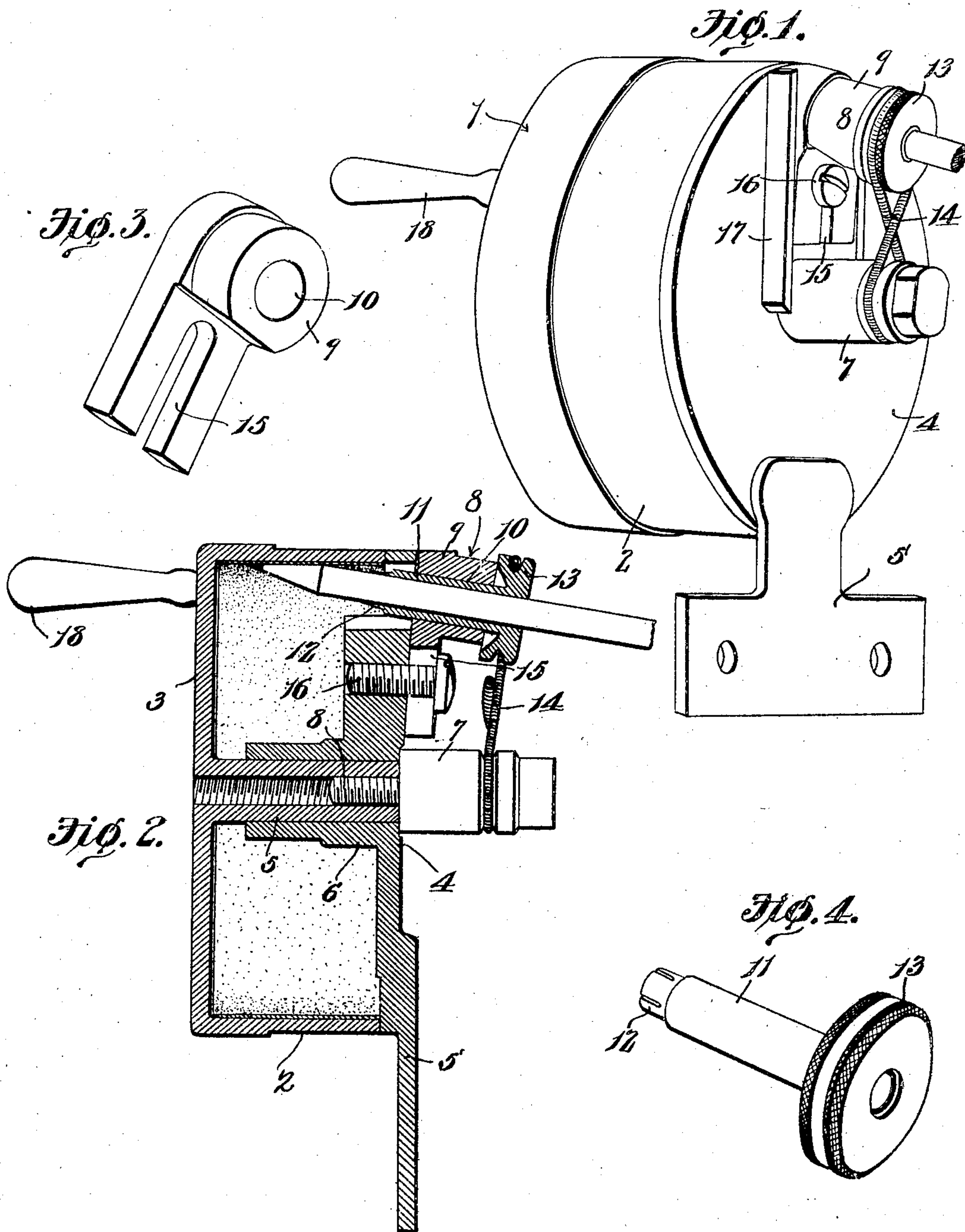


No. 843,999.

PATENTED FEB. 12, 1907.

W. E. CARY.
PENCIL SHARPENER.
APPLICATION FILED MAY 9, 1906.



WITNESSES:

Chattin Bradley
Chattin Bradley.

William E. Cary
INVENTOR

By *Chas. Snow & Co.*
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UNITED STATES PATENT OFFICE.

WILLIAM E. CARY, OF SPRINGFIELD, VERMONT.

PENCIL-SHARPENER.

No. 848,999.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed May 9, 1906. Serial No. 315,992.

To all whom it may concern:

Be it known that I, WILLIAM E. CARY, a citizen of the United States, residing at Springfield, in the county of Windsor and State of Vermont, have invented a new and useful Pencil-Sharpener, of which the following is a specification.

The present invention relates to a pencil-sharpening device, which has for its object to provide a pencil-sharpener of simple, inexpensive, and substantial construction.

In carrying out the invention I employ a rotary member which is provided with a circular grinding-surface, and arranged in suitable relation thereto is a relatively stationary pencil-holder. This pencil-holder is mounted upon a stationary support, which also supports the rotary member, and by means of a suitable power-transmitting connection the pencil-holder is rotated about the axis of the pencil by the rotary movement of the said member, the direction of rotation of the pencil-holder being opposite to that of the grinding-surface, so as to increase the effective grinding or cutting speed.

In addition to these features of construction the invention comprises others, which will be more fully described hereinafter and finally set forth in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a perspective view of my improved pencil-sharpener, showing the same in operation. Fig. 2 is a vertical transverse section, and Figs. 3 and 4 are perspective views of the parts of the pencil-holder.

Referring to the drawings, 1 represents a rotatable casing, which is a structure having a cylindrical wall 2, formed integral with the head 3 and closed by the stationary head 4, that has cast therewith or otherwise secured thereto a supporting-bracket 5'. The head 3 has extending axially from its inner surface a post 5, that makes a working fit in the tubular extension or bearing 6, extending inwardly from the center of the stationary head or structure 4, so that the casing is free to rotate. The two parts of the device are held together by means of an external post 7, having a reduced threaded portion 8, of which the shoulder engages the stationary head 4 and the threaded portion extends through a central opening in said head and screws into a tapped bore in the

internal post 5, Fig. 2. The post 7 is shaped to receive a wrench, so as to fasten or unfasten it.

Positioned on the stationary head or support 4, preferably above the post 7, is a pencil-holder 8. This comprises a radially-adjustable base-piece 9, having a bore 10, which extends with its axis slightly inclined to the inner cylindrical surface of the rotatable member. Rotatively mounted in this bore is a sleeve 11, the inner end of which is provided with spring-jaws 12, which are adapted to grip the pencil to be sharpened. On the outer end of the sleeve is a grooved wheel or pulley 13, which rotates with the sleeve. This sleeve is rotated by means of the rotatable member through the agency of the external post 7 and a crossed endless belt 14. This belt preferably takes the form of a garter-spring, and the post 7 is provided with a groove arranged substantially in line with the grooved wheel 14, so as to receive the belt. The base-piece 9 is provided with a radial slot 15, through which extends a set-screw 16, securing into the stationary head. The head is cast with the guideway 17, in which the holder is guided.

The object of having the pencil-holder disposed with its axis at an angle to that of the internal wall of the casing is to produce the proper relation between the pencil and the grinding-wheel. This internal wall is preferably faced with a strip of sandpaper, emery-cloth, or the like, which may be secured by gluing the same to the casing or by means of any suitable mechanical device.

Attached to the casing is a handle 18, by which the sharpener is operated. The rotatable casing can be rotated in either direction, and by means of the cross-belt the pencil-holder with the pencil held therein is rotated about its axis in the direction opposite to the direction of the said casing. The result of the combined rotation of the grinding-surface and the pencil is that the grinding speed is materially increased, so that the pencil can be quickly sharpened. To operate the device, the pencil to be sharpened is inserted into the holder as far as it can be placed, and with one hand still on the pencil to feed it inwardly the movable element of the sharpener is rotated with the other hand. The pressure on the pencil is preferably applied at the end, so that the pencil can more freely rotate and less friction is produced to be overcome by the cross-belt-

driving connection. It is to be noted that the casing being hollow serves as a receptacle for the particles ground off from the pencil, and the same can be readily emptied
 5 by unscrewing the external post and detaching the rotating member of the casing which retains the particles or grindings.

I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out by other means.

15 What I claim as new, and desire to secure by Letters Patent, is—

1. In a pencil-sharpener, a support, a bearing in the support, a revoluble abrading member, a spindle on the member mounted
 20 in the said bearing, a post having a removable threaded engagement with the spindle, a revoluble pencil-holder, and operating connections between the post and pencil-holder arranged to rotate the latter and serving as
 25 a means for preventing the spindle from accidentally disengaging from the post.

2. In a pencil-sharpener, a support, a bearing in the support, a revoluble abrading member, a spindle on the member removably
 30 mounted in the bearing of the support, a post having a removable threaded engagement with the spindle, a shoulder arranged to engage the support to prevent endwise displacement of the spindle, a revoluble pencil-holder, and operating connections be-
 35 tween the post and pencil-holder arranged and adapted to rotate the pencil-holder and at the same time tighten the connection between the post and the spindle.

40 3. In a pencil-sharpener, the combination of a cylindrical member having an internal post that is threaded, a head having a tubular bearing in which the post rotates, a

threaded device engaging the threads of the said post for holding the member and head
 45 together and for rotating with the former, said device having a circumferential groove, a pencil-holder mounted on the head and having a circumferential groove, and a driving-belt running in the said grooves for
 50 rotating the holder by the rotation of said member.

4. In a pencil-sharpener, the combination of a support, a bearing in the support, a hollow revoluble abrading member having an
 55 internal abrading-surface and provided with a hollow spindle mounted in the bearing in the support, a shouldered post having a threaded extension interiorly engaging the hollow spindle and having a bearing against
 60 the support to prevent endwise displacement of the spindle, a revoluble pencil-holder, and operating connections between the post and the pencil-holder for transmitting motion from the former to the latter.

5. In a pencil-sharpener, the combination of a rotating member having an internal grinding-surface, means for rotating there-
 70 with, a relatively stationary pencil-holder, and an elastic cross-belt and pulley transmission between said means and the pencil-holder, said pencil-holder comprising an adjustable base-piece and sleeve rotatably
 75 mounted therein with its axis disposed at an angle to the grinding-surface of said member, spring-jaws carried by said sleeve for holding the pencil, and a grooved pulley on the sleeve forming part of said transmission.

In testimony that I claim the foregoing as my own I have hereto affixed my signature
 80 in the presence of two witnesses.

WILLIAM E. CARY.

Witnesses:

M. L. LAWRENCE,
 ALICE M. WHEELER.