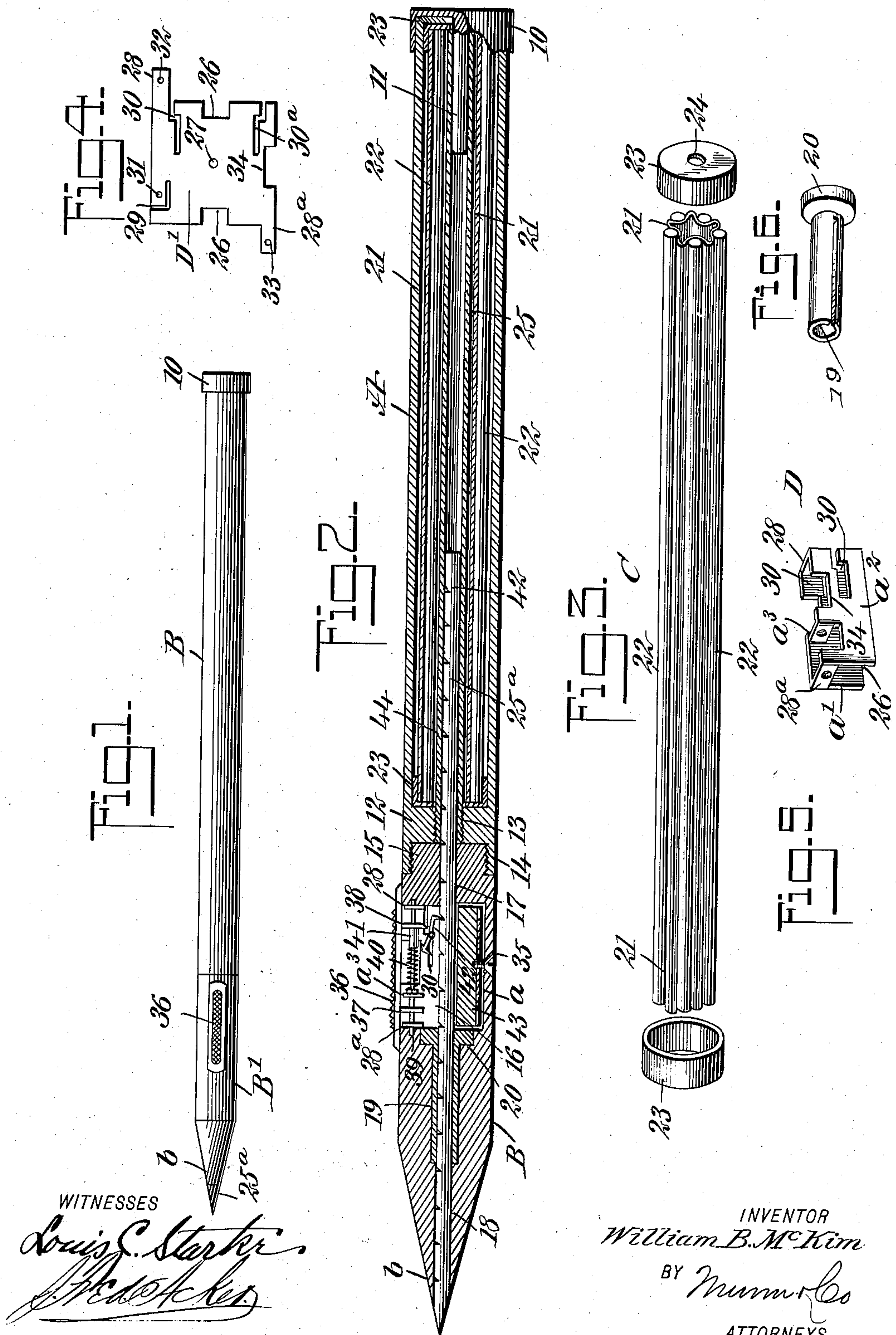


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W. B. McKIM.
LEAD PENCIL.

APPLICATION FILED AUG. 19, 1907.



WITNESSES

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WILLIAM B. McKIM, OF ELIZABETH, NEW JERSEY.

LEAD-PENCIL.

No. 894,687.

Specification of Letters Patent.

Patented July 28, 1908.

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To all whom it may concern:

Be it known that I, WILLIAM B. McKIM, a subject of the King of Great Britain, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Lead-Pencils, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a lead pencil with a removable magazine clip for the sticks of lead, which clip can be manufactured and sold independently of the holder, and can be readily placed in position in a holder, secured therein, and be conveniently and expeditiously removed therefrom when empty for the introduction of a loaded clip.

It is a further purpose of the invention to so construct the magazine clip that a number of leads of different sizes and different degrees of hardness, if desired, can be placed in exterior pockets from which they can be readily removed, and to provide the clip with an opening extending therefrom to receive a conducting tube constituting a portion of the holder, said tube being adapted to support and guide the lead in use to the point of the holder.

It is also a purpose of the invention to provide a simple and positive feed for the lead in use and means whereby said feed is operated by a single movement of an exteriorly located sliding plate.

Another purpose of the invention is to provide a means for causing the lead inserted in the conducting tube to feed outward the fragments of the formerly inserted lead remaining in the holder, should said fragments have passed the regular feeding device.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the body of the holder for a pencil, having the improvement applied; Fig. 2 is an enlarged longitudinal section through the completed pencil; Fig. 3 is an enlarged perspective view of the magazine clip and its caps removed therefrom; Fig. 4 is a plan view of the blank from which the box or casing for the feed

mechanism is made; Fig. 5 is a perspective view of the completed box or casing, and Fig. 6 is a perspective view of the expandible tube for the lead.

The body of the holder of the pencil is made in two main sections, a barrel section A, and a tip or forward section B. The barrel section A is closed at its rear end by a cover 10 and this cover is provided with a central inwardly extending pin 11 for a purpose to be hereinafter described. The opposite or forward end of the barrel section A is closed, as is shown at 12 in Fig. 2, with the exception of a centrally threaded opening 13, and at the forward end of the closed end 12 of the said barrel, an interiorly threaded cover 14 is formed, adapted to be screwed upon the exteriorly threaded reduced rear end of the lid section B of the holder, as is also shown in Fig. 2. The said tip or forward section B of the holder is provided with a well 16 formed therein, preferably rectangular in shape, and this well is open at a side of the said tip section, as is also shown in Fig. 2. A bore 17 extends through the rear end portion of the tip section B connecting with the said well, and a second and corresponding bore 18 extends from the said well 16 out through the point *b* of the said tip section B, both bores 17 and 18 being in alinement. Adjacent the well 16 an expandible extension tube 19 is inserted in the bore 18 of the tip section, and this tube has a head 20 that is countersunk in the forward wall of the said well, as is also shown in Fig. 2, and this extension tube is adapted to hold the lead in use against forward movement when pressure is exerted upon its outer or pointed end.

The barrel section A is adapted to contain a magazine clip C which is practically the length of the chambered portion of the said barrel, and the said magazine clip is constructed, as is shown in Fig. 3, preferably of a single piece of metal bent to tubular form, and provided with exterior longitudinal corrugations forming a series of longitudinal exterior pockets 21, each pocket being adapted to receive a stick of lead 22. The sticks of lead should be the full length of the clip since they are held in position on the clip by means of caps 23 that are fitted over the end portions of the clip, and the ends of the sticks of lead rendering the latter readily removable. The forward cap 23 is provided with a central opening 24 of sufficient size to admit the passage of a tube 25, and the rear cap is

provided with a similar opening also designated as 24, but the opening in the rear cap is adapted only for the passage of a stick of lead into the said tube 25.

5 When the magazine clip is in position in the barrel A it surrounds a conducting tube 25, which conducting tube is open at both ends, and at its forward end is screwed into a threaded opening 13 of the forward closed
10 end 12 of the said barrel, as is illustrated in Fig. 2, since the conducting tube 25 is a fixture, while the magazine clip is removable and is adapted to be substituted by another when the lead is exhausted therefrom. It
15 may be here stated that when the cover 10 is placed in position on the barrel A the pin 11 carried by the cover extends into the said conducting tube. This conducting tube is adapted to receive the lead 25^a that is in use,
20 and in connection with the lead in use a feed device is employed that is located in the well 16 and should a fragment of lead remain in the tip section of the holder occupying such a position that it could not be engaged by
25 the said feed device or mechanism, then when the new stick of lead is introduced into the conducting tube 25 and the cover 10 is placed in position, the introduced stick of lead will be forced by the pin 11 of the cover
30 sufficiently far forward to be engaged by the said feed mechanism, and thus as the inserted stick of lead is fed forward or outward it feeds the said fragment in the same direction.

The well 16 is provided with a box D, and
35 this box or casing as it may be called, is made preferably from the blank shown in Fig. 4, but it may be otherwise constructed. This blank is substantially rectangular in general formation, and at the two opposing
40 sides is provided with registering recesses 26 and a central opening 27, and at a side at right angles to that containing the recess 26 a tongue 28 is projected from the body of the blank, and at the same side an angular slot 29
45 is made in the body of the blank, which slot 29 is removed from the said tongue 28, and adjacent the said tongue 28, likewise at the same side of the blank a stepped recess 30 is made, and adjacent the angular recess 29 the
50 blank is provided with an aperture 31, and the tongue 28 has a corresponding aperture 32 formed therein. At the side of the blank adjacent that at which the recesses 29 and 30 are located, a recess 30^a is formed corresponding to the recess 30, and a lip 28^a is
55 formed corresponding to the lip 28, and the two lips 28 and 28^a are diagonally opposite. The lip 28 is provided with an aperture 33.

In shaping the box or casing D from the
60 above described blank D', the blank is bent at each side of its center along the opposing side walls of the recess 26, thus forming a bottom *a*, shown in Fig. 2, which lies upon the bottom of the well 16 and is secured to the
65 lid section B by means of a screw 35, or its

equivalent. Thus opposing side members *a'* and *a''* are provided, as is illustrated in Fig. 5, that bear against the sides of the well and then the lip 28 is bent so as to have bearing against both sides constituting one end of the box or casing, and the lip 28^a is similarly bent to constitute the opposing end portion, while the material adjacent the recess 29 is then bent inward to engage with the side *a'* of the box, forming a third and intermediate cross
70 piece *a'''*. The cross pieces 28, 28^a, and *a'''* are in longitudinal alinement, as are likewise the apertures produced therein, designated as 32, 33, and 31. The upper or open portion of the box or casing is opposite the mouth of the well 16. In forming this box or casing B the material of the blank is bent in a manner to bring the stepped recesses 30 and 30^a opposite each other in transverse alinement, one
75 being under each side of the box. 80

A feed mechanism is located within the well, or rather within the box or casing D. This mechanism is as follows: A sliding finger plate 36 is mounted on the outer face of the lid section B of the holder covering the
85 mouth of the well 16, and a guide lug 37 is carried down from the under face of the finger plate 36 into the said well near the outer or forward end of said plate, and a corresponding trip finger 38 is carried down to the well
90 from the under face of the said plate adjacent its opposite end, the said lug 37 and trip finger 38 having apertures therein. A pin 39 is passed through the apertures in the upper cross pieces of the box or casing, being secured thereto, and the said pin 39, which is in the nature of a shaft, is loosely passed through the lug 37 and the trip finger 38 of the sliding finger plate 36, as is shown in Fig.
95 2. A spring 40 is coiled around the shaft or spindle 39, having bearing at one end against the upper cross member *a'''* of the box or casing, and at its opposite end against a sleeve 41 mounted to slide on the said spindle 39, which sleeve is in engagement with the forward side of the trip finger 38; thus when the plate 36 is pushed forward, or toward the point of the holder, the spring 40 is placed under compression, and when the finger or sliding plate is released the spring returns to
100 its normal position, and it is obvious that the trip finger 38 moves with the said plate. 105

An ejector 42 is mounted about centrally between the sides of the box or casing D, being secured centrally on the pin, which pin is mounted to slide in the lower sections of the stepped recesses 30, as is shown in Fig. 2. This ejector has a head at each of its ends extending downward, but the head at the forward end extends likewise upward so as to
110 form a projection at such point, and the said ejector is held with a downward and rearward inclination by the trip finger 38 when the sliding plate is in normal position, and is held with a downward and forward inclination
115 120 125 130

when the sliding plate is moved toward the top of the holder. This is done by the action of the trip finger 38 which slides along the upper edge of the ejector and bears thereon adjacent one or the other of its ends according to the position of the sliding plate 36. The lead 25^a in use is provided with a series of notches 44, and these notches are located a distance apart corresponding to the distance between the heads of the ejector. When the sliding plate is in its normal position the rear head rests in one of the said notches, but as the sliding plate is moved outward the trip finger presses the outer or forward end of the ejector downward releasing its rear head and bringing the forward head into the notch 44, and at the further outward movement of the plate 36 the lead is compelled to travel with the plate, and when the plate returns to its normal position the rear head again engages with the lead. A block 43 is located at the bottom portion of the casing D to form a support for that portion of the lead that is within the well 16.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. A magazine clip adapted to be inserted in the chamber of a lead pencil, provided with continuous longitudinal corrugations, each constituting a pocket for a stick of lead, and means located at the ends of the clip for retaining the sticks in said pockets.

2. A magazine clip adapted to be inserted in the chamber in a pencil, said clip being provided with longitudinal exterior corrugations, each corrugation constituting a pocket for a stick of lead, and removable caps fitted over said corrugations at the ends of the clip.

3. A magazine clip adapted to be inserted in the chamber of a pencil, said clip constitut-

ing a hollow pocket having exterior longitudinal corrugations produced therein, which corrugations constitute a pocket for a stick of lead, and apertured removable caps fitted to the end portions of the said clip.

4. In lead pencils a container for a movable lead provided with an exteriorly located spring-controlled sliding plate, an interiorly located ejector for the lead having sliding and rocking movement, and a trip device carried by the plate and engaging with the said ejector, which device as the slide is moved, causes the end portions of the ejector to alternate with the lead and control the sliding movement of the ejector.

5. A lead pencil provided with an exteriorly located tension-controlled sliding thumb plate, and an interiorly located ejector for the lead of the pencil, which ejector has sliding and rocking motion and is adapted to engage with the lead when moved in one direction, and an operating means for the ejector carried by the plate.

6. In a lead pencil, an exteriorly located sliding thumb plate, a slidable notched stick of lead, an ejector for the lead having rocking and sliding movement relatively to the lead, and adapted to engage with the notched surface of the lead in a direction corresponding to the direction of the movement of the plate, an operating member for the ejector carried by the plate, and a spring acting to throw the ejector backward.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM B. McKIM.

Witnesses:

J. FRED. ACKER,
JOHN P. DAVIS.