P. SCHRAG.
Lead-Pencil.

No. 197,412. Patented Nov. 20, 1877.

Fig.1.

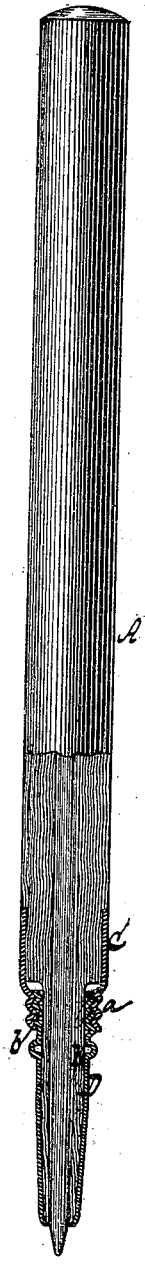



Fig.2.

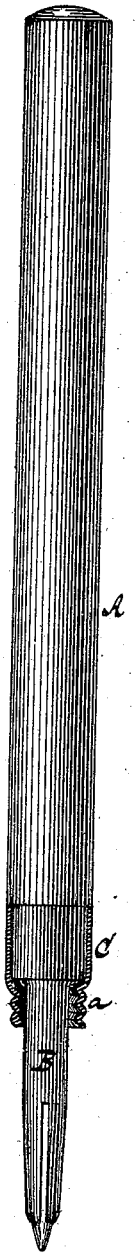
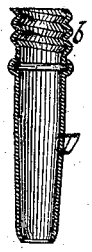



Fig.3.




Witnesses.
~~Otto~~ Hufeland.
Hugo Brueggemann

Inventor.
Philip Schrag
by
Van Santvoord & Hauff
his attorneys

# UNITED STATES PATENT OFFICE.

PHILIP SCHRAG, OF NEW YORK, N. Y., ASSIGNOR TO EBERHARD FABER, OF SAME PLACE.

## IMPROVEMENT IN LEAD-PENCILS.

Specification forming part of Letters Patent No. **197,412**, dated November 20, 1877; application filed September 22, 1877.

*To all whom it may concern:*

Be it known that I, PHILIP SCHRAG, of the city, county, and State of New York, have invented a new and useful Improvement in Lead-Pencils, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional side view of my pencil on an enlarged scale. Fig. 2 is a similar view of the same without the screw-clamping cap, and Fig. 3 a longitudinal central section of the screw-clamping cap.

Similar letters indicate corresponding parts.

This invention relates to an improvement in that class of pencils for which a patent was granted to Johann L. Faber, August 13, 1861, No. 33,034.

My improvement consists in the combination, with a hollow handle bored out to receive the lead, and with a split tube connected to said handle, of a ferrule fitted to the handle, and provided with a screw-thread at its open end, and of a screw-clamping cap, provided with a screw-thread to fit the thread of the ferrule, so that both the screw-clamping cap and the ferrule can be readily made of sheet metal, and that, while all the advantages of the Faber pencil above named are retained, the cost of manufacturing the article is materially reduced.

The pencil described in the patent of Johann L. Faber is formed with a hollow handle adapted to receive the lead. One end of this handle is provided with a split tube, which receives the lead freely, and is threaded at the rear end to receive a screw-clamping cap, the bore of which, beyond the threaded portion, is slightly tapering to compress the split tube and make it gripe and hold the lead. A ferrule applied to the front end of the handle serves to strengthen said handle, and it projects beyond the threaded rear end of the split tube, so as to protect this thread.

In carrying out this invention it is necessary to cut a screw-thread on the rear end of the split tube, and, in order to obtain a screw-thread of sufficient durability, the split tube must be made of brass or other metal, turned off, provided with the thread, and connected to the handle, which latter is generally made of wood, so that much labor is involved in the manufacture of the article.

In my pencil the hollow handle A and the split tube B can be made all in one piece, of wood or other suitable material; or, if desired, the split tube B may be made separate, and secured to the handle in any desirable manner. On the front end of the handle is secured a ferrule, C, which is made of sheet metal, and provided with a screw-thread, *a*, said screw-thread being produced in the well-known manner of manufacturing sheet-metal screws. The threaded portion of the ferrule projects beyond the rear end of the split tube B, and it is open to receive the screw-clamping cap D. This cap is also made of sheet metal, its front end being slightly tapering, as shown in Figs. 1 and 3, while its rear end is provided with a screw-thread, *b*, to engage with the thread *a* of the ferrule.

By this construction I am enabled to produce the threads on the ferrule and on the screw-clamping cap with comparatively little labor. The pencil, when completed, has a good appearance. It is durable, and the cost of its manufacture is materially reduced.

It is obvious that the screw-thread of the ferrule may be internal or external, and that of the screw-clamping cap to correspond.

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

The hollow wooden pencil-stock A, having the reduced tapering split end B, in combination with the separate projecting sheet-metal screw-threaded ferrule C, and the sheet-metal screw-threaded clamping-cap D, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 17th day of September, 1877.

PHILIP SCHRAG. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.