

No. 861,052.

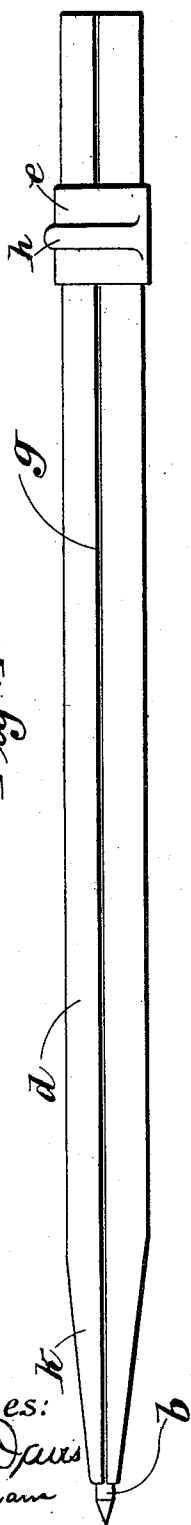
PATENTED JULY 23, 1907.

C. PINTZ.
LEAD PENCIL.

APPLICATION FILED AUG. 11, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
A. H. Davis
P. J. Lohman

Fig. 2.

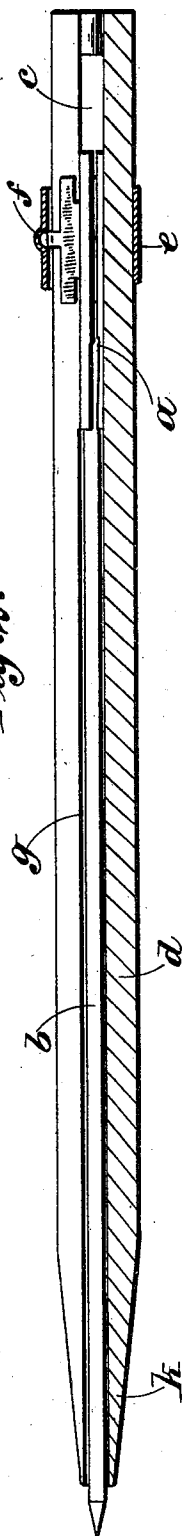
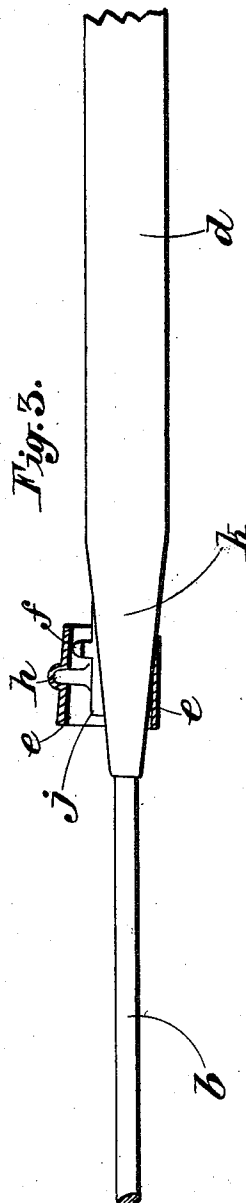


Fig. 3.



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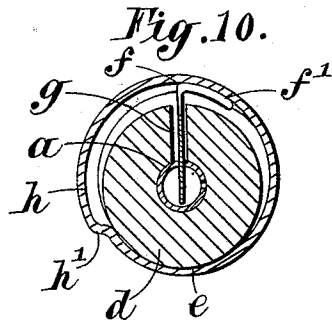
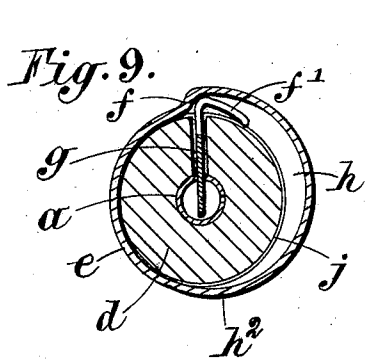
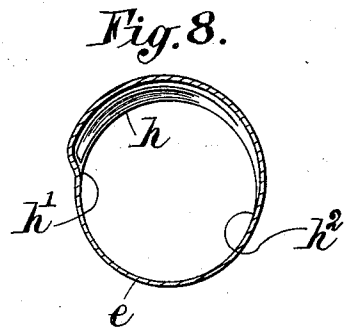
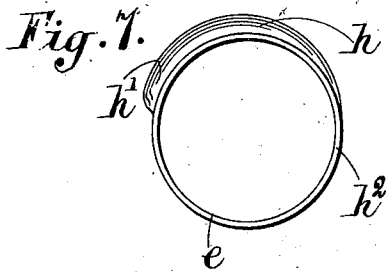
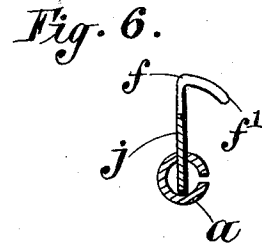
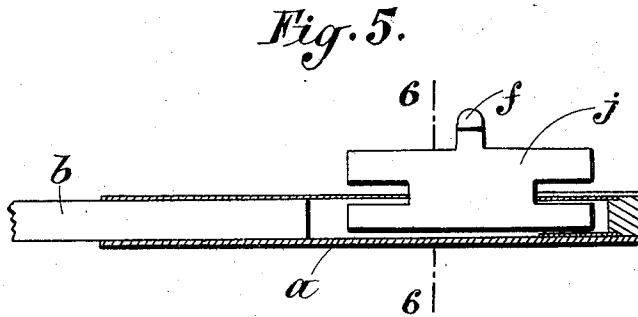
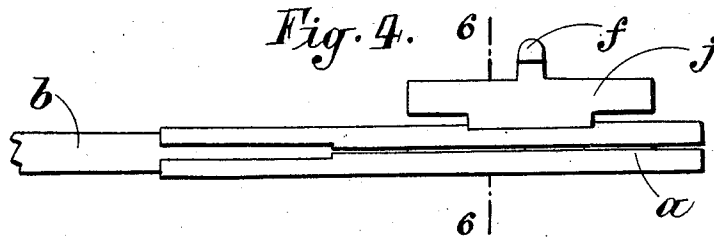
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PATENTED JULY 23, 1907.

G. PINTZ.
LEAD PENCIL.

APPLICATION FILED AUG. 11, 1906.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CARL PINTZ, OF BUDWEIS, AUSTRIA-HUNGARY.

LEAD-PENCIL.

No. 861,052.

Specification of Letters Patent.

Patented July 23, 1907.

Application filed August 11, 1906. Serial No. 330,245.

To all whom it may concern:

Be it known that I, CARL PINTZ, a subject of the Austrian Emperor, residing at Budweis, Bohemia, Austria-Hungary, have invented an Improved Lead-Pencil, of which the following is a specification.

This invention relates to improvements in that kind of so-called lead-pencil which consists of a holder having the appearance of an ordinary wooden pencil, a longitudinally adjustable strip or core of graphite, crayon, or equivalent writing material constituting the "lead", and a slider to which the lead is attached, the slider fitting friction tight on the holder and serving to enable the point of the lead to be either projected beyond the end of the holder when the pencil is in use, or withdrawn within the holder as may be desired.

The object of the present invention is to provide means whereby the slider, and consequently the lead attached to it, may be clamped in position relatively to the holder, so that on the one hand when the pencil is in use the lead may be prevented from yielding to the pressure upon its point in the act of writing, and on the other hand the lead when retracted into the holder may be so retained, the invention being designed to obviate the defect which these pencils as at present made are apt to exhibit in consequence of the fit of the slider on the holder becoming impaired through constant use.

According to this invention the slider comprises two distinct parts, namely a carrier for the lead, fitted to work longitudinally in the bore of the holder, and a sleeve whereby the carrier is moved and clamped, the sleeve encircling the holder and being rotatable thereon. The connection between the sleeve and carrier is such that according as the sleeve is turned in one or the other direction, to the limit of its rotary movement about the holder, the slider as a whole (and with it the lead) will become fixed relatively to the holder or set free so as to be adjustable longitudinally thereof.

In the accompanying drawings, Figure 1 is a side elevation of the improved pencil, and Fig. 2 is a longitudinal section thereof on the plane of the slit which extends from end to end of the holder. Fig. 3 is a part side elevation of the pencil, partly in section, illustrating the mode of introducing a new lead into the holder. Figs. 4 and 5 are respectively a side elevation and a longitudinal section of the carrier for the lead, Fig. 6 being a transverse section thereof on line 6—6 Figs. 4 and 5. Figs. 7 and 8 are respectively an end elevation and a central transverse section of the sleeve whereby the carrier is moved and clamped, while Figs. 9 and 10 are transverse sections of the pencil through the carrier and sleeve in the free and clamped conditions respectively. Figs. 7 to 10 are drawn to a larger scale.

Similar letters of reference indicate like parts throughout the figures.

In the improved pencil, the carrier for the lead com-

prises a length of split tube *a* formed of spring metal, of a diameter to receive and grip the rear end of the lead *b* and to closely fit the bore *c* of the holder *d*. The sleeve *e*, whereby the carrier may be shifted to and clamped in any desired position lengthwise of the holder, consists of a ring encircling the cylindrical holder *d* and capable of being easily slid and rotated thereon, the connection between the carrier and sleeve being maintained by means of a lug *f* which is fixed to or integral with the carrier and projects laterally therefrom through the longitudinal slit *g* in the holder so as to engage in a circumferentially extending groove *h* provided on the inner surface of the sleeve *e*.

The groove *h* extends only partly around the circumference of the sleeve, its depth varying gradually from a maximum at one end *h*¹ (where the groove terminates abruptly) to a point *h*² which may, as indicated, be about diametrically opposite to the end *h*¹ and at which the depth of the groove becomes *nil*. Hence when, on the one hand, the sleeve *e* is turned in the one direction until arrested by the end *h*¹ of the groove encountering the stud *f* as indicated in Fig. 9, the slider will be free to be moved lengthwise of the holder *d* so as to adjust the lead *b* as required. On the other hand, when the sleeve *e* is turned in the opposite direction until arrested by the pressure of the lug *f* against the bottom of the groove towards its shallower end *h*² as indicated in Fig. 10, the slider will become clamped in whatever position it may then occupy lengthwise of the holder, as the result of the sleeve, at a point in its circumference diametrically opposite to the lug *f*, being drawn tightly against the holder and the tube *a* being at the same time thrust tightly against the bore of the holder at a point diametrically opposite to the slit *g*.

The lug *f* is preferably formed on a plate *j* fixed in a slot in the tube *a* and serving to guide the slider by its engagement with the slit *g*, the plate *j* being of sufficient length or area to prevent fracture of the lug *f* in consequence of the transverse strain thrown upon the latter when the slider is clamped to the holder as above described. The outer end of the lug *f* is preferably bent over in a direction and to a curvature corresponding to those of the groove *h* as shown at *f*¹ in Figs. 6, 9 and 10, so as to present an extended surface for the transmission of pressure between the lug and the bottom of the groove when the slider is clamped as indicated in Fig. 10.

The front end portion of the holder would be tapered as at *k* in Figs. 1, 2 and 3, not merely for appearance sake, but also in order to enable the parts to be more easily assembled, when, for example, a fresh lead is to be inserted in position. When such an operation is to be effected, the carrier *a* is first inserted in the bore of the holder *d* at the point thereof so that the lug *f* projects through the slit *g* where the latter traverses the tapered portion *k* of the holder. The sleeve *e* may

then be readily slipped over the lead *b* and tapered portion *k* of the holder, as indicated in Fig. 3, until the groove *h* engages over the lug *f* whereupon the slider may be moved as a whole rearwards along the holder *d* as far as required.

It will be observed that so long as the slider occupies a position wherein the sleeve *e* is in engagement with any part of the cylindrical portion of the holder, the sleeve *e* will be prevented by the lug *f* from escaping from the carrier *a* in either direction lengthwise of the holder, the detachment of the sleeve from the carrier being only possible when the parts of the slider are either in the position shown in Fig. 3, or are wholly withdrawn from the holder *d*.

Claims.

A pencil of the kind described, comprising a holder provided with a longitudinal bore and a slit communicating with the bore, a lead, a carrier for attachment to the rear end of the lead consisting of a split tube of spring metal adapted to fit the bore of the holder said tube being provided with a slot, a plate having a portion within the slot and adapted to travel in the slit of the holder, said plate having an enlarged lug which projects from the slit of the holder and is bent at an angle thereto, and a sleeve provided with a groove, the depth of which gradually decreases from one end to the other, the groove being adapted for engagement by the lug, substantially as specified.

CARL PINTZ.

Witnesses:

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