

No. 849,799.

PATENTED APR. 9, 1907.

F. H. LIPPINCOTT  
PENCIL.

APPLICATION FILED NOV. 27, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

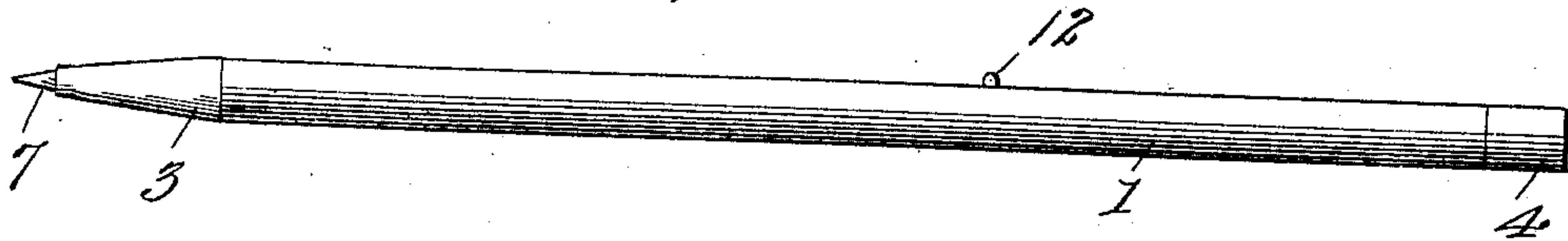


Fig. 2.

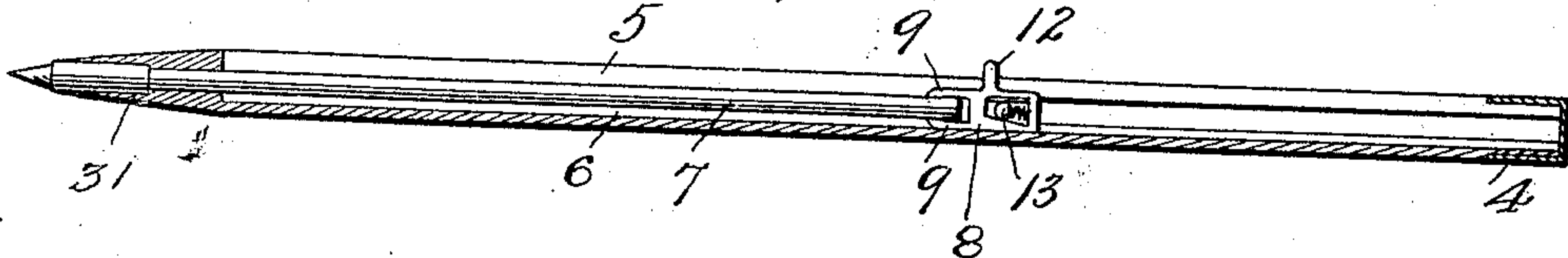


Fig. 3.

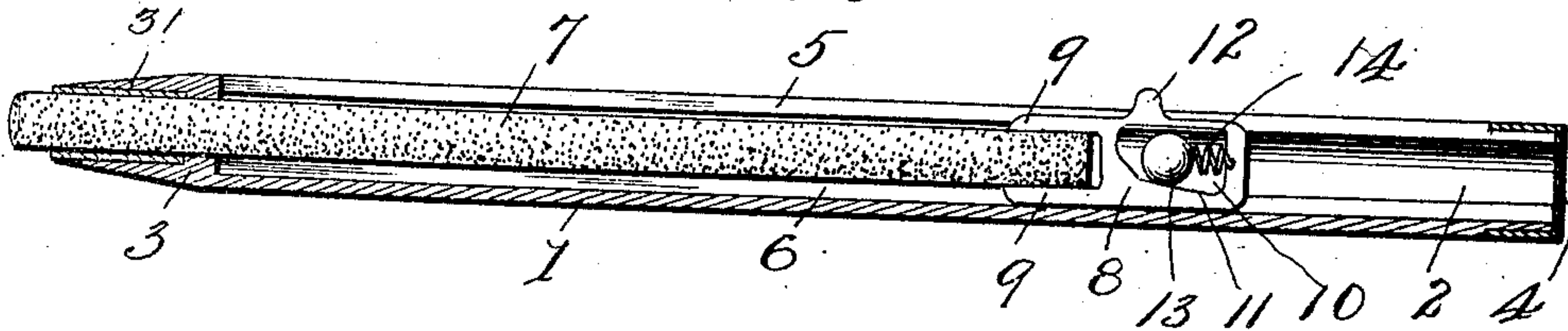


Fig. 4.

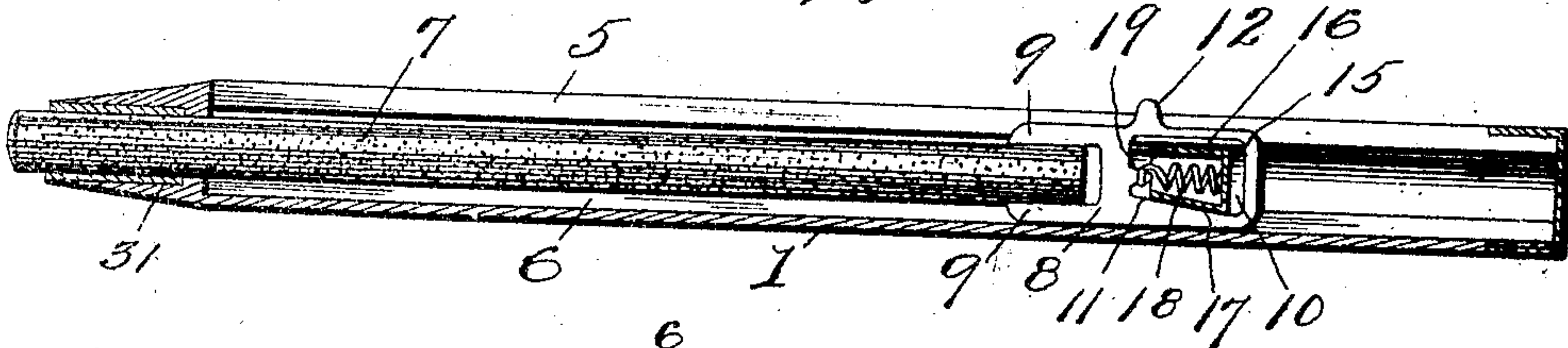


Fig. 6.

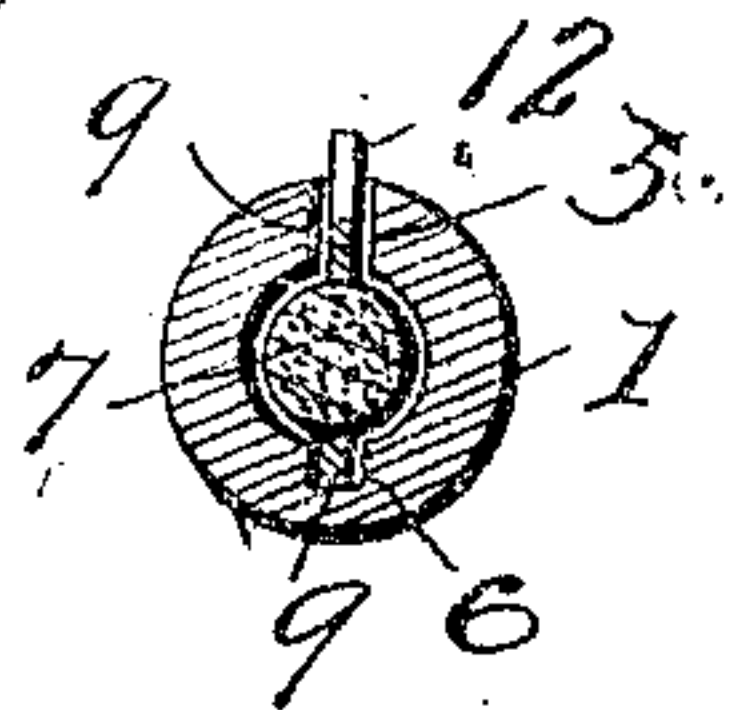


Fig. 5.

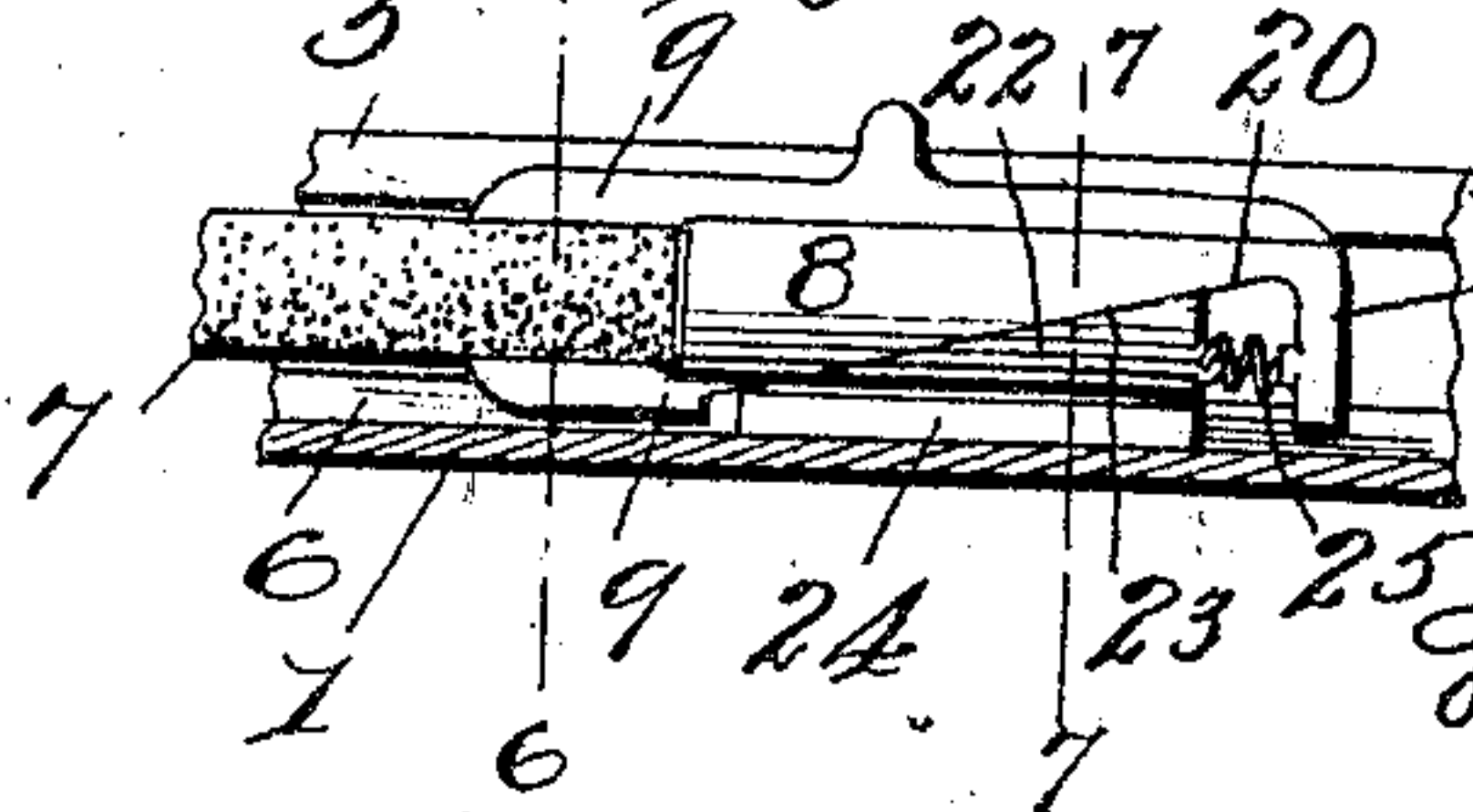
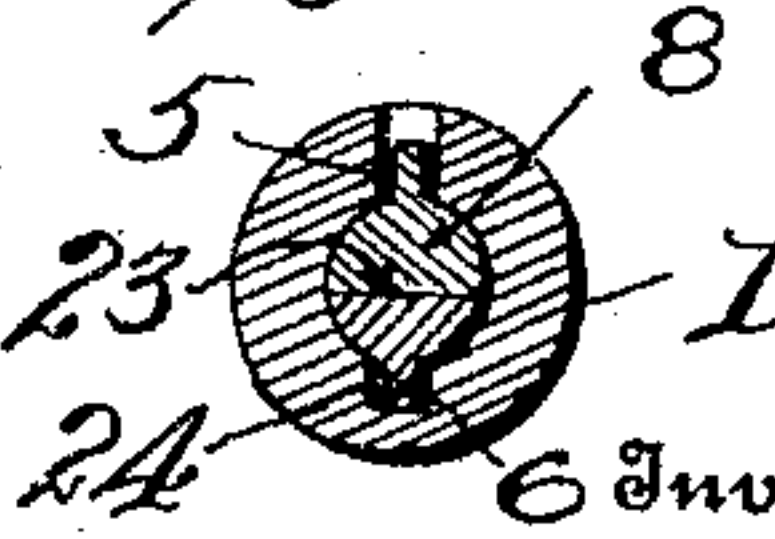


Fig. 7.



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# UNITED STATES PATENT OFFICE.

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## PENCIL.

No. 849,799.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed November 27, 1906. Serial No. 345,275.

*To all whom it may concern:*

Be it known that I, FISHER H. LIPPINCOTT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

This invention relates to improvements in pencils, and particularly to a pencil embodying a holder and a lead or other insert adapted to be securely held in any desired position therein.

In connection with a pencil of the above type the invention primarily aims to provide novel and improved means for positively and securely holding the insert against rearward movement in its holder.

The construction of my invention will appear from the following description, in which reference is had to the accompanying drawings, forming a part of this specification, like numerals designating corresponding parts throughout the several views, wherein—

Figure 1 is a side elevation of a pencil constructed in accordance with my invention. Fig. 2 is a central longitudinal section thereof, showing a preferred embodiment of the invention in connection with a lead insert. Fig. 3 is a similar view, on an enlarged scale, showing a crayon insert. Fig. 4 is a central longitudinal section of a modified embodiment of the invention, showing the use of a rubber insert for erasing purposes. Fig. 5 is a fragmentary longitudinal section showing a further modified embodiment of the invention with a crayon insert. Fig. 6 is a transverse section on the line 6 6 of Fig. 5. Fig. 7 is a similar view on the line 7 7 of Fig. 5. Figs. 8 and 9 are each central longitudinal sections of further modifications, showing the use of a lead insert. Fig. 10 is a fragmentary longitudinal section, on an enlarged scale, of a still further modification, showing the use of a lead insert. Fig. 11 is a transverse section on the line 11 11 of Fig. 10 looking in the direction of the arrow, and Fig. 12 is a transverse section on the line 12 12 of Fig. 10 looking in the direction of the arrow.

Generally speaking, the invention principally resides in the provision of a friction brake or stop-clutch associated with an in-

sert-follower for holding the insert against rearward movement. The means for accomplishing this purpose is susceptible of various modifications, and the three forms illustrated in Figs. 2, 3, 4, and 5 are to be regarded merely in the light of examples.

In all of the figures the pencil is shown as comprising a holder 1, provided with a central longitudinal bore 2, a pointed end 3, and an ornamental end cap-plate 4. A longitudinal slot 5, passing through the side of the holder, communicates with the said bore, and a longitudinal groove or recess 6 also communicates with said bore at a point diametrically opposite the slot 5, (except in the construction shown in Figs. 10, 11, and 12.) An insert 7 and a follower 8 (preferably rigidly and securely fastened thereto) are movably disposed in the bore 2, said slot and said recess serving as guides to receive portions of the follower and direct its longitudinal movement.

The follower 8 in the preferred form of the invention comprises a rigid section of material, preferably of sheet metal, and means associated with said rigid section to prevent rearward movement. At its forward end the rigid section of the follower is provided with spaced parallel jaws 9, adapted to rigidly and securely hold a lead or other insert therebetween, and in its rear portion has an opening 10, provided with an upwardly-extending inclined lower edge 11. It is also provided with a projection or lug 12, which projects through the slot 5 and serves as a finger-piece by which said follower may be moved forward within the holder 1. The edge of the follower engaging the wall of the groove or recess 6 may be roughened, if desired.

In the embodiment of the invention illustrated in Figs. 2 and 3 the opening 10 serves as a runway for a ball 13, which rides upon the inclined side 11 and bears against the surface of the bore 2. It is to be noted that the upper edge of the opening 10 is flush with or raised above the lower edge of the slot 5 in order to accommodate the ball 13, which must be of sufficient size to bear against the surface of the bore 2 at a point diametrically opposite the inclined edge 11. The ball 13 is in this embodiment of the invention normally pressed forwardly to the limit of its



movement in the opening 10 by an expansive spiral spring 14, interposed between said ball and carried by or secured to the rear portion of the follower 8.

5 In Fig. 4 the opening 10<sup>a</sup> is of the same form as above described; but for the ball 13 and spring 14 there is substituted a thimble or cup-shaped member 15, having a straight side 16, bearing against the wall of the bore 2, and an inclined side 17, riding upon the inclined side 11<sup>a</sup> as a cam. The thimble 15 is moved forwardly in the opening 10<sup>a</sup> and with relation to the follower 8<sup>a</sup> by a retractile spring 18, having one end secured to  
10 said member and its other end secured to a projection 19 adjacent the forward edge of the opening 10<sup>a</sup>. Obviously an expansive spring disposed rearwardly of the thimble 15, as shown in connection with the ball 13, may  
20 be employed.

In the modified form of the invention shown in Figs. 5, 6, and 7 the follower 8<sup>b</sup> embodies the same basic principles of construction and operation as has been described in connection with Figs. 3 and 4, but  
25 differs therefrom as regards the construction of the portion of the follower which grasps the insert, as well as that of the braking device which prevents the movement of said  
30 follower rearwardly. The forward portion of follower 8<sup>b</sup> in this modification may carry the arms 9 and the projection or lug 12. For the opening 10 with its inclined edge is substituted a downwardly-extending inclined surface 20, adjacent which is the depending arm 21. The braking element of the follower constitutes a brake-shoe 22,  
35 formed with an inclined upper surface 23, which is conformable to and bears against the surface 20, the said brake-shoe being provided with a downwardly-extending rib 24, which interfits in the recess 6. The engaging surfaces of the parts may be roughened, if desired. The brake-shoe is normally forced  
40 to the limit of its forward movement by an expansive spring 25, secured thereto and to the depending arm 21.

In the embodiment of the invention illustrated in Figs. 8 and 9 the spring 14 is  
50 omitted and the weight of the ball 13 or its contact with the sides of the bore 2 is relied upon to maintain it in position to perform its locking function while the pencil is in use. Supplemental or auxiliary locking means are  
55 provided for assisting the ball 13 in holding the follower 8<sup>c</sup> against accidental rearward displacement. In Fig. 8 this means is shown as a single rearwardly-inclined tooth 26, which bites into the material of the holder 1. In Fig. 9 the auxiliary locking  
60 means comprises a plurality of aligned teeth 28, forming a serrated lower edge for the follower 8<sup>b</sup>. The teeth 28 bite into the material of the holder 1 in the same manner as  
65 the tooth 26.

The modified embodiment of the invention illustrated in Figs. 10, 11, and 12 differs from the constructions previously described in the omission of the recess 6 from the holder 1 and in an alteration in the form of the follower 8. Instead of employing the jaws 9 an integral sleeve or cup 9<sup>a</sup> is provided, which preferably surrounds and frictionally grips the insert 7. The opening 10 is omitted, and the body portion of the follower is inclined upwardly and  
70 rearwardly to afford an inclined or cam edge 29, with which the ball 13 engages. The rear portion of the follower 8<sup>c</sup> is provided with a depending leg 30 to prevent displacement of the ball 13. Between the leg 30 and  
75 the ball 13 the spiral spring 14, previously described, may be advantageously interposed.

In practical use pressure upon the insert tends to move it rearwardly. This tendency is counteracted by reason of the fact that  
80 such pressure causes the parts of the follower to slide upon each other, and in the consequent widening or expanding said parts are forced outward against portions of the holder, and thereby act as a friction brake or stop-  
85 clutch to prevent the rearward movement of the follower. As the coacting clutch elements are constantly in frictional contact, it will be seen that while the follower will move forward freely the slightest pressure brought  
90 to bear upon the insert tending to move the follower rearwardly will instantly cause the relatively movable portions of the follower to slide upon each other and force the same outwardly into a tight frictional engagement  
95 with the walls of the holder.

In the constructions shown in Figs. 1 to 9, inclusive, the jaws 9 and other portions of the follower are engaged within the slot 5 and the recess 6, whereby the said follower can be  
100 moved forward evenly and smoothly and with no tendency toward angular displacement with reference to the insert 7. The jaws 9 are designed to frictionally and rigidly grasp the insert 7 at opposite points thereof,  
105 as is clearly shown in Fig. 7. It is preferred to employ a rigid sleeve 31 to frictionally engage the insert within the pointed end 3 to prevent any play thereof. This, while being a desirable feature of construction, is, how-  
110 ever, not an essential one.

While I have illustrated and described only a few forms or examples of my invention, it is to be understood that such invention is not limited thereto, but contemplates,  
115 broadly, the features of construction and arrangement hereinafter claimed.

Having fully described my invention, I claim—

1. In a device of the character described  
125 an elongated holder provided with a longitudinal bore, an insert in said bore and a follower disposed rearwardly of said insert, said follower being adapted to be widened or expanded within said bore to bring portions  
130



thereof into frictional locking engagement with said holder upon the application of pressure tending to move said follower rearwardly.

2. In a device of the character described, an elongated holder provided with a longitudinal bore, and a slot extending through the side of said holder and communicating with said bore, a follower in said bore having coacting portions adapted to be widened or expanded within said bore upon the application of pressure tending to move said follower rearwardly, and means extending outwardly through said slot for moving said follower longitudinally of said bore.

3. In a device of the character described an elongated holder provided with a longitudinal bore, and a follower in said bore having coacting parts adapted to be widened or expanded within said bore into frictional locking engagement with said holder upon the application of pressure tending to move the said follower rearwardly, one of said coacting parts having a serrated or toothed portion adapted to be pressed against said holder.

4. In a device of the character described an elongated holder provided with a longitudinal bore and a follower in said bore adapted to grasp a lead or other insert, said follower having one or more portions thereof adapted to move outward into frictional locking engagement with said holder upon the application of pressure tending to move said follower rearwardly.

5. In a device of the character described an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, a follower in said bore, frictional locking means embodied in said follower adapted to be forced outwardly into frictional contact with the walls of said bore to prevent the rearward movement of said follower upon the application of pressure tending to move the same rearwardly, and means extending through said slot for moving said follower longitudinally of said bore.

6. In a device of the character described an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, a follower in said bore comprising relatively movable parts adapted to be forced outwardly against the said holder upon the application of pressure tending to move said follower rearwardly, and a projection extending through said slot for moving the follower longitudinally of said bore.

7. In a device of the character described an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder, and communicating with said bore, a follower in said bore adapted to grasp a lead or other insert, said follower embodying a braking element provided with an

inclined surface and a second braking element movable with relation to said first-named element and adapted to be forced upwardly along said inclined surface to widen or expand the said parts into frictional locking engagement with the wall of said bore upon the application of pressure tending to move said follower rearwardly and a projection carried by said follower and extending through the said slot for manipulating said follower.

8. In a device of the type set forth an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, a follower in said bore, said follower comprising relatively movable parts adapted to be moved outwardly to engagement with said holder upon the application of pressure tending to move said follower rearwardly, means for normally holding said relatively movable parts in frictional contact with said holder and means carried by said follower and extending through said slot for moving the follower longitudinally of said bore.

9. In a device of the character described, an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, the wall of said bore being provided with a groove or recess extending longitudinally thereof, a follower in said bore having outstanding portions extending within said slot and within said groove or recess, and means extending through said slot for moving the follower longitudinally of said bore.

10. In a device of the character described an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, the walls of said bore being provided with a groove or recess extending longitudinally thereof at a point diametrically opposite the said slot, a follower having an outstanding rib at one side thereof engaged within said groove or recess and a projection carried by the opposite side of said follower extending through said slot.

11. In a device of the character described an elongated holder provided with a longitudinal bore and a slot extending through the side of said holder and communicating with said bore, the wall of said bore being provided with a longitudinal groove or recess opposite the said slot, an insert in said bore, a follower rearwardly disposed with reference to said insert, said follower being provided with means to rigidly hold said insert and follower together, said follower having portions thereof extending within and guided by said groove or recess and said slot, and means extending outwardly through said slot for moving said follower longitudinally of said bore.

12. In a device of the character described,



a holder provided with a longitudinal bore  
and a slot extending through the side of said  
holder and communicating with said bore,  
the wall of said bore being provided with a  
5 groove or recess extending longitudinally of  
said bore opposite the said slot, a follower in  
said slot adapted to grasp a lead or other in-  
sert, said follower having portions thereof  
extending within the said groove or recess  
10 and said slot, means carried by said follower  
adapted to be moved outwardly into fric-  
tional locking engagement with the wall of

said bore upon the application of pressure  
tending to move the said follower rearwardly,  
and means extending through said slot for 15  
moving said follower longitudinally of said  
bore.

In testimony whereof I affix my signature  
in presence of two witnesses.

FISHER H. LIPPINCOTT.

Witnesses:

EMERSON CONRAD,  
IRENE MACKAY.