

(No Model.)

J. C. McCOLLUM.  
PENCIL SHARPENER.

No. 527,803.

Patented Oct. 23, 1894.

Fig. 1.

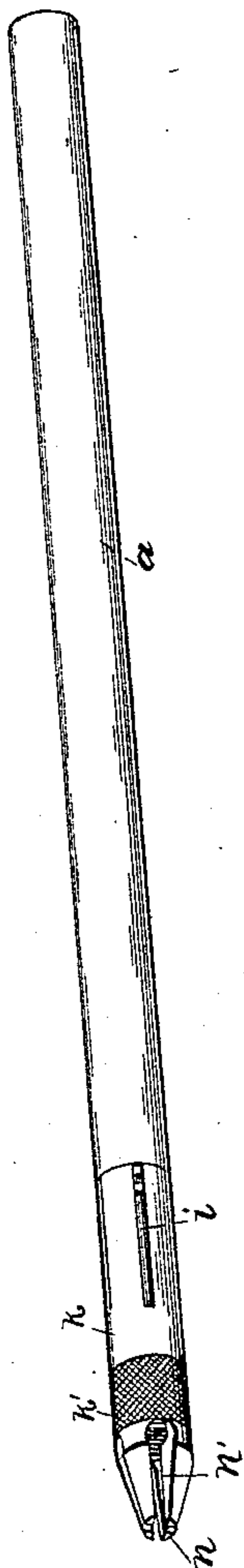


Fig. 2.

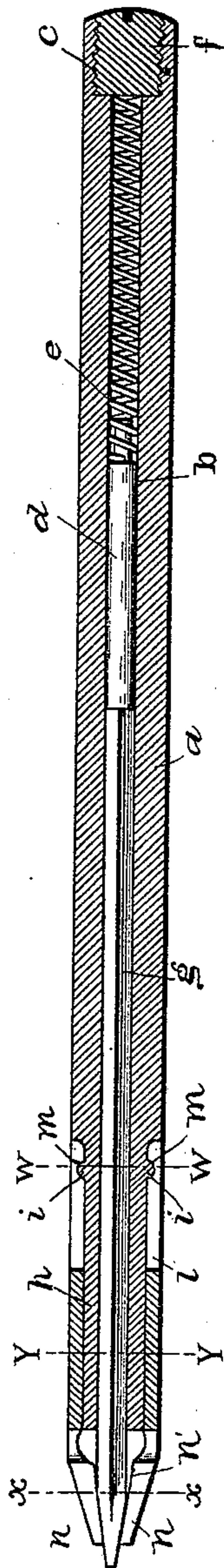


Fig. 6.

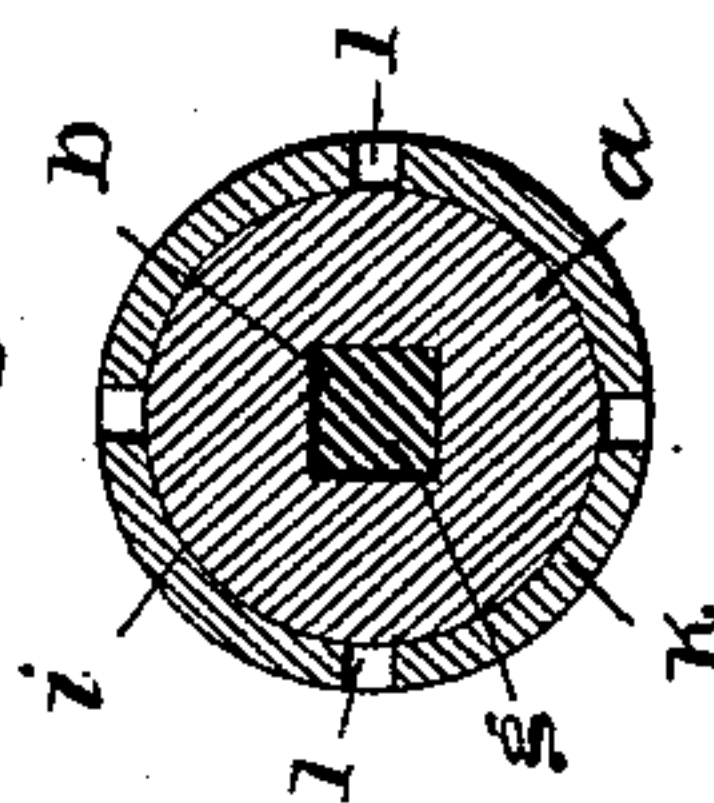


Fig. 5.

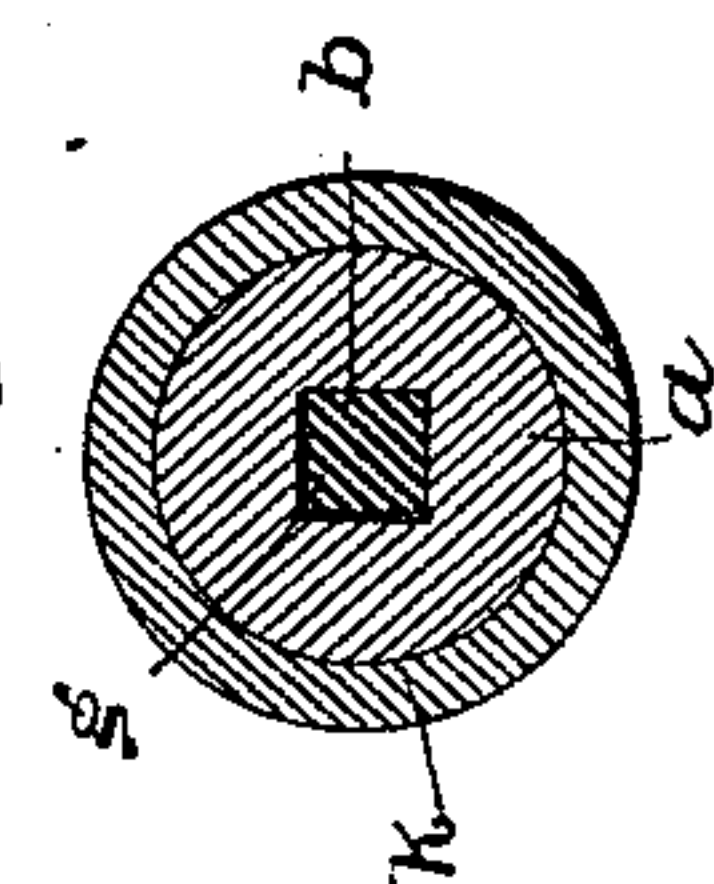


Fig. 4.

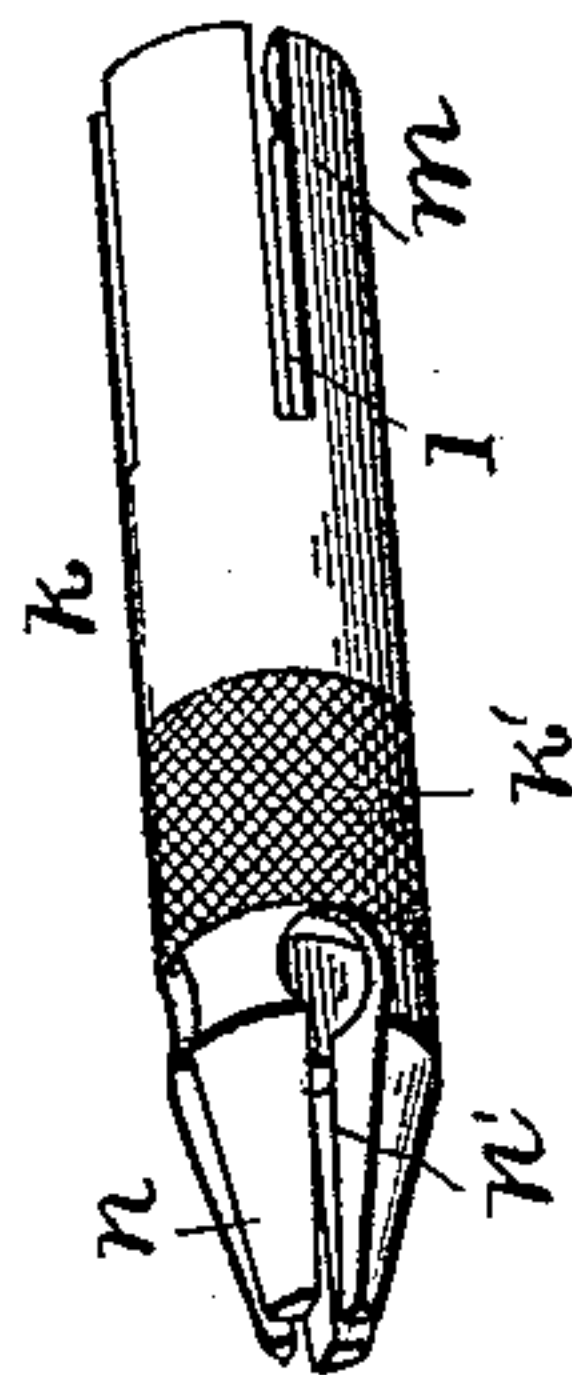
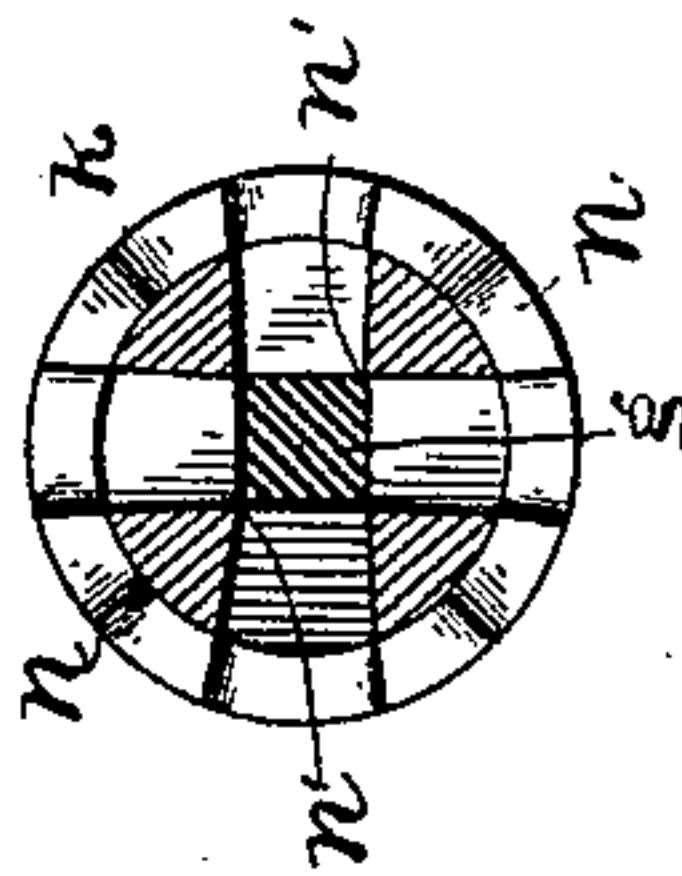


Fig. 3.



Inventor

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Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES C. MCCOLLUM, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF TWO-THIRDS TO ALBERT H. JUDSON, OF SAME PLACE, AND CHARLES K. JUDSON, OF CHICAGO, ILLINOIS.

## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 527,803, dated October 23, 1894.

Application filed February 23, 1894. Serial No. 501,207. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. MCCOLLUM, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Self-Sharpening Pencil, of which the following is a specification.

My invention relates to that class of pencils in which the lead is arranged in a tubular barrel and adapted to pass through a feed cap, whereby it is sharpened as fast as presented to the paper; and the object of this invention is to improve the construction of these devices, so that the lead will be fed with more regularity and sharpened without wasting.

A further object is to improve the construction of the cap or head of the device, whereby it may be produced at a smaller cost than ordinarily, and will be more effective in operation.

To these ends my invention consists of certain improved features of construction and combination and arrangement of parts that will be more fully described hereinafter and finally embodied in the claims.

In the accompanying drawings:—Figure 1 represents a perspective view of a pencil, constructed after the manner of my invention; Fig. 2, a longitudinal section of the same; Fig. 3, a cross section on the line  $x-x$  of Fig. 2; Fig. 4, an enlarged perspective view of the cap or head; Fig. 5, a cross section on the line  $y-y$  of Fig. 2; Fig. 6, a cross section on line  $w-w$  of Fig. 2.

The reference letter  $a$  indicates the barrel or body of my invention, which is preferably of metal and has the longitudinal passage  $b$  formed therein. This passage  $b$  extends the entire length of the body and terminates at the rear end thereof in the round screw-threaded aperture  $c$ . With the exception of this aperture  $c$ , the passage  $b$  is square throughout its length and is provided with the longitudinally movable follower-block  $d$ , which is capable of movement from end to end in the passage and which is given a normal tendency toward the front or head of the body by means of the spiral spring  $e$ . This device, spring  $e$ , is arranged in the passage  $g$  and

when extended will occupy the major portion of the passage, but may be compressed so as to occupy but a small portion thereof, while its rear end is engaged and held in place by means of the screw-cap  $f$  which fits within the threaded aperture  $c$  of passage  $b$ . The purpose of the follower block  $d$  is to give the lead  $g$  a normal tendency toward the head, and the lead must be formed square in cross-section so as to prevent axial movement. The reason for this will be apparent later on.

The forward end of the body  $a$  is reduced at  $h$ , and the reduced portion is provided with an annular rib or flange  $i$ , which operates to hold the cap  $k$  on the reduced portion and to allow it rotary movement thereon. The cap  $k$  consists of a cylindrical section having an open rear end, which is formed with the longitudinal slots  $l$ , whereby the end is given a spring tendency. Formed on the interior of the cap  $k$  and near its rear end is the annular groove  $m$ , which is so constructed that it will fit over the rib  $i$ , and by this means the cap is prevented from longitudinal movement but allowed to turn on the reduced portion  $h$ , the rear end of the cap being arranged to fit snugly against the shoulder of the reduced portion.

Cap  $k$  is formed so that its forward end will project over the front end of the body  $a$ , and is provided at such forward end with the fingers  $n$ , preferably four, and projecting slightly inwardly, their ends meeting opposite each other and leaving a space between them of a size equal to the size of the point which it is desired to give the lead. These fingers,  $n$ , are formed on their inner sides with the sharp knife edges  $n'$ , which slope outwardly and inwardly parallel with the outer face of the fingers, thus making the circular line within which the edges  $n'$  lie describe substantially a cone, as shown in Fig. 2. This imaginary cone is of a size at its base equal to the thickness of the lead, and decreases in size until its apex (forward end of fingers) is of a size equal to the point which it is desired to give the lead. By this means the lead is sharpened as advanced, since it is under continual pressure by reason of spring  $e$ , and this will push its forward end into the space between the



fingers  $n$  of cap  $k$ . Now, owing to its size, the lead will be able to go no farther, at first, but upon revolving the cap  $k$ , and this may be readily done by the milled surface  $k'$ , the knives  $n'$  will act on the lead and cut it away sufficiently to allow it to pass farther into the cone between the knives. This is continued until the lead is cut away sufficiently to allow it to pass out the opening between the forward end of the fingers, whereupon the pencil may be used. When the point thus formed wears away, a new one may be formed by repeating the operation just described, and so on until the lead is used, when it will be necessary to provide a new piece. This may be done by overcoming the tendency which the rear end of the cap  $k$  has to clasp the reduced portion  $h$  and drawing it out of engagement with the rib  $i$ , whereupon a fresh piece of lead may be inserted in place of the old, the cap replaced, and the device used as before.

The follower-block,  $d$ , may be a block properly, or may be a short rod performing the function of a follower-block. This latter form is preferred, though either may be used.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A lead pencil consisting of a body portion having a longitudinal passage adapted to receive the lead and to hold it incapable of rotary movement, a spring-pressed follower-block in the passage, and adapted to give the

lead a normal tendency out of the body, and a revoluble cap fitting on the body and into which the lead is pressed, the cap having on its interior a series of longitudinal and parallel knives arranged obliquely and adapted to engage the end of the lead and to form a point thereon by revolving the cap, substantially as described.

2. A lead pencil consisting of a body portion having a longitudinal passage therein, adapted to contain and hold the lead incapable of rotary movement, a spring pressed follower arranged in the passage and operating to push the lead out of the passage, a cap having a flexible tubular end adapted to fit over the front end of the body and to be held thereon capable of rotary movement by a rib and groove connection, and a series of longitudinal fingers formed integral with the forward end of the cap and extending inwardly and outwardly therefrom, the fingers having their inner edges formed with knife edges thereon and adapted to engage the end of the lead and to form a point thereon by revolving the cap, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES C. MCCOLLUM.

Witnesses:

A. H. JORDAN,  
R. K. WOOD.