No. 679,942. Patented Aug. 6, 1901.

E. BURKE.

PENCIL SHARPENER.

(Application filed Nov. 21, 1900.)

(No Model.)

Fig. 1.

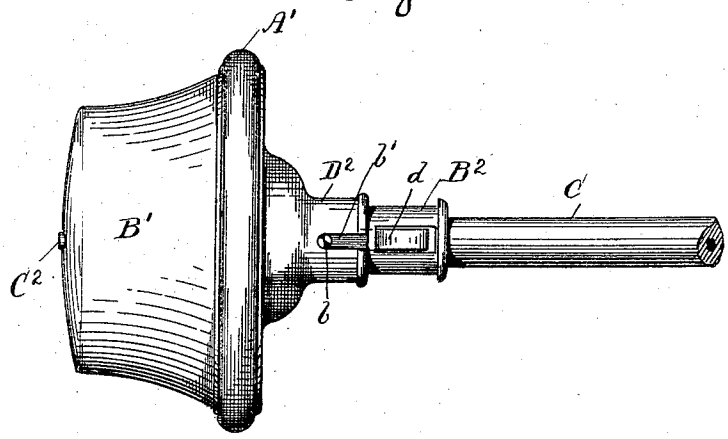


Fig. 2.

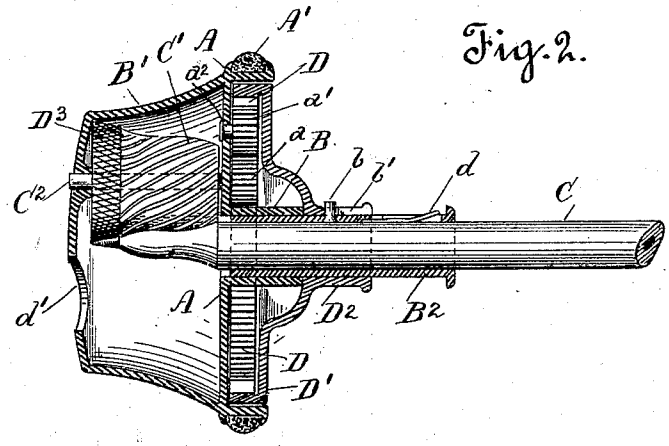
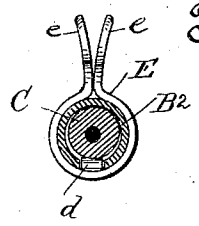


Fig. 3.



Witnesses.

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EUGENE BURKE, OF LAKEVIEW, OREGON.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 679,942, dated August 6, 1901.

Application filed November 21, 1900. Serial No. 37,205. (No model.)

To all whom it may concern:

Be it known that I, EUGENE BURKE, a citizen of the United States, residing at Lakeview, county of Lake, and State of Oregon, have invented certain new and useful Improvements in Pencil-Sharpeners; and I do hereby declare the following to be a full, clear, and exact description of the same.

The invention relates to a certain new and useful device for sharpening pencils; and the object thereof is to provide a simple and inexpensive device by means of which the wood may be cut from the pencil and the lead thereof sharpened, the device being of such a character that the cutting and sharpening mechanism is carried by a disk and actuated to cut the wood of the pencil and sharpen the lead thereof by a forward and backward rotation or travel of the disk.

In order to comprehend the invention, reference should be had to the accompanying sheet of drawings, wherein—

Figure 1 is a side view in elevation of the sharpener with a pencil therein. Fig. 2 is a vertical longitudinal sectional view, and Fig. 3 is a detail view, of the bearing-sleeve with pencil therein and pencil-clamp secured thereon.

In the drawings the letter A is used to indicate the disk, which may be constructed of any suitable material. Preferably this disk is provided with an elastic tire or rim A′. This disk has secured thereto the tubular hub B, which extends a short distance beyond the outer face of the disk. To the opposite face of the disk is attached the hood or cap B′. Through the hub B is loosely fitted the bearing-sleeve B^2, which sleeve receives the pencil C to be sharpened. Within the hood or cap B′ is arranged the rotary planer or knife C′, which knife or planer is secured to the shaft C^2, working in bearings in the face of the cap or hood and of the disk A. The said shaft projects slightly through the disk and has secured to its projecting end the pinion a, which pinion meshes with pinion a', secured upon stud a^2. This pinion in turn meshes with the stationary gear-ring D, fitted within the rim-flange of the disk A. Said gear-ring is attached to the circular plate D′, the hub D^2 of which is loosely mounted upon bearing-sleeve B^2 and is held in place by the pin b, upwardly projecting from bearing-sleeve B^2. This pin b extends through a slot b' in the hub D^2, thus permitting slight longitudinal movement to be given to hub D^2, while providing against rotation thereof. To the shaft C^2 is secured, below the knife or planer C′, a circular file D^3, which serves to point the lead of the pencil. Within the bearing-sleeve B^2 there is arranged a spring d, which bears against the pencil fitted within or through the sleeve, thus regulating the sleeve to pencils of varying diameter. Without this spring or other compensating device it would be difficult to sharpen pencils of a diameter less than that required for a snug fit within the sleeve.

The shavings or dirt caused by sharpening is deposited within the hood or cap and is removed therefrom through outlet-opening d'.

The sharpener is operated in the following manner: The end of the pencil C to be sharpened is inserted through the bearing-sleeve B^2 until its end comes in contact with the sharpening-knife or planer C′. The pencil is firmly held within the bearing-sleeve by the pressure of spring d and thumb-clamp E, fitted thereover. It will be observed and understood that the clamp when slipped over the portion of the spring which projects through the sleeve B^2 will press upon this spring and force the same against the pencil with a greater force than said spring could alone exert. The operator then grasps and holds the hub firmly in one hand by means of the thumb-clamp, places the friction-ring A′ in contact with some plane surface—such, for instance, as a desk or table top—and rolls the ring on the plane surface. The frictional engagement between the surface and the ring A′ will cause the rotation of the same and of the disk A. The disk, if desired, can be held from disengagement from the hub B^2 by any preferred means; but no means is absolutely necessary, as the pressure of the hand of the operator and the resistance offered by the plane surface to the slipping of the ring thereon will retain the hood and disk on the hub B^2. As the sleeve is held to the pencil, it does not turn, but the hub of the disk revolves thereon. During the rotation of the disk the pinion a', carried thereby, engages with the teeth of the stationary gear-ring D and is thus rotated, the motion of which is

transmitted to the shaft C^2 through the medium of the pinion *a*. As the knife or planer and file-disk are secured to the shaft, they rotate therewith. During the rotation of the knife or planer C′ the wood of the pencil is gradually cut away, the pencil being forced inward as the wood is cut away until the exposed lead is engaged by the file-disk and filed to a point. All debris falls into the hood or cap B′, from which it is removed through outlet-opening *d*′.

If desired, the device may be made use of without the file-disk, although I prefer to utilize the said file in connection with the sharpener, as a better point may be given to the lead and liability of the same being broken by the action of the knife or planer is obviated.

Any suitably-shaped knife-blade or planer may be made use of.

The thumb-clamp provides a convenient means for holding the pencil, although its use may be dispensed with. Inasmuch as the thumb-clamp consists of a split band having finger-pieces *e* it is readily adapted to pencils of varying diameters.

Having thus described the invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

1. In a pencil-sharpening device, the combination with a rotatable disk, adapted to be rotated by rolling the same on a surface, of a tubular hub secured thereto, a non-rotatable bearing-sleeve fitted therein and through which the pencil slips, a planer carried by the rotatable disk, and means for operating the planer, said means being operatively connected with said disk, substantially as described.

2. In a pencil-sharpening device, the combination with a rotatable disk, adapted to be rotated by rolling the same on a surface, of a tubular hub secured thereto, a non-rotatable bearing-sleeve fitted therein and through which the pencil slips, a planer and a file-disk, secured to and carried by the rotatable disk, and of means for imparting rotation to the file-disk and planer during the movement of the disk.

3. In a pencil-sharpening device, the combination with a rotatable substantially circular disk having a tubular hub, of a non-rotatable bearing-sleeve fitted within the hub of the disk, of a planer rotated by the movement of the disk, a stationary gear-ring, and of pinions for rotating the knife-blade or planer, said pinions being driven from the gear-ring during the the movement of the disk.

4. In a pencil-sharpening device, the combination with a rotatable substantially circular disk adaped to be rotated by rolling it on a surface, of a tubular hub secured thereto, a planer attached to said disk, and means operatively connected to the disk for operating the planer, substantially as described.

5. In a pencil-sharpening device, the combination with a rotatable substantially circular disk, of a tubular hub secured thereto, a planer secured to and carried by the disk, a rotary file for sharpening the lead of the pencil, of means for imparting rotation to the file and planer during the movement of the disk, and of a hood or cover attached to the disk and within which the knife-blade or planer and disk file operate.

6. In a pencil-sharpening device, the combination with a rotatable disk, adapted to be rotated by rolling it on a surface, of a tubular hub secured thereto, a bearing-sleeve fitted within the tubular hub, a planer attached to the disk, gear-and-pinion mechanism for imparting rotation to the planer during the movement of the disk, of a disk file rotated by the gear-and-pinion mechanism.

7. In a pencil-sharpening device, the combination with a rotatable substantially circular disk, of a tubular hub secured thereto, a planer secured to and carried by the disk, the mechanism for rotating the planer during the movement of the rotatable disk, a bearing-sleeve fitted within the tubular hub of the disk, a spring therein, and of a thumb-clamp for holding the pencil in the bearing-sleeve.

8. In a pencil-sharpener, the combination of a bearing-sleeve adapted to receive a pencil, a part rotatable on said sleeve and adapted to be rotated by rolling on a surface, a planer, and means operated by said rotatable part for operating said planer, substantially as described.

In witness whereof I have hereunto set my hand.

EUGENE BURKE.

Witnesses:
WM. GUNTHER,
C. H. DUNLAP.