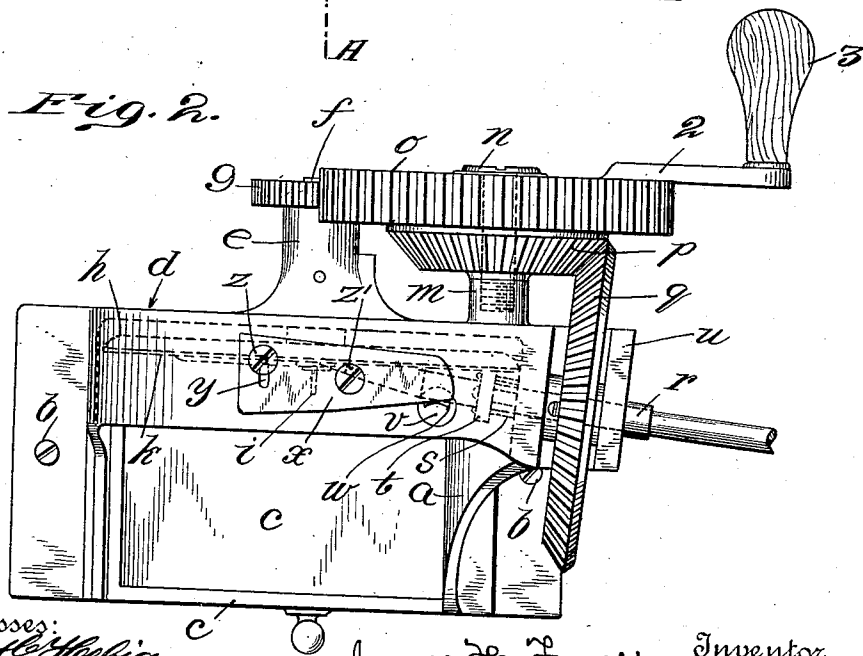
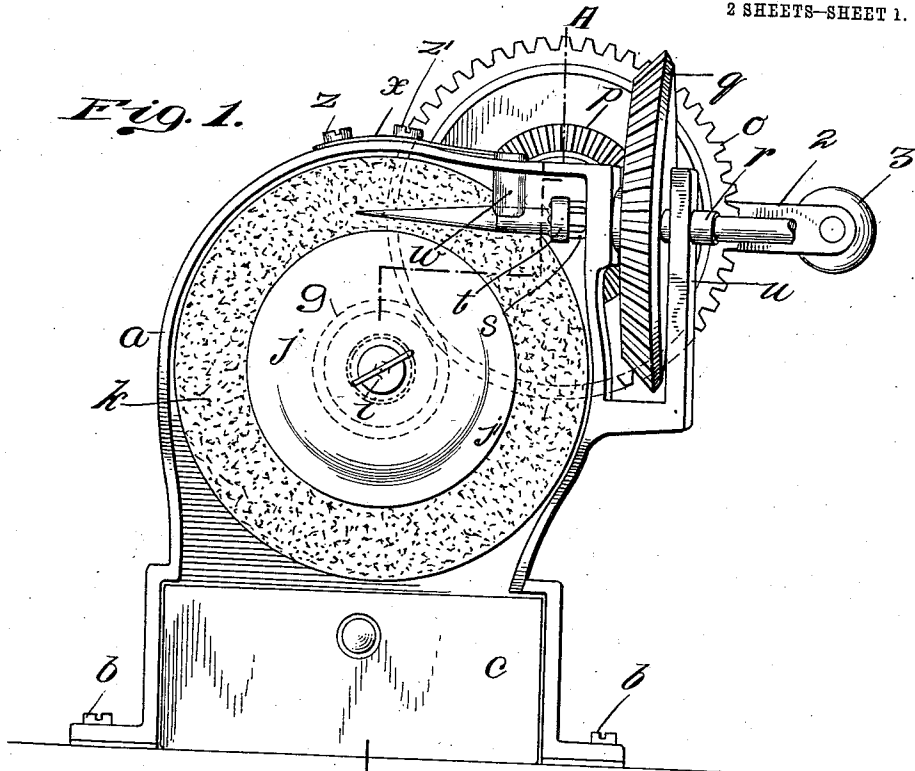


J. H. FASSETT.
PENCIL SHARPENER.
APPLICATION FILED MAR. 18, 1910.

1,058,168.

Patented Apr. 8, 1913.
2 SHEETS-SHEET 1.

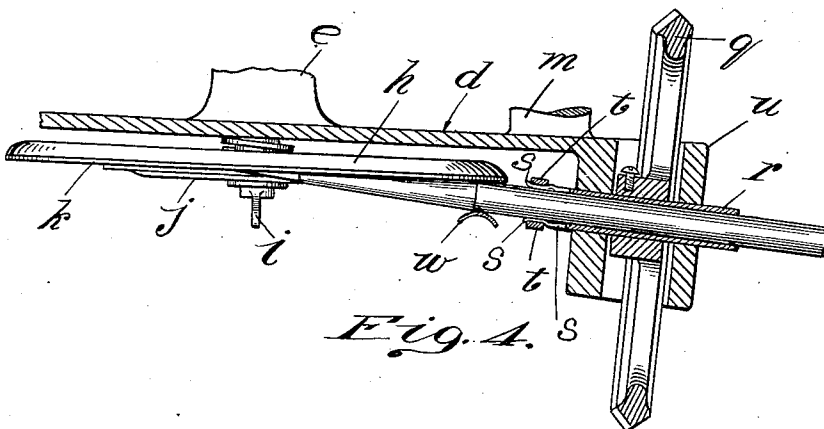
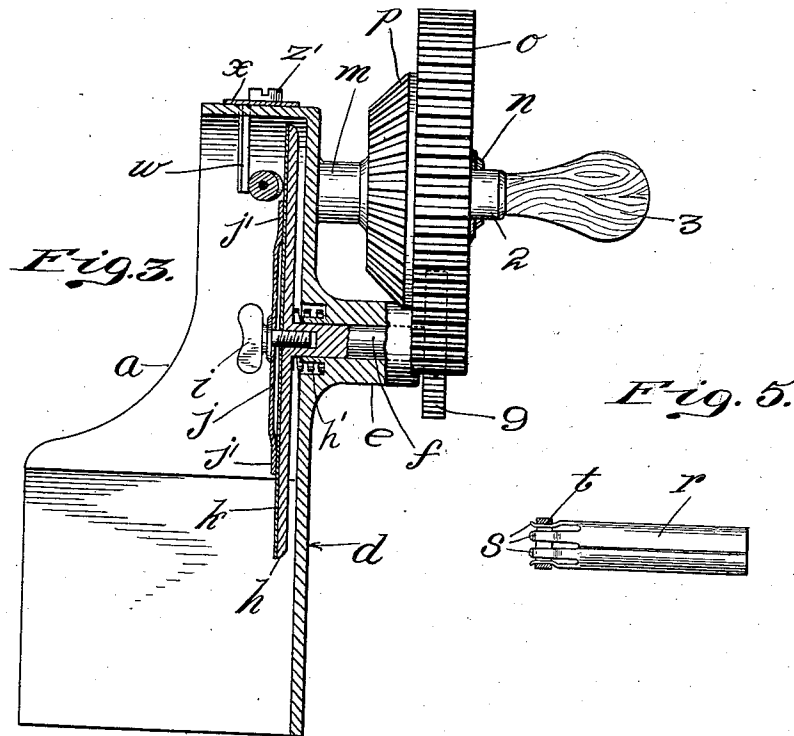


Witnesses:
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Albert H. H. H.

James H. Fassett Inventor
By his Attorney
James Hamilton

1,058,168.

2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES H. FASSETT, OF NASHUA, NEW HAMPSHIRE.

PENCIL-SHARPENER.

1,058,168.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed March 18, 1910. Serial No. 550,194.

To all whom it may concern:

Be it known that I, JAMES H. FASSETT, a citizen of the United States, residing at Nashua, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Pencil-Sharpeners, of which the following is a specification, reference being had to the accompanying drawings.

10 My invention relates to improvements in pencil-sharpeners and particularly to improvements in pencil-sharpeners in which the pencil is rotated while pressed against a rotating or whirling abrasive device; and
15 an object of my invention is to provide a pencil-sharpener of the character just described in which the lead of the pencil will be preserved from cracking and breaking and only sufficient of the pencil will be worn
20 away to give to the pencil the required point.

Another object of my invention is to provide a pencil-sharpener with a pencil-holding device which will hold the pencil firmly and which will at the same time be yielding
25 enough to receive pencils of varying diameters.

A third object of my invention is to provide a pencil-sharpener in which the pressure acting to force the pencil against the
30 abrasive disk may be finely adjusted.

Other features of my invention will be set forth in the description and claims which follow.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle,
35 Figure 1 is an elevation of my new pencil-sharpener; Fig. 2 is a plan of the same; Fig. 3 is a section on the line A—A of Fig. 1; Fig. 4 is a detail in section showing the manner in which the pencil is held against the abrasive surface of the disk; and Fig.
40 5 is a detail of the pencil-holding device, the rubber band being shown in section.

45 The housing or casing *a* is open in front and at its bottom is provided with holes through which may be passed screws *b* to fasten the casing to the top of a suitable support, as a shelf, desk or table. In the
50 lower part of the casing *a* is slidably fitted a drawer *c* in which is collected the material abraded from the pencil. The walls of the housing are so formed as to insure that this material will be collected in the drawer
55 *c*. From the back wall *d* of the housing projects a boss or stud *e* which is hollow and

in which is journaled the shaft *f* upon the outer end of which is mounted fast a pinion *g* and upon the inner end of which is formed integral a disk *h*. Screwed into the inner
60 end of the shaft *f* is a thumb-screw *i* which passes through a circular plate *j* and the disk *h* of abrasive material, which is interposed between the plate *j* and the disk *h*. Projecting from the back wall *d* of the hous-
65 ing is a second stud or boss *m* formed with an interiorly-threaded socket into which is screwed the threaded end of a screw *n* which serves as an axis of rotation or a stationary shaft for the spur-gear *o*. The latter meshes
70 with and drives the pinion *g*, shaft *f*, disk *h* and the abrasive material *h* held thereon by the plate *j* and thumb-screw *i*. Formed integral with the spur-gear *o* is a smaller bevel-gear *p* which meshes with and drives
75 the bevel gear *q* mounted on a split tube *r* the inner end of which is slitted so as to form a number of gripping fingers *s*. Around the latter is mounted a rubber
80 band *t*.

It has heretofore been found difficult to provide a pencil-holding clutch that would hold the pencil firmly and not allow it to be pushed back by the abradant and which
85 would at the same time be sufficiently yielding to receive pencils varying in diameter as do the pencils commonly found on the market. By combining with the resilient gripping fingers *s* of the split tube *r* a band
90 of yielding material, I have produced a pencil-holding device which is yielding enough to fit pencils having different diameters and which will nevertheless hold the different pencils with a grip so firm that
95 none will suffer displacement by the rotating disk or abradant. The split-tube *r* is journaled in bearings formed in the side of the casing and in a bracket-arm *u* formed integral therewith.

In the top of the casing there is formed a
100 hole *v* through which projects inwardly and downwardly a tang *w* formed on the end of a leaf spring *x* the other end of which is formed with a slot *y*. Through the latter passes a stop-screw *z*. For purposes of ad-
105 justment of the tang *w*, the leaf spring *x* is pivotally mounted on the tap-screw *z'*. The tang *w* is semicircular in cross-section as is shown in Fig. 4; and this shape allows the pencil to be easily pushed between the tang
110 and the abradant disk *h*. The tang *w* serves to hold the end of the pencil against the lat-

ter with a yielding pressure and by adjusting the leaf spring *x*, the length of the bevel formed on the end of the pencil may be varied.

5 As is best shown in Fig. 3, the circular plate *j* is slightly dished or concaved at its center, whereby a springiness is conferred upon the plate and the pressure with which the contacting rim portion *j'* bears upon the
10 abradant *k* may be varied by turning the thumb-screw *i*.

Integral with the spur gear *o* is cast the crank-arm 2 to which is fastened the knob 3 and by which the spur gear *o* is turned,
15 thereby rotating the shaft *g* and the split-tube *r*.

The operation of the device is too obvious to need further description.

In a recess *d'* in the back wall *d* at the
20 base of the stud *e* there is mounted a coil spring *h'* which bears against the abradant-carrying disk *h* near the junction of the latter with the shaft *f*. This spring *h'* maintains the abradant disk *h* pressed against
25 the pencil with a yielding pressure which, assisted by the spring action of the tang *w*, tends to prevent breakage of the point of the pencil and to adapt the sharpener to receive
30 pencils of different sizes.

As is clearly shown in Figs. 1, 2 and 4, the parts are so arranged that the end of the pencil to be sharpened is held tangent to a circle concentric with the shaft *f*; that is, the center of which lies in the axis of the
35 latter and, further, that the same end is held in a vertical plane passing through that axis. By thus positioning the pencil-end to be sharpened, it is insured that the sharpening of the pencil will be accomplished with

the least wearing away of the graphite consistent with the giving to the pencil a satisfactory point.

I claim:

1. In a pencil-sharpener, a casing, rotatable pencil-holding means journaled in said casing, pencil-sharpening means also journaled in said casing, and means yieldingly and adjustably engageable with the pencil for holding the end thereof to be sharpened against said sharpening means, comprising:
45 a slotted leaf-spring pivoted to said casing, leaf-spring clamping-means carried by said casing and projecting through said leaf-spring slot, and a tang carried by said leaf-spring and engageable with the pencil,
50 toward the end thereof to be sharpened.

2. In a pencil-sharpener, a casing, rotatable pencil-holding means journaled in said casing, pencil-sharpening means also journaled in said casing, and means yieldingly
60 and adjustably engageable with the pencil for holding the end thereof to be sharpened against said sharpening means, comprising: a slotted leaf-spring pivoted to said casing, leaf-spring clamping-means carried by said casing and projecting through said leaf-spring slot, and a tang, arcuate-shaped in cross section, carried by said leaf-spring and engageable with the pencil, toward the end thereof to be sharpened.
65 70

In testimony whereof I hereunto set my hand at Nashua, New Hampshire, this 16th day of March, 1910, in the presence of the two undersigned witnesses.

JAMES H. FASSETT.

Witnesses:

CLARA M. SMITH,
FRED L. CLARK.