G. A. McLANE.

PENCIL-SHARPENERS.

No. 194,525. Patented Aug. 28, 1877.

FIG. 1

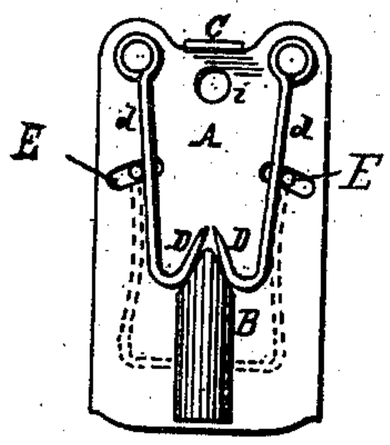


FIG. 2

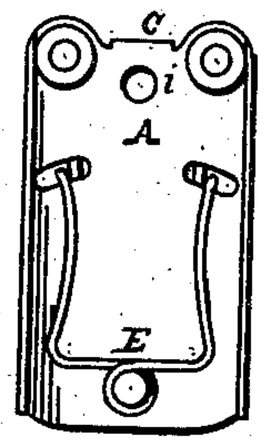
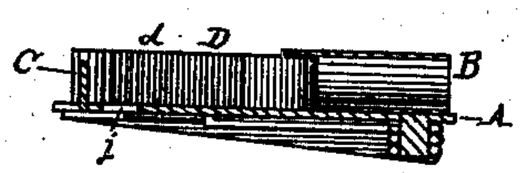


FIG. 3.



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GEORGE A. McLANE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN PENCIL-SHARPENERS.

Specification forming part of Letters Patent No. **194,525**, dated August 28, 1877; application filed June 16, 1877.

To all whom it may concern:

Be it known that I, GEORGE A. McLANE, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Pencil-Sharpeners, of which the following is a specification:

In the accompanying drawings, which form a part of this specification, Figure 1 is a top or plan view of my improved sharpener. Fig. 2 is an obverse or bottom view of the same. Fig. 3 is a longitudinal central section.

Like letters denote like parts wherever used in the several figures.

In the said drawings, A represents the frame or plate of the machine. Upon this frame-plate is secured a pencil-guide, B, which, as shown in the drawing, may consist of a tube open at both ends, through which an ordinary lead-pencil may be passed freely. A stop, C, upon the end of the frame-plate, at a suitable distance from the inner end of the guide-tube, serves to give measurement to the first cuttings of the pencil, in order to give an even and regular appearance to the point. The cutters consist of knife-edged blades D D, the edges of which face, at a suitable angle, toward the place where the point of the pencil is intended to be. These cutters extend backward at such suitable angle, as indicated in the drawing, for a short distance, and then recurve or turn with their shanks *a* toward the other end of the frame-plate, at which they are pivoted in such manner that the cutters may swing toward or away from the wood or lead of the pencil. In order to hold the knives to their work, a spring is applied to the shank of each cutter, as at E; and this spring, to be out of the way, may be placed upon the under side of the frame-plate, with the free ends extending up through slots in the plate. The device may, in use, be held in one hand and the pencil to be sharpened in the other; or the device may be fastened down to a desk or table by a screw through the aperture *i*.

The pencil to be sharpened, supposing it to be a new one, and never before sharpened, is thrust through the guide-tube until the end strikes against the stop. The cutters will spring aside to permit its passage. Now, upon withdrawing the pencil, the cutters set in by the spring will take hold in an inclined cut, and pare away the wood in much the same way that a pen-knife performs. This operation is repeated, turning the pencil to a new portion at each cut until a point is reached, care being taken as a point is approached not to thrust the fragile lead against the stop. As a point is approached the thrust should be modified as to length until, finally, the cutters are brought to act only upon the exposed lead.

It will be noticed that when the cutters first take hold of the wood at the base of the point they are spread apart by the body of the pencil, and as the cutters approach each other in the cut their angles in relation to the pencil are changed, becoming more and more acute—an operation produced by the pivoting of the cutter-shanks in front. This change of angle results in giving to the lead a very acute point, and gives to the entire pencil-point a slightly-concaved outline. The cutters being of the same length or radius, and pressing upon exactly opposite sides, the point is protected from breaking during the operation. The shavings and lead are collected upon the frame-plate, so that the hands are not soiled in the work.

Various modifications of the device may be made without changing the spirit of the invention. For instance, the spring may be placed above instead of below the frame-plate, or a different kind of spring may be used. The cutters may be otherwise hinged than to a pair of posts, one at each side. The form of the frame-plate may be varied. The form of the guide-tube may be changed, or another kind of guide than a tube may be used. If the plate is to be affixed to the edge of a table, it may be perforated to permit the cuttings to fall through.

It will be noticed that the guide, placed as it is between and in close proximity to the cutters, serves functions other than those already pointed out. For instance, it acts as a stop to prevent both cutters from being swayed to one side at the same time, and also to keep them in the same relative position, whereby they are both caused to do the same amount of work, and the sharpening is rendered uniform on all sides of the pencil. It also keeps the cutting-edges a short distance apart. This is important, not only as preserving the edges,

but also to prevent breaking of the lead point, the distance between the edges being so inconsiderable, of course, that a sufficiently fine point can be imparted without actual contact of the cutters.

By reason of the tubular form and the length of the guide, it causes the pencil to move in parallel or nearly parallel longitudinal lines, and such lines are always midway between the cutters. This renders it possible for an inexperienced person to use my sharpener with ease and success—a result which would not follow were the guide very short or placed a greater distance from the cutting-edges.

Having thus fully described the construction and operation of my invention, I claim—

1. The pencil-sharpener consisting of two spring-depressed converging cutters whose edges are directed toward the pencil-point, and a tubular guide for the pencil, of sufficient length to cause the pencil to move in parallel longitudinal lines, and so placed relative to the cutters as to direct the pencil centrally between the latter, substantially as specified.

2. The combination, with the pencil-guide and spring-depressed cutters, of a stop on the frame for regulating the length of the first cut, substantially as specified.

3. The hooked or recurved pivoted cutters, in combination with a guide for the pencil and a spring or springs for setting them to their work, substantially as specified.

4. The combination of the frame-plate, the guide, and cutters placed upon the upper surface of the plate, and the spring or springs placed below the plate, substantially as specified.

5. The combination of the cutters, the guide, the spring or springs, and the frame-plate, made to catch and retain the cuttings to preserve the operator's hands from being soiled in the work, substantially as specified.

6. The pencil-sharpener whereof the cutters are spring-depressed, opposing each other to guard against breaking the lead by their pressure, and having their cutting-edges turned toward the extremity of the pencil point, so that the cut will be from the wood toward the extremity of the lead point, substantially as specified.

7. The spring-depressed converging cutters, in combination with the interposed stopping-surfaces, one for each cutter, so placed relative to the cutters as to keep them opposite to each other, and from contact with each other, substantially as specified.

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