

(No Model.)

B. G. PLATT.
LEAD OR CRAYON HOLDER.

No. 290,191.

Patented Dec. 11, 1883.

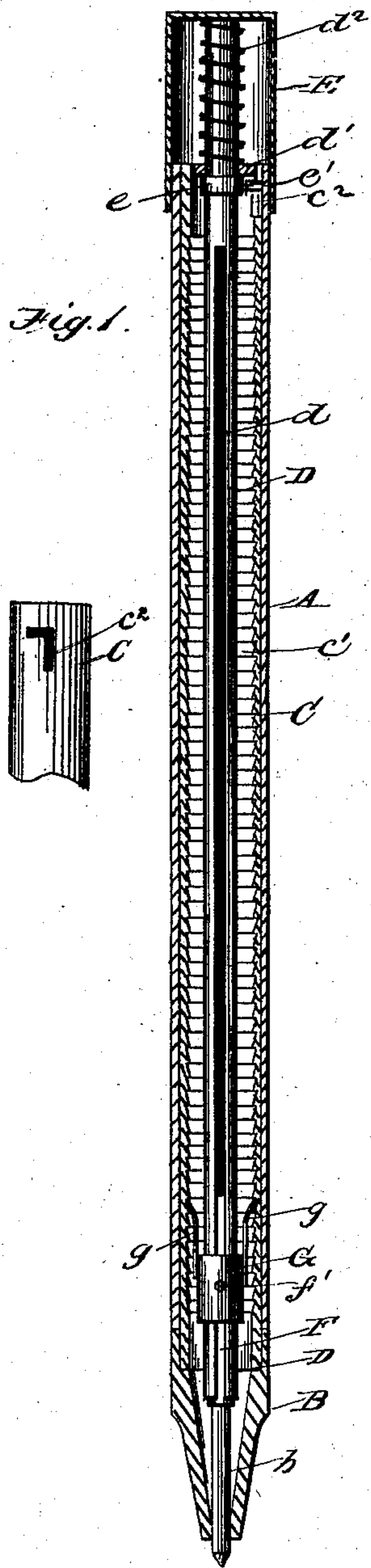


Fig. 4.



Fig. 6.

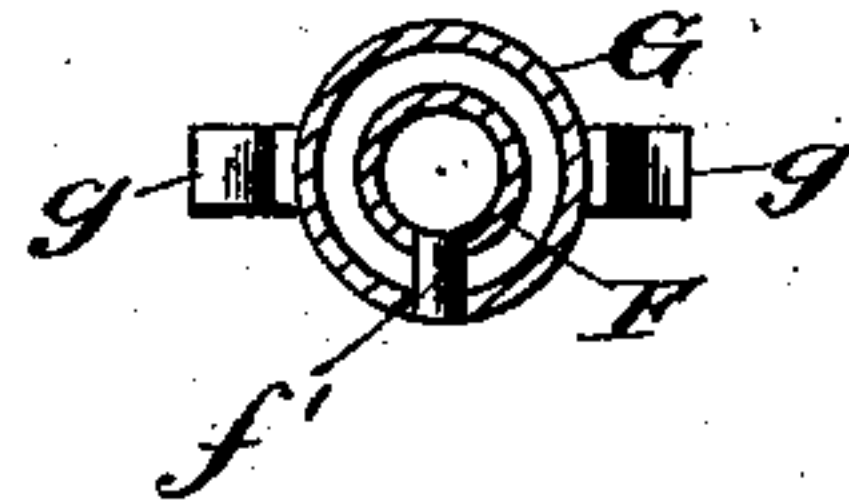


Fig. 3.

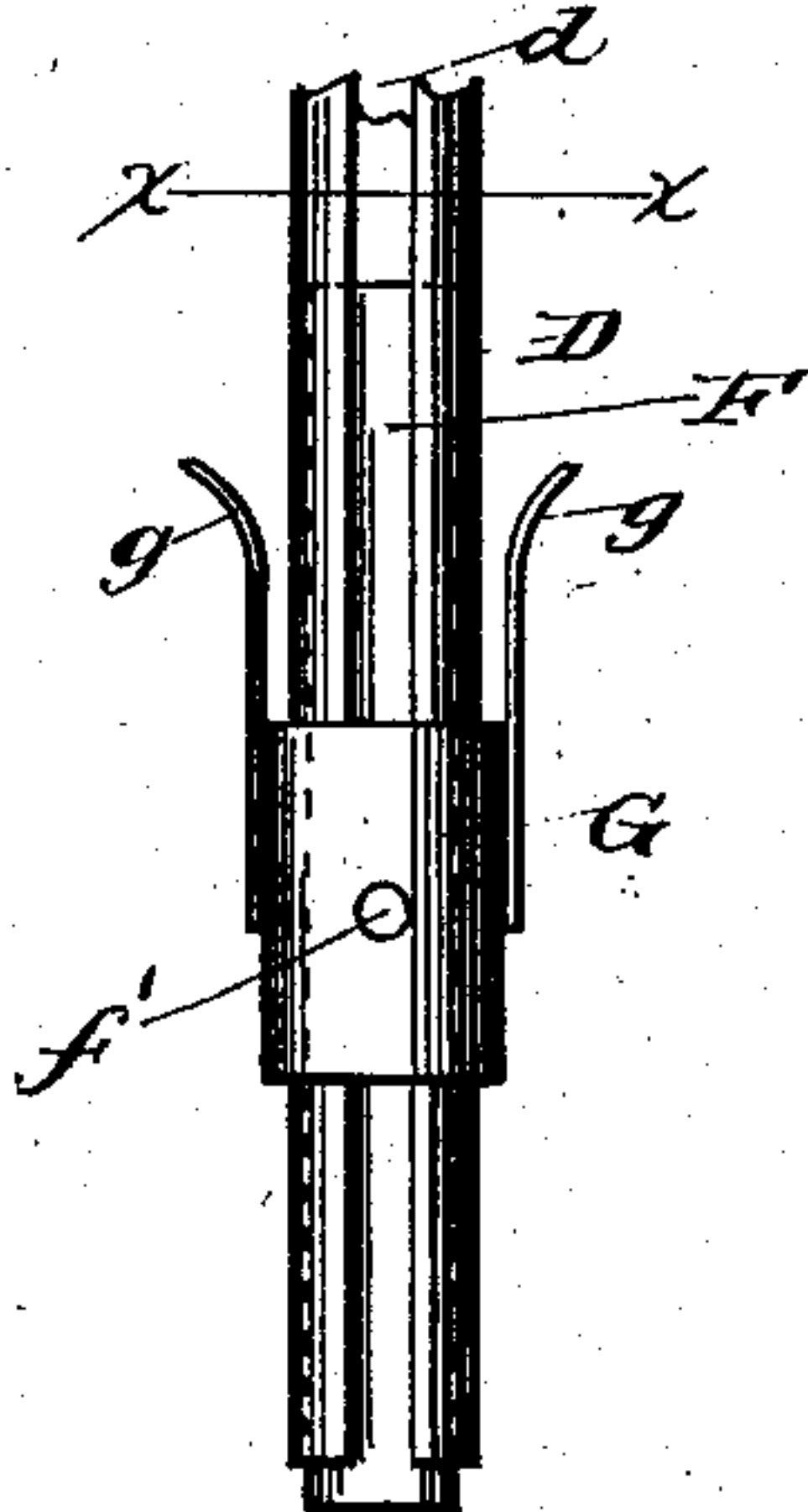


Fig. 5.

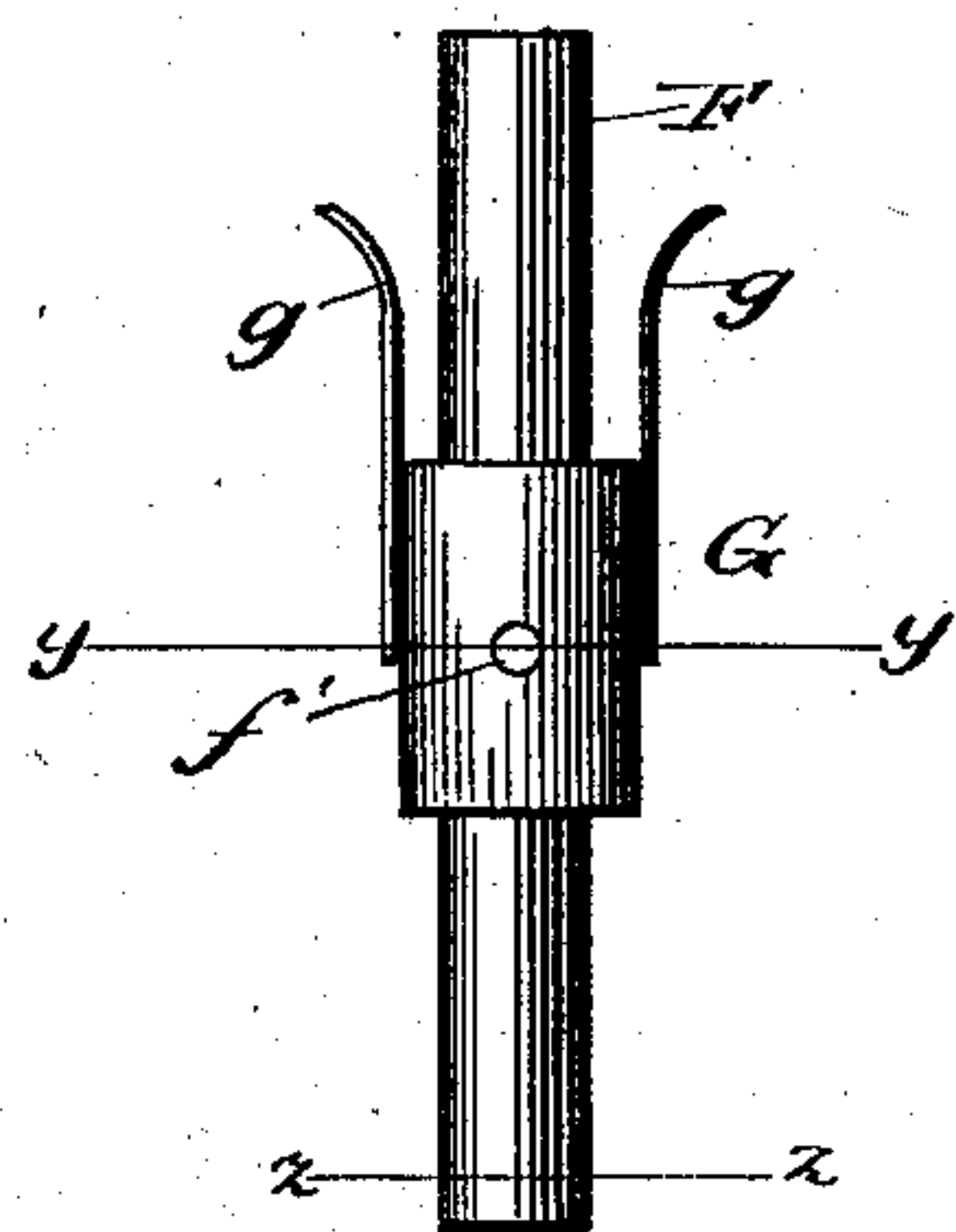


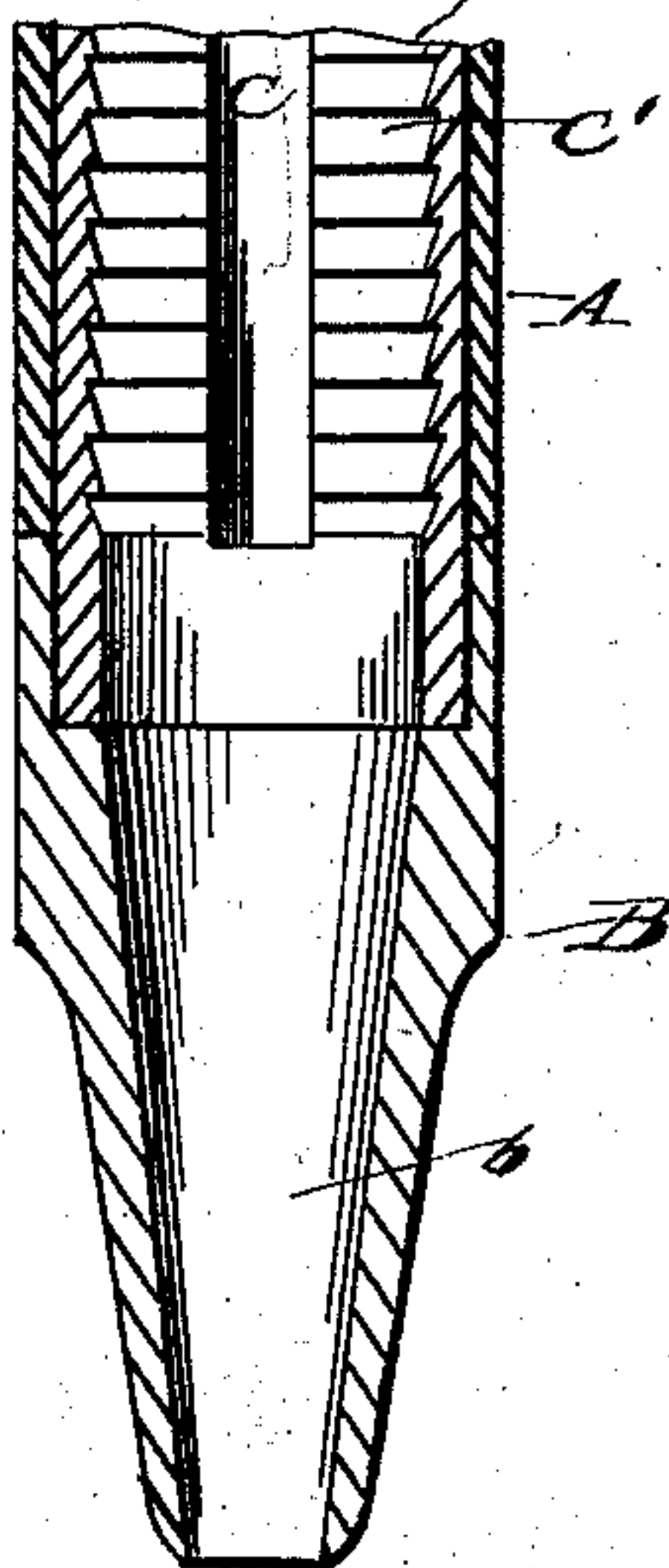
Fig. 8.



Fig. 7.



Fig. 2.



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LEAD OR CRAYON HOLDER.

SPECIFICATION forming part of Letters Patent No. 290,191, dated December 11, 1883.

Application filed May 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN G. PLATT, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Lead and Crayon Holders, of which the following is a specification.

My invention relates to improvements in lead or crayon holders in that class known as "automatic;" and it consists in means whereby the writing-core is propelled step by step from the sheath by longitudinal pressure.

It further consists in the means employed to hold and release the writing-core, whereby said core is prevented from dropping out more than a predetermined distance.

To the accomplishment of the above purposes it consists in suitable plungers, springs, and ratchet-teeth, and the combination of the several parts, all as hereinafter set forth.

In the accompanying drawings, in which similar letters of reference indicate like parts on each figure, Figure 1 represents a longitudinal section of my improved holder. Fig. 2 represents a portion of a similar sectional view enlarged. Fig. 3 represents a portion of the plunger, showing its relation to the lead-gripping tube and the spring-pawls for propelling the writing-core outwardly. Fig. 4 is a transverse sectional view taken on the line *x x*, Fig. 3. Fig. 5 is a detached side elevation of the lead-gripping tube and its attached spring-pawls. Fig. 6 is a transverse section taken on the line *y y* of Fig. 5. Fig. 7 is a transverse sectional view on the line *z z*, Fig. 5. Fig. 8 is a transverse section taken on the line *p p* of Fig. 5.

A represents the outer sheath, provided with a nozzle, B, said nozzle being provided with the usual aperture, *b*, for passage of the writing-core.

C represents a second or interior tube concentric with the sheath stationary therein, and extending from end to end thereof. Said tube C is preferably provided on opposite sides with longitudinal slots *c*, and upon its internal surface with ratchet-teeth *c'*, the object of which construction will be hereinafter explained.

D represents a plunger, consisting of a tube

having a longitudinal slot, *d*, extending from the bottom nearly its full length. The upper end of this tube D passes through a washer, *d'*, affixed to the head or in the upper end of the tube C, and said plunger D is normally held retracted by a spring, *d''*, coiled about the upper end of said plunger within the cap E. The cap E is connected to the plunger D, the spring *d''* being interposed between the inner surface of its upper end and the washer *d'*, as plainly shown in the drawings.

e represents a collar affixed upon the plunger D below the washer *d'*, and limits the upper movement of said plunger.

e' represents a pin projecting outwardly from the collar *e*, and entering an L-shaped opening, *c''*, (see enlarged detail, Fig. 1,) in the upper end of the tube C. The purpose of the pin *e'* is to limit the rotary motion of the plunger D.

F represents a short tube arranged to slide within the plunger D. The function of said tube is to tightly hold or grip the end of the writing-core, and for this purpose said tube F is provided at the side of its lower end with a slot or slit, *f*, which will permit said tube to spread open when the end of the writing-core is inserted, and then spring back and firmly grasp said writing-core. It will be entirely within the scope of my invention to provide the tube F with more than one slot *f*, to increase the spring of the end of the tube, as will be readily understood. The short tube F is also slotted or split at its upper end, and preferably on opposite sides thereof, as shown at *f''*, Fig. 8, the object of said slots or splits *f''* being that when the said tube is inserted within the plunger D said split end will spring open against the inner side surface of said plunger D, and not move longitudinally within said tube, except when actuated by progression of the pawls *g*. It will be readily understood that by reason of the split spring-pressed upper end of the tube F it will be held in any desired position within the tubular plunger D until subjected to longitudinal pressure. The tube F is connected by a pin, *f'*, (that passes through the slot *d* in the side of the plunger D,) with a short sliding sleeve, G, surrounding the plunger D.

g represents spring-pawls attached to said sliding sleeve G, the upper free ends of said pawls being inclined outwardly to engage with the ratchet-teeth c' of the tube C.

5 The sheath A is shown in the drawings exteriorly as round; but it may be oval, square, hexagonal, or polygonal, and be within the scope of my invention.

The operation of my improved holder is as follows: A writing-core is first inserted through the aperture b of the nozzle B into the lower end of the short tube F. The plunger is now turned to bring the free end of the pawls g out of engagement with the ratchet-teeth c' and into the slots c of the tube C. The lead is now pushed upward, carrying with it the tube F and its attached sleeve G and spring-pawls g , until the writing-core is entirely within the sheath A. The plunger is now rotated about a quarter-turn, bringing the spring-pawls into engagement with the teeth c' . Pressure being applied to the spring-controlled cap on the upper end of the plunger D, will operate to move said plunger forward, carrying the sleeve G and its attached pawls. Upon releasing pressure from the plunger, said plunger will be retracted through the sleeve G by reason of its spring and the engagement of the pawls g with the ratchets c' . It will be understood that this operation may be repeated, and the core be ejected step by step, as required. It will be further understood that the rotary motion of the plunger is limited and controlled by the pin e' within the opening c^2 , as hereinbefore described. It will be seen that when the limiting-pin e' is within the lateral arm of the L-shaped opening c^2 the writing-core will be securely held in the position in which it is grasped, whether wholly within the sheath A or partially ejected therefrom, as the case may be; and this I consider an essential feature of my invention, overcoming serious defects in many classes of devices of this character. In practice, the point of the writing-core is subjected to considerable pressure, and has a tendency to be broken or forced back within its case from between the gripping-point. The danger of slipping up vertically is entirely overcome by my invention in consequence of the locking-pin e' . When, however, by partial rotation, as set

forth, said pin is brought within the vertical arm of the L-shaped opening, and pressure is applied to the cap E, the writing-core can be continuously fed out step by step until it is entirely ejected from the sheath. 55

Having now fully described my invention, what I claim is—

1. In an automatic lead or crayon holder, the combination of the sheath A, nozzle B, and stationary tube C, provided with ratchet-teeth c' upon its inner side surfaces, with plunger D, provided with inner short tube, F, having upper and lower splits, f and f^2 , and means, substantially as described, whereby the writing-core is propelled step by step a predetermined distance, as and for the purpose set forth. 60 65

2. In an automatic lead or crayon holder, the combination of the sheath A, nozzle B, and tube C, provided with ratchet-teeth c' and longitudinal slots c , with the plunger D, provided with longitudinal slot d , spring d^2 , washer d' , and collar e , having projecting pin e' , that takes into recesses c^2 in the tube C, substantially as described. 70 75

3. In an automatic lead or crayon holder, the tube F, provided at top and bottom with short slots f^2 , and connected by a pin or pivot with the sleeve G, said sleeve provided on opposite sides with spring-pawls g , in combination with plunger D, provided with longitudinal slot d , tube C, provided with ratchet-teeth c' , sheath A, nozzle B, and cap E, substantially as described. 80 85

4. In an automatic lead or crayon holder, the combination of the sheath A, provided with nozzle B, and concentric tube C, having ratchet-teeth c' and longitudinal slot c and aperture c^2 , with the plunger D, having longitudinal slot d and limiting-pin e' , tube F, and sleeve G, provided with spring-pawls g , whereby when the tube D is partially rotated said pawls may be brought into engagement alternately with the ratchet c' or slot c of the tube C, thereby admitting the writing-core to be introduced into the sheath and ejected therefrom, substantially as described. 90 95

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Witnesses:

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