

A. J. KECK.
PENCIL.

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1,060,099.

Patented Apr. 29, 1913.

Fig. 1.

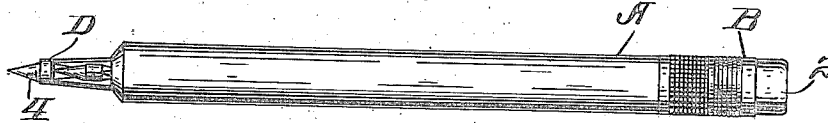


Fig. 2.

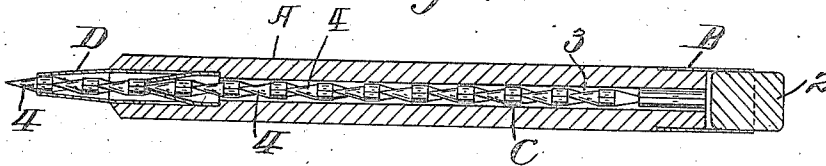


Fig. 3.

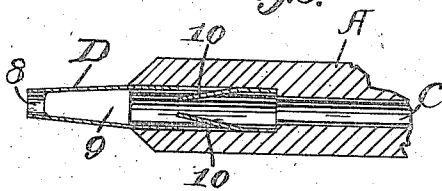


Fig. 4.

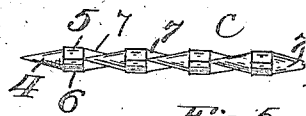
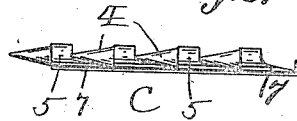


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALBERT J. KECK, OF ST. PAUL, MINNESOTA.

PENCIL.

1,060,099.

Specification of Letters Patent.

Patented Apr. 29, 1913.

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To all whom it may concern:

Be it known that I, ALBERT J. KECK, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Pencils, of which the following is a specification.

This invention relates to a pencil having a tubular holder in which a series of marking points is held longitudinally by a frangible projector or filler said parts being so constructed as to permit the projector being advanced to expose a fresh marking point at the writing end of the pencil as required.

As distinguished from prior inventions this device is provided with means whereby the projector filled with points may be directly engaged and advanced by hand at or near the writing end of the pencil instead of by the use of mechanical means such as disclosed in Patent No. 650,078 granted to me on May 22, 1900.

My invention further consists of features of construction and combinations of parts which will be hereinafter more fully described and claimed.

In the accompanying drawing, forming part of this specification, Figure 1 is a side view of my invention; Fig. 2 is a longitudinal section with the marking points and the projector in which they are fastened shown in full; Fig. 3 is a longitudinal section through a detail of the marking end of the pencil, and Figs. 4 and 5 are enlarged views of details of the projector and the marking points therein.

In the drawings A indicates a magazine which is in the form of a casing or cylinder having on one end a removable cap B which may or may not support an eraser 2 as desired. In the longitudinal passage 3 of the casing is a projector C which supports a series or string of individual marking points 4 made out of graphite or other suitable material. The projector as shown is made out of a thin strip of metal or other suitable frangible material having notches cut therein forming arms 5 and 6 which are lateral to the longitudinal axis of the filler and have their ends bent to form tight bands or gripping means around the bodies or butts of the points 4 and thus support said points rigidly. The notches also serve to weaken the projector at a point adjoining

the forward edge of each band. This weakened part referred to is produced by tapering the web 7 between each pair of bands from the forward band to the one immediately back of it. By tapering the web from a forward band to one immediately back of it and by forming arms 5 and 6 of substantially equal length as shown a stronger and more rigid construction of filler is produced with a minimum amount of material and the points are more tightly held to prevent lateral and rearward movement thereof in the filler when in use.

At the writing end of the pencil is a tubular holder D made out of thin metal or other suitable material and providing a passage through which the projector with the marking points is adapted to pass. The inner end of the holder is seated in and supported by the casing and its outer end is somewhat reduced in size to form a collar 8 in which a band 5 with the body of a marking point within is firmly supported against lateral movement as each new marking point is advanced from the casing. Immediately back of the collar 8 the sides of the holder are cut away at 9 to form an opening so that the projector can be engaged and moved forward by hand a step at a time to advance an unused marking point on the outer end of the holder when the one preceding it has worn out. As the projector is moved forward, a pair of spring dogs engage the inner edges of the bands 5 and prevent the projector from moving back into the magazine. These dogs are struck in from the shell of the holder D and their free ends project into the holder and toward the writing end of the pencil. The holder D may be held in the casing by making a tight fit between the parts, or it may be otherwise suitably fastened in place.

In use the projector holding a series or string of individual marking points is placed in the magazine by removing the cap B and as each marking point wears away a new point can be brought into service by moving the projector forward by hand and breaking off that portion of the projector extending beyond the holder D. It is obvious that when a projector has been used and the magazine is exhausted, a new projector with a charge of unused points can be placed in the casing and used.

Where I have used the term "projector" in the specification and claims following I mean it to include any form of filler for supporting or holding a series of marking points.

In accordance with the patent statutes, I have described the principle of operation of my invention, together with the construction which I now consider to represent the best embodiment thereof, but I desire to have it understood that the device shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth, within the scope of the following claims.

Having described my invention, what I claim as new and desire to protect by Letters Patent, is:—

1. A device of the class set forth, comprising, a hollow pencil casing, a projector having a series of pairs of laterally extending arms and a series of webs each converging inwardly between the pairs of arms, a marking point embraced by each pair of arms and a holder at the writing end of said casing having an opening in its end in which the forward marking point and its arms are held and an opening in its side beyond the casing through which the holder can be engaged to move it forward a step at a time to project a fresh marking point when the one preceding it has worn out.

2. A pencil comprising a casing, a frangible projector containing a series of individual marking points fixed thereon, and means for preventing said projector from returning into said casing but permitting its advance through the casing in the writing end of said pencil, said casing being formed to fit the projector closely at the writing end of the pencil and apertured to permit the projector in writing position to be engaged by hand and moved forward to expose a new

marking point on the writing end of the pencil.

3. A pencil, comprising, a casing, a tubular holder projecting from the writing end of said casing and having an opening in its side and a collar on its outer end, and a projector adapted to hold marking points and having a gripping means for each point, said gripping means being adapted to be securely held laterally by said collar whereby all lateral play of said projector is prevented on the writing end of said pencil.

4. In a pencil of the class set forth, a frangible projector having a series of marking points comprising a series of pairs of arms each pair being adapted to embrace the butt of one of said points and the arms of each pair being of substantially equal length and a web between the pairs of arms having its edges converging from one pair of arms to the next preceding pair, whereby the projector is weakened at a point adjoining the forward edge of each pair of arms and a strong rigid point holding structure is produced.

5. A frangible projector having a series of marking points, bands embracing said points and weakened webs disposed between said bands, and a tubular holder in which said projector is carried and held against lateral play having a space in its side through which said projector may be engaged by hand and moved forward to expose a fresh marking point beyond one end thereof, and a stationary dog automatically engaging said projector to prevent its return into said holder.

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

ALBERT J. KECK.

Witnesses:

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