

(No Model.)

J. PUSEY.
PENCIL.

No. 471,431.

Patented Mar. 22, 1892.

Fig. 1.

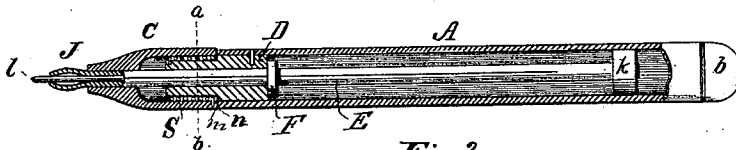


Fig. 2.



Fig. 4.



Fig. 3.

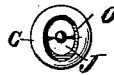


Fig. 5.

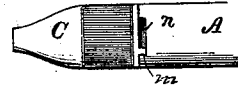


Fig. 6.

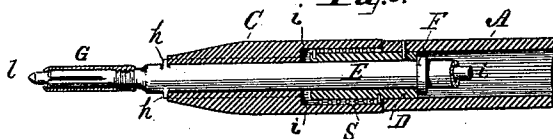


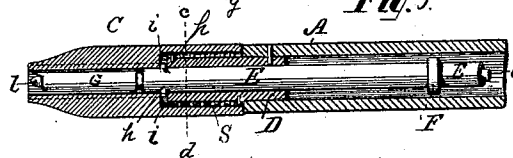
Fig. 7.



Fig. 8.



Fig. 9.



WITNESSES:

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PENCIL.

SPECIFICATION forming part of Letters Patent No. 471,431, dated March 22, 1892.

Application filed November 1, 1884. Serial No. 146,971. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA PUSEY, a citizen of the United States, residing at the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Pencil and Crayon Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a middle longitudinal section with the lead-holding tube protruded. Fig. 2 is a front end view with the lead-holding tube protruded, as in Fig. 1. Fig. 3 is a like view showing the cap or sleeve rotated to the position which permits the lead-holding tube to escape from the aperture in the end of the sleeve. Fig. 4 is a transverse section on line *a b*, Fig. 1. Fig. 5 is a side elevation of the front end of the pencil, showing the stop for limiting the rotation of the sleeve. Fig. 6 is a middle longitudinal section of a modification of the invention with the lead-holding tube protruded and locked. Fig. 7 is a section on the line *c d*, Fig. 9. Fig. 8 is a front end view of the pencil with the lead-holding tube protruded and locked, as in Fig. 6. Fig. 9 is a longitudinal section similar to Fig. 6, but with the lead-holding tube retracted.

The nature of this invention is a pencil having, broadly considered, the following characteristics or elements in combination, to wit: a hollow case or handle, a tube for containing and holding ordinary leads, which tube is adapted to slide freely in and out of said case by gravity and is provided with a stop or enlargement thereon adapted to strike against a projection or abutment in order to prevent it (the tube) from falling entirely out of the case, and devices for locking said tube to prevent its being forced back into the case from pressure against the lead in writing, and also for locking the same when retracted within the case.

The invention also consists in certain details, which will be hereinafter fully explained, and pointed out in the claims.

This device, I may further state, is an improvement in pencils of that general class sometimes known as "gravity pencils," in which the lead is retained within the case or

handle by suitable mechanism, which when closed retains the lead within the case and when opened or released allows the lead to drop out of the aperture in the front or lower end of the case and when closed holds the lead in the desired position—such, for example, as is described in my Letters Patent No. 275,517, dated April 10, 1883. In the invention described in said patent the lead is prevented from escaping from the case beyond a certain distance, when the releasing mechanism is opened by means of a stop or check-ring adjustably secured to the lead, the latter being held directly by the grasp of the spring-controlled clamping-jaws. In my present device I, so to say, extend this check-ring into a tube and adapt it in connection with suitable holding and releasing mechanism, so that the latter is applied to and retains this lead-carrying tube when retracted within the case and when protruded therefrom for writing.

I shall now proceed to describe the invention and one modification thereof, although it will be obvious to those familiar with mechanical expedients and the art to which the invention pertains that the form and specific construction of the elements may be varied without affecting the essential features thereof or the principle of their operation.

Referring first to Figs. 1 to 5, both inclusive, of the annexed drawings, A is a hollow case or handle having in the present instance a detachable cap *b*, Fig. 1, at its upper end and provided with a sleeve C on its lower end, which sleeve has an oval aperture O, Figs. 2 and 3. In a space between the sleeve and the case, or, rather, a tube D, inserted in or forming a part of the latter, is a spiral spring S, whose forward extremity is secured to the sleeve and its rear end to the case or the tube D. The function of this spring, in connection with a stop *m* on the upper end of the sleeve and a slot *n* in the latter, is to retain the sleeve in the locking position, yet permitting its rotation to the releasing position, as hereinafter explained.

E is a tube adapted to slide freely by gravity in and out of the case through the open mouth of the sleeve. It is split or divided

for a portion of its length, is elastic in order to bind the lead *l*, inserted therein, and terminates with jaws *J*. When the lead is worn away, or nearly so, by use, it may be drawn out the desired distance beyond the end of the jaws.

Well-known lead-propelling devices may be used in connection with the tube for forcing the lead out therefrom, as required.

10 Tube *E* has a stop or enlargement *F* thereon, located so that it will arrest the fall of the tube when the holding mechanism is released—that is to say, when the sleeve in the present instance is rotated in the proper
15 (transverse) position for allowing the tube to escape by striking against the shoulder formed by the inner end of the tube *D*, as shown in Fig. 1. When the lead-holding tube is retracted, the spring *S* retains the sleeve in what
20 may be termed the "transverse position," so that the jaws, coming against the offset constituted by the rear sides of the elliptical aperture *O*, prevent tube *E* from dropping out; but when the sleeve is rotated a quarter-turn
25 the aperture *O* is brought into position, which permits the jaws *J* when the pencil is held vertically to drop through the same until the stop *F* strikes against the end of tube *D*, whereupon the hold of the finger or fingers
30 which retain the sleeve against the spring *S* (in case the latter is used) is relaxed, and the sleeve then rotating back to its first position causes the sides of the aperture across the short diameter thereof to bind upon or clamp
35 the tapering jaws, and thus causes them to grip the lead, and at the same time the tube is obviously prevented from being pushed back into the case. The spring *S* might be dispensed with, in which case the sleeve would
40 have to be turned and returned in the two positions by the hand alone. The tube *E* may be inserted in the case *A* in the first place by removing the end cap *b*, and may be thus taken out and replaced when necessary.

45 In the modification of my invention illustrated in Figs. 6 to 9, both inclusive, the clamping-jaws *J* are caused to hold the lead securely by means of a screw-sleeve *G*, tapering inwardly, whereby, in connection with the tapering jaws, the latter are caused to bite or clamp the lead when said sleeve is screwed up and release the same when screwed in the opposite direction.

I do not wish to be understood as claiming
55 any novelty in the screw-sleeve and split-tube device *per se*, the same having been used in connection with various styles of pencils. In this modification the lead-containing tube has the same stop or enlargement *F* as in the previously-described form; but the means for retaining said tube when protruded from and retracted within the case differ somewhat from those previously described and are as follows: The form of the aperture in the sleeve,
60 instead of being oval, is circular, with slots or offsets *g*, Fig. 8, and a certain portion of the tube *E* is round and of a size to correspond

with the circular part of the aperture. It is also provided with projections or studs *h*, adapted to pass through slots *g* when the
70 sleeve is rotated to the proper position; but when in the other or transverse position—that is, a quarter-turn from the previous position—the projections, it is obvious, stop
75 against the end of the sleeve. When the parts are in this relative position, if the sleeve is rotated forward and the pencil inverted these projections *h* register with the slots *g* and the tube drops back into the case. Upon releasing the hold of the finger upon the sleeve the
80 spring rotates the latter and the said projections pass into grooves *i* at the upper end of the sleeve, and thereby the tube is prevented from dropping. The portion of tube *D* in which the lead-holding tube *E* slides is made
85 oval, and the interior of the tube *D* is in like form, in order to prevent said tube *E* from turning, so that the projections will be caused to always register with the slots *g* when the sleeve is turned in the releasing position.
90 (See Fig. 7.) Other well-known means for preventing tube *E* from rotating may be substituted for that just described.

In other modifications of the invention which may form the subject of future applications for Letters Patent, and in which in lieu of the rotatable sleeve a movable lever serves to catch in a groove in the lead-holding tube in order to prevent the same from
95 being pushed back into the case when protruded and for retaining it when retracted, the said tube is circular in cross-section its entire length.

The head *k*, Fig. 1, toward the upper end of tube *E*, is only used to aid in guiding or steadying the tube within the case and may be dispensed with.

A pin or other projection for the stop *F* to strike against may be substituted in lieu of the abutment formed by the upper end of the
100 tube *D*.

The sleeve *C* is preferably milled, as shown in Fig. 5, in order to afford a hold for the fingers in rotating the same.

Having thus described my invention, I
115 claim as new and desire to secure by Letters Patent—

1. In a pencil and crayon holder, the combination of a case having a lead containing and holding tube therein adapted to move by
120 gravity, with a stop-gage on said tube to prevent its dropping out of the case by revolving a tube having an oval opening upon the lead-holding tube, said tube being locked in position by a rotatable spring-controlled sleeve on the
125 end of the case, as set forth.

2. The combination of the case having a lead-holding tube adapted to freely slide therein by gravity, with a stop-gage or enlargement thereon to limit the drop of the lead-holding
130 tube by engaging a tube in the end of the case, and a rotatable spring-controlled sleeve adapted to lock the tube in position by revolving a tube having an oval opening upon

the lead-holding tube, substantially as set forth.

3. In combination with a pencil and crayon holder case having a gravity-moving lead holding and retaining tube therein, with a stop-
5 gage thereon engaging with the case, of the tube D in the end of the case, having an oval opening to conform to the shape of the lead-holding tube, and a spring-controlled rotatable
10 sleeve having an opening with slots therein to receive projections on the lead-holding tube for adjusting and holding it in the desired position, substantially as and for the purpose set forth.

15 4. A pencil and crayon holder case having a lead holding and retaining tube therein adapted to move freely by gravity, with a stop-

gage thereon engaging a tube in the end of the case to arrest the forward movement of the lead-holding tube, in combination with a
20 spring-controlled rotatable sleeve having a circular opening with slots therein to receive projections on the sides of the lead-holding tube and adapted to pass through, when rotated, to the proper position and to stop
25 against the end thereof when the sleeve is rotated in the reverse direction, as set forth.

In testimony whereof I have hereunto affixed my signature this 23d day of October, A. D. 1884.

JOSHUA PUSEY.

Witnesses:

FRANCIS S. BROWN,
JOHN NOLAN.