

(No Model.)

W. S. GILLESPIE.
LEAD PENCIL SHARPENER.

No. 477,529.

Patented June 21, 1892.

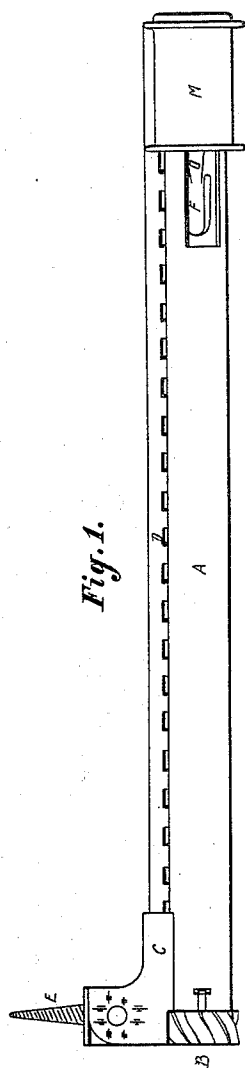


Fig. 1.

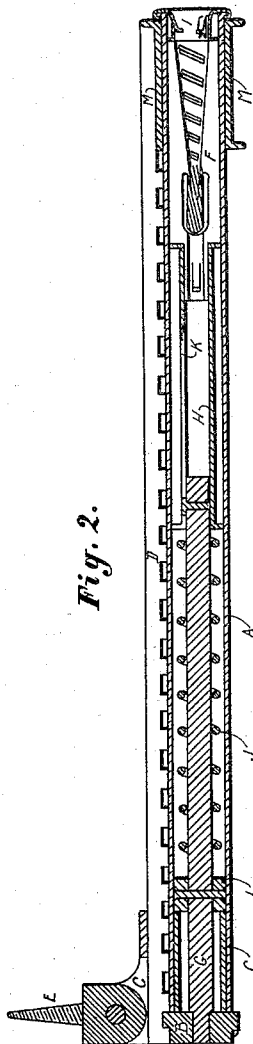


Fig. 2.

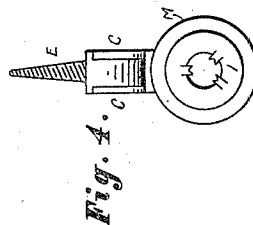


Fig. 3.

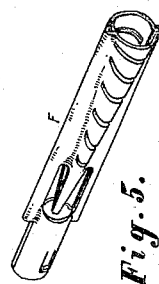


Fig. 4.

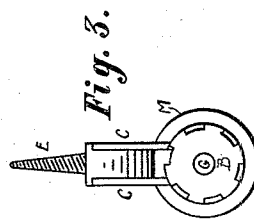


Fig. 5.

WITNESSES:
William L. Nelson
Geo. F. Drew.

William Sisson Gillespie INVENTOR
BY
G. Curtis Gillespie ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM SISSON GILLESPIE, OF BROOKLYN, NEW YORK.

LEAD-PENCIL SHARPENER.

SPECIFICATION forming part of Letters Patent No. 477,529, dated June 21, 1892.

Application filed December 18, 1890. Serial No. 375,163. (No model.)

To all whom it may concern.

Be it known that I, WILLIAM SISSON GILLESPIE, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lead-Pencil Sharpeners, of which the following is a specification.

My object is to provide a lead-pencil sharpener for draftsmen's or ordinary use, which will make a long fine point without breaking the lead of either large, small, hexagonal, round, hard, or soft pencils—one that may be operated entirely by one hand, secured to the under side of a drawing-board, table, or desk, be out of the way when not in use, and at the same time readily brought into play when needed, and which will not soil the hands or work by its manipulation. This object I accomplish by employing suitable mechanism condensed into small space, the general construction of which will be understood by reference to the accompanying drawings, of which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is an end elevation of B, &c. Fig. 4 is an end elevation of M, &c.; and Fig. 5 is a perspective view of my pencil-sharpener proper detached.

Similar letters indicate similar parts in all figures.

A is the frame carrying the mechanism.

I is the pencil-holder, secured to A, having on its inner surface toothed pressure-springs for holding different-sized pencils.

F is the pencil-sharpener, having spirally-formed cutters in its sides, which by their formation cut with the grain of the pencil, not across or against it, as ordinarily, and having at its point or lead end spring lips or blades with raised cutters on their inner faces, (see F, Fig. 2,) said springs preserving a uniform pressure on the lead in proportion to the work performed by the cutters, thus preventing the breakage of lead. Said sharpener F is connected by pressure-springs formed in its sides with the sleeve or collar H, which in turn is connected with the rod G by means of the projecting pin in G and the slot K in H.

J is a spiral spring acting upon H and the fixed collar L on the rod G.

B is a gear-wheel secured to rod G, having spirally-formed teeth on its periphery.

D is a rack working in teeth on gear B and having attached at its opposite end a thumb-spool M, encircling and sliding on frame A.

E is a screw for securing the pencil-sharpener to the board or table.

C is a guide for rack D and holds rod G and gear B in position by passing through and forming a collar inside of A, being secured to said A by pressure-springs formed in its sides, (see end B, Fig. 1,) and by its corrugated-spring connection with E holds the apparatus in a vertical or horizontal position.

The manipulation of my pencil-sharpener consists in drawing it up to the horizontal position, pushing the pencil between the toothed pressure-springs in I, thus driving the sharpener F back and compressing the spring J. Continuing the movement of the hand, the thumb-spool M is grasped and pushed forward and backward several times, thus imparting a rotary motion to the sharpener F, which cuts in both rotations, and is automatically fed to the pencil by the spring J as the pencil is sharpened. The shavings drop out through the slots or openings shown in A, Fig. 1.

Having now described the construction and operation of my lead-pencil sharpener, what I claim as my invention, and desire to secure by United States Letters Patent, is—

1. In a lead-pencil sharpener, the combination, with a carrying-frame, of a rack and single gear-wheel having spirally-formed teeth or cogs thereon, whereby a direct rotary motion is imparted to said single gear-wheel by a reciprocating motion of said rack parallel with the axis of rotation, substantially as set forth.

2. The combination, in a lead-pencil sharpener, of a carrying-frame and a screw E with its corrugated-pressure-spring connection C, for the purpose of holding said frame in any desired position, substantially as described.

3. In a lead-pencil sharpener, the combination of a carrying-frame and a sharpener with a feed-spring acting parallel with the axis of rotation of said sharpener and press-

ing the same onto the pencil as the work of sharpening progresses, substantially as set forth.

4. The sharpener F, having spirally-formed cutters and a spring lead-pointer, substantially as shown, and for the purposes specified.

5. In a lead-pencil sharpener, the combination of the frame A, the gear B, the collar and guide C, the rack D, the screw E, the sharpener F, the rod G, the sleeve H, the collar I, the spring J, the collar L, and the spool

M, substantially as shown, described, and set forth in the above specification and drawings.

Signed at Brooklyn, in the county of Kings and State of New York, this 16th day of December, A. D. 1890.

WILLIAM SISSON GILLESPIE.

Witnesses:

HARRY C. CONOVER,
G. CURTIS GILLESPIE,
A. P. MORONEY.