

# PATENT SPECIFICATION



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284,529

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COMPLETE SPECIFICATION.

## Propellor Pencil.

I, KARL FEND, of No. 68/70, Westliche Karl-Friedrichstrasse, Pforzheim, Germany, of German nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to propellor pencils in which the lead propellor is connected to a resiliently controlled plunger which is moved to propel the lead by means of an external sliding sleeve controlling the plunger through the medium of a pin passing through a slot in the casing of the pencil.

According to the present invention a propellor pencil comprises a lead propellor connected to a plunger slidable in a sleeve casing tapered at its lower end to keep the plunger from falling out and having an internal shoulder between which and the top of the plunger a resilient element, such as spring, is interposed for controlling the plunger, the plunger being moved to eject the lead through the conical point of the pencil by means of an external sliding sleeve connected to the sleeve casing through the medium of a pin passing through a slot in the casing of the pencil.

An embodiment of the invention is illustrated in the accompanying drawing in which:—

Figs. 1 and 2 are an elevation and longitudinal section respectively of the propellor pencil provided with lead.

Fig. 3 is a longitudinal section of the propellor pencil empty.

Fig. 4 is a cross section on line 4—4 of Fig. 3.

In the casing *a* a hollow shifting element or sleeve *b* is slidably mounted. This slidable element *b* is connected by a pin *d*, projecting through a longitudinal slot *c* in casing *a*, with a sliding ring *e*. In the sliding element *b* a buffer-spring *f* is located which bears at the one end on a shoulder *g* and at the other end on the rear end *h* of the lead plunger rod *i*. This plunger rod engages with the central bore of a conical point *k* screwed into the front end of the casing *a*, said

[Price 1/-]

bore serving also to guide the lead *l*.

The bore of the conical point *k* is preferably not of circular cross section but for instance of rectangular cross section so that the lead, which is of similar shape, cannot turn in this bore. Into the rear end of the casing *a* the magazine *n* is inserted which is adapted to be closed at the rear end by screw-cap *m*. The bottom of the magazine is fixed slightly behind the front edge so that a space is formed designed to hold an india-rubber *o*.

In order to propel the lead, the ring *e* is held by the hand and the conical point *k* is pressed upon the support approximately at right angles. The lead *l* with the plunger rod *i* and the casing *a* are thus pushed back in the sliding ring *e*, the buffer-spring *f* being compressed. At the moment when the conical point *k* is lifted off the support, the plunger rod *i*, and with it the lead *l*, is advanced by the action of the expanding buffer-spring *f*, the casing *a* and also the conical point *k* remaining in their position.

In order to push the lead *l* after use back into the bore of the conical point *k*, this conical point is placed with the hand which holds the pencil during writing upon the support approximately at right angles whereupon with a finger of the hand, a pressure is exerted upon the screw-cap *m*.

The length of the sliding ring *e* may be selected in such a manner that the actual distance of the lower edge of the sliding ring from the joint between the conical point *k* and the casing *a* indicates the length of the lead in the pencil. For the spiral spring *f* a rubber buffer or any other elastic element may be substituted.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A propellor pencil comprising a lead propellor connected to a plunger slidable in a sleeve casing tapered at its lower end to keep the plunger from falling out and having an internal shoulder between which and the top of the plunger a

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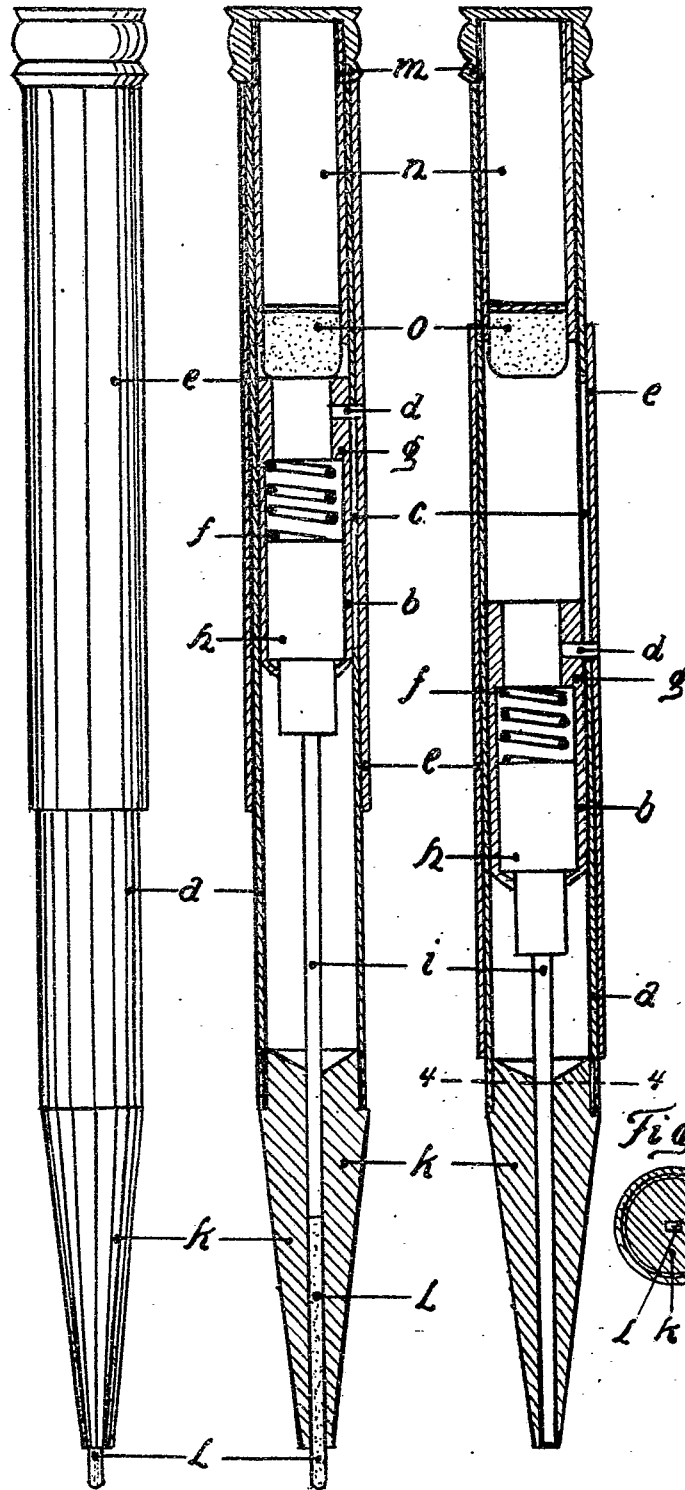
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- resilient element, such as a spring, is interposed for controlling the plunger, the plunger being moved to eject the lead through the conical point of the pencil
- 5 by means of an external sliding sleeve connected to the sleeve casing through the medium of a pin passing through a slot in the casing of the pencil.
2. A propellor pencil according to
- 10 Claim 1 wherein the conical point of the casing has a guide hole for the lead of other shape than circular for the purpose of preventing rotation of the lead within said point.
3. A propellor pencil according to Claims 1 and 2, wherein a lead magazine applied to the top end of the pencil casing has a recessed bottom for the reception of a pencil mark eraser.
4. A propellor pencil constructed and adapted to operate as a whole substantially as hereinbefore described with reference to the accompanying drawings.
- Dated this 13th day of June, 1927.
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Fig. 1. Fig. 2. Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]