

(No Model.)

J. HOFFMAN.
LEAD AND CRAYON HOLDER.

No. 261,457.

Patented July 18, 1882.

Fig. 1.

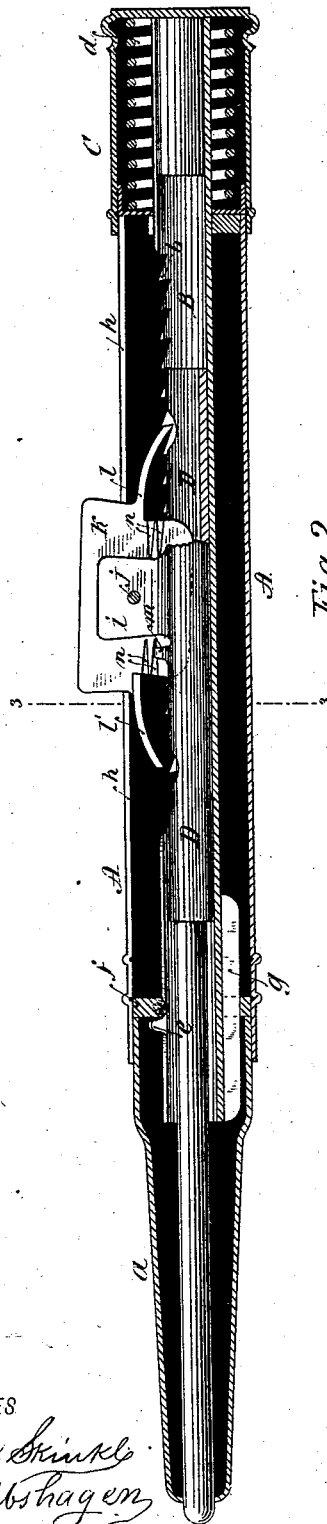
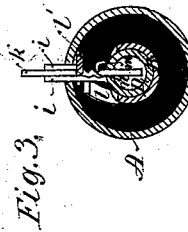
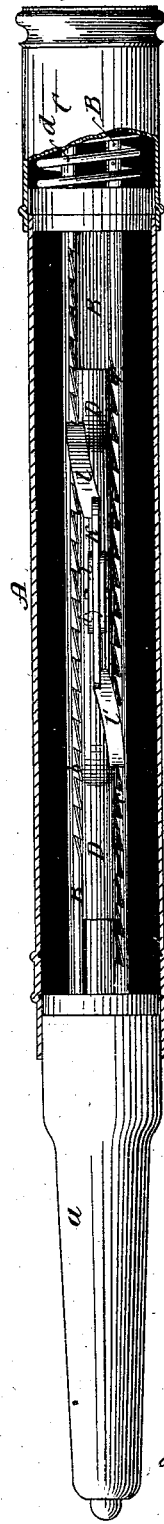


Fig. 2.



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LEAD AND CRAYON HOLDER.

SPECIFICATION forming part of Letters Patent No. 261,457, dated July 18, 1882.

Application filed March 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HOFFMAN, of the city, county, and State of New York, have invented certain new and useful Improvements in Lead and Crayon Holders, of which the following is a full, clear, and exact specification.

My invention relates to that class of pencils or lead and crayon holders in which a lead-carrier movable within the sheath is adapted to be advanced step by step by a pawl-and-ratchet movement.

The pencil illustrated in the drawings, to be hereinafter referred to, is one in which the carrier can be both advanced and retracted step by step by a reversible pawl-and-ratchet movement. Both of the features above named have, however, been made the subject of another application in my name for Letters Patent, filed March 22, 1882, and they are not here broadly claimed.

My present improvements are directed to means for retaining the lead-carrier in the position to which it has been brought by pawl-and-ratchet device, while the ratchet-tube moves back or forward, as the case may be, into a position to again act on the carrier-pawl. It is also directed to means whereby, if desired, the lead-carrier, after having been advanced, can be drawn back directly by a continuous movement, instead of step by step.

The nature of my invention and the manner in which the same is or may be carried into effect will be understood by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of my improved holder on enlarged scale. Fig. 2 is a like sectional elevation of the same in a plane at right angles to the plane of section in Fig. 1. Fig. 3 is a section on line 3 3, Fig. 1.

A is the tubular case or sheath, provided with a tapering tip or nozzle, *a*, which, if desired, can be made removable.

Within the case is the longitudinally-movable ratchet-tube B, which is slotted longitudinally, and is provided upon the edges bounding the slot with rows of ratchet-teeth *b c*, the former, *b*, inclined to the front, the latter, *c*, inclined to the rear.

The ratchet-tube is at its rear end made fast to a pressure-cap, C, and between the end of the sheath and the head of the cap is interposed the retracting-spring *d*, whose office it is to move the tube in the direction opposite to that in which it is moved by hand-pressure on cap C.

A stud or lip, *e*, on the tube in front of the guide flange or ring *f* of the sheath, through which the forward end of the tube passes, prevents the tube from being retracted too far by the spring.

Suitable means should be provided for preventing the tube from rotating. In the present instance I provide a longitudinal rib or fin, *g*, on the tube, which passes through a corresponding notch in the ring *f*.

Under the above-described arrangement it will be seen that the ratchet-tube is capable of longitudinal reciprocatory movement within prescribed limits.

The ratchet-tube contains the lead-carrier D, from which projects outwardly through the ratchet-slot, and also through a smaller slot, *h*, formed in and lengthwise of the case or sheath A, a pawl-support consisting of two plates, *i*, between which is pivoted, at *j*, a plate, *k*, formed or provided with two spring-pawls, *l l'*, the one, *l*, adapted to engage the ratchet *b*, the other, *l'*, adapted to engage the ratchet *c*. The device thus constitutes in effect a reversible pawl. When the pawl-plate is tilted in one direction *l* and *b* are brought into engagement, and when it is tilted in the opposite direction *l'* and *c* are caused to engage. Reciprocatory movement of the ratchet-tube will cause the carrier in the former case to advance and in the opposite case to recede.

In order to prevent the carrier from moving with the ratchet-tube when the latter is returning to the requisite position to enable it to take a fresh hold on the carrier-pawl, I extend the pawl-supporting plates *i* up through the slot *h*, and cause the plates to fit the slot snugly and with sufficient friction to hold the carrier in place, unless positively acted upon by the ratchet-tube.

In order to hold the pawl-plate *k* in either position to which it may be tilted, I provide

on the carrier a stud or protuberance, *m*, which is adapted to engage one or the other of two depressions, *n*, formed in plate *k*, according as it is tilted to one position or the other. There is sufficient spring in the plate to permit of this arrangement.

By bringing the pawl-plate *k* to an intermediate position (and for this purpose a third depression may be provided intermediate between the two depressions *n* represented in the drawings) it will be so placed as to hold both pawls out of engagement with the ratchet-tube, and in this case the carrier can be slid back and forth by hand without trouble, projecting portion of the pawl-plate or support serving as a handle for the purpose. This feature is of advantage even without two pawls and ratchets. If, for example, but one pawl and ratchet, *l b*, be employed, and the other, *l' c*, be dispensed with, in that case the carrier could be advanced step by step, while by tilting the pawl-plate so as to throw the pawl out of engagement with the ratchet the carrier could be pulled back by hand, and, indeed, could be advanced in the same way, and then, when adjusted to the proper position, be there retained by tilting the pawl into engagement with the rack. Thus, by means of a pawl-shifter operated from the exterior of the sheath, I am enabled, whether the double or single pawl-and-ratchet arrangement is used, to put the pawl in a position in which the carrier can be retracted by a continuous sliding movement.

Having described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the sheath or case and the reciprocatory ratchet-tube, of a lead-carrier provided with a pawl to engage the ratchet of said tube, and also with a stem or radial extension which extends through a longitudinal slot in the case and has frictional contact therewith in such manner as to act to prevent the carrier from following or partaking of the return movement of the ratchet-tube, substantially as hereinbefore set forth.

2. In a lead or crayon holder in which the lead-carrier is adapted to be advanced step by step by a pawl-and-ratchet movement, the combination, with the sheath, the reciprocatory ratchet-tube, and the lead-carrier, of a pawl attached thereto and adapted to be moved into and out of contact with the ratchet-tube, and a pawl-shifter operated from the exterior of the sheath to throw the pawl into and out of engagement with said ratchet-tube, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 10th day of March, 1882.

JOSEPH HOFFMAN.

Witnesses:

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JOE W. SWAINE.