G. B. BERGEN.

LEAD PENCIL.

APPLICATION FILED MAR. 19, 1914.

**1,142,794.** Patented June 15, 1915.

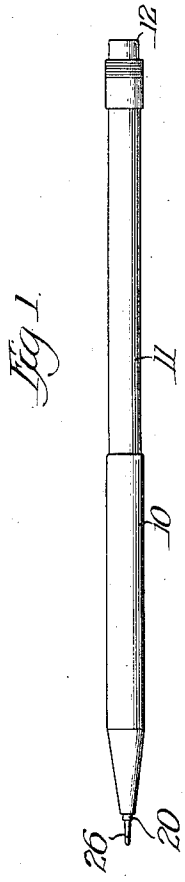



Fig. 1.

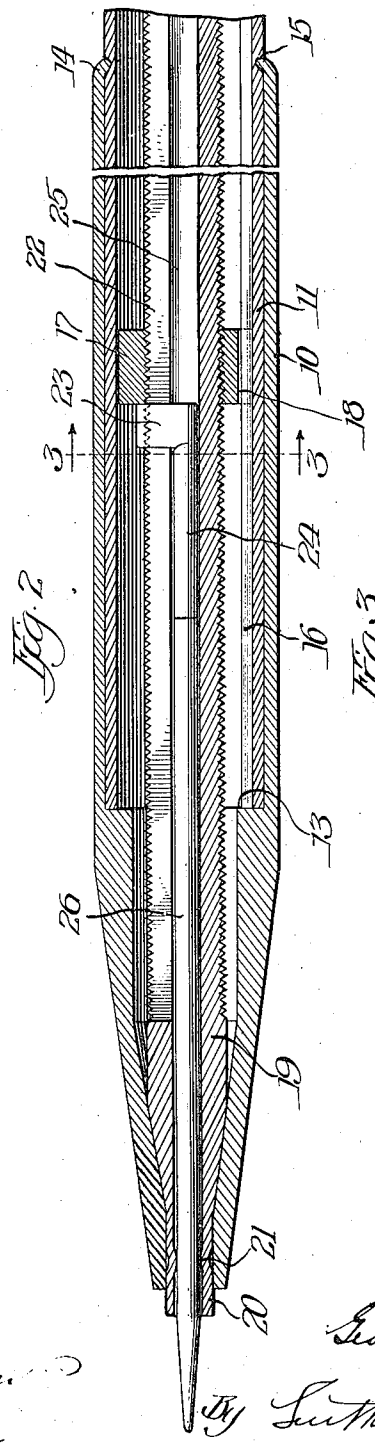



Fig. 2.

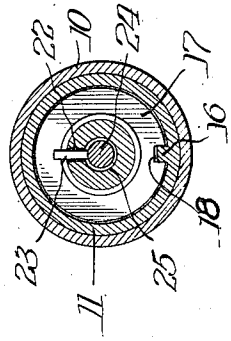



Fig. 3.

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# UNITED STATES PATENT OFFICE.

GEORGE B. BERGEN, OF SPRINGFIELD, OHIO.

## LEAD-PENCIL.

1,142,794. Specification of Letters Patent. Patented June 15, 1915.

Application filed March 19, 1914. Serial No. 825,737.

*To all whom it may concern:*

Be it known that I, GEORGE B. BERGEN, a citizen of the United States, and resident of Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Lead-Pencils, of which the following is a specification.

My invention relates to lead pencils and has particular reference to a novel permanent pencil of the type in which the lead is projected by rotation of one of the parts with relation to other parts thereof.

Permanent pencils of the type just described have been largely manufactured but all thereof have been open to certain objections, one of the most serious of which is the small lead capacity.

An object of this invention is to provide a pencil of the character described which shall have large lead capacity, its capacity being only limited by the length of the pencil itself.

It is well understood that in pencils of this character in order to be commercially acceptable, the manufacturing cost must be small and the pencils heretofore placed on the market have been manufactured with this limitation. As a result of the difficulties of manufacture and the relative complexity of the devices, the pencils have not been well made and therefore quickly get out of order and are discarded. In my construction the parts are exceedingly simple, easily manufactured and assembled, with the result of securing a substantially perfect article and one which cannot get out of order and is not subject to extreme wear.

As is common in pencils of this character, I provide two cylindrical portions, one of which is rotatable relative to the other. At this point I have departed from the usual construction and provide an internal, tubular, slotted, exteriorly threaded member which is rigidly secured to one of the cylindrical containers. A nut engages this threaded, tubular member, which nut is rotatable with the other tubular casing member and serves to advance a lead contained within the threaded tube. Thus it will be seen that while the tubular casing members are rotative with relation to each other, they occupy a fixed bodily relation to each other; that is, the members do not slide or telescope one within the other. Thus the pencil always remains the same length and consequently the pencil will have a capacity equal to the full length thereof.

The invention will be more readily understood by reference to the accompanying drawings, wherein, Figure 1 is an elevation of the pencil constructed in accordance with my invention; Fig. 2 is a longitudinal section thereof very much enlarged, and, Fig. 3 is a section on the line 3—3 of Fig. 2.

Referring more particularly to the drawings it will be seen that I provide two cylindrical casing members 10, 11, the former constituting the point portion. In the portion 11, I may prefer to mount an eraser 12. As shown in Fig. 2, the portion 11, is telescoped within the portion 10, abutting against a shoulder 13, formed internally thereof. Sufficient clearance is allowed between the interfitted parts to permit free, relative rotation. After the parts are assembled, the rear end 14, of the casing member 10, is flanged downward into engagement with a circumferential groove 15, formed in the member 11. Thus the parts are permanently united although permitted free, rotative movement.

Located internally of the member 11, is a rib 16, extending from end to end thereof, this rib acting as a feather or spline and cooperating with a nut 17, having a notch or recess 18, in the sides thereof. Thus the nut is rotated with the portion 11, but moves longitudinally thereof.

Rigidly secured within the reduced point of the portion 10, is the lead-carrying tool 19, which, as noted, is not split at its forward end 20, as is customary in order to frictionally hold the lead from dropping out. This result I secure by providing internally of the lead tube, a very slight indentation or annular displacement 21, of the metal. A material advantage accrues to this construction. In the forms of this device wherein the lead container is split at its end in order to frictionally engage the lead, the lead is not rigidly supported and under heavy pressure the split portions may be bent allowing the lead to fall out. Furthermore this gives a springy and undesirable effect in writing which is not comparable to the use of the ordinary wooden lead pencil. In my construction the lead is rigidly held at the point of the pencil and the effect in writing is the same as when using a wooden lead pencil.

The tubular lead container member 19, is designed to extend the full length of the pencil. As shown, the main body portion is slotted as at 22, accommodating a lug 23, integral with a plunger 24, fitted within the longitudinal aperture 25, in the tube. This plunger abuts the lead 26 and advances the same as required under the action of the nut 17.

In assembling the lead containing tube 19, is forced within the reduced portion of the member 10, and pressed, welded or otherwise permanently secured in place. The plunger 24, is then inserted from the rear of the tube, the nut 17 is engaged with the threaded exterior of the tube, and the casing member 11, telescoped within the casing 10, the flange 14 of which is bent into engagement with the groove 15, thus completing the assembling. In operation, the casing members are rotated relative to each other until the nut 17 is retracted to the rear of the casing. Leads are then inserted in the open end of the tube 19, until the pencil is filled. Thereafter the leads are advanced by rotating the rear casing member 11 to the right.

It is obvious that the construction shown is typical only of various forms which the invention may assume and I therefore do not wish to be limited to the exact construction herein shown.

I claim:

1. In a pencil, the combination of a pair of relatively rotatable casing members, a tubular, threaded lead containing member rigidly held by one of said casing members, and means operable by the other casing member and slidable relative thereto for advancing a lead held within said tubular member, substantially as described.

2. In a pencil, the combination of interfitting casing members, means for securing said members against longitudinal separation but permitting relative rotation, a tubular, exteriorly threaded lead container permanently secured to one of said casing members, and a nut engaging said lead container and adapted to advance a lead within said container, substantially as described.

3. In a pencil, the combination of interfitting casing members, means for securing said members against longitudinal separation but permitting relative rotation, a tubular, slotted, exteriorly threaded lead container permanently secured to one of said casing members and a nut slidably engaging one of said casing members and adapted to be rotated by said casing member, said nut being adapted to cause the advance of a lead within said container, substantially as described.

4. In a pencil, the combination of interfitting casing members, means for securing said members against longitudinal separation but permitting relative rotation, a tubular, slotted, exteriorly threaded lead container permanently secured to one of said casing members, a nut slidably engaging one of said casing members and adapted to be rotated thereby, and a plunger operating within said lead container and adapted to be engaged by said nut whereby a lead in said container is adapted to be advanced, substantially as described.

5. In a pencil, the combination of a pair of telescoped casing members, means for securing said members against longitudinal separation but permitting relative rotation, a slotted lead container extending from end to end of said telescoped casing members, said container being externally threaded, a nut engaging the threads of said container, and means associated with said nut for advancing a lead within said container, substantially as described.

Signed at Chicago, Ill., this 17th day of March, 1914.

GEORGE B. BERGEN.

Witnesses:
T. D. Butler,
Chas. F. Harvey.