

(No Model.)

J. DUSHANE.
PENCIL SHARPENER.

No. 516,701.

Patented Mar. 20, 1894.

Fig. 1.

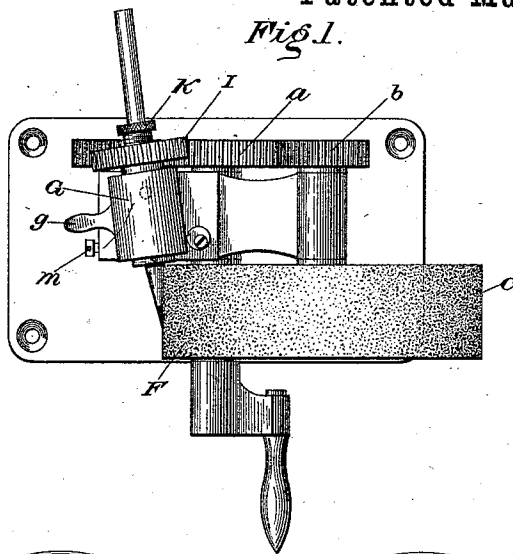


Fig. 2.

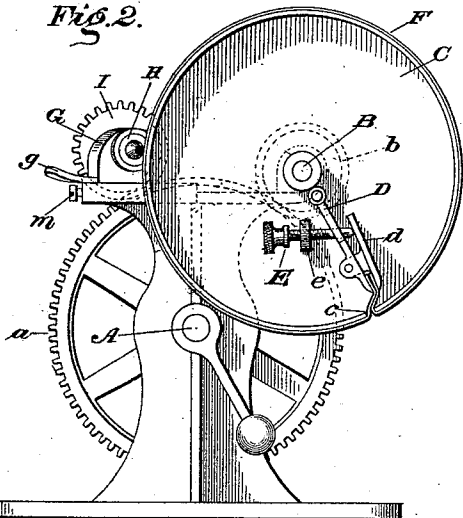


Fig. 3.

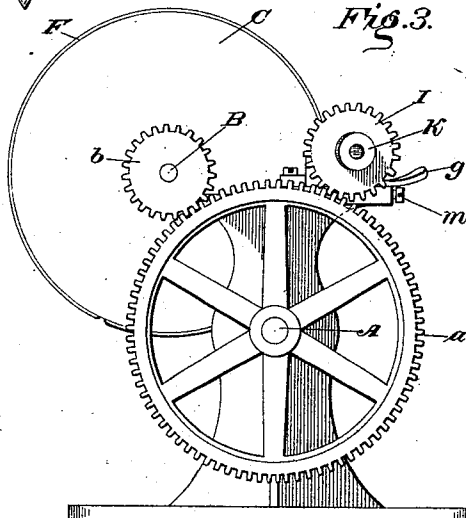


Fig. 4.

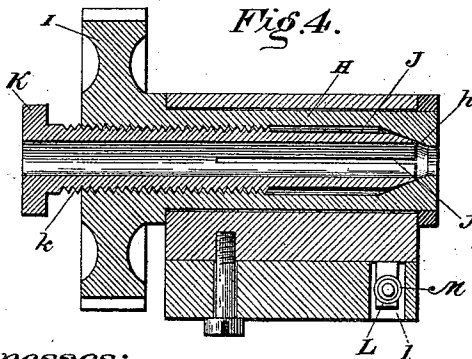
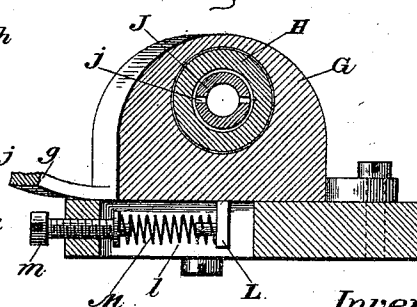


Fig. 5.



Witnesses:

M. S. Fowler
James G. Mansfield

Inventor:

James DuShane

By his Attorneys, Alexander & Dowell

UNITED STATES PATENT OFFICE.

JAMES DUSHANE, OF SOUTH BEND, INDIANA.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 516,701, dated March 20, 1894.

Application filed May 1, 1893. Serial No. 472,576. (No model.)

To all whom it may concern:

Be it known that I, JAMES DUSHANE, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Pencil-Sharpeners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention is a pencil sharpening machine designed for pointing pencils and like articles quickly and perfectly by means of a rotary abrading surface and a rotary pencil holder.

The machine consists principally of a rotary drum provided with novel means for attaching a strip of abrading material, such as sand paper or emery-cloth to its periphery and a spring-controlled pencil holder in which the pencils can be secured, and by which they will be presented to and held against the drum in such manner that the latter will cut a perfect point thereon.

It further consists in certain novel details of construction and combinations of parts as will be hereinafter clearly described and claimed.

In the drawings:—Figure 1 represents a top plan view of the machine indicating a pencil being operated upon. Fig. 2 is a side view thereof. Fig. 3 is a similar view of the opposite side. Fig. 4 is a detail longitudinal section through the pencil holding device, and Fig. 5 is a detail transverse section there-
through.

The frame of the machine is of any suitable construction having bearings for a driving shaft A which can be rotated by a crank on one end, or other means, and has a gear *a* on its opposite end.

Above and to one side of shaft A, is journaled a shaft B which has a pinion *b* on one end meshing with gear *a*, and on its other end is secured the grinding drum C which has a narrow transverse slot in its periphery.

D is a clamping jaw lying within the drum and pivoted to the head thereof near its axis opposite the slot *c*. To jaw D is pivoted a shorter jaw *d*, as shown, the two jaws forming a pinchers-clamp the mouth of which lies close to slot *c*. A screw E is tapped through a lug *e* secured to the head of the drum beside

jaw D, on the side opposite jaw *d*, and its end passes through a slot in jaw D and impinges against the inner end of jaw *d*. The screw performs two functions; it causes the jaws to close and then to swing away from the lug *e*. A strip of abrading material F as sand paper is passed around the periphery of the drum, and the ends of the strip are passed through slot *c* and between the jaws D, *d*, by which they are clamped, then by screwing up screw E, the clamp is swung laterally away from slot *c* and stretches the strip F tightly around the periphery of the drum, as is evident, and the jaws clamp the strip more firmly as the tension thereon is increased.

From the above it will be understood that I can use straight strips of abrading material on the drum, and readily secure them thereto or remove them when worn, the drum being preferably cylindrical.

G designates a block pivoted at one end on the top of the frame beside and at one end of the drum so that its free end can be swung toward or from the periphery of the drum. This block has a longitudinal bore in which is journaled a sleeve H, the bore of which is slightly conical as at *h*, and on the rear end of the sleeve outside the block is a pinion I which meshes with gear *a*. Within the sleeve is fitted a clamping tube J having its forward end beveled exteriorly to engage the conical portion *h* of the sleeve, and also longitudinally split and slotted as at *j*, so that by forcing the tube inward its front portion will be contracted and will clamp a pencil which has been previously inserted therethrough. The rear end of the tube is exteriorly threaded as at *k* to engage interior threads in the sleeve, and it has a head K by which it can be readily manipulated.

The block has a depending lug L near its front end which enters a slot *l* in the top of frame, by which the swing or vibration of the block may be limited. Or the swing may be limited by an eccentric formed on the end of a screw tapped through the frame so that by turning the screw the position of the lug may be slightly varied, and thus an adjustment of the lug and of the throw of the block obtained. Other devices may be readily applied however for adjustably limiting the movement of

the block toward the drum. A spring M is inserted in the slot *l* and bears against lug L so as to force the block toward the drum the tension of the spring being regulated by a set screw *m* or other suitable means. The block may be shifted away from the drum by a handle *g* when a pencil is being inserted in or removed from the holder.

Operation: When a pencil is to be sharpened the block is turned so that tube J will lie about parallel with the shaft B, a pencil is then slipped through the tube until its end projects the desired distance for pointing in front thereof; the tube is then screwed into the sleeve until the pencil is firmly clamped, then the block is released, and the shaft A turned, both pencil and drum are revolved, and the spring M swinging the block toward the drum holds the pencil end in contact with the abrading strip on the drum which rapidly cuts away the pencil and points the same. As the block moves the end of the pencil is gradually turned until it lies at an oblique angle to the periphery of drum and the desired pointing is obtained. When the stud L stops the movement of the block, the pencil will be pointed and no more cutting will occur until the pencil is removed or again adjusted for cutting. The spring which controls the movement of the block insures an even pressure against the abrading surface of the drum and hence a perfectly round point on the pencil will be made. The pencil after its insertion in the holder is thus automatically acted upon, and the taper of the point can be readily regulated by adjusting the swinging action of the block. The teeth of pinion I should be so formed that the swinging action of the block as above described will be permitted without disengaging the pinion from gear *a*. The means for driving the pencil and drum how-

ever are obviously capable of variation without affecting the essential features of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent thereon, is—

1. The combination with a rotary abrading device, of a block pivoted beside the same, a spring for forcing said block to turn toward the abrading surface, a rotary pencil holder mounted on said block, and an adjustable stop for arresting the movement of said block, substantially as described.

2. The combination with a drum having a slot in its periphery, of the swinging clamp pivoted therein opposite the slot and the screw for adjusting said clamp, substantially as specified.

3. The combination with the drum having a slot in its periphery, the jaw pivoted therein opposite the slot, the small jaw pivoted to the first jaw, and a set screw tapped through a stud on the drum, all constructed and arranged to operate substantially as and for the purpose set forth.

4. In a pencil sharpening device the combination of a rotating abrading drum, a block pivoted beside the drum, a spring for turning said block toward the drum, a rotatable sleeve in said block, a pencil holding clamp in said sleeve and a stop for arresting the movement of said block, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES DUSHANE.

Witnesses:

GEORGE P. ROSE,
WILL G. CRABILL.