L. MYERS.

MACHINE FOR SHARPENING PENCILS.

APPLICATION FILED MAR. 9, 1915.

1,206,460.

Patented Nov. 28, 1916.

2 SHEETS—SHEET 1.

Fig 1

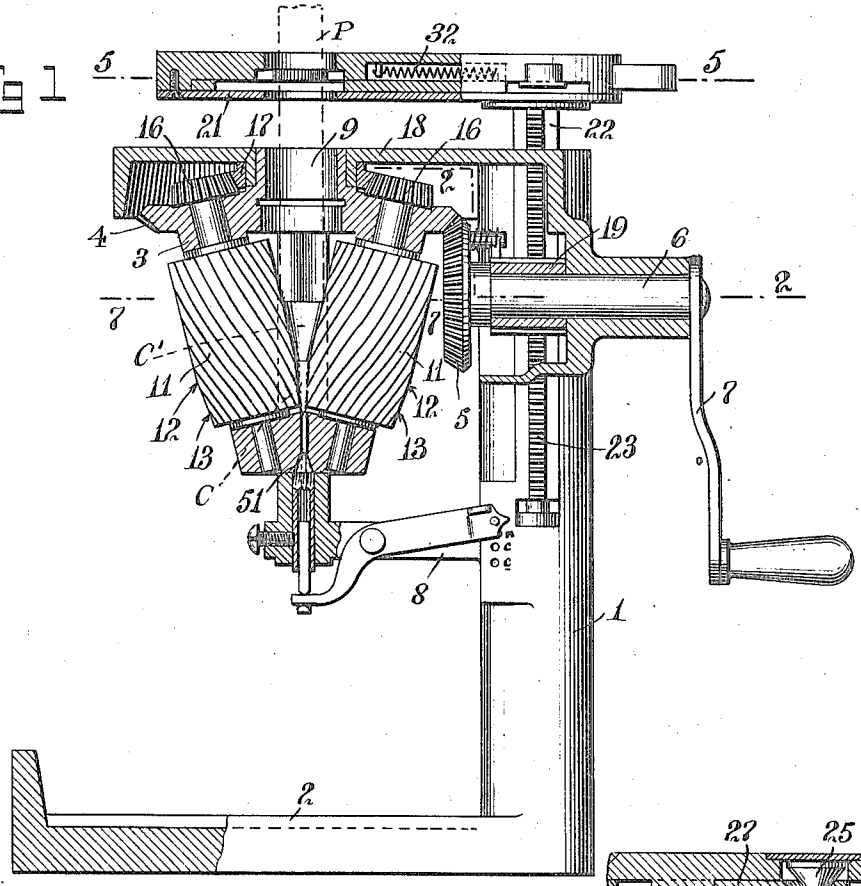


Fig 2

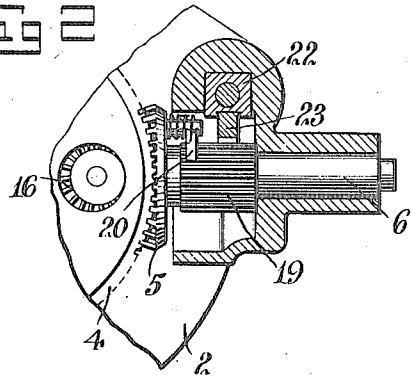
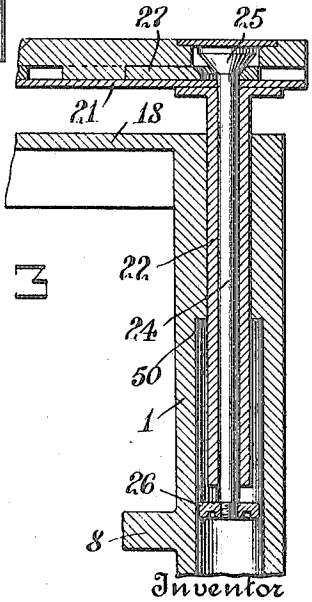


Fig 3



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2 SHEETS—SHEET 2.

Fig 4

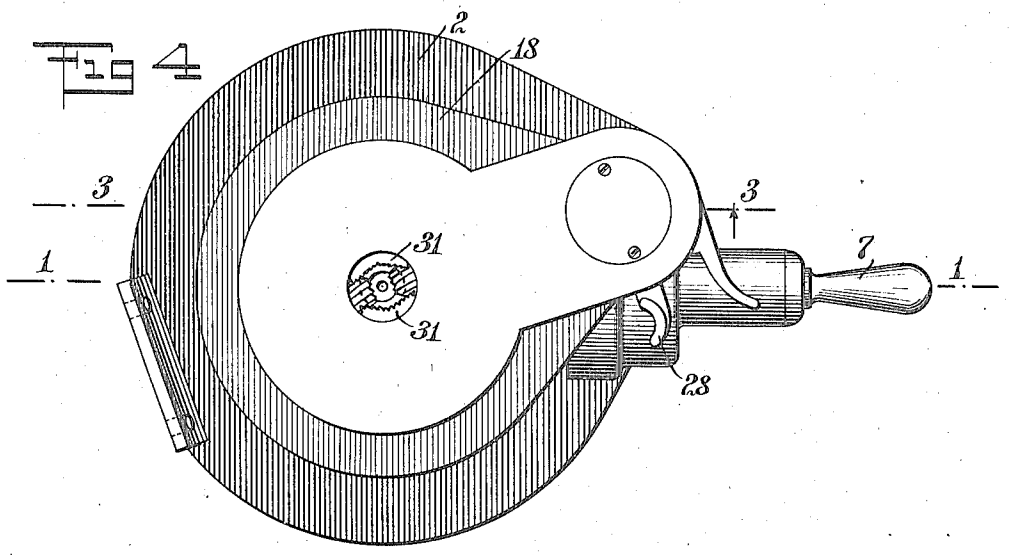


Fig 5

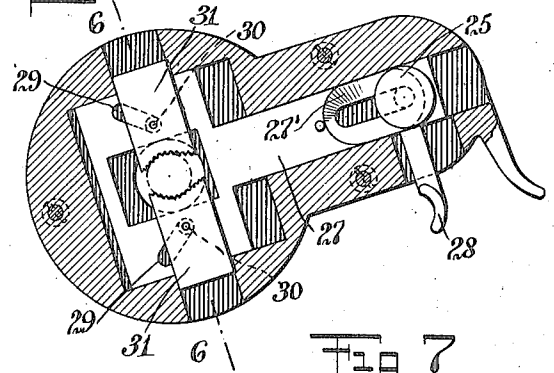


Fig 6

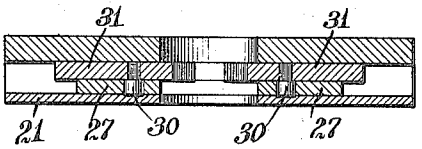
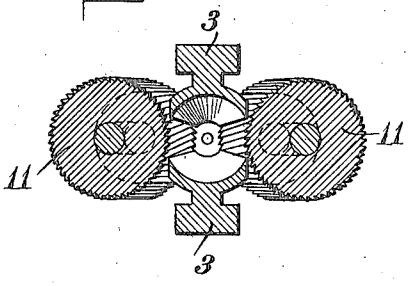


Fig 7



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UNITED STATES PATENT OFFICE.

LOUIS MYERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE TRAUT & HINE MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

MACHINE FOR SHARPENING PENCILS.

1,206,460. Specification of Letters Patent. Patented Nov. 28, 1916.

Original application filed December 22, 1913, Serial No. 808,147. Divided and this application filed March 9, 1915. Serial No. 13,163.

To all whom it may concern:

Be it known that I, LOUIS MYERS, a citizen of the United States, residing at the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Machines for Sharpening Pencils, of which the following is a full, clear, and exact description.

My invention relates to improvements in machines for sharpening pencils and has for its object to provide in such a machine a clutch which is actuated by a reverse movement of the operating handle.

It further has for its object to provide in such a machine a clutch which is withdrawn from the cutters by a reverse movement of the operating handle.

It further has for its object to provide a clutch which is both withdrawn and opened upon a reverse movement of the operating handle.

The following is a description of an embodiment of my invention reference being had to the accompanying drawings in which—

Figure 1 shows a view of a pencil sharpener partly in side elevation and partly in section on line 1—1, Fig. 4. Fig. 2 shows a section of the same on the line 2—2, Fig. 1. Fig. 3 shows a vertical section of portions of the standard and clutch on line 3—3, Fig. 4. Fig. 4 shows a plan view of the pencil sharpener. Fig. 5 shows a section on the line 5—5, Fig. 1. Fig. 6 shows a section of the clutch on the line 6—6, Fig. 5. Fig. 7 shows a section of the cutters on the line 7—7, Fig. 1.

Referring more particularly to the drawings, the main frame consists of a vertical hollow standard 1, base 2, an upper table or plate 18, and an arm 8 projecting laterally from the frame. This arm 8, together with the upper table 18, forms bearings for a revolving milling device hereinafter more particularly described.

The pencil indicated at P is guided and held by clamping means firmly against rotation. Slidably mounted in the hollow standard 1 of the frame is a hollow rod 22 (see Fig. 3) supporting at its upper end a horizontal plate 21. This plate has a central orifice through which the pencil is adapted to extend, and at each side of this orifice is mounted a sliding clamping jaw 31 for gripping the pencil (see Fig. 5). These jaws are moved for gripping and releasing the pencil by means of a pin and slot connection with a slidable operating member 27. It will be noted that the slots 29 in the operating member 27 are diagonally arranged with respect to the clamping jaws 31 so as to act as cams upon the pins 30 of said jaws, when the member 27 is moved back and forth. The operating member 27 is provided with a thumb-piece 28 projecting laterally from the side of the plate 21 to be engaged by the thumb of the operator. A spring 32 (see Fig. 1) is connected with the plate 27 to normally hold it in position for closing the clamping jaws 31. Referring more particularly to Figs. 3 and 5, it will be seen that the rear end of the operating member 27 is provided with a slotted orifice having beveled walls 27′. Extending through this orifice is a rod 24 having an upper beveled head 25 for cooperative engagement with the beveled walls 27′. The rod 24 extends out through the end of hollow rod 22 and is provided at its lower end with a cap nut 26 thereon located within the chamber of the hollow standard 1. The rod 22 is provided at one side with a toothed rack 23 (Figs. 1 and 2) which is adapted to engage a pinion 19, loosely mounted on the main operating shaft 6 of the machine. The operating shaft 6, as shown, has fixed thereto at one end the usual handle 7, and at the other end a bevel gear 5. A spring-pressed pawl 20 is carried on the bevel gear 5 for engaging the teeth of pinion 19. When the shaft 6 is rotated in its right-hand direction, the pawl 20 rides idly over the pinion 19 without operating the same, but when the handle 7 is reversed pinion 19 is carried therewith, and by its engagement with rack 23 elevates the plate 21. When plate 21 has been elevated far enough to bring nut 26 against shoulder 50 of standard 1 (see Fig. 3), the further elevation of plate 21 causes a coaction between the beveled head 25 and beveled walls 27′, so that plate 27 is moved against its spring to open the jaws 31. A pencil may then be inserted through the opening of the plate and extended through the central opening 18′ of table 18 into the milling device as shown in Fig. 1. As soon as handle 7 is slightly released, the jaws 31 will spring

back in position and clamp the pencil tightly. The pencil is now ready to be sharpened by the operation of the milling device, which will now be described.

Referring first to Fig. 1, a carrier 3 is revolubly mounted between table 18 and arm 8 with its upper hollow hub 9 in a bearing of table 18, and its lower hub 51 upon bearing post 10. The carrier 3 is provided with a bevel gear 4 meshing with the operating bevel gear 5. Mounted on the carrier for independent rotation thereon are one or more milling cutters 11 with their axes disposed at an angle to the axis of rotation of the carrier 3 and of the pencil axis P. These milling cutters have bevel gears 16 meshing with a circular rack 17 fixed upon the upper table 18, whereby when the milling cutters are carried about the pencil by the revolving movement of carrier 3, they are given independent rotation by the engagement of their bevel gears 16 with the stationary rack 17. It will be noted that the pencil is held within the hollow hub 9 of the carrier 3 so that its longitudinal axis is substantially coincident with the axis of said revolving carrier. The milling cutters 11 in the present modification are partly cylindrical and partly tapered like the frustum of a cone and have peripheral cutting teeth spirally arranged thereon for acting upon the pencil. Each milling cutter has its milling surface arranged at one portion at a different angle relative to its axis than at another portion, whereby two different angles of cut will be obtained upon the pencil. For instance in Fig. 1 the milling surface of cutter 11 is substantially parallel to its axis down to the point 12, but the lower portion 13 of the milling surface is inclined or tapered. It will be observed that by this construction the pencil is cut toward the point C with a smaller angle relative to the pencil axis than at the body of the pencil C^1. The advantage of this construction is that the pencil is cut with much more of the lead exposed for giving a longer and better point. Also by reason of the closer proximity and slightly slower movement of the milling cutting teeth on the lead of the pencil than on the body of the pencil, the lead is less liable to be broken than formerly.

This application is a division of my application Serial No. 808,147, filed December 22, 1913.

As will be evident to those skilled in the art my invention permits of various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. In a pencil sharpening machine or the like, a milling device, hand-operated means for actuating said milling device with a planetary movement about the axis of said pencil, non-rotatable pencil-clamping means normally in pencil clamping position, and means actuated by said hand-operated means for unclamping said pencil-clamping means.

2. In a pencil sharpening machine or the like, a milling device, hand-operated means for actuating said milling device with a planetary movement about the axis of said pencil, non-rotatable pencil-clamping means arranged to be moved toward and away from said milling device, and means actuated by said hand-operated means for moving said clamping means away from said milling device said clamping normally tending to move toward said milling device.

3. In a pencil sharpening machine or the like, a milling device, hand-operated means for actuating said milling device with a planetary movement about the axis of said pencil, when moved in a forward direction, non-rotatable pencil-clamping means arranged to be moved toward and away from said milling device, and means actuated by said hand-operated means when moved in the reverse direction for moving said clamping means away from said milling device, said clamping means normally tending to move toward said milling device.

4. In a pencil sharpening machine or the like, a milling device, hand-operated means for actuating said milling device with a planetary movement about the axis of said pencil when moved in a forward direction, non-rotatable pencil-clamping means normally in clamping position and arranged to be moved toward and away from said milling device, and means actuated by said hand-operated means for moving said pencil-clamping means away from said milling device and unclamping said pencil-clamping means, said clamping means normally tending to move toward said milling device.

5. In a pencil sharpening machine or the like, a milling device, hand-operated means for actuating said milling device with a planetary movement about the axis of said pencil, non-rotatable pencil clamping means normally in pencil clamping position, means for unclamping said pencil clamping means, and a pawl connected to said hand-operated means and actuating said unclamping means when said hand-operating means is moved in a reverse direction.

LOUIS MYERS.

Witnesses:
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Correction In Letters Patent No. 1,206,460.

It is hereby certified that in Letters Patent No. 1,206,460, granted November 28, 1916, upon the application of Louis Myers, of Brooklyn, New York, for an improvement in "Machines for Sharpening Pencils," an error appears in the printed specification requiring correction as follows: Page 2, line 78, claim 2, after the word "clamping" insert the word *means;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 26th day of December, A. D., 1916.

[SEAL.]

R. F. WHITEHEAD,

Acting Commissioner of Patents.

Cl. 120—96.