

(No Model.)

A. MICHAEL.
PENCIL.

No. 370,881.

Patented Oct. 4, 1887.

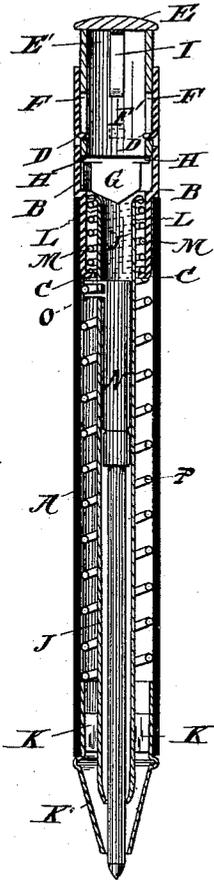


Fig. 1.

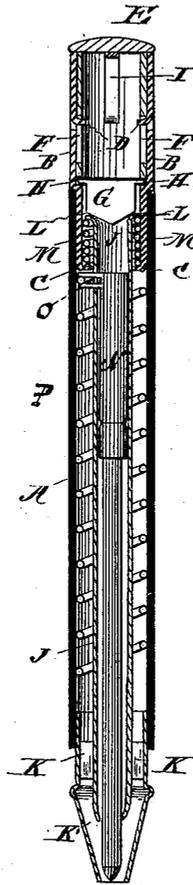


Fig. 2.

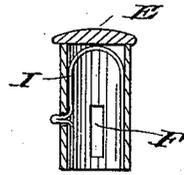


Fig. 3.

WITNESSES:

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PENCIL.

SPECIFICATION forming part of Letters Patent No. 370,881, dated October 4, 1887.

Application filed July 8, 1887. Serial No. 243,728. (No model.)

To all whom it may concern:

Be it known that I, ALFRED MICHAEL, a citizen of the United States, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

My invention relates to improvements in pencils of the class known as "propeller-pencils;" and it consists, broadly speaking, of a propeller-pencil inclosed within an exterior sheath or case, and a movable tip connected with a spring-actuated cap at the rear end of the pencil, the parts being so constructed and arranged that upon applying pressure to the cap the tip at the other end of the pencil will slide forwardly and cover the exposed end of the lead, the cap being held in its depressed position by a spring-catch suitably located, which being released, the cap under spring action will again automatically attain its projected position, withdrawing the tip with it, and again expose the lead for use. The lead also has an independent feed, being actuated by the propeller.

In the drawings, Figure 1 illustrates a longitudinal section of a pencil, the lead being exposed. Fig. 2 illustrates a longitudinal section, the lead being protected by the projection of the tip. Fig. 3 illustrates a sectional view of the movable cap, showing the arrangement of the spring-catch therein.

A is the external case or sheath of the pencil. It may be made of such material and of such shape in cross-section as desired.

B is a tubular end piece, which is rigidly attached to the rear end of the case A. It has an inwardly-extending flange, C, on its end within the case A, and two or more inwardly-extending ears, D, preferably punched out of the metal composing the tube B. If the tube be not of metal, then these ears may be supplied in any other desired manner. E is a movable cap adapted to slide within the tubular end piece, B. In it are two slots, F F, within which the ears D are received and in which they slide. The ears, impinging against the ends of the slots F, determine the longitudinal movement of the cap, and, impinging against the sides of the slots, prevent revolution of the cap, excepting with the case A.

G is a small block or section of tubing, provided with a flange or equivalent device, H, near its upper edge. It is interposed simply as a means of conveying the movement of the cap E to the spring-controlled tube which operates the tip on the end of the pencil, as hereinafter explained. The flange H serves to guide it in the tube B. Any other desired substitute may be employed in place of this block G. For instance, the sliding cap E may be extended downwardly and its end made of the proper form to depress the tip-bearing tube and still allow it to turn independently.

The cap E is provided with a spring-catch, I, which engages with a hole, F', made in the end piece, B, when the cap is depressed. J is a tube extending the length of the external case, and to its lower end is attached the tip of the pencil K. This tip slides easily within the lower end of the case A. The upper end of the tube J is flanged or provided with a washer, as at L. M is a spring, preferably a spiral spring, encircling the tube J. It abuts at one end against the flange or washer L on the tube J, and at the other end against the flange or washer C on the lower end of the end piece, B. N is the propeller, of any desired construction. The lead-grasping device is, as usual, provided with a laterally-extending rider, O, which projects through a slot cut in the tube J from end to end, and engages with a worm, P, fastened to the inside of the case A. Any other preferred arrangement of the propeller may be employed.

The operation of the pencil is obvious. During use the cap is in its extended position and the pencil is used as usual, the lead being fed and retracted, if desired, by turning the external case relative to the tip which operates the propeller, all as usual. When, however, it is desired to put the pencil away—as, for instance, in the pocket—then, it being desirable to protect the lead, pressure is applied to the cap E, which causes it to slide within the tube B, and its motion being transmitted to the tube J by the interposition of the part G or its equivalent, this tube is also carried forward and the spring M is compressed. The forward movement of the tube J carries forward also the tip K, which, moving slightly beyond the end of the lead, protects and hides it. The

parts are held in the position just stated by means of the spring-catch I, which engages with the hole F', made in the tube B. When desired to again expose the lead, the catch I is pressed inward with the finger or thumb until it is released from the hole F', and the spring M then immediately projects the cap E and retracts the tube J and the tip K.

It is obvious that a pen, tooth-pick, knife-blade, or other utensils may be substituted for the pencil-lead.

I do not limit myself to the details of construction. They may be somewhat varied and still my invention be employed.

Having described my invention, I claim—

1. The combination of an external case, enclosing a propeller-pencil or like propeller implement, and a longitudinally-moving spring-controlled and tip-carrying tube provided with a catch, whereby the parts may be held in position against the stress of the spring, substantially as set forth.

2. The combination of an external case, enclosing a propeller-pencil or like propeller implement, and a longitudinally-moving spring-controlled and tip-carrying tube provided with a catch, whereby the parts may be held in position against the stress of the spring, the tip-carrying tube or an extension thereof extending through the case or handle and projecting from the rear end thereof, whereby the spring may be operated by endwise pressure on the tip-carrying tube, substantially as set forth.

3. The combination of an external case, enclosing a propeller-pencil or like propeller implement operated by a worm on the case, a longitudinally-moving spring-controlled and tip-carrying tube provided with a catch, whereby the parts are held in position against the stress of the spring, and an extension or cap to the tube which bears the tip, projecting longitudinally in rear of the case or handle, having longitudinal movement but not axial rotation relative to the case or handle, whereby the tip may be turned in one direction and the cap or extension in the opposite direction for the manipulation of the propeller, substantially as set forth.

4. The combination of a case, A, provided with a shouldered and recessed part, B, and worm P, a slotted tube, J, provided with tip K and shoulder L, a spring, M, a cap, E, provided with spring-catch I, which passes through a hole in the cap and locks in a recess or hole in the part B, and propeller mechanism operated by the axial rotation of the tube J relative to the case A, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 7th day of July, A. D. 1887.

ALFRED MICHAEL.

Witnesses:

F. HAMMATT NORTON,

PHILLIPS ABBOTT.