E. BERGQUIST.

MECHANICAL PENCIL.

APPLICATION FILED JAN. 13, 1909.

928,733.

Patented July 20, 1909.

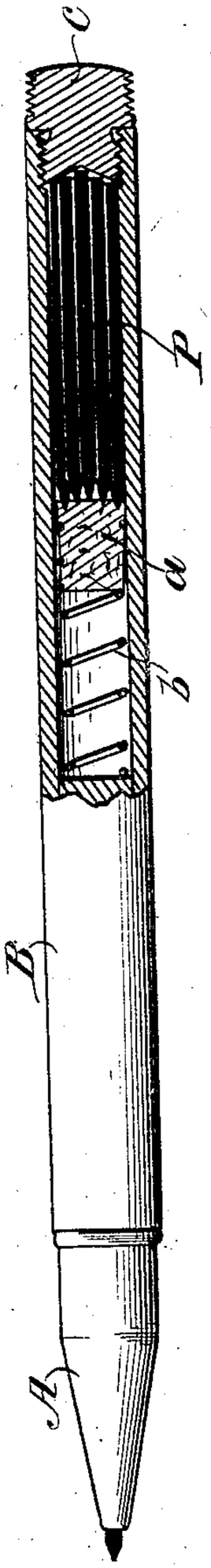

Fig. 1.

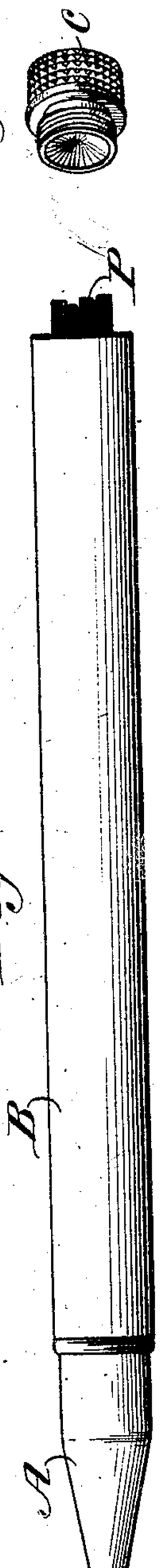

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses.
Robt Gwatt.
H. Lee Helms

Inventor:
Edward Bergquist.
By Marcellus Bailey
his Atty.

UNITED STATES PATENT OFFICE.

EDWARD BERGQUIST, OF NEW YORK, N. Y., ASSIGNOR TO EAGLE PENCIL COMPANY, OF NEW YORK, N. Y.

MECHANICAL PENCIL.

No. 928,733. Specification of Letters Patent. Patented July 20, 1909.

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To all whom it may concern:

Be it known that I, EDWARD BERGQUIST, of New York, county and State of New York, have invented a new and useful Improvement in Mechanical Pencils, of which the following is a specification.

My invention has to do with propelling pencils and other so-called mechanical pencils in which the lead is loose and movable in the sheath or handle; and its object is to provide in the handle a reservoir to contain a supply of loose leads to replace, if need be, the lead in the writing end of the pencil. I am of course aware that such a provision in a mechanical pencil is not new, broadly considered.

My invention resides in the construction and arrangement of the devices which I employ for the purpose, it being my object to so hold the leads that they may be conveniently reached whenever desired, while at the same time so long as the reservoir is closed they will be held therein motionless and without rattle or danger of breaking.

The main characteristic of my improvement is that the bottom of the reservoir is a longitudinally movable, spring supported, spring yielding, bottom, whose normal position is such that the distance between it and the reservoir cap or cover (when the latter is in place) will be less than the length of the leads for which the reservoir is intended, so that when the leads are placed in the reservoir the cap or cover, when applied, will press upon the ends of the leads, the spring supported bottom yielding to this pressure and adapting itself to the length of the leads; the latter, when the cap is in its place, being held firmly but with yielding pressure between the cap and bottom.

In the accompanying drawing, to which I shall now refer for a better understanding of my invention—Figure 1 is a side elevation partly in axial section of a mechanical pencil embodying my improvement in its preferred form. In this figure the parts are represented in the position they assume when the lead reservoir is closed. Fig. 2 is a side elevation of the same with the reservoir open. Fig. 3 is a perspective view of the reservoir cap or cover, looking at its inner face. Fig. 4 is a perspective view of the cork bottom of the reservoir and its supporting spring, removed from the reservoir.

The pencil in the drawing is supposed to be a propelling pencil of suitable type, the two portions A, B, of the pencil being rotatable with respect to one another, as usual in pencils of this kind, for the purpose of protruding or withdrawing the lead. The tubular handle or sheath B is prolonged back beyond the rear end of the portion A far enough to provide a chamber wherein the lead reservoir is formed.

The bottom of the reservoir is shown at *a*. It is longitudinally movable in the sheath B, and is supported upon a light spiral spring *b* which rests upon the head or closed rear end of the part A. I prefer to make this bottom *a* of a cylindrical piece of cork, which will permit the sharpened ends of the pencils leads P to slightly embed themselves therein when subjected to the pressure of the cap *c*. The spring *b* is secured to the rock, as shown more clearly in Fig. 4. The position of the bottom *a* when the reservoir is uncovered is such that the depth of the reservior will be less than the length of the leads for which it is intended, so that with the reservoir uncovered and the bottom *a* relieved of pressure, the ends of the leads, as shown in Fig. 2, will project from the reservoir far enough to enable any one of them to be readily picked out and removed from the reservoir.

The reservoir may be closed by a removable cap of any suitable construction. The cap *c* shown in the drawing, is a cylindrical plug externally screw threaded to engage the correspondingly internally screw threaded open end of the reservoir, and its inner face is preferably concave, and with tapering or converging walls so that the ends of the leads will be gathered or bunched together and held in said concavity when the cap is being screwed home. The endwise pressure of the cap in this position upon the leads depresses the latter and causes them in turn to press upon the spring supported bottom *a*, which yields to said pressure as indicated in Fig. 1.

The construction illustrated in the drawings embodies my invention in a simple, cheap and effective form. To form the reservoir, the sheath or handle B is merely prolonged a suitable distance beyond the rear end of the front portion A which contains the propeller movement. The bottom *a* and its attached spring *b*, are inserted into this prolongation of the sheath, the spring rest-

ing upon the rear end of the part A, and supporting the bottom *b* in proper position. The only other part required to complete the contrivance is the cap or cover *c*, which is easily and cheaply made. I prefer to make both sheath B and cap *c* of hard rubber.

Having described my invention and the best way now known to me of carrying the same into practical effect, I state in conclusion that I do not limit myself strictly to the mechanical details herein illustrated, since manifestly the same can be considerably varied without departure from the spirit of the invention; but

What I claim as new and desire to secure by Letters Patent is—

1. In a mechanical pencil, a reservoir for loose leads in the rear end of the sheath or handle, provided with a longitudinally movable yieldable spring supported bottom, and a removable cap adapted to force the leads against the bottom, substantially as and for the purposes hereinbefore set forth.

2. In a mechanical lead pencil, a reservoir for loose leads in the rear end of the sheath or handle, having a longitudinally movable yieldable spring supported bottom, and a removable cap having a concave inner face formed with converging walls, and adapted to force the leads against said bottom, substantially as and for the purposes hereinbefore set forth.

3. A mechanical pencil comprising a propeller pencil proper A, B, the tubular sheath portion B prolonged beyond the rear end of the inner portion A to provide a reservoir for loose leads, a bottom for said reservoir consisting of a longitudinally movable plug *a* and an attached spiral spring *b*, supporting the plug *a* and resting on the rear end of the portion A, and the cap *c* adapted to close the open end of the reservoir, and to bear upon the ends of the loose leads therein, as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD BERGQUIST.

Witnesses:
CLAES WM. BOMAN,
OSCAR B. ANDERSON.