(No Model.)

C. L. BURGER.

PENCIL SHARPENER.

No. 432,789. Patented July 22, 1890.

Fig: 2.

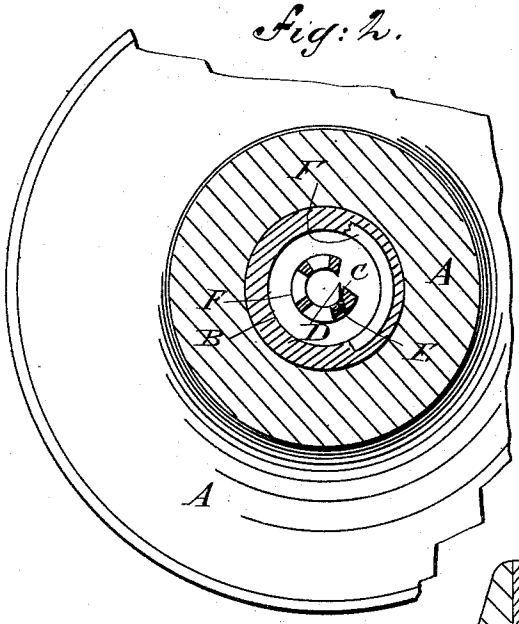


Fig: 3

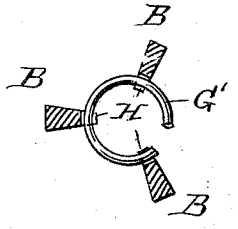


Fig: 1.

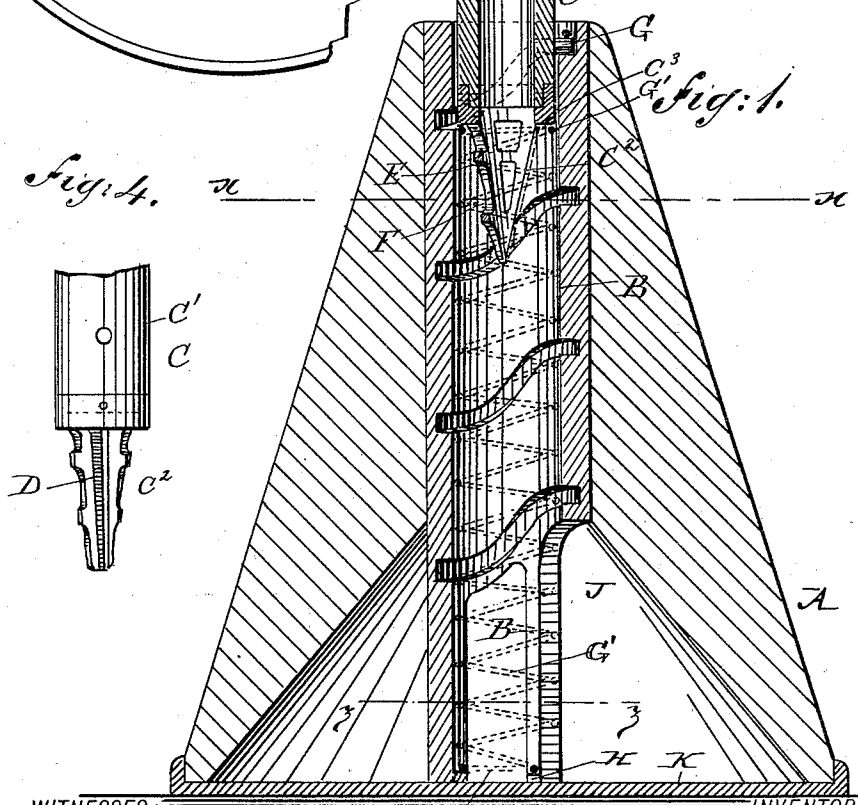


Fig: 4.

WITNESSES:

Edwin L. Kalisch

Henry Meininger

INVENTOR:

Clarence L. Burger

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLARENCE L. BURGER, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO WEST & MELCHERS, OF NEW YORK, N. Y.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 432,789, dated July 22, 1890.

Application filed April 5, 1890. Serial No. 346,666. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE L. BURGER, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Pencil-Sharpeners, of which the following is a specification.

The object of my invention is to provide a simple, efficient, and convenient device for sharpening pencils, particularly lead-pencils; and the invention consists, mainly, of a frame or base, a cutter, rasp, file, or other abrader, and a holder for the pencil so combined and arranged with mechanism, as that hereinafter described, that on placing the pencil in the holder and moving it with the hand the abrader will be operated automatically relatively to the pencil so as to sharpen the same.

The invention also comprises several other novel features, and in order that the whole may be clearly understood I shall first describe the mode in which the invention is carried into effect, and then point out its several features in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central sectional elevation of a pencil-sharpener embodying my invention. Fig. 2 is a sectional plan view of the said sharpener on the line X X, Fig. 1. Fig. 3 is a sectional plan view of the same on the line *z z*, Fig. 1. Fig. 4 is a detail view of part of the pencil-holder and abrader or cutter of the same.

Like letters of reference designate corresponding parts in the various figures.

The frame or base A of the sharpener is here shown constructed in the form of a truncated pyramid, weighted so as to stand firmly on a desk or table and having a central vertical tubular guide B, the frame or base being for convenience made up of an outer case and an inner cylindrical metallic bushing forming the guide B.

In the guide B is fitted to slide vertically and turn a pencil-holder C, here consisting of an upper tubular portion C', in which the body of the pencil is received and held against lateral movement, and a lower conical socket portion C^2, in which the end or point of the pencil is received.

For cutting or abrading the end of the pencil in the socket C^2 to the desired conical point a knife D is here employed, which is fixed lengthwise in a longitudinal slot E, formed in the wall of the conical socket C^2 of the holder, after a common fashion, so that the edge of the knife will project slightly within and approximately along an element of the cone.

The tubular guide B is formed with an interior spiral groove F, in which rides a pin G, fixed to the holder C, so that on pressing the holder downward with the pencil, while holding the latter against rotation, the holder, and hence the abrading-knife D, will be rotated around the end of the pencil and sharpen the same to the desired point.

The knife-holding socket C^2 of the holder is by preference freely apertured, as shown, to permit the escape of pencil-shavings, dust, &c., and prevent clogging thereby.

To raise the holder C again after its depression, a coiled spring G' is interposed between an annular shoulder C^3 on the lower part of the same and interior projections H at the bottom of the guide B, and to prevent clogging of the spring G and groove F by the pencil-shavings from the holder C the lower part of the guide B is formed with ample lateral escape-openings communicating with a large cavity J in the bottom of the base or frame A for the accommodation of the shavings.

The open bottom of the base or frame A and guide B is by preference provided with a removable weighted cover K to permit the removal of the accumulated shavings, dust, &c., at intervals.

In lieu of the abrading-knife D, or in conjunction therewith, a roughened, rasp, or file like surface may be employed on the interior of the socket C^2 to abrade the pencil end, especially for the lead of lead-pencils, or for slate-pencils. A spiral abrading-knife may also be used in the place of the straight knife here shown.

I claim as my invention—

1. In a pencil-sharpener, the combination of a frame or base, an abrader, and a pencil-

holder, with operating mechanism, as the spiral gear described, whereby the pencil-holder when moved, as by the pencil, automatically moves the abrader relatively to the pencil, substantially as set forth.

2. In a pencil-sharpener, the combination, with a frame or base, of a pencil-holder carrying an abrader movable relatively to the frame or base, and a spiral gear connecting the frame or base and the pencil-holder, substantially as specified.

3. In a pencil-sharpener, a pencil-holder and abrader comprising a tubular portion for the body of the pencil, and a conical socket carrying an abrader for the point of the pencil, in combination with mechanism for rotating the said holder and abrader, substantially as specified.

4. In a pencil-sharpener, the combination of a frame or base, a spiral guide, a pencil-holder and abrader working lengthwise and geared to so as to turn on said spiral guide, and a spring reacting on the holder and abrader, substantially as specified.

CLARENCE L. BURGER.

Witnesses:
J. CULBER PALMER,
HENRY MEININGER.