

No. 648,900.

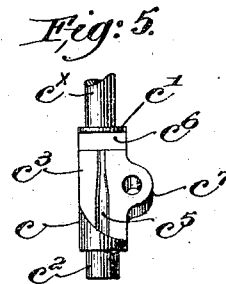
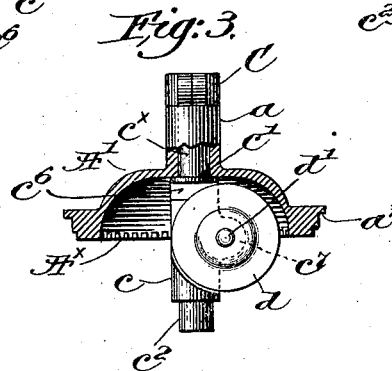
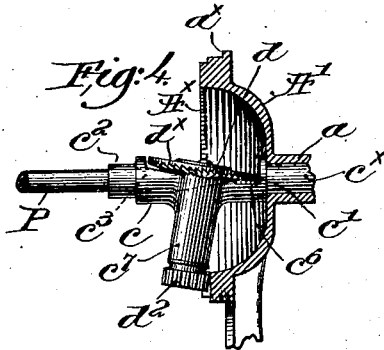
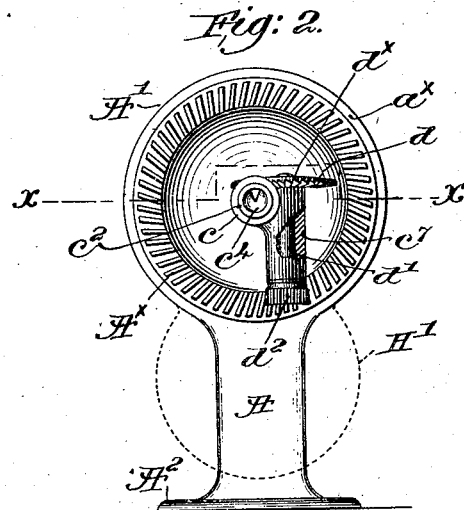
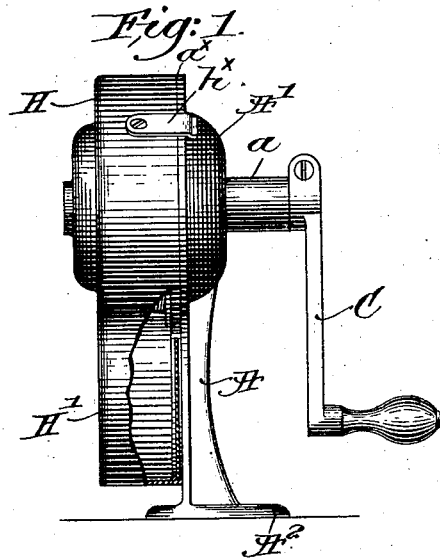
Patented May 1, 1900.

G. R. EAGER.

SHARPENING DEVICE FOR PENCILS, &c.

(Application filed Apr. 29, 1898.)

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE R. EAGER, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE F. S. WEBSTER COMPANY, OF BOSTON, MASSACHUSETTS.

SHARPENING DEVICE FOR PENCILS, &c.

SPECIFICATION forming part of Letters Patent No. 648,900, dated May 1, 1900.

Application filed April 29, 1898. Serial No. 679,165. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. EAGER, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Sharpening Devices for Pencils, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a very simple, cheap, and strong device for sharpening pencils and the like with rapidity and effectively, whereby an elongated conical point will be produced with a minimum of breakage.

Various features of my invention will be hereinafter described in the specification and particularly pointed out in the claims.

Figure 1, in side elevation and partially broken out, represents a sharpening apparatus embodying my invention. Fig. 2 is a front view thereof, with the dust or chip collecting hood removed, the bearing for the shaft of the abrading or cutting disk being partly broken out. Fig. 3 is a transverse sectional view of the apparatus shown in Fig. 2, on the line *x x* thereof. Fig. 4 is a side elevation of the carrier or holder and the abrading or cutting disk, with the concavo-convex head of the stand in section; and Fig. 5 is a top or plan view of the carrier or holder.

A suitable stand A is provided with preferably a concavo-convex or cup-like head A' and a foot A², to be attached to a table or other suitable support, the said head having an elongated bearing *a*, extended from the center of its convex back. The perimeter of the head is shouldered, as at *a'*, to receive the edge of a hood H, which is made circular to fit the head, the base H' of the hood being inclined and depending below the cutting or abrading mechanism to collect the chips and dust as formed. Spring-clips *h*^x are herein shown secured to the hood to be sprung over the edge of the head A', and thereby detachably retain the hood in place.

I have provided a carrier or holder for the pencil or other object to be sharpened, said carrier being herein shown as comprising a body portion *c*, reduced at one end to form a journal *e*^x, which is supported in the bearing

a, the shoulder *c'* abutting against the inner end of said bearing, while a suitable crank-arm C is attached to the journal at the outer end of the bearing. The carrier extends from the concave side of the head A' and at its outer end is provided with a tubular receiver *c*² for the pencil or other object P to be sharpened, (see Fig. 4,) and the body *c* of the carrier is cut away to form an inclined longitudinally-extended face *c*³, extending from the perimeter of the orifice *c*⁴ of the receiver *c*² to the axis of the carrier. Referring to Figs. 4 and 5, a longitudinal recess *c*⁵ is made in the face *c*³, forming a continuation of and converging inwardly from the orifice *c*⁴. A transverse recess or clearance *c*⁶ is made in the body of the carrier at and intersecting the inner end of the recess *c*⁵. The tubular receiver *c*² is adapted to enter freely an opening in the outer wall of the hood H when the latter is in position. A disk *d*, provided on its underside with an abrading or cutting surface, herein shown as a series of radiating cutting-blades *d*^x, is fast on a shaft *d'*, rotatably mounted in a bearing *c*⁷, forming an integral portion of the carrier *c* and oblique to the axis thereof, a pinion *d*² being secured to said shaft at the other end of the bearing. This pinion meshes with an annular gear A^x, (see Figs. 2 and 3,) formed on or secured to the face of the head A', so that when the carrier *c* is rotated on its axis the disk *d* will be carried around therewith and also rotated positively upon its own axis. The abrading or cutting surface of the disk extends over the inclined face *c*³ of the carrier and in close proximity thereto, and the portion of the pencil extended through the receiving-orifice *c*⁴ and exposed beyond the recess *c*⁵ will be acted upon by the disk, to be abraded or cut thereby.

The pencil is held by the operator from rotation, so that the abrading or cutting tool travels around it, the unexposed portion of the pencil at any time being positively and firmly supported by the carrier.

The dotted lines in Fig. 4 show the general shape of the recess *c*⁵, which is made conical to coincide with the sharpened end of the pencil.

It sometimes happens that the lead of a pencil will break during the sharpening, and to

provide an immediate outlet for the broken piece I provide the clearance c^6 , which permits the immediate discharge of such piece or pieces of lead without clogging up the apparatus.

The construction herein set forth is strong, durable, and simple, the bearing c^7 for the shaft of the cutting-tool protecting said shaft from the action of dust or dirt, while the shoulder c^7 performs the same office for the bearing a .

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

1. In a pencil-sharpening device, a stand provided with a carrier, said carrier having a pencil-receiving orifice and a recess extending entirely across the carrier and intersecting the orifice, a cutter and its supporting-shaft sustained by said carrier, the cutter being arranged to rotate in said recess, and means for rotating the cutter.

2. In a pencil-sharpening device, a stand provided with a carrier, said carrier having a pencil-receiving orifice, a recess extending entirely across the carrier and intersecting the orifice, and a clearance-space adapted to receive broken-off leads and located beyond said recess, a cutter and its supporting-shaft sustained by said carrier, the cutter being arranged to rotate in said recess and across said clearance-space, and means for rotating the cutter.

3. In a pencil-sharpening device, a stand having a head provided with a fixed gear, a rotary carrier supported by the head and having a pencil-receiving orifice, and a recess extending entirely across the carrier and intersecting said orifice, a cutter and its supporting-shaft sustained by said carrier, the cutter being arranged to rotate in said recess, a gear

upon the cutter-shaft meshing with the first-mentioned gear, and means for rotating the cutter.

4. In a pencil-sharpening device, a stand having a concavo-convex head, a rotary carrier supported by the head, and said carrier having a longitudinal orifice and having a recess extending entirely across the same and intersecting the orifice, a cutter and its supporting-shaft sustained by the carrier the cutter being disposed to operate respectively in said recess and in the concavity of the head, and means for simultaneously rotating the carrier and the cutter.

5. In a pencil-sharpening device, a stand provided with a carrier, said carrier having a pencil-receiving orifice and a recess extending entirely across the carrier and intersecting the orifice, a cutter and its supporting-shaft sustained by said carrier, the cutter being arranged to operate in said recess, means for rotating the cutter, and a detachable hood to inclose the carrier and disk and having means to catch chips and other particles falling from the pencil during the sharpening operation.

6. A carrier for a pencil-sharpening device, provided with a journal portion at one end, and having a longitudinal receiving-orifice, a recess extending entirely across the carrier and intersecting said orifice, a transverse clearance in said body adjacent to the journal portion, and a shaft-bearing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE R. EAGER.

Witnesses:

GEO. W. GREGORY,

AUGUSTA E. DEAN.