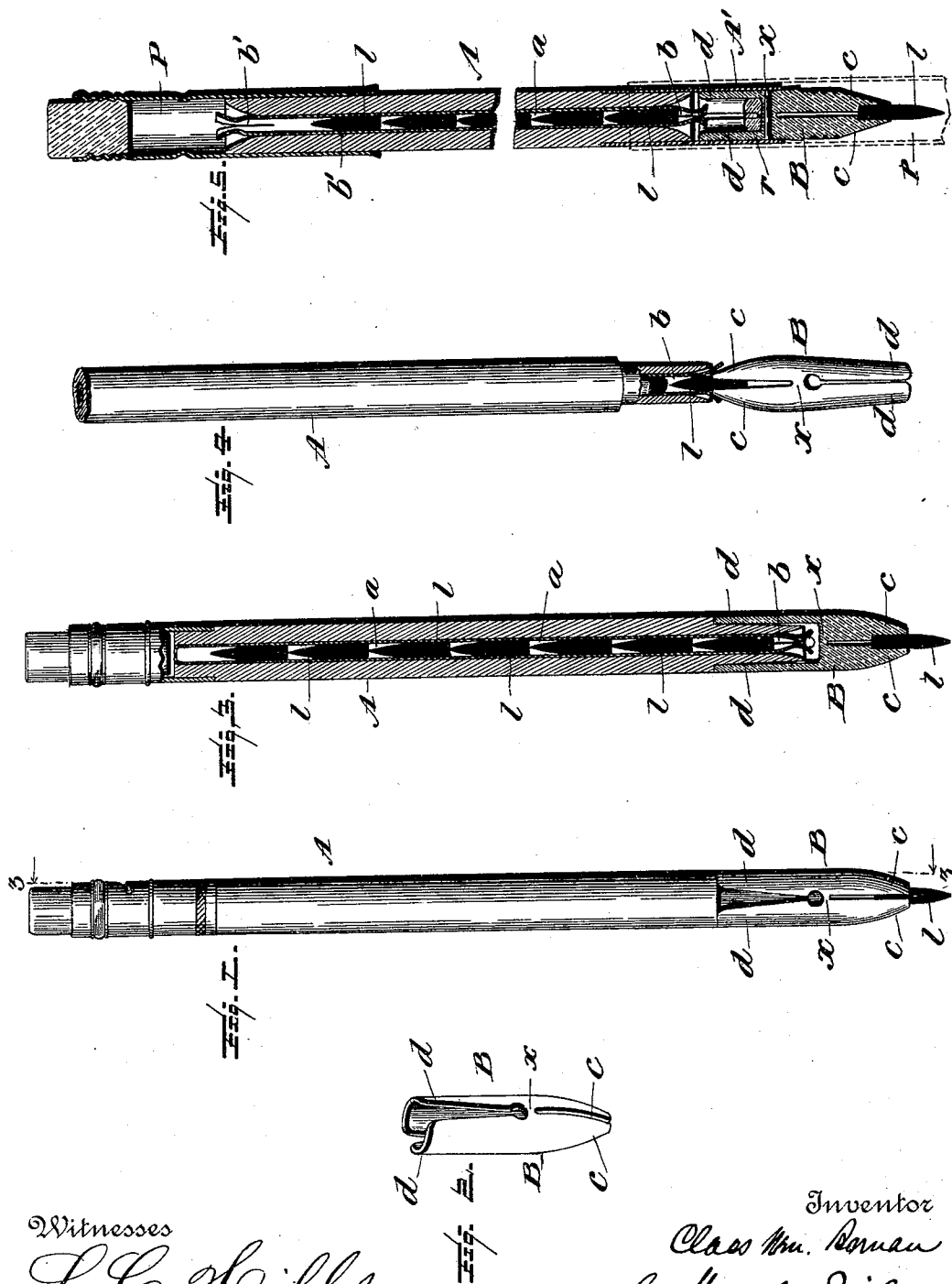


(No Model.)

C. W. BOMAN.
PENCIL.

No. 481,100.

Patented Aug. 16, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

CLAES WM. BOMAN, OF NEW YORK, N. Y., ASSIGNOR TO THE EAGLE PENCIL COMPANY, OF SAME PLACE.

PENCIL.

SPECIFICATION forming part of Letters Patent No. 481,100, dated August 16, 1892.

Application filed June 6, 1892. Serial No. 435,695. (No model.)

To all whom it may concern:

Be it known that I, CLAES WM. BOMAN, of the city, county, and State of New York, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

The pencil to which my invention is directed is one intended to be charged with a number of lead points or short lengths of lead, which can be successively used as occasion demands. This, I am aware, is not broadly new. The "automatic" pencil and "stop-gage" pencil, which have been for years on the market, can be used for that purpose, and as a matter of fact in the daily use of such pencils the lead sticks not infrequently break up into short lengths, which are held in the lead-receptacle and can be protruded therefrom for marking purposes just as though they were a single long lead stick instead of being short pieces.

What I have in view is a cheap and efficient form of pencil containing a lead receptacle or magazine which is self-closing, so as to retain therein the lead points with which it is charged and which is adapted to be opened by a suitable instrument to permit the withdrawal of these lead points one at a time. This withdrawing-instrument in my pencil is the tip or grasping device which holds the lead point for writing or marking purposes, the tip being removable and being formed like nippers, which will not only open the self-closing end of the magazine, but will receive and take hold of the lead point nearest to it in the magazine for the purpose of withdrawing it therefrom. The lead point when thus grasped is held in the tip in position for writing purposes. All that is needed after that is to withdraw the tip from the magazine and to fit it point outward upon the sheath or body of the pencil. The pencil will then be ready for use.

The nature of the 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 view of a pencil embodying the invention. Fig. 2 is a view of the tip detached. Fig. 3 is a longitudinal axial section of the pencil on line 3 3, Fig. 1. Fig. 4 is a

view, partly in section, of the pencil when the tip is reversed and inserted in the self-closing mouth of the lead receptacle or magazine, so as to expand the same and to receive the foremost lead point in the magazine. Fig. 5 is a longitudinal axial section of a modified form of pencil.

The pencil case or sheath A can be of any suitable form and material. Within it is the tubular receptacle or magazine *a*, intended to receive within it a number of lead points or short lengths of lead *l*, introduced point foremost into it from the front end, at which end it has a self-closing mouth, formed in this instance of a split sheet-metal tube *b* on the prolongation of the receptacle *a*, having a bell-shaped contracted mouth which can be spread open by an instrument inserted in it, but which normally is closed against the escape of the lead points. Upon the front end of the pencil is fitted a removable tip B, made of hard rubber, brass, or other suitable sheet metal or other material. This tip has jaws which will grasp and hold a lead point inserted between them, and which can also be inserted whenever desired into the bell-mouth of the tube *b* to open the same and in that position to receive and withdraw from the magazine the foremost lead point therein. I am not limited as to the particular construction of the tip. It may be variously fashioned and constructed for the purposes indicated. I prefer, however, to construct it substantially on the plan exhibited in Letters Patent to Singleton, No. 345,865, of July 20, 1886, for rubber-tip attachment for lead-pencils, comprising two jaws pivoted or equivalently connected at a point *x* between their ends to form in effect two pairs of jaws *c d*, so connected that the closing of the one set will tend to open the other set, the jaws *c* being to receive the lead and the jaws *d* being to fit on the pencil-sheath, and the jaws *c* being in addition tapered at the front, so that they will form a conical nozzle which can enter the bell-mouth of the tube *b* and can then be expanded to open that mouth. When the tip is in the position shown in Fig. 1, the jaws *d* are on the stem or sheath A, and when thus placed are spread apart with the result of closing the jaws *c* firmly on the lead point in-

serted between them. When this point is used up and it is desired to get another point, the tip is removed from the pencil and is reversed, and, the pencil being held front end downward, the conical nozzle of the tip is inserted in the bell-mouth of tube *b*, and is then expanded by pressing together the outer jaws *d*, with the result of opening the magazine and permitting the foremost lead point therein to drop down in between the jaws *c*. The parts in this position are shown in Fig. 4. Then releasing pressure on the outer jaws *d*, the inner jaws *c* close upon the lead point therein, the mouth of the tube *b* closes, and the tip is withdrawn, carrying with it the lead point, and is then replaced upon the pencil in the position shown in Fig. 1.

In the pencil represented in Figs. 1 and 4 the lead points are introduced into the magazine from the front end of the pencil.

In the pencil shown in Fig. 5, however, they are intended to be introduced into the magazine from the rear end of the pencil, for which purpose the magazine at that end has a self-closing mouth formed by a tube *b'*, similar to the front tube *b*.

In this pencil it is intended that the tip shall take its lead points from the front tube *b*, as before, but manifestly the magazine can be closed permanently at the front end and the lead points can be both introduced into and withdrawn from the magazine by the rear tube *b'*. This remark applies to either form of pencil shown in the drawings; but in such case instead of arranging the lead points in the magazine butt-end foremost, as represented in the drawings, they should be arranged therein point foremost.

The tip shown in Fig. 5 is similar in general construction to that shown in Figs. 1 to 4; but as it is intended to be inserted into the pencil it is modified in shape accordingly, so that it will enter and fit a socket *A'*, formed for its reception on the front end of the pencil-sheath.

In this tip I insert a block of rubber *r* between

the jaws *d*, so as to cause the lead-holding jaws to normally close, and the arrangements of parts is such, preferably, that when the tip is seated in its socket the front end of the socket, as shown, will extend beyond the pivot-point *x* and upon the jaws *c*, thus positively closing them upon the lead.

The pencil shown in Fig. 5 is provided with a removable rubber tip and point-protector *P*, which can at will be placed either upon the rear end of the pencil to cover the magazine-opening at that point, or upon the front end of the pencil to cover the tip when the latter is not in use.

Having now described my invention and the best way known to me of carrying the same into effect, I state, in conclusion, that I do not limit myself to the special details of construction hereinbefore set forth, since manifestly the same can be varied in a number of particulars without essentially departing from the invention; but

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

1. A lead-pencil provided with a lead receptacle or magazine having a self-closing mouth and a tip adapted to open the magazine and to receive therefrom one of the lead points contained therein, substantially as hereinbefore set forth.

2. A lead-pencil provided with a self-closing lead receptacle or magazine, in combination with a removable and reversible tip adapted to open with its lead-holding end the self-closing mouth of the magazine and to take and withdraw therefrom one of the lead points contained therein, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CLAES WM. BOMAN.

Witnesses:

SAMUEL KRAUS,

PERCY H. BUCKMASTER.