(Model.)

G. L. JAEGER.

LEAD PENCIL.

No. 272,700. Patented Feb. 20, 1883.

Fig. 1.

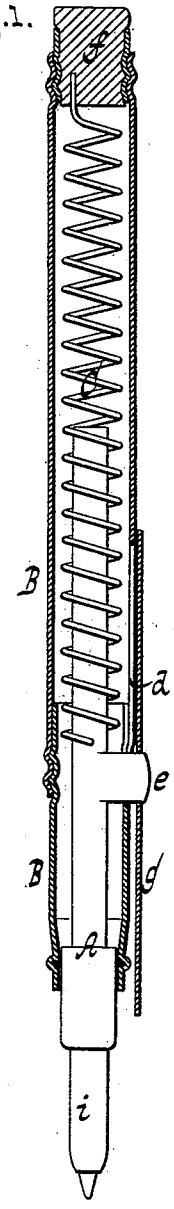


Fig. 2.

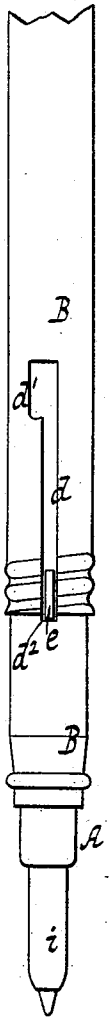


Fig. 3.

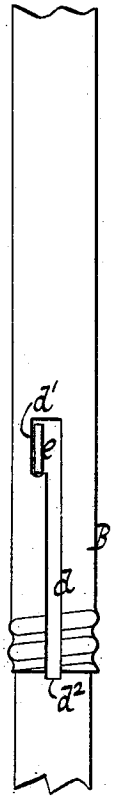


Fig. 4.

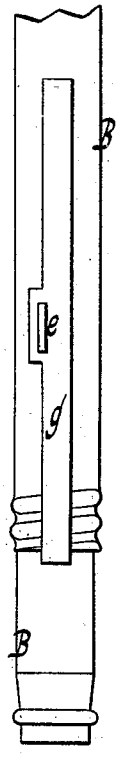


Fig. 7.

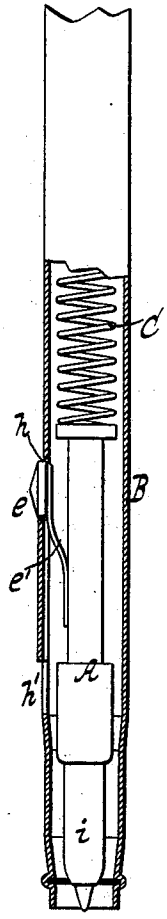


Fig. 5.

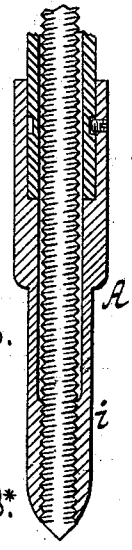


Fig. 6.

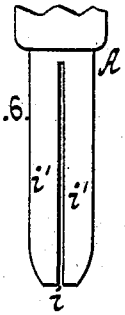


Fig. 7*

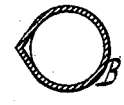


Fig. 8.



Fig. 8*.

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UNITED STATES PATENT OFFICE.

GUSTAV L. JAEGER, OF NEW YORK, N. Y.

LEAD-PENCIL.

SPECIFICATION forming part of Letters Patent No. 272,700, dated February 20, 1883.

Application filed November 3, 1882. (Model.)

To all whom it may concern:

Be it known that I, GUSTAV L. JAEGER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Lead-Pencils, of which the following is a specification.

This invention relates to that class of lead-pencils in which the pencil proper is arranged in a case and subjected to the action of an ejecting-spring; and it consists in providing a sliding pencil with a laterally-projecting thumb-piece, the pencil-case being provided with a longitudinal slot having an offset at its inner end, a spiral spring being connected with the pencil-case and the sliding pencil, and coiled so as to tend to turn the pencil, and thereby force its thumb-piece into the offset at the inner end of the slot, all of which and the purposes therefor will be more fully set forth hereinafter.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a longitudinal section with the pencil in its outer position. Fig. 2 is a side view with the pencil proper in its outer position, the shield being removed and a portion of the case broken away. Fig. 3 illustrates a portion of the pencil-case, and shows the stud on the pencil received in the notch at the inner end of the slot. Fig. 4 is a side view showing the shield. Fig. 5 is a longitudinal section of the pencil detached, and on a larger scale than in the previous figures. Fig. 6 is a side view thereof. Fig. 7 is a longitudinal section through a portion of the case with the pencil shown in side view, this figure illustrating a modified arrangement of devices for locking the pencil. Fig. 7* represents a section taken transversely through the case at a point between the openings *h h'* shown in Fig. 7. Figs. 8, 8* are views of the pencil-lead.

Similar letters indicate corresponding parts.

The letter A designates the pencil; B, the pencil-case, and C the pencil-ejecting spring. The pencil is arranged to slide longitudinally in the case without turning therein as it is brought to its respective positions, the same being guided in the case, and the outer position of the pencil is determined by a stop, while it is automatically locked in an inner position by a catch, as next described.

Referring to Figs. 1 to 6, inclusive, the pencil-case B is constructed with a longitudinal opening or slot, *d*, having an offset, *d'*, at its inner end, and the pencil A has a thumb-piece, *e*, which protrudes through and works in said case-slot in the movements of the pencil, so that the slot is a guide for the latter, the thumb-piece, moreover, having a length equal to or less than the width of the offset. The length of the case-slot *d* is such as to allow the required movement of the thumb-piece *e* to bring the pencil to its positions, and when the pencil is allowed to follow the action of the ejecting-spring C the thumb-piece is arrested by the outer end, d^2, of the slot, making such end of the slot a stop for the pencil. The spring consists of a spiral wire, and being enclosed in the case B, above the pencil, the inner or lower end of the spring is connected to the pencil, while it is coiled in a suitable manner to act on the pencil, with a tendency to force the thumb-piece *e* laterally in the direction of the offset *d'* of the case-slot, besides serving to eject the pencil. Hence when the pencil is forced inward the thumb-piece *e* enters the offset *d'* automatically and is retained therein until forcibly withdrawn, making the offset, in connection with the thumb-piece *e* and spring C, a catch for locking the pencil automatically in its inner position. For convenience of coiling the spring C, I connect its upper or outer end to a plug, *f*, which is screwed into the upper end of the pencil-case.

The thumb-piece *e* carries a shield, *g*, which is made of sufficient length and width to cover the case-slot *d* in either position of the pencil, the shield having the motion of the pencil, so that the interior of the case is thereby kept free of dirt or grit and other like objectionable matter. In the example shown in Fig. 7 the thumb-piece *e* consists of a button fastened to a flat spring, *e'*, and the case B is constructed with two openings, *h h'*, one forming a stop and the other a catch for the pencil, these openings being in line with each other relatively to the length of the case, and being adapted to receive the thumb-piece, the latter being depressed to release the pencil. In the example

last referred to the pencil-guide may consist of a rib or slot formed in or upon either the pencil or case to engage with a suitable stud.

It will be perceived that in order to bring the pencil A to an inner position it is only necessary to rest the tip thereof on a suitable support and force the case B down over it until the pencil is caught. The convenience of such arrangement will be better realized when it is considered that the pencil can thus be entirely manipulated by one hand.

The pencil A is constructed with a tip, *i*, which is so arranged as to be capable of rotary motion, and is provided with an internal screw-thread, so that if the lead placed in the pencil is received in the tip and engaged by the screw-thread of the latter the lead can be advanced or fed out as it is consumed by turning the said tip. The pencil-tip *i*, moreover, is split inward from its outer end in two or more places, forming spring-jaws *i'*, which exert an elastic or yielding pressure upon the lead. The lead used may be square or polygonal and the pencil-tube shaped correspondingly, or the pencil-tip *i* may be provided with a spur to scratch or open a furrow in the lead to prevent its rotation. In order to insure the engagement of the pencil-tip *i* with the lead, I form the latter with a screw-thread corresponding to that of the tip, as shown in Figs. 5 and 8. When the lead is made square or polygonal the thread is formed by cutting notches at the corners thereof, leaving the sides plain; and if desired only one of the corners may be so cut. These notches can also be used when the lead is round.

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

The combination, substantially as described, with the sliding pencil provided with a laterally-projecting thumb-piece, of the pencil-case provided with a straight longitudinal slot having an offset at its inner end, and the spiral spring connected with the pencil-case and the pencil, and coiled so as to tend to turn the pencil, and thereby force its thumb-piece into the offset at the inner end of the slot, for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

GUSTAV L. JAEGER. [L. S.]

Witnesses:
J. VAN SANTVOORD,
CHAS. WAHLERS.