(No Model.)

# O. MUSSINAN, Jr.

## PENCIL.

No. 382,488. Patented May 8, 1888.

Fig. 1.

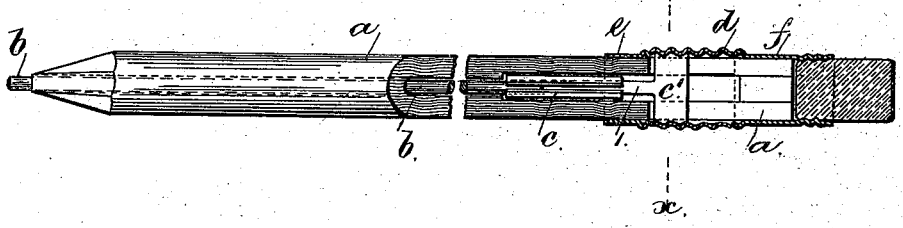



Fig. 2.


Fig. 3.

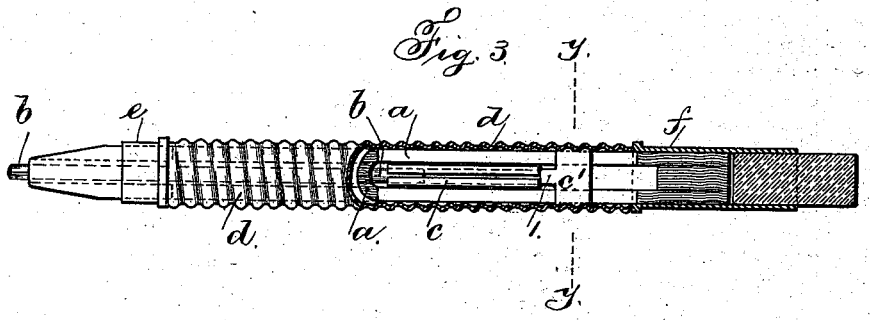



Fig. 5.


Fig. 4.

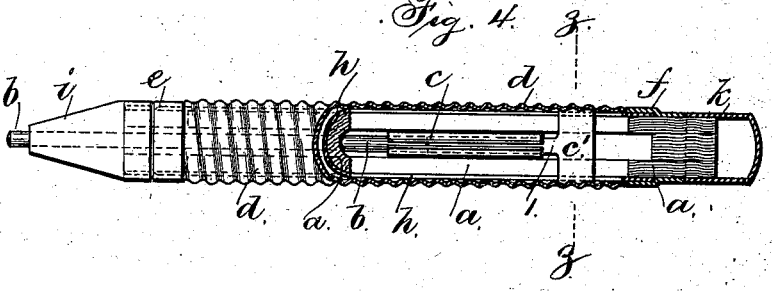
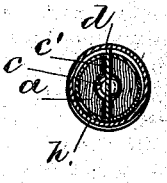



Fig. 6.




Witnesses:
Harold Serrell
Chas. H. Smith.

Inventor.
per Oscar Mussinan Jr.
Lemuel W. Serrell,
atty.

# UNITED STATES PATENT OFFICE.

OSCAR MUSSINAN, JR., OF NEW YORK, N. Y., ASSIGNOR TO EBERHARD FABER, OF SAME PLACE.

## PENCIL.

SPECIFICATION forming part of Letters Patent No. 382,488, dated May 8, 1888.

Application filed February 3, 1888. Serial No. 262,866. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR MUSSINAN, Jr., of the city, county, and State of New York, have invented a new and useful Improvement in Pencils; and the following is declared to be a description of the same.

My invention relates to that class of pencils wherein the separate lead is received within a sheath or tubular body and is propelled and repelled by the action of a screw-thread.

My invention consists in a pencil having a tubular body or sheath for the separate movable lead, which body is slotted in part of its length, a slotted tubular holder for the end of the separate lead, with which holder is formed a toothed plate traveling in the slot of the tubular body or sheath, a loose sheet-metal cylindrical screw surrounding the said body, into which the teeth of the toothed plate mesh, said sheet-metal cylindrical screw becoming the motor to propel and repel the lead and surrounding the tubular body or sheath, and at each end of the sheet-metal cylindrical screw is a metal ring to confine and prevent lateral movement to the sheet-metal cylindrical screw as it is revolved to propel or repel the lead.

In the drawings, Figure 1 shows by a longitudinal section an adaptation of my improvement to a cheaply-made pencil, and Fig. 2 is a cross-section at the line *x x*. Figs. 3 and 4 show by longitudinal sections the adaptation of my improvement to more expensively-made pencils, and Figs. 5 and 6 are cross sections at the lines *y y* and *z z*.

*a* represents the tubular body or sheath, which in all cases I prefer to make of wood and to slot centrally for part of its length, as shown in the cross-sections, Figs. 2, 5, and 6. This tubular body or sheath *a*, as shown in Fig. 1, becomes the handle of the pencil, and its surface may be finished in any desired manner, the point being adapted to be cut away as the lead comes down to its full propel position.

*b* represents the separate removable lead, the inner end of which is received in and grasped by the slotted tubular metal holder *c*, which holder is made with a toothed plate, *c'*, and connecting-bar 1, the toothed plate *c'* traveling in the slot of the tubular body *a*.

Surrounding the tubular body *a* is a loose sheet-metal cylinder, *d*, in which is pressed a screw-thread, into which the teeth of the toothed plate *c'* mesh, and said sheet-metal cylindrical screw *d* becomes the motor to propel the lead or to repel the lead, according to the direction in which the same is revolved by the fingers, the toothed plate *c'*, slotted holder *c*, and lead *b* being caused to move in either direction by the rotation of said screw, the plate remaining in the slot 2, and the movement being determined by the length of the slot. There are metal stop rings or collars *e f*, one at each end of the sheet-metal cylindrical screw *d*, secured to the body *a*, which confine and prevent any lateral movement of the same along the tubular body as the lead is propelled or repelled. The collar or ring *f*, I prefer to make sufficiently long to hold an erasing-rubber in its outer end.

The form of pencil shown in Figs. 3 and 5 differs from that shown in Figs. 1 and 2 in the length of the sheet-metal cylindrical screw *d*, which here becomes a handle to the pencil, and in the fact that the end of the tubular slotted body *a* is pointed and not adapted to be cut away, the lead being propelled as used until used up, when the end of the slotted tubular holder *c* will project beyond the point sufficiently for a new lead to be inserted therein. The form of pencil shown in Figs. 4 and 6 differs from the others in the following details of construction: A metal tube, *h*, surrounds the tubular slotted body *a*, and it, as well as the body, is slotted for the toothed plate *c'*. A metal point, *i*, is secured to the ring *e*, and a metal cap, *k*, is secured to the ring *f*. This slotted metal tube *h* could be used in the forms of pencils shown in Figs. 1, 2, 3, and 5 with equal facility.

Although I have shown several forms of pencils to which my invention is adapted, yet the essential features are preserved in all—viz., a tubular body or sheath that is slotted in part, a removable lead, a tubular holder for the end of the lead, a toothed plate traveling in said slot, a sheet-metal cylindrical screw around the tubular body, and stop rings or collars, one at each end of the sheet-metal cylindrical screw, which sheet-metal screw in all cases becomes the motor to propel and repel the lead.

I claim as my invention—

1. In a pencil, the combination of a tubular slotted body, a slotted tubular holder for one end of the lead, a toothed plate projecting from said holder, a sheet-metal cylindrical screw around the tubular body, and into which the teeth of the plate mesh, and collars or rings around the body at the ends of the cylindrical sheet-metal screw, said screw becoming the motor in a propel and repel pencil, substantially as specified.

2. In a pencil, the combination of a tubular body or sheath, *a*, slotted centrally for part of its length, the slotted tubular holder *c* for one end of the lead, the toothed plate *c'*, projecting from said holder, the sheet-metal cylindrical screw *d*, the metal ring or collar *e* at one end of said screw *d*, and the metal ring or collar *f* at the other end of the same, said collar *f* being extended as a sleeve and adapted to hold an erasing-rubber, substantially as specified.

3. In a pencil, the combination of a tubular body or sheath, *a*, slotted centrally for part of its length, the slotted tubular holder *c* for one end of the lead, the toothed plate *c'*, formed with said holder, the slotted metal tube *h*, surrounding the tubular slotted body *a*, the sheet-metal cylindrical screw *d*, and the metal rings or collars *e f* around the body at the ends of the cylindrical screw, substantially as and for the purposes set forth.

Signed by me this 31st day of January, A. D. 1888.

O. MUSSINAN, JR.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.