(No Model.)

C. E. GOULD & F. H. COOK.

PENCIL SHARPENER.

No. 342,350. Patented May 25, 1886.

Fig. 1.

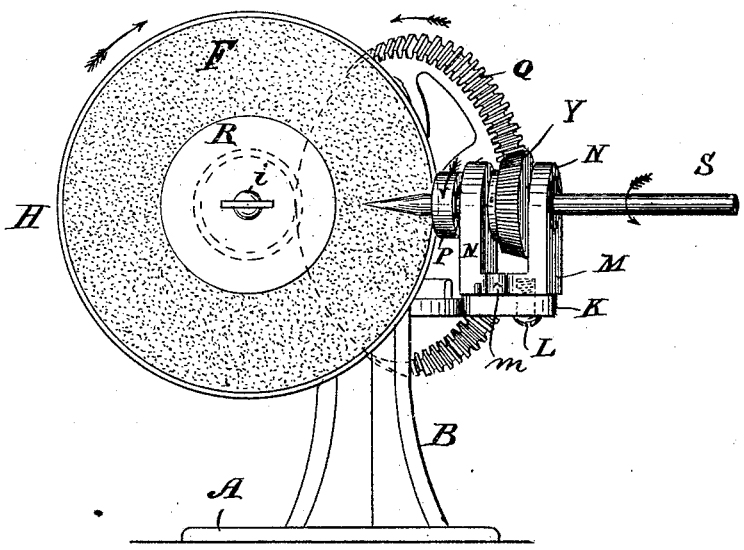


Fig. 2.

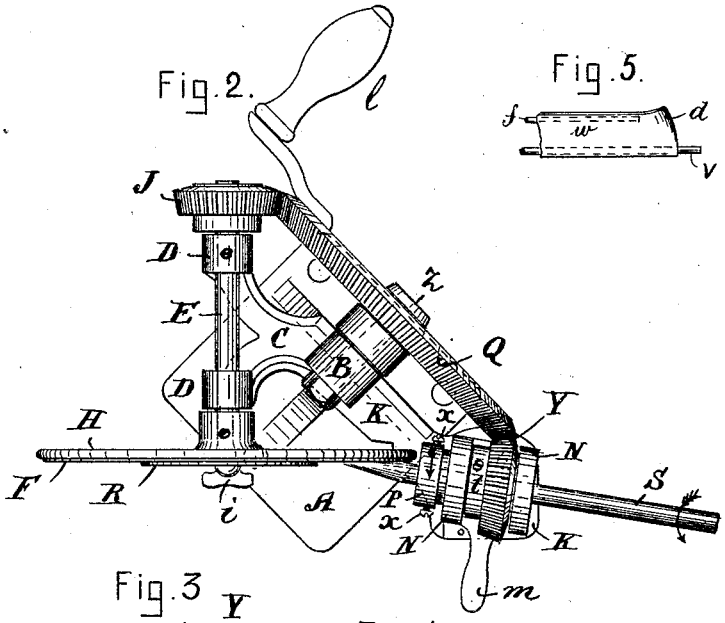


Fig. 5.

Fig. 3

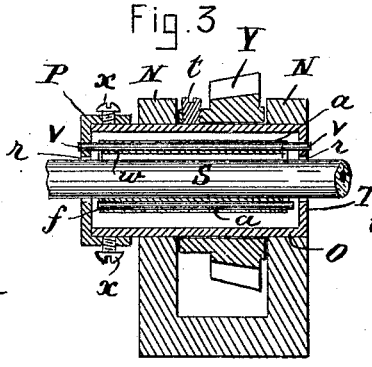
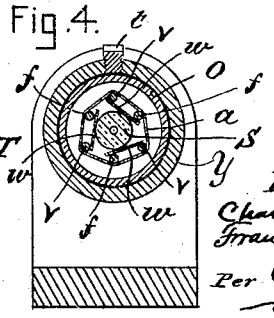


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 342,350, dated May 25, 1886.

Application filed September 4, 1885. Serial No. 176,140. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. GOULD and FRANK H. COOK, of Leominster, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Pencil-Sharpeners, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of our improved pencil-sharpener; Fig. 2, a top plan view of the same; Fig. 3, a vertical longitudinal section of the chuck; Fig. 4, a vertical transverse section of the same, and Fig. 5 a diagram showing a portion of the chuck.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates to that class of pencil-sharpeners which are designed to be operated by hand or power; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more effective and otherwise desirable device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the base and B the body of the frame for supporting the working parts of our device. Projecting horizontally from the body B, near the top of the same, there is a bracket, C, provided with two vertically-arranged standards, D, and mounted horizontally in said standards there is a shaft, E, carrying at one end the disk H, and at the other the beveled pinion J, both of which are firmly secured to said shaft. A bracket, K, also projects horizontally from the body B, diagonally opposite the bracket C, and pivoted by the screw L, to swing laterally on the outer end of said last-named bracket, there is a stock, M, provided with the handle *m* and two vertically-arranged standards, N. A chuck, O, is journaled horizontally in the standards N, said chuck being hollow and provided with a cap, P, which is secured thereto by screws *x*. Three horizontally-arranged rods, *v*, are journaled equidistant from each other within the body of the chuck, the ends of the rods resting loosely in holes formed in the cap P and end T of said body. A narrow elongated plate, *w*, is attached at one of its edges to the under side of each of the rods *v*, and secured to the outer side of each of said plates, at that edge of the same which is opposite the rod *v*, there is a rod, *f*, corresponding in length nearly with the length of the plate. An elastic rubber band or tube, *a*, is disposed around the rods *v f*, the band acting contractively to force the plates *w* inwardly against the pencil and clamp or hold it firmly in position while being sharpened. The end T and cap P are each provided with a centrally-arranged hole, *r*, for receiving the pencil S.

The ends of the plates *w*, adjoining the end T of the chuck O, flare or are bent outwardly, as shown at *d* in Fig. 5, to enable the pencil to be readily inserted in the chuck.

The outer face of the disk H is provided with a circular sheet of sand-paper, F, corresponding approximately with the size of the disk, the sand-paper being held in position on the disk by means of the annular clamp or plate R and a thumb-screw, *i*, the screw passing through the clamp and paper into the disk H or shaft E.

A large miter-gear, Q, provided with a crank, *l*, is journaled on a stub-shaft, *z*, disposed in the upper portion of the body B, said gear intermeshing with the miter-pinion J on the shaft E and with a corresponding miter-pinion, Y, which is secured to the chuck O, between the standards N, by means of the screw *t*.

In the use of our improvement the pencil to be sharpened is passed through the hole *r* in the end T of the chuck O, and thence between the plates *w*, through the hole *r*, in the cap P, the end of the pencil being caused to protrude, as shown in Figs. 1 and 2. After the pencil has been inserted in the chuck, the gear Q is turned by means of the handle *l* in the direction indicated by its arrow, thereby causing the disk H and chuck O to be revolved in the directions indicated by their respective arrows. The stock M is then swung laterally in a horizontal plane on its pivot L by means

of the handle *m*, to bring the protruding end of the pencil against the sand-paper, thereby causing it to be sharpened or pointed in a manner which will be readily obvious without a more explicit description.

Having thus explained our invention, what we claim is—

1. In a pencil-sharpener, a disk provided with an abrading-surface, a chuck pivoted to swing at right angles to the plane of said disk, and a cranked miter-gear engaging gears on said parts, whereby they are simultaneously rotated in opposite directions.

2. In a pencil-sharpener, a disk provided with an abrading-surface, a chuck pivoted on the frame at a point beyond the edge of the disk and forward of the plane thereof and adapted to swing in a plane at right angles to the plane of said disk, and a cranked miter-gear engaging gears on said parts, whereby they are simultaneously rotated in opposite directions.

3. In a pencil-sharpener, the combination of the disk H, sand-paper F, covering the surface thereof, a plate, R, disposed over the center of said sheet of sand-paper, and a screw, *i*, passing through said plate and clamping said paper F at the center of the disk H.

4. In a pencil-sharpener, the combination, with a cranked miter-gear Q, of a shaft, E, provided with an abrading-disk, H, a pinion, J, connected to said shaft and meshing with the miter Q, a swinging stock, M, and a clutch, O, working therein and provided with a pinion, Y, meshing with said miter-gear Q.

5. In a pencil-sharpener, a chuck for holding the pencil provided with the rods *v f*, plates *w*, and elastic band *a*, substantially as and for the purpose specified.

6. In a pencil-sharpener, the chuck O, having the cap P and end T, and provided with the rods *v f*, plates *w*, and elastic band *a*, combined and arranged to operate substantially as set forth.

7. In a pencil-sharpener, the plates *w*, having the flaring ends *d*, in combination with the rods *v*, elastic band *a*, and body of the chuck O, substantially as set forth.

8. The improved pencil-sharpener herein described, the same consisting of the body B, having the brackets C K, the journaled gear Q, provided with the crank *l*, the chuck O, provided with the pinion Y, the disk H, provided with the paper F, clamp R and screw *i*, the shaft E, provided with the pinion J, and the pivoted stock M, provided with the handle *m*, combined and arranged to operate substantially as described.

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