No. 649,777. Patented May 15, 1900.

A. TRUSCOTT.

LEAD PENCIL.

(Application filed Jan. 16, 1900.)

(No Model.)

Fig. 1.

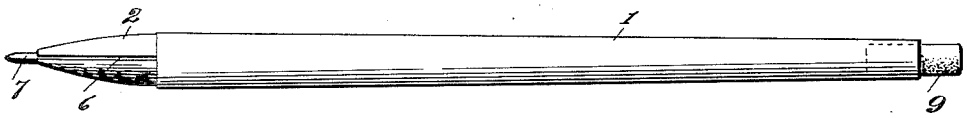


Fig. 2.

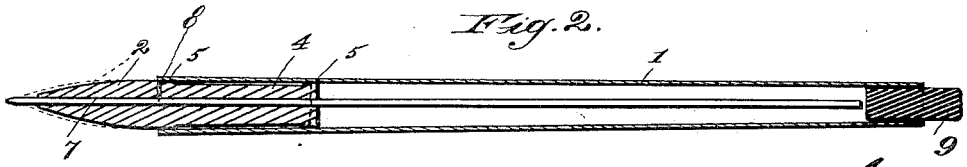


Fig. 3.

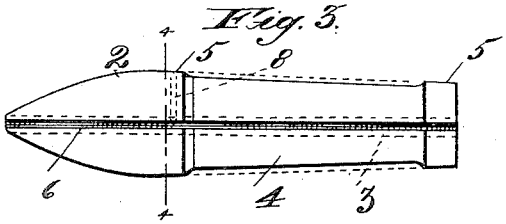


Fig. 4.

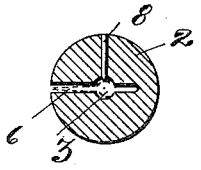


Fig. 5.

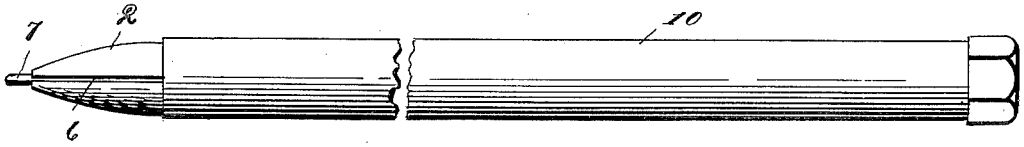
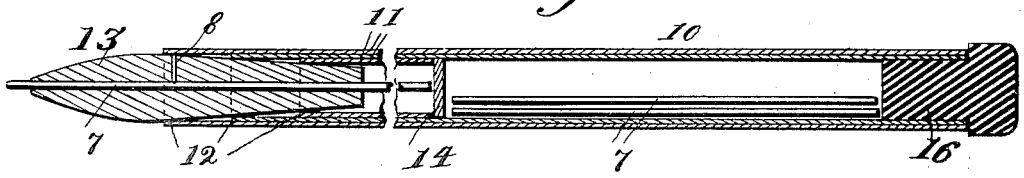


Fig. 6.



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UNITED STATES PATENT OFFICE.

ARTHUR TRUSCOTT, OF MERCHANTVILLE, NEW JERSEY.

LEAD-PENCIL.

SPECIFICATION forming part of Letters Patent No. 649,777, dated May 15, 1900.

Application filed January 16, 1900. Serial No. 1,638. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR TRUSCOTT, a citizen of the United States, residing at Merchantville, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Lead-Pencils, of which the following is a specification.

My invention relates to pencils, and particularly to that type in which the lead or graphite stick is carried in a case or cylinder and is free to slide in the lead bore or aperture, so as to permit of its being fed forward as the point wears away, provision being made for gripping the lead to prevent movement of the lead during use.

It is with the object of improving upon and cheapening the cost of production of this type of pencil that I have produced the pencil which forms the subject-matter of the present case. The pencil which I have invented and which I shall now describe in detail, pointing out in the claims at the end of such description the novel features, may be produced so cheaply as to compete with the ordinary lead-pencil, over which it has obvious advantages, chief among which are the avoidance of sharpening and consequent gradual diminishing of the length of the pencil, so as that it is ordinarily discarded when at least a third of it is unconsumed, the interchangeability of leads enabling a hard or soft lead to be used, as desired, and the ease and rapidity with which a lead may be pointed when dulled.

The pencil is peculiarly adapted for the use of architects and draftsmen, whose work is such as to require a pencil of uniform length and balance and one in which the lead may be easily and quickly pointed.

In the drawings herewith, Figure 1 is a side view of my improved pencil. Fig. 2 is a view in central longitudinal section of the pencil shown in Fig. 1. Fig. 3 is a side view, enlarged scale, of the lead holding and gripping point. Fig. 4 is a view in cross-section of the lead-holding point on the dotted line 4 4 in Fig. 3. Fig. 5 is a side view similar to that shown in Fig. 1 of a species differing slightly from that shown in Fig. 1. Fig. 6 is a central longitudinal section of the pencil shown in Fig. 5.

Referring to the drawings by numerals, (like numerals indicating like parts in the several views,) 1 indicates the body portion of the pencil, which, as shown in Fig. 1, is a tapering tube round in cross-section. The body 1 may be made of any suitable light material—such as wood, paper, celluloid, metal, &c.—and while it is shown as round in the present case it may be of any desired shape in cross-section.

Fitted in the outwardly-tapering orifice or mouth at the forward end of said tube is the lead holding or gripping point 2, which is preferably of wood and is provided with a lead-bore 3 of suitable size. Said point 2 is shaped at its forward end or tip to any suitable or desired form, preferably approximating in shape the sharpened end of an ordinary lead-pencil. The rear portion 4 of said point 2 is gradually reduced in diameter toward its end, so that it fits snugly into the outwardly-flaring mouth of the tapering body 1, as clearly shown in Fig. 1, said reduced rear portion 4, as shown in Fig. 2, being cut away through part of its length for the sake of lessening friction between the parts, thus leaving two separated bearing-points 5 5, which contact with the inner wall of the body portion 1 when the point 2 is inserted in the said tube or body portion. The said lead-gripping point 2 is provided with a radial slot or kerf 6, which extends its entire length and enters the lead-bore 3. The kerf 6 may, if desired, cut nearly through the point and extend on the other side of the bore, as shown in Fig. 3, so as to give greater compressibility to said point. It will be apparent that owing to the radial kerf 6 the point 2 may be compressed or sprung together, and thus diminish the normal diameter of the lead-bore 3. From this it will be seen that when the point 2 is forced into the tapering orifice or mouth at the forward end of the body portion 1 of the pencil the compression of the slitted point will cause it to firmly grip the lead 7 throughout its entire length. When it is necessary to feed the lead forward, the point 2 is slightly loosened, the grip on the lead ceases, and it slides out to the desired length.

To insure the holding of the lead in the bore 3 of the gripping-point 2 and prevent its slipping under pressure, as it might should the bore 3 become smooth and glazed with

graphite from the lead, I provide auxiliary means for holding the lead consisting of a gripping pin or point 8, carried by and fixed in the said point 2, so that its inner end projects slightly into the bore 3, and when the pencil is in use and the gripping-point 2 is compressed said pin 8 bites into and holds the lead, although said point does not project far enough into the bore to interfere with the free movement of the lead 7 when it is released from the gripping action of the gripping-point 2 and is being fed forward.

A plug 9, preferably of erasive rubber, closes the rear end of the tube 1 and prevents the lead 7 from falling out when it is released from the gripping-point.

In the species of pencil shown in Figs. 5 and 6 the body portion 10 of the pencil is made in the form of a cylindrical tube instead of a tapering tube, as shown in Figs. 1 and 2, and, as shown in Fig. 6, is built up of a series of layers 11 of gradually-diminishing lengths, so as to form at the forward end of the body 10 a series of steps 12, which form bearing-points for the lead-holding point or tip 13 and provide a substantially-tapering mouth, thus giving the same result as is attained by forming the entire body portion of the pencil of a tapering tube—*i. e.*, the stepped bearing-points 12 have the same compressing action on the lead-holding point 13 as in the smooth tapered construction shown in Fig. 1. In the form of pencil shown in Fig. 6 I preferably place a diaphragm or disk 14 inside of the hollow body portion, against which the innermost layer 11 abuts, this disk dividing the body portion into two chambers, the forward one of which receives the lead-holding point and its lead, while the rear chamber forms a reservoir or receptacle for extra leads, the cylindrical tube being closed at its rear end by the rubber plug 16, as in the form of pencil shown in Figs. 1 and 2. In this form of pencil the lead-gripping point is not cut away or reduced, as in Fig. 3, but is of uniform diameter, as indicated by the dotted lines in said figure, in order that it may contact with the bearing-points 12.

By following the description above given a pencil may be produced which is very light and convenient, the usefulness of which is not impaired by sharpening, and which may be so cheaply constructed as to compete with the common form of pencil, while possessing the many advantages of the movable-lead type.

Having described my invention, I claim—

1. A lead-pencil comprising a body portion having an outwardly-tapered mouth or orifice, and a lead-gripping point fitted in said mouth and movable therein, said point having a radial kerf or slot throughout its length.

2. A lead-pencil comprising a body portion having an outwardly-tapered mouth or orifice, and a lead-gripping point having a radial kerf or slot throughout its length fitted in said mouth and movable therein, said point being cut away throughout a portion of its length whereby separated bearing-points are provided and friction between the said point and the inner wall of the tapered mouth or orifice is lessened.

3. A lead-pencil comprising a body portion having a tapering mouth or orifice, and a lead-gripping point fitted to said mouth and having throughout its length a radial slot or kerf, said point being provided also with auxiliary means for holding the lead.

4. In a lead-pencil, the combination with a body portion having a tapering mouth or orifice, of a lead-gripping point fitted to said mouth and having throughout its entire length a radial slot or kerf, and a pin or like device carried by said point and projecting slightly into the bore thereof.

5. In a lead-pencil, the combination with a body portion having a tapering mouth or orifice, of a compressible lead-gripping point fitted to said mouth, and a pin or like device carried by said point and projecting into the bore thereof.

6. In a lead-pencil, the combination with a body portion having a tapering mouth or orifice provided with a series of stepped bearing-points, of a lead-gripping point fitted to said mouth and having throughout its entire length a radial slot or kerf.

7. A lead-pencil comprising a body portion made up of a series of tubes of gradually-diminishing lengths so as to provide a tapering mouth or orifice having stepped bearing-points, and a lead-gripping point fitted to said mouth end having throughout its entire length a radial slot or kerf.

8. In a lead-pencil, the combination with a body portion made up of a series of tubes of gradually-diminishing lengths so as to provide a tapering mouth or orifice having stepped bearing-points, of a transversely-placed diaphragm dividing said body portion into two chambers, and a lead-gripping point fitted to said mouth and having throughout its entire length a radial slot or kerf.

9. In a lead-pencil, the combination with a body portion made up of a series of tubes of gradually-diminishing lengths, so as to provide a tapering mouth or orifice having stepped bearing-points, of a transversely-placed diaphragm against which the inner tube of the series abuts dividing the said body portion into two chambers, a lead-gripping point fitted to said tapering mouth and having throughout its entire length a radial slot or kerf, and a stopper closing the rear end of the said body portion.

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

ARTHUR TRUSCOTT.

Witnesses:
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WM. LONGSTREET.