

(No Model.)

C. W. BOMAN.
LEAD AND CRAYON HOLDER.

No. 264,131.

Patented Sept. 12, 1882.

Fig 1.

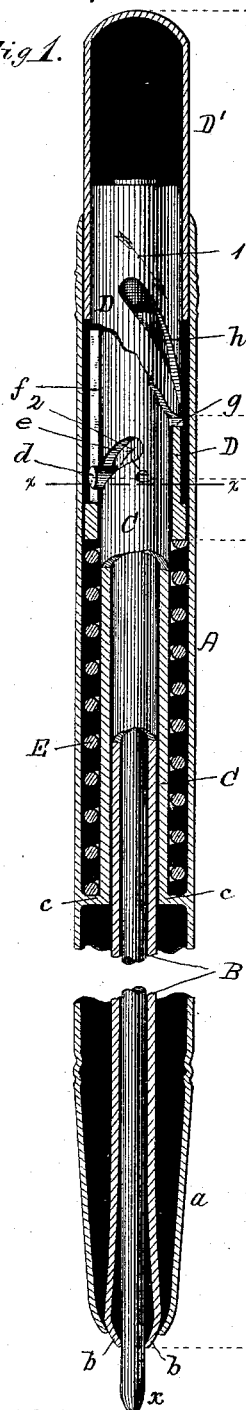


Fig 3.



Fig 2.

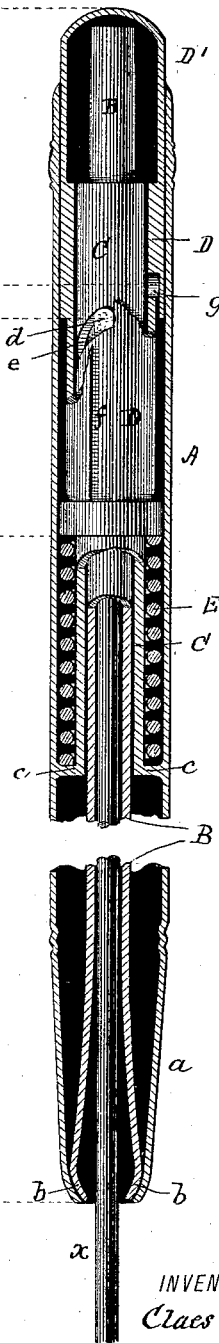
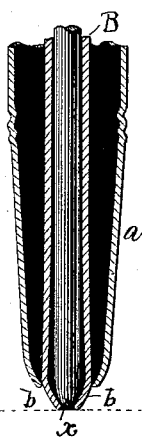


Fig 4.



WITNESSES

Wm A. Shink.
Harry Ring.

INVENTOR

Claes W. Boman.

By his Attorney

Marcellus Bailey

UNITED STATES PATENT OFFICE.

CLAES W. BOMAN, OF NEW YORK, N. Y., ASSIGNOR TO JOSEPH RECKENDORFER, OF SAME PLACE.

LEAD OR CRAYON HOLDER.

SPECIFICATION forming part of Letters Patent No. 264,131, dated September 12, 1882.

Application filed June 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLAES W. BOMAN, of the city, county, and State of New York, have invented a certain new and useful Improvement in Lead or Crayon Holders, of which the following is a specification.

My invention relates to that kind of lead and crayon holder now generally known under the trade-name of "automatic;" and it has reference to the mechanism whereby the lead grasping or clamping device is actuated to take hold of and release the lead. It is characterized by the combination, with the lead-tube or other instrumentality which carries the jaws or lead-grasping device, of what may be termed a "pressure-tube," and an intermediate stationary tube fast to the case or sheath, the three being connected by pin-and-slot connections, substantially in the manner herein-after described, so that the pressure-tube, when moved longitudinally, shall also have a movement of partial rotation, with the effect of imparting to the lead-tube or other jaw-carrier a combined longitudinal and rotary movement, with the result of moving it lengthwise in a direction opposite to that in which the pressure-tube moves.

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

Figure 1 is a longitudinal central section, partly in elevation, of my improved holder, the parts being represented in the position which they assume when the lead projects from the sheath and is grasped by the jaws. Fig. 2 is a similar section, partly in elevation, of the holder, with the parts in position which they assume when the jaws are moved to a position in which the lead is released from their grasp. Fig. 3 is a section on line *xx*, Fig. 1. Fig. 4 is a sectional view of the tip of the holder, with the jaws in the position which they occupy when the lead is wholly within the sheath.

The sheath A and tip *a* are of any suitable construction.

B is the lead-tube, terminating at its front end in clamping-jaws *b*, which normally stand

apart, and are closed on the lead by being forced forward against the contracted end of the tip *a*.

Surrounding tube B for a portion of its length is a tube, C, (the intermediate tube hereinbefore referred to,) which is fast to the sheath A, as indicated at *c*; and surrounding the upper portion of the tube C is what I have hereinbefore termed the "pressure-tube," D, to which is fastened a cap, D', similar to the "pressure-cap" of the ordinary automatic pencil.

The tube C is stationary. The tubes B D are movable, and they are all three connected in the following manner: The inner tube, B, is provided with a stud, *d*, which projects through a spirally-curved slot, *e*, in the intermediate tube, C, and into a straight longitudinal slot, *f*, in the pressure-tube D. The intermediate tube, C, (which, it will be remembered, is stationary,) has a stud, *g*, which projects into a spirally-curved slot, *h*, in the pressure-tube D. The slot *h* is curved in a reverse direction to the slot *e*. The result of this arrangement is as follows: When the pressure-tube D is pushed forward it will, by reason of the engagement of its curved slot *h* with the stationary pin *g*, have imparted to it a movement of partial rotation in the direction of the arrow 1 in Fig. 1. The effect of this latter movement will be to cause it to bear laterally on the pin *d*, which engages its straight slot *f*, and this will result in forcing the pin to travel up through the curved slot *e* in the intermediate stationary tube in the direction indicated by arrow 2, Fig. 1. The tube B necessarily partakes of the movement of pin *d*, and consequently is, while partly rotated, also drawn back away from the contracted end of the tip *a*, as indicated in Fig. 2, thus permitting the jaws *b* to expand and release the lead. A reverse movement of the pressure-tube causes a corresponding reverse movement of the jaws. Thus the two tubes, while rotating in the same direction, move lengthwise in opposite directions.

Between the front end of the pressure-tube and the fixed point *c* is interposed a spiral spring, E, (answering to the retracting-spring

of the ordinary automatic pencil,) which is compressed, as indicated in Fig. 2, when the pressure-tube is pushed forward, and acts by its recoil, when released from pressure, to return the parts to their normal position, as indicated in Fig. 1.

Having described the best way known to me of carrying my improvement into effect, what I claim as new and of my invention is—

10 1. The combination, in a lead or crayon holder, of the sheath or case, the lead-tube or jaw-carrier, the pressure-tube, and the intermediate stationary tube, said tubes being connected together by pin-and-slot connection,
15 substantially in the manner hereinbefore described, so that the lengthwise movement of the pressure-tube shall cause corresponding

lengthwise movement in the opposite direction of the lead-tube or jaw-carrier.

2. The combination, with the sheath or case, 20 and with the lead-tube or jaw-carrier, the intermediate stationary tube and the pressure-tube, connected together by pin-and-slot connection, substantially in the manner hereinbefore described, of the pressure-cap and the re- 25 tracting-spring, substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 31st day of May, 1882.

CLAES WM. BOMAN.

Witnesses:

LEOPOLD AUSBACHER,
JOE W. SWAINE.