(No Model.)

W. C. CARLTON.

PENCIL.

No. 357,063. Patented Feb. 1, 1887.

FIG. 1.

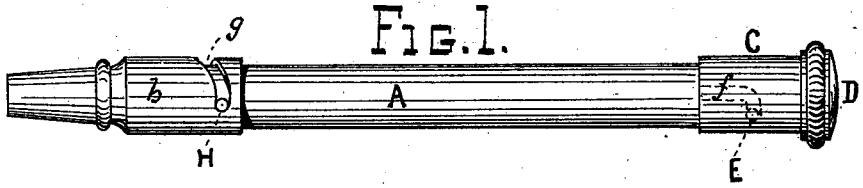


FIG. 2.

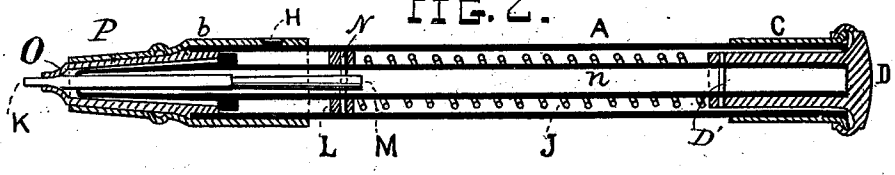


FIG. 3.

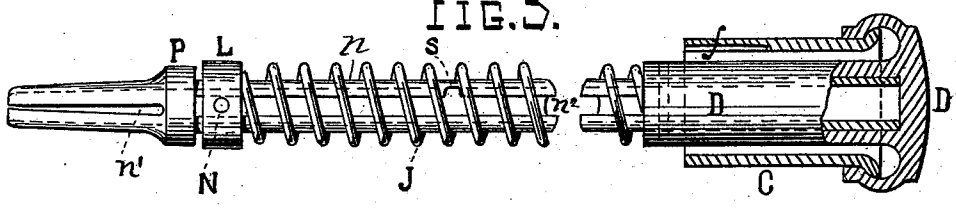


FIG. 4.

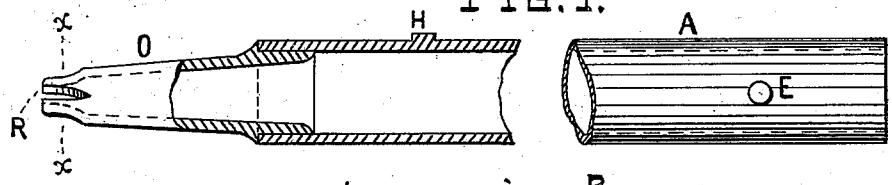




FIG. 5.

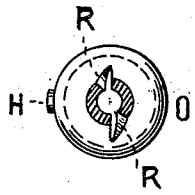


FIG. 6.

WITNESSES

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PENCIL.

SPECIFICATION forming part of Letters Patent No. 357,063, dated February 1, 1887.

Application filed January 19, 1885. Serial No. 153,302. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. CARLTON, of Baker county, in the State of Oregon, have invented certain new and useful Improvements in Pencil and Crayon Holders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention consists in making an improved pencil and crayon holder, so constructed that the lead can be kept as sharp at its point as is requisite for convenient use by simply turning the head of the pencil.

In the drawings, Figure 1 is an external view of the pencil and crayon holder, showing the shield *b* for protecting the point of the pencil while it is being carried in the pocket. Fig. 2 is a longitudinal sectional view of Fig. 1. Figs. 1 and 2 are drawn upon the same scale. All the other figures are drawn upon a uniform scale, considerably larger than the scale upon which the first two figures are drawn. Fig. 3 shows the internal construction of the pencil and crayon holder, all of its outside casing being removed, except the part C and the outside part of D. Fig. 4 shows all that part of the pencil and crayon holder that is removed from Fig. 3, excepting the shield *b*. Fig. 5 is a view, looking at its smaller end, of those parts of Fig. 3 that are indicated by the letters P and *n'* in Fig. 3. Fig. 6 is a view, looking into the small end, of a section of the left-hand half of Fig. 4, through the line *x x*.

The purpose of my invention is to make a lead-pencil convenient for common use, in which the stick of writing-lead is held in place on the inside of the pencil and crayon holder tube, and will be pushed forward ready for use as fast as the point of the lead is worn off.

In the drawings, A is the case of the pencil and crayon holder.

b is a hollow shield or shell for covering and protecting the pencil and crayon holder point.

H is a small stud fastened in the case A.

g is an inclined slot cut through the shield *b*. The stud H projects through the slot *g* and prevents the shield from sliding off from the case. The shield will revolve partly around the case, its movement being controlled and limited by the stud H in the slot *g*. When the stud is at the upper end of the slot, as shown in Fig. 1, the shield will reach below the point of the lead and prevent it from being broken when the pencil and crayon holder is carried in the pocket. When the shield *b* is turned around, so that the stud H will be at the other end of the slot, the incline of the slot will cause the shield to move upward on the case, so that its lower end will rise above the pencil-point and leave it uncovered in condition for use, as shown in Fig. 2.

n is a tube that extends from the point of the pencil and crayon holder to the head D.

P is an annular shoulder, that forms a part of the tube *n*.

The upper end of the part D forms the head of the pencil and crayon holder, while its lower portion is a tube. (Plainly shown in Figs. 2 and 3.) The upper end of the tube portion of head D is partly cut away in Fig. 3. The upper end of the tube *n* enters and is riveted at D' to the tube portion of D.

L is a collar that slides upon the tube *n* above the shoulder P.

J is a coil-spring that loosely surrounds the tube *n*, as shown.

M is a short bar on the inside of the tube *n*, having its upper end attached to the collar L by the stud N. The tube *n* has a longitudinal slot, n^2, in its side, reaching from the shoulder P to D. The stud N passes through and works in this slot as the collar L is made to slide up and down the tube *n*. The collar L is prevented from revolving around the tube *n* by the stud N. The bar M in the tube *n* passes up and down with the collar L, and is used to push forward the writing-lead K.

S is a notch in the edge of the metal that forms the side of the slot n^2. The object of the notch S is to receive the stud N and hold the collar L in position when it is slid up to that point on the tube *n*. This occurs when it is required to put a new writing-lead in the pencil and crayon holder.

The collar L is made to fit rather tightly in the case A, opposite the notch S, so that there

will be friction enough to force the stud N out of the notch S when the collar L is turned inside of the case.

C is a short tube, that surrounds the upper end of the case A. Its upper end is spread out and fits loosely inside of the converging part of the head of D, as shown in Figs. 2 and 3.

The parts are made to fit loosely, so that the part D may be revolved without revolving the tube C, while the connection of the parts are such that the part D cannot be drawn away from the tube C.

E (shown in Figs. 1 and 4) is a very short stud projecting out from the case A, as shown in Figs. 1 and 3.

f is a groove cut on the inside of the tube C, to receive the stud E. The groove *f* turns at a right angle at its upper end, and thus forms a shoulder, by means of which the stud E holds the tube C, and with it the part D and its connections from being drawn endwise away from the case A, except when it is desired to do so.

From the lower end of the case A extends a steel tube, O, which gradually lessens in diameter, as shown in Figs. 2, 4, and 6. The hollow of this tube decreases in size until its diameter where it passes through the point is only as large as it is desired to have the end of the writing-lead when it is ready for use. Close to its point the tube O is made with open sides, and one or more of the edges R of these sides are made very hard and formed so as to cut away the outside of the writing-lead when it is pushed forward and turned around inside of the cutting-edges, so as to reduce it to the desired size for use. The cutting-edges R are shown in Figs. 4 and 6.

The lower part of the tube *n* at *n'* is made square, so as to hold and turn with itself a square stick of writing-lead.

The operation of the pencil and crayon holder is as follows: The tube C is turned so as to let the stud E pass through the groove *f*, when all of the parts shown in Fig. 3, being connected together so as to form but one entire whole, are withdrawn from the case A. The collar L is drawn upward on the tube *n* until the stud N is turned into and rests in the notch S. A square stick of writing-lead of the proper size is then inserted into the tube *n* through its square end *n'*. The parts shown in Fig. 3 are then inserted in the case A and fixed in place by means of the tube C, groove *f*, and stud E. The part D is then turned around, when the friction of the case around the collar L will cause the stud N to disengage from the notch S, when the coil-spring will force the collar L, stud N, and bar M, and the stick of writing-lead downward, and thereby the lower end of the lead will be forced against and between the upper part of the cutters R. The head D is then turned and with it, by means of the connected parts shown in Fig. 3, is also turned the writing-lead K. As the lead K is thus turned the cutting-edges R reduce the size of its point, so that, being pressed forward by the action of the coil-spring J, the point will pass through and protrude from the point of the pencil and crayon holder far enough for use, as shown in Fig. 2. As the point of the pencil is worn off the head D is again turned and the operation of reducing and pushing forward the point of the lead is repeated. This is continued until the lead is so far worn out that a new lead is required.

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

1. In a pencil and crayon holder, the combination, with a cutting device by which the lead is reduced and prepared for use, of a spring for pressing said lead forward through said device, substantially as described.

2. In a pencil and crayon holder, the combination of the cutter or cutters, the spring for pressing the lead forward through the cutter, and means for rotating the lead, substantially as described.

3. The combination, with the cutter having an opening of less diameter than the lead, of a spring for feeding the lead forward against the cutter, and means for rotating the lead, substantially as described.

4. The combination, with the cutter, of the follower for pressing the lead toward it, and the tube containing and connected to the lead, so as to rotate it, the cutter and lead-containing tube adapted to be rotated relatively to each other, substantially as described.

5. The combination, with the main casing, of the cutter connected thereto, the follower for pressing forward the lead against the cutter, and means for rotating the lead, substantially as described.

6. The combination, with the main casing and the cutter connected thereto, of the inner tube for containing the lead and having the polygonally-shaped portion, the follower mounted on the tube and secured from rotation thereon, and the spring for operating upon said follower to press it forward, substantially as described.

7. The combination, with the main casing, of the head removably connected thereto, the inner tube secured to the head for containing the lead, the spring-pressed follower mounted thereon having the pin, and the notch on said inner tube, with which said pin engages, substantially as described.

8. The combination, with the main casing, of the head removably connected thereto, the inner tube secured to the head for containing the lead, the spring-pressed follower for feeding the lead forward, the detachable connection between the follower and tube for holding the former retracted, devices mounted upon the main casing for retarding the lead, and means, substantially as described, for releasing the follower, so that the lead may be fed forward against the retarding devices when placed within the casing, as set forth.

9. The combination, with the main casing,

the head for carrying the lead, and devices for feeding it forward, of the sleeve connected to the head so as to revolve thereon, and having the groove, and the pin mounted on the casing, substantially as described.

10. The combination, with the main casing having the cutter mounted thereon provided with an opening of less diameter than the lead, of the head removably connected thereto, the slotted tube having the polygonally-shaped portion, the collar adapted to slide thereon and having the pin projecting through the slot in the tube, the spring for pressing the collar forward, and means for holding the collar and spring retracted until they are placed in the tube and then releasing them, substantially as described.

11. The combination, in a pencil and crayon holder case, of the cutters R, tube C, stud E, groove *f*, head D, tube *n*, spring J, collar L, and stud N, substantially as herein described.

12. The combination, in a pencil and crayon holder case, of the tube *n*, collar L, stud N, notch S, head D, and tube C, all constructed and combined to operate substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of November, 1884.

WILLIAM C. CARLTON.

Witnesses:
WM. J. SMITH,
WM. WHITE.