig. 8 is a perspective view of the lever anchoring sleeve used in connection with a metallic fountain pen barrel, and Fig. 9 is a perspective view of the segmental fulcrum pin to which the lever is fulcrumed.

Referring to the drawings, 1 designates a fountain pen barrel of the hard rubber or thick wall type, 2 an elastic ink bag or reservoir mounted therein, and 3 the bag compressing bar which is substantially co-extensive in length with the compressible portion of the bag and is disposed between it and a side wall of the barrel. The bar 3 is preferably of shallow channel form,

and is provided intermediate its ends with a longitudinally extending tongue 4 that is struck-up from the cross-web of the bar, so that its lower edge is disposed slightly above the upper side of the web in parallel relation thereto. The top edge of the tongue 4 does not, however, usually project above the leg portions of the bar.

The operating lever 5 for the bar 3 is fulcrumed to a pin 6 within a longitudinal-ly extending slot 7 in a side of the barrel, and is adapted to be swung into reclining relation to the barrel, as shown in Fig. 2, and into angular relation to the barrel, as shown in Fig. 3. The lever 5 is preferably stamped from sheet metal channel form in cross-section for the purpose of giving it strength, and when in the closed portion, shown in Fig. 2, the outer side of its operating arm is adapted to lie substantially flush with the outer side of the barrel while its short arm, which is intended to engage the compressing bar 3, is laterally offset from the operating arm transversely of the fulcrum pin 6 so that it will lie against the inner side of the barrel beyond an end of the slot 7 when the lever is in closed position. The bar engaging end of the lever 5 is provided with an eye or opening 8, which is adapted to receive the tongue 4 of the compressing bar 3, and at the outer end of such eye the lever is formed with a pin or cross-portion 9 which engages under the tongue 4, thereby serving to retract the bar with the lever when the latter is moved from bag-compressing to its inoperative closed position. The tongue 4 is of sufficient length to remain in engagement with the lever eye during full operating movements of the lever without imparting any longitudinal movement to the compressor bar. The side flanges of the lever 5 straddle the tongue 4 and bear against the cross-web of the bar 3.

The outer end of the lever 5 is preferably provided with a flat extension, which when the lever is in inoperative position projects over a depression 10 provided in the barrel surface at an end of the slot 7, thereby facilitating engaging the lever end with a finger-nail when desired to throw the same to operative bar compressing position. The side webs of the lever are provided near their outer ends with spring tongues or extensions 16, which frictionally engage the

side walls of the slot 7 to yieldingly retain the lever in closed position.

In assembling the bag compressor parts, the bar 3 is inserted into the open end of the barrel with the bag 2 in position to register with the barrel slot 7, and the inner end of the lever is inserted through the slot 7 in position for the tongue 4 of the compressor-bar to thread through its eye 8 when the bar is pushed into the barrel. This having been done, the pivot pin 6 is inserted through openings provided therefor in the walls of the slot 7 and in the lever 5.

When a metallic barrel 1<sup>a</sup>, as shown in Figs. 6 and 7, is employed the wall thereof is usually thin to permit the mounting of a lever fulcrum pin therein, and it is necessary, therefore, to provide some other means for mounting the lever. This is accomplished in the present case by mounting a longitudinally split sleeve 11 in the barrel and placing it in register with the barrel slot 7<sup>a</sup>, with the split or longitudinal opening 12 of the sleeve in position to register for a portion at least of its length with the barrel slot 7<sup>a</sup>, thereby permitting the lever 5<sup>a</sup> to work down through the sleeve opening 12. The sleeve opening 12, in the present instance, is extended throughout the length of the sleeve to permit compression of the sleeve to facilitate insertion into the barrel. The sleeve 11 near the end of the slot 7<sup>a</sup>, in which the lever is fulcrumed, is provided with a cross-slot 13, which extends a distance around the sleeve at each side of the opening 12, as shown. A short section of wire, for instance piano wire, is made in the form of a segment 14, conforming to the slot 13 so that the ends of the slot 13 and the central portions thereof cross the opening 12 and extend through the fulcrum openings of the lever 5<sup>a</sup>, thereby forming a fulcrum support for the lever. It is evident that the segment 14 forms a firm support for the lever, inasmuch as it is disposed throughout its length between the side walls of the slot 13 and has its ends preferably resting against the end walls of said slot.

In assembling the parts of the form shown in Figs. 6 to 9, the sleeve 11 is inserted in the barrel with its opening 12 in register with the opening 7<sup>a</sup> in the barrel and with the cross-slot 13 disposed in proper relation for receiving the fulcrum member 14 for the lever. The sleeve is held in position within the barrel by depressing the part 15 into the enlargement 12<sup>a</sup> in the sleeve opening 12. The fulcrum member 14 is then inserted through the opening provided therefor in the lever 5<sup>a</sup> and the inner end of the lever and fulcrum member are then inserted inwardly through the barrel slot 7<sup>a</sup> and sleeve opening 12 with the fulcrum member turned so that its diameter is lengthwise of the opening to permit its insertion there-

through. The lever and fulcrum member are then turned to bring the fulcrum member into register with the cross-slot 13 of the sleeve and to permit it to be drawn upward into seating position in such slot, the fulcrum member then being held in such position preferably by the co-action of its ends with the end-walls of the slot.

With this form of the invention, the compressor bar 3 extends through the sleeve 11 and is connected to the lever 5<sup>a</sup> and operated in the same manner as described in connection with the other form of the invention. The sleeve 11 is prevented from longitudinal movement in the barrel by depressing a portion 15 of the barrel 1<sup>a</sup> at an end of the slot 7<sup>a</sup> into an enlargement 12<sup>a</sup> of the sleeve opening 12. The depression 15 also serves the purpose of the depression 10 in the construction shown in Figs. 2 and 3.

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 modifications and changes without departing from the spirit of the claims.

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

1. In a fountain pen, a barrel having an opening in a side thereof, a sleeve mounted in the barrel and having a longitudinally extending opening in register with the barrel opening, and a cross slot transverse to the barrel opening, a compressor bar operating lever mounted for swinging movements in the barrel and sleeve openings, and a fulcrum member for the lever disposed within the barrel bore and within said cross slot and held in position within the barrel by the sleeve.

2. In a fountain pen, a barrel having an opening in a side thereof, a sleeve fitted into the barrel and having a longitudinally extending opening in register with the barrel opening and having a transverse slot extending across its longitudinal opening and a distance at either side thereof, a fulcrum wire of segmental form disposed in said transverse slot within the barrel and held in predetermined relation to the barrel opening by the sleeve, and a compressor bar operating lever mounted in said barrel and sleeve openings and fulcrumed on said wire.

3. In a fountain pen, a barrel having an opening in a side thereof, a sleeve fitted into the barrel and having a longitudinally extending opening in register with the barrel opening and having a transverse slot extending across its longitudinal opening and a distance at either side thereof, a fulcrum wire of segmental form mounted in said transverse slot and bearing at its ends against the end walls of said slot, a bag compressor bar extending through the sleeve

within the barrel, and a bar operating lever mounted in said barrel and sleeve openings and fulcrumed on said fulcrum wire.

4. In a fountain pen, a barrel having an opening in a side thereof, a sleeve fitted into the barrel and having a longitudinally extending opening in register with the barrel opening and having a transverse slot extending across its longitudinal opening and a distance at either side thereof, a fulcrum wire of segmental form mounted in said transverse slot and bearing at its end against the end walls of said slot, a bag compressor bar extending through the sleeve within the barrel, and a bar operating lever mounted in said barrel and sleeve openings and fulcrumed on said fulcrum wire, the barrel having a depressed portion engaging within a portion of the sleeve to anchor it against longitudinal movements in the barrel.

5. In a fountain pen, a barrel having an opening in a side thereof, a sleeve fitted into the barrel and having a longitudinally extending opening in register with the barrel opening and having a transverse slot extending across its longitudinal opening and a distance at either side thereof, a fulcrum wire of segmental form mounted in said transverse slot and bearing at its end against the end walls of said slot, a bag compressor bar extending through the sleeve within the barrel, and a bar operating lever mounted in said barrel and sleeve openings and ful-

crumed on said fulcrum wire, the barrel having a depressed portion engaging within a portion of the sleeve to anchor it against longitudinal movements in the barrel, and the lever having its outer end seating over the depressed portion of the barrel to facilitate engaging and moving the same to bar compressing position.

6. In a fountain pen, a barrel having an opening in a side thereof, a sleeve fitted into the barrel and having an opening in register with the barrel opening and a slot transverse to the barrel opening, a compressor bar operating lever mounted in the openings of said barrel and sleeve and a segmental fulcrum member for the lever disposed within the sleeve slot crosswise of the barrel opening and bearing outward against the inner wall of the barrel.

7. In a fountain pen, a barrel having an opening in a side thereof, a longitudinally split sleeve sprung into the barrel and having an opening in register with the barrel opening, a compressor bar operating lever mounted in the opening of said barrel and sleeve, and a segmental fulcrum member for the lever fitted within the barrel and held in position across said openings by the sleeve.

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

ANDREAS BIENENSTEIN.