

(No Model.)

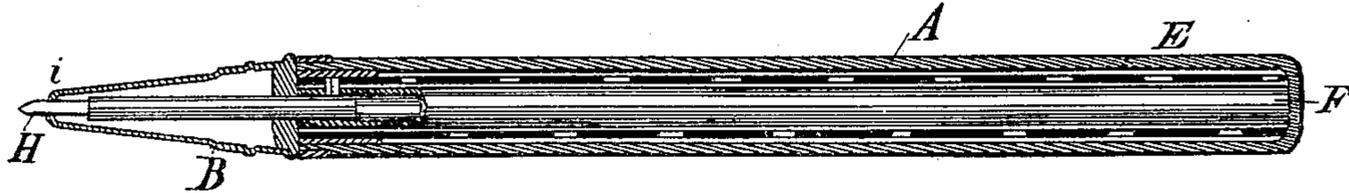
M. S. SHIPLEY.

PENCIL HOLDER.

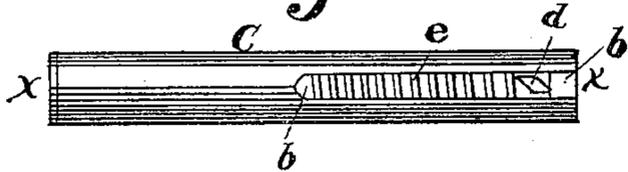
No. 300,740.

Patented June 17, 1884.

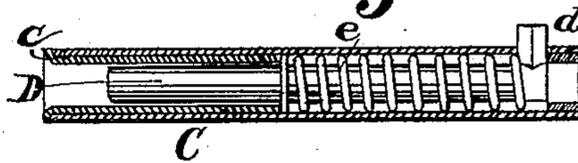
*Fig. 1.*



*Fig. 2.*



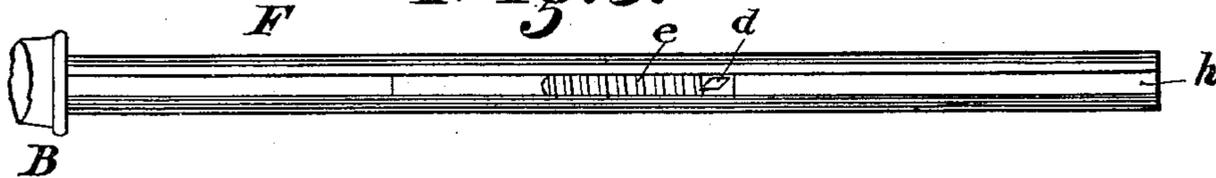
*Fig. 3.*



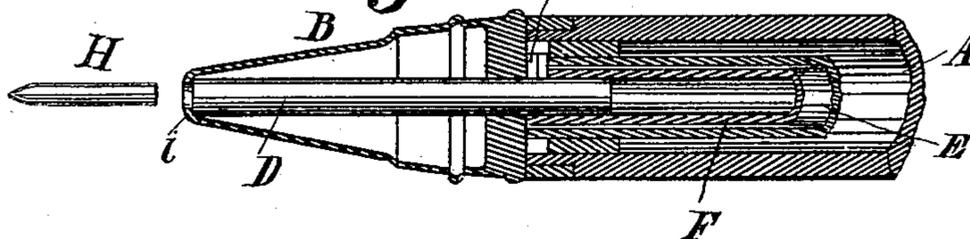
*Fig. 4.*



*Fig. 5.*



*Fig. 6. a*



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# UNITED STATES PATENT OFFICE.

MORRIS S. SHIPLEY, OF CINCINNATI, OHIO.

## PENCIL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 300,740, dated June 17, 1884.

Application filed April 5, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, MORRIS S. SHIPLEY, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Pencil-Holders, of which the following is a specification.

My invention relates to an improvement in lead-pencils. It is also adapted to be used in connection with pens, tooth-picks, and other similar articles.

The object of my invention is to provide a novel construction and combination of devices for inserting and withdrawing the lead by the turning of the barrel of the pencil, which may be also turned far enough to automatically eject the lead by means of a plunger, which will automatically be reset in position to receive the lead when the barrel of the pencil is turned in the opposite direction, all of which will be fully set forth in the description of the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of my improvement. Fig. 2 is a plan view of the lead-holder. Fig. 3 is a section on line *x*, Fig. 2. Fig. 4 is a plan view of the spiral screw. Fig. 5 is a plan view of the slotted tube. Fig. 6 is a broken sectional elevation, showing the parts in the position occupied at time of ejecting the lead.

A represents the barrel of the pencil.

B represents a point, made of metal or other suitable material, upon which the barrel A is journaled or swiveled in the ordinary manner.

C represents the lead holding and carrying tube, preferably constructed of an outer shell, within which is inserted a secondary shell, *c*, which is spun or flared so that the lead may be easily inserted. This inner shell, *c*, also acts as a seat for a spiral spring; *e*. It is coiled within the tube C around the plunger D.

*d* represents a guide-pin on the plunger that projects up through a slot, *b*, formed in the tube C. The guide-pin *d* is diamond-shaped, so as to fit the screw-slot, to furnish increased wearing-surface and prevent lost motion. This diamond-shaped pin is applicable to be used in all devices where the advancing or retracting of the point is accomplished by the combination of the spirally-slotted tube and the straight-slotted tube—such as tooth-picks, pen-holders, &c.

E represents a spirally-slotted tube or worm, which is placed concentrically within the barrel of the pencil A, as shown in Fig. 1.

F represents a straight-slotted tube, in which slides the lead holder or carrier C. It is secured at the forward end to the metallic point B, which holds it fixed concentrically within the spiral tube E. The pin *d* projects up through the slot *h* in tube F a sufficient distance to work in the spiral slot or worm *l*, formed in the worm-tube E, which is secured to the barrel A, so as to revolve with it in any desired manner. I have shown it as attached by means of a collar, G. The parts are secured together as shown in Fig. 1. The plunger D is held retracted, as shown in Fig. 3, by the tension of the spring *e*, so that the lead may be inserted within the holder C and rest upon the end of the plunger D. When the barrel A, carrying with it the worm E, is revolved, the pin *d* moves through slot *l* and carries the holder-tube C forward when the barrel is turned, say, to the right. This motion is continued until the point of the lead-tube C is projected against the inward flaring mouth *i* of the point B, which arrests the motion of the lead-tube C. If it is desired to eject the lead, the barrel A should be turned farther, when the pin *d* will be forced forward in the slot *b*, forcing the plunger D forward within the tube C, compressing the spring *e* until the lead H is ejected, as shown in Fig. 6. The movement of the barrel A is then reversed, which allows the recoil of the spring in the retraction of the plunger D within the carrier-tube C to its normal position, and the carrier-tube is withdrawn by the continued revolution of the barrel in the same direction. A new lead may be inserted as soon as the barrel A is turned back a sufficient distance to retract the plunger to its normal position shown in Fig. 3.

Instead of having the tube C composed of two pieces of metal, it may be made of a single piece, and a washer secured within the same, to form a seat for the spring *e*; but it is cheaper and easier made of two pieces, as here shown.

The constructing of the regulating devices for moving the lead-carrier and operating the plunger by the use of longitudinal slots is superior to the devices hitherto employed for

that purpose, as they can be more easily and positively operated, dispensing with notches, which require lateral as well as longitudinal movement of the guide-pin in the slots, which  
5 render them liable to get out of order.

In pencils as heretofore constructed with devices for ejecting the lead, a great difficulty has been experienced from the fact that the insertion of the lead tends to drive the carrier backward upon the plunger, thus leaving  
10 no space for the insertion of the lead.

By the introduction of the spring devices in connection with the straight slot in the carrier the carrier is held in its normal position  
15 for the insertion of the lead at all times, the plunger being automatically retracted for its reception.

A pencil has heretofore been composed of a barrel, a spirally-slotted tube, a longitudinally-slotted tube, a lead-carrier, and a lead-ejecting plunger operated by a pin, and acted on

by a coiled spring to permit a yielding movement of the plunger when it is forced forward against the spring to eject the lead. Such features, therefore, I do not broadly claim; but  
25

I claim—

The combination of the lead-carrying tube C, having the longitudinal slot *b*, closed at its ends, the plunger D, inclosed within the carrying-tube, and having a guide-pin, *d*, projecting through and moving in the slot in said tube, and a spring, *e*, on the plunger, inside of the carrying-tube, with the longitudinally-slotted tube F, the spirally-slotted tube E, and the barrel A, as shown and described.  
30 35

In testimony whereof I have hereunto set my hand.

MORRIS S. SHIPLEY.

Witnesses:

EDWARD BOYD,  
M. E. MILLIKAN.