

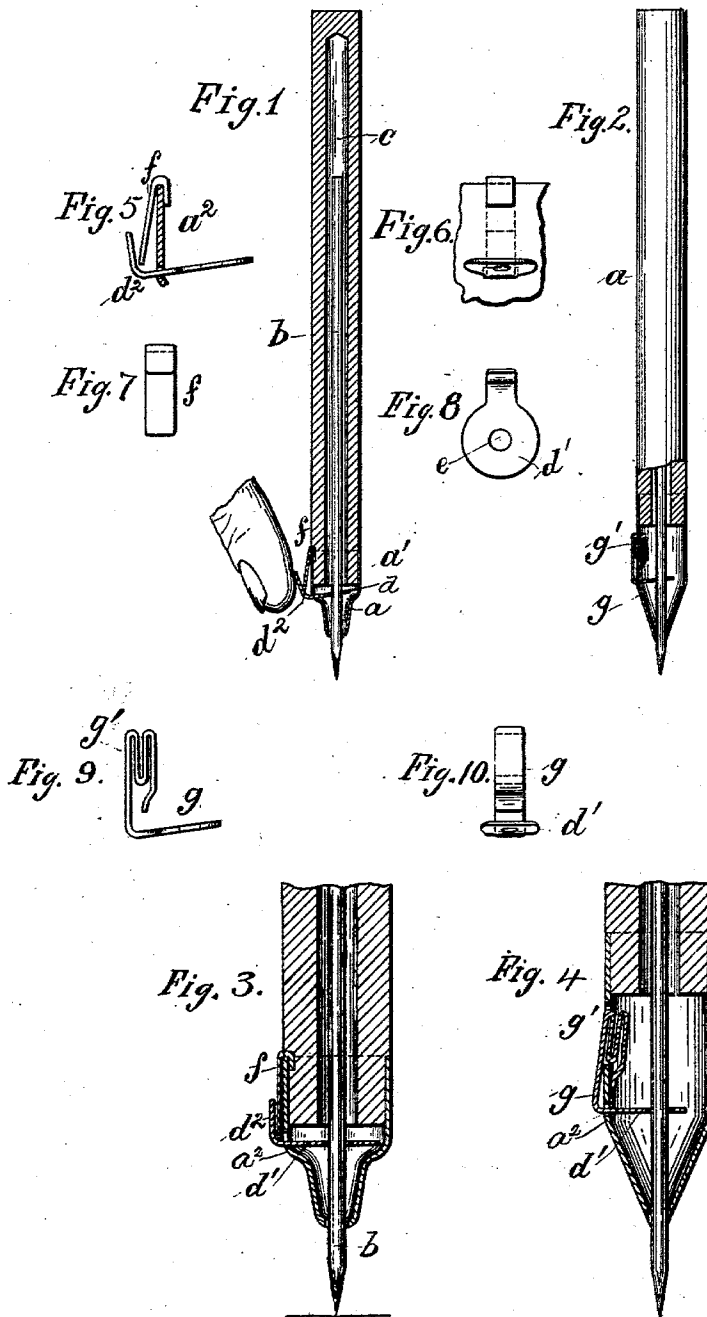
No. 717,834.

A. FORNANDER.
PENCIL.

PATENTED JAN. 6, 1903.

APPLICATION FILED AUG. 21, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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PENCIL.

SPECIFICATION forming part of Letters Patent No. 717,834, dated January 6, 1903.

Application filed August 21, 1902. Serial No. 120,470. (No model.)

To all whom it may concern:

Be it known that I, ALFRED FORNANDER, a subject of the King of Sweden and Norway, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

My invention has reference to lead-pencils of that type in which one long piece of loose lead is adjustably provided within the pencil; and it is the special object of this invention to provide a pencil which is operated very quickly.

Heretofore the push piece or mechanism in mechanical pencils for operating the lead or leads has been usually arranged at the top of the pencil. In my novel pencil the push mechanism is located near the front end, where the pencil-point comes out. The mechanism is adapted to be operated by one of the fingers when hand and pencil are in position for writing. The pencil-point will come out during the period of operating the mechanism. After the pencil-point has come out the desired length then the mechanism is released, fixing thereby the point firmly in the desired position. Having finished the writing, the mechanism is operated again, whereby the lead slides back into the pencil, protecting the pencil-point while carrying the pencil in the pocket.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a pencil in longitudinal section. Fig. 2 is a front elevation of another modification, showing the lower part in section. Fig. 3 illustrates in section the lower portion of Fig. 1 on an enlarged scale. Fig. 4 shows in section the lower portion of Fig. 2 on an enlarged scale. Fig. 5 is a side view of the spring and lead-guiding clamp device of Fig. 1. Fig. 6 is a front view of same. Fig. 7 is a front view of the spring in Fig. 5. Fig. 8 is a top view of the lead-guiding clamp device. Fig. 9 illustrates in detail the spring shown in Figs. 2 and 4, and Fig. 10 is a front view of same.

Similar letters of reference denote like parts in all the figures.

In the drawings, *a* represents the receiver and receptacle for the lead *b*, which is loose

therein, as is shown in Fig. 1. The opening *c* in the receptacle for the lead bar is conveniently large for permitting of a free movement of same. The receptacle for the loose lead is preferably closed at the top as is shown in Fig. 1. The lower portion of the receptacle is gradually tapering down toward the lead point, resembling thus a common sharpened lead-pencil. Right near the tapering portion the mechanism is located. The lead is held in position by a lead guiding and clamping device *d*, which is not secured to the wall of the shell. (See Figs. 1 and 3.) The clamp extends into a broadened portion *d'*, which is provided with an opening in the center, through which the lead passes. The portion *d'* acts as the lead guiding and catching device and may be of any suitable shape. It may be circular in shape—for instance, like the lead guiding and catching device shown in Fig. 8. All that is necessary is that the portion *d'* is broad enough to permit of making a hole through. The portion *d'* of the clamp *d* extends through the wall *a'* of the shell and is almost rectangularly bent upward, forming a small tongue *d''*. A spring *f* is secured to the wall *a'* of the shell, bent, as is shown in Fig. 5, and ending within the bent portion of the tongue *d''*. The clamp holds same in position.

Assuming now that the pencil is empty and a lead is to be inserted, then the tongue *d''* is pressed downward until the broadened portion *d'* stands at right angles to the center line of the pencil, when the opening therein will present its full width, thereby permitting the lead to be easily inserted. Now the lead is completely hidden in the channel *c* of the pencil. If the pencil shall be used, then all that is necessary is to place the hand and pencil in a writing position and press down the tongue *d''*, thereby letting the lead pass out. After the desired length of the lead-point is out, then the mechanism is released and the broad portion of the clamp moves out of the horizontal position, whereby the somewhat sloping surface of the opening will permanently grasp the lead on two opposite sides of same. The pressure exerted while writing tends to hold the lead bar tighter in position.

Figs. 2 and 4 illustrate a modification in

which a spring *g* of greater length is employed, which is practically completely within the shell. When in the position shown in Fig. 3, then the lead bar is tight and writing
5 can be done. If desired to let the lead bar go in or out, then the top portion *g'* of the spring is pressed in, so as to be in the position shown in Fig. 4. In this instance the broadened portion *d'* of the spring will be at
10 right angles to the longitudinal center line of the pencil, permitting the lead bar to move in or out.

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

1. A pencil comprising a loose lead bar, a lead-bar receptacle, a channel therein extending below where the pencil-point comes out into a larger space, a spring secured near the
20 point of the pencil looped at the top then bent under an acute angle and extending into a

broadened portion having an opening therein which engages the lead and adapted to release the latter upon pressing it on its lower outside portion.

2. In a pencil provided with a loose lead bar
25 a spring looped at the top and bent under an acute angle broadened out there and having an opening in the broadened portion.

3. In a pencil with a loose adjustable lead
30 bar, a spring-catch for the lead bar located near the front end where the pencil-point comes out formed of a looped spring-top portion, a slightly acute angularly bent lower portion broadened out and an eyelet in the
35 latter adapted to engage and release the lead.

Signed at New York, N. Y., this 18th day of August, 1902.

ALFRED FORNANDER.

Witnesses:

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