(No Model.)

G. H. PHELPS.

PENCIL SHARPENER.

No. 334,803. Patented Jan. 26, 1886.

Fig: 1.

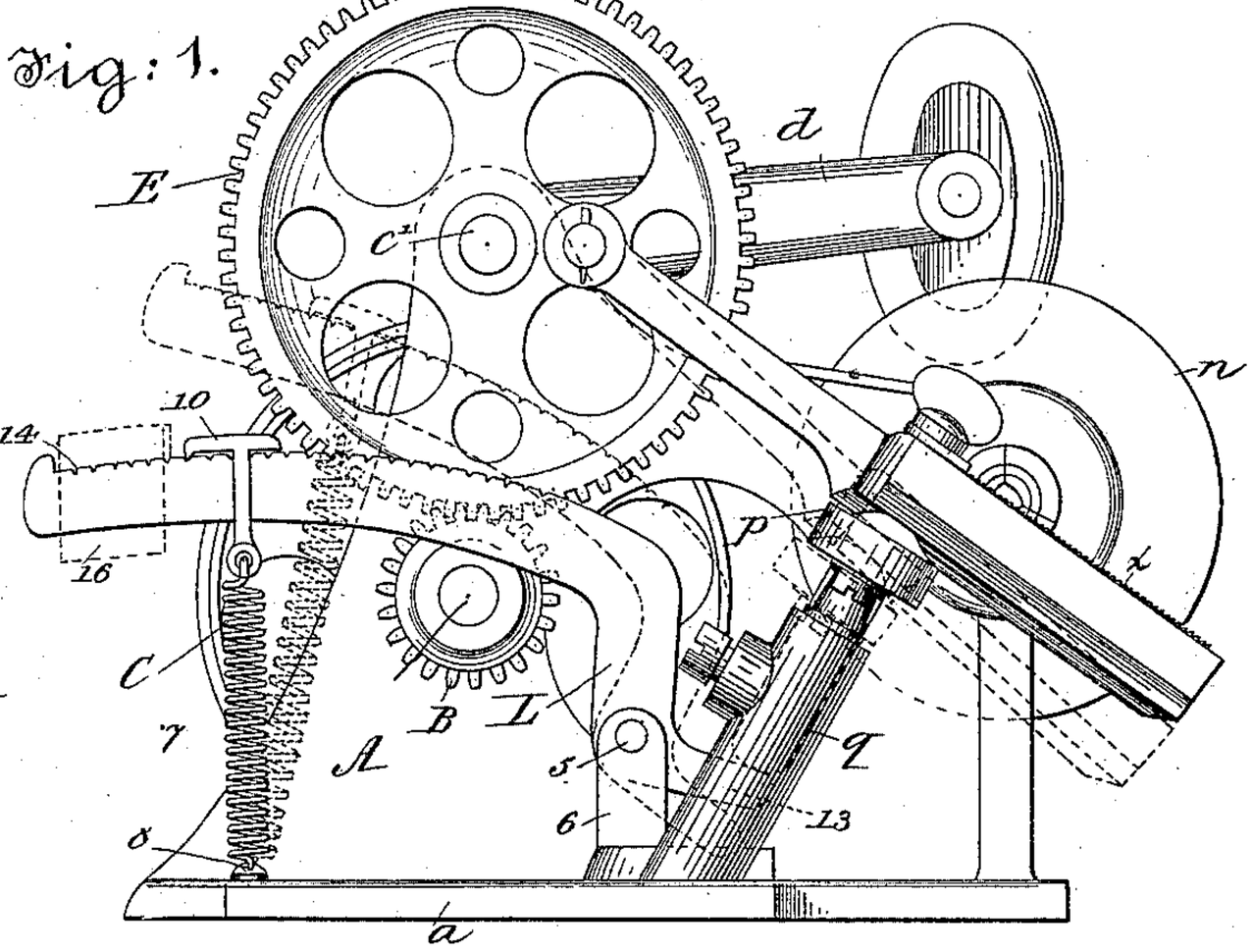

Fig: 5.

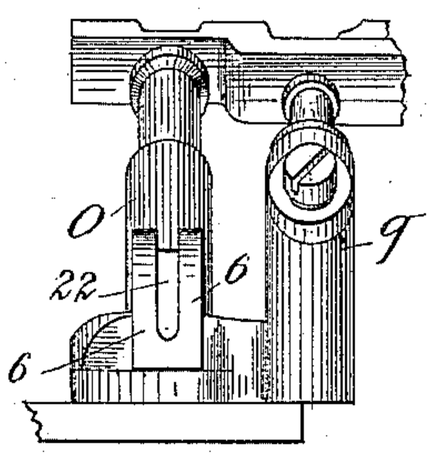

Fig: 3. k

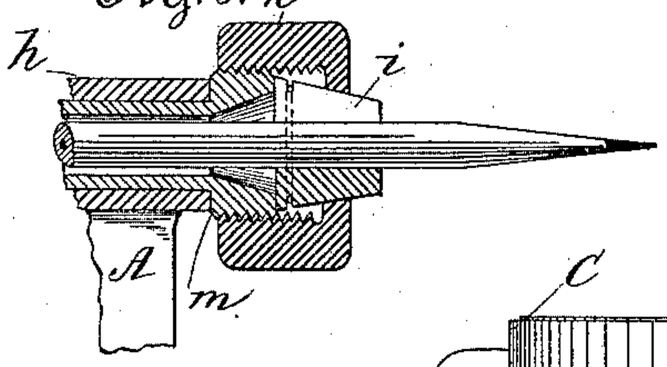

Fig: 4.

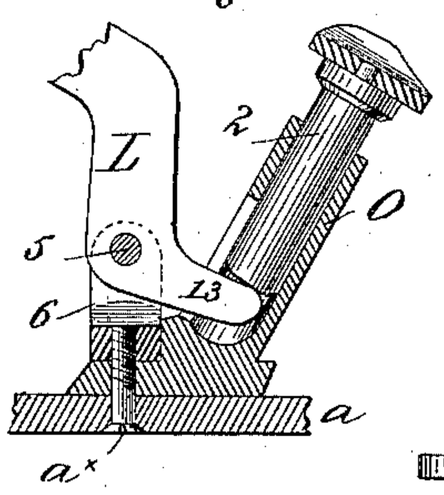

Fig: 2. d

Witnesses;

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UNITED STATES PATENT OFFICE.

GEORGE H. PHELPS, OF NEWTON, MASSACHUSETTS.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 334,803, dated January 26, 1886

Application filed October 12, 1885. Serial No. 179,600. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. PHELPS, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Pencil-Sharpeners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to and is an improvement on that class of pencil-sharpeners shown in United States Patent No. 304,371, dated September 2, 1884.

In the machine described in the patent referred to the file is kept in contact with the pencil to be sharpened by a spring, which, to be effective with ordinary lead-pencils, is required to be of considerable strength; but said spring of proper strength for pencils of the usual size is too strong for use when small or thin pencils, or pencils having soft lead, or slate-pencils are to be sharpened, and as a result such pencils are frequently broken.

The machine described in the patent has no means whatever to regulate the force of the said spring.

The object of this invention is to improve the said machine, so that, in addition to pencils of usual size, small pencils and slate-pencils may be sharpened.

In accordance with my invention the shank of the file-carrier supporting-plate is supported on the short arm of a lever, which arm enters a slot in the hollow post, which receives within it the said shank, the said lever being acted upon by a spring or its equivalent, a weight, to regulate the upward pressure of the file-carrier and file toward the pencil being sharpened.

My invention consists, essentially, in the combination, with the file-carrier and its supporting-plate, of a lever, and means, substantially as described, to vary the effective pressure of the said lever with relation to the said file-carrier supporting-plate, as hereinafter particularly set forth and claimed.

Figure 1 is a rear side elevation of a machine embodying my invention; Fig. 2, a plan view of Fig. 1, with part of the crank or handle broken off; and Figs. 3, 4, and 5, details to be referred to.

The standard A, rising from the base-plate *a*, the bearing-hubs *b b'*, for the shafts *c c'*, belt-pulley C, spur-pinion B, fast on the shaft *c*, spur-gear E on shaft *c'* and in mesh with the said pinion, the handle *d*, belt *e*, pulley *g*, the sleeve *m* of the pencil-holder or chuck, the bearing *h*, nut *k*, thumb-nut *n*, hollow post O, file-carrier supporting-plate *p*, its depending pin or shank 2, the thumb-piece *r*, headed guide-rod *q*, file carrier S, and file *x*, are all substantially as in the patent referred to, wherein they are designated by like letters, and are not, therefore, herein claimed.

Instead of employing a spring, as in the said patent, to push the file-carrier supporting-plate toward the center of rotation of the chuck, I have, as herein shown, provided the hollow post O, with a slot, 22, in which is extended the short arm 13 of an elbow-lever, L, pivoted at 5, in uprights 6, secured to the base-plate *a* by screws $a^{\times}$, the said lever acted upon by a spring, 7, or its equivalent, a weight, as represented by dotted lines at 16, serving to force the file-carrier supporting-plate toward the center of rotation of the chuck with more or less force, according to the position of the spring or weight on the lever.

The lever L, herein shown as notched at its top, as at 14, is provided with a saddle, 10, with which is connected one end of the spring 7, the other end of which is secured at 8 to the plate *a*. The short arm 13 of the said lever (shown partially by dotted lines in Fig. 3, and in full lines, Fig. 4) enters the slot 22 in the hollow post O, and supports the pin 2.

The pencil-clamp *i*, composed of three loose pieces, is herein shown as projecting through and beyond the open face of the nut *k*, the opening in the said nut being enlarged for such passage, thereby allowing the end of the said clamp to grasp the body of the pencil entirely outside of the said nut *k*, thus enabling the clamp forming part of the chuck to grasp the pencil to be sharpened closer to the file, thus reducing the breaking-strain on the pencil.

I desire it to be understood that I do not limit myself to the specific form of lever shown, as it is evident that many forms of levers might be used to accomplish the result obtained.

I claim—

In a pencil-sharpener, a rotary chuck for

holding the pencil, a file-carrier, and means, substantially as set forth, to reciprocate it across the path of the pencil when it is in the chuck, and the movable support for the file-carrier, combined with the lever L, having its shorter effective arm in contact with the movable support of the file-carrier, and provided with a power device, such as a weight or spring, or both, adjustable thereon to vary the effective pressure of the file upon the pencil, substantially as described.

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

GEO. H. PHELPS.

Witnesses:
G. W. GREGORY,
J. H. CHURCHILL.