

(No Model.)

W. S. BOYD.
PENCIL SHARPENER.

No. 449,812.

Patented Apr. 7, 1891.

Fig. 1.

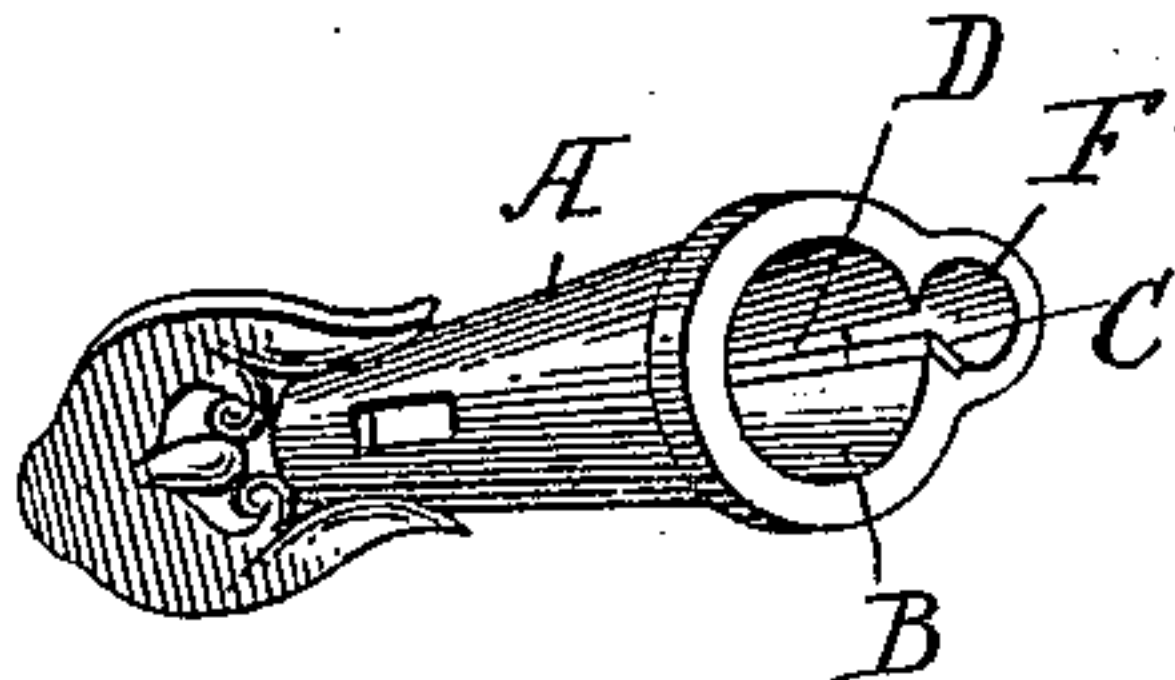


Fig. 2.

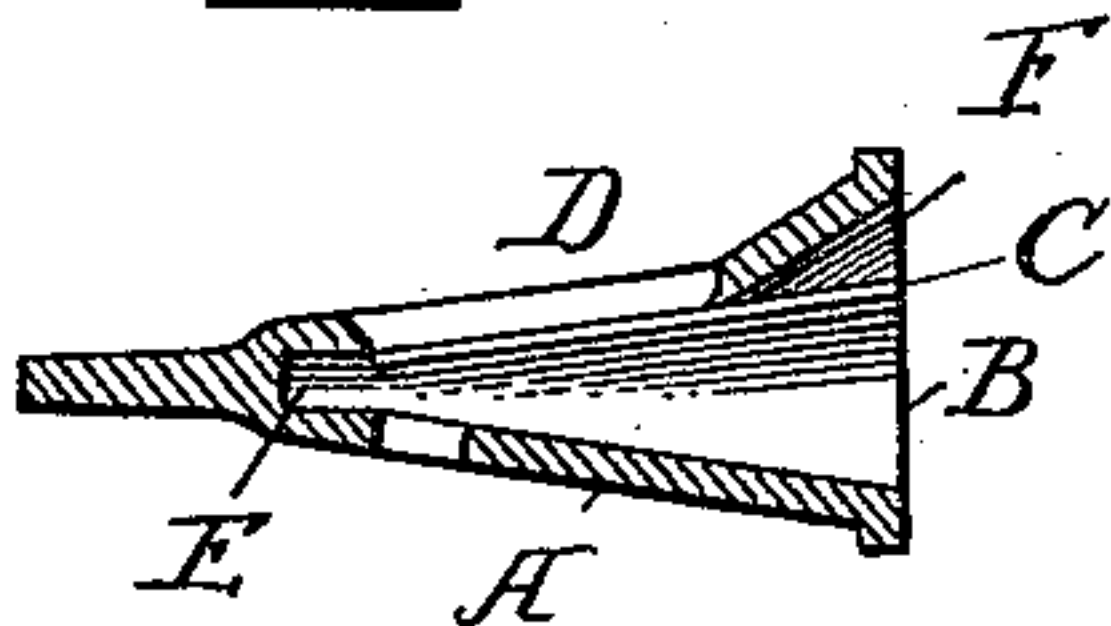
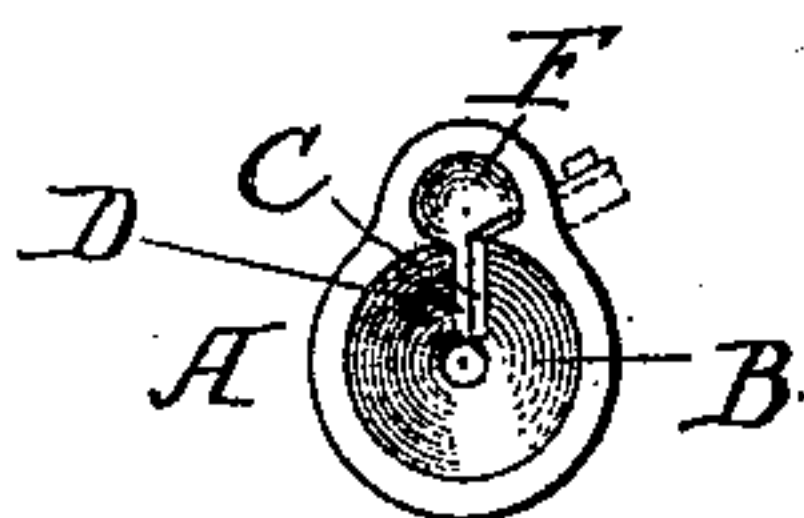


Fig. 3.



WITNESSES

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PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 449,812, dated April 7, 1891.

Application filed March 4, 1891. Serial No. 383,694. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. BOYD, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Pencil-Sharpeners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to pencil-sharpeners; and has for its object to provide the body of the sharpener with two cavities and only a single knife or cutter, whereby the pencil may be sharpened without the usual danger of breaking off the lead. This I accomplish by passing the pencil into one of the cavities of the sharpener and cutting the wood away without cutting the lead, and then withdrawing the pencil and inserting the lead or point of the pencil into the other cavity and trimming it down by rotating it in the opposite direction against another portion of the same blade that was used in cutting away the wood. In this manner the sharpener can be made very cheaply and will do very effective work, as will be hereinafter more particularly set forth.

In the accompanying drawings, in which the same reference-letters indicate corresponding parts in each of the figures, Figure 1 is a perspective view of my improved sharpener. Fig. 2 is a longitudinal sectional view of the same, and Fig. 3 is an end view showing a slight modification in dotted lines.

Referring now more particularly to the drawings in detail, A indicates the body of the sharpener, which may be of any desired shape and size, with a cone shaped cavity B extending into it from one end for the reception of the pencil to be sharpened.

C is the cutter or knife, which is arranged with its edge projecting slightly into the cavity B at one side of a slit or opening D in the side of the sharpener for the escape of the chips as they are cut off the pencil by the cutter. The cutter extends from the outer end down nearly to the bottom of the cavity, stopping at such a distance from the bottom

as will permit the lead to pass through or down into the cavity without coming in contact with the cutter. The cavity may be provided with a stop or bottom E, if desired, against which the end of the lead or pencil will come in contact and limit its passage through the sharpener, although it may be dispensed with, as a little practice will enable any one to tell when the lead has passed through far enough, and especially if the smaller end of the cavity or sharpener is made open or provided with a hole or opening through which the lead may be seen. The body of the sharpener is provided with a similar but smaller cavity F at its outer end and upon the opposite side of the cutter from the cavity B. These two cavities have their axes substantially in the same plane, and they approach each other toward the smaller ends or bottoms. The cavity F is only deep enough to receive the lead of the pencil, and tapers down to as fine a point as it is desired to point the lead, and in use the pencil must be rotated in the direction opposite from what it was in cutting the wood; and instead of having a slit or opening in its outer portion for the escape of the lead chips the opening is next to the cutter and extends into the larger cavity, and, in fact, is only a continuation of the opening D.

I find that it is best for the wall of the cavity B to overhang the edge of the cutter just a trifle at the top or down to the bottom of the cavity F to permit of the lead being thrown over or onto the edge of the cutter to make it operate to the best advantage. This will make the cutter extend into the cavity F at the upper end and into the cavity B at the lower end, or end within the smaller end of the cavity B. The shape and form of the cutter may be varied to suit; but I find that a straight flat piece of steel beveled to form an edge upon one side answers all the purposes. It can be placed in the mold in the proper position and the sharpener formed by filling the mold with molten metal, as lead or some cheap alloy. This will embed the cutter in the body of the sharpener and prevent its removal or accidental displacement in use. However, the cutter may be made removable—for instance, by means of a screw, as shown in dotted lines in Fig. 3; but this forms no part of the inven-

tion, and is only introduced to show the adaptability of the double cones to different forms of sharpeners.

By means of the smaller cavity it is evident
5 that the lead can be pointed one or more times
without sharpening the wood, and that a fine
or blunt point may be put upon it by hold-
ing the pencil at different angles in relation
to the blade, so that the lead will be thrown
10 against the edge at a greater or less angle.
It will also permit of the sharpener being
used upon pencils using what are called
"leads"—that is, a long piece of lead which
15 can be projected from the end of a metal
case or holder—as the cavity is so shallow
that the lead can be cut away without the
metal portion coming in contact with the
edge of the cutter, whereas if it were neces-
20 sary to insert the metal holder into the deeper
cavity there would be danger of its coming in

contact with the edge of the cutter and de-
stroying its efficiency.

Having thus described my invention, I
claim—

1. A pencil-sharpener consisting of a body 25
portion provided with two conical cavities
and a single cutter, the edge of which extends
into both of said cavities.

2. A pencil-sharpener consisting of a body
portion provided with two conical cavities, 30
the axes of which are substantially in the same
plane and approach each other, and a cutter
between them, some portion of the edge of
which extends into each of the cavities.

In testimony whereof I affix my signature in 35
presence of two witnesses.

WILLIAM S. BOYD.

Witnesses:

JAMES H. CLARKE,

G. G. C. SIMMS.