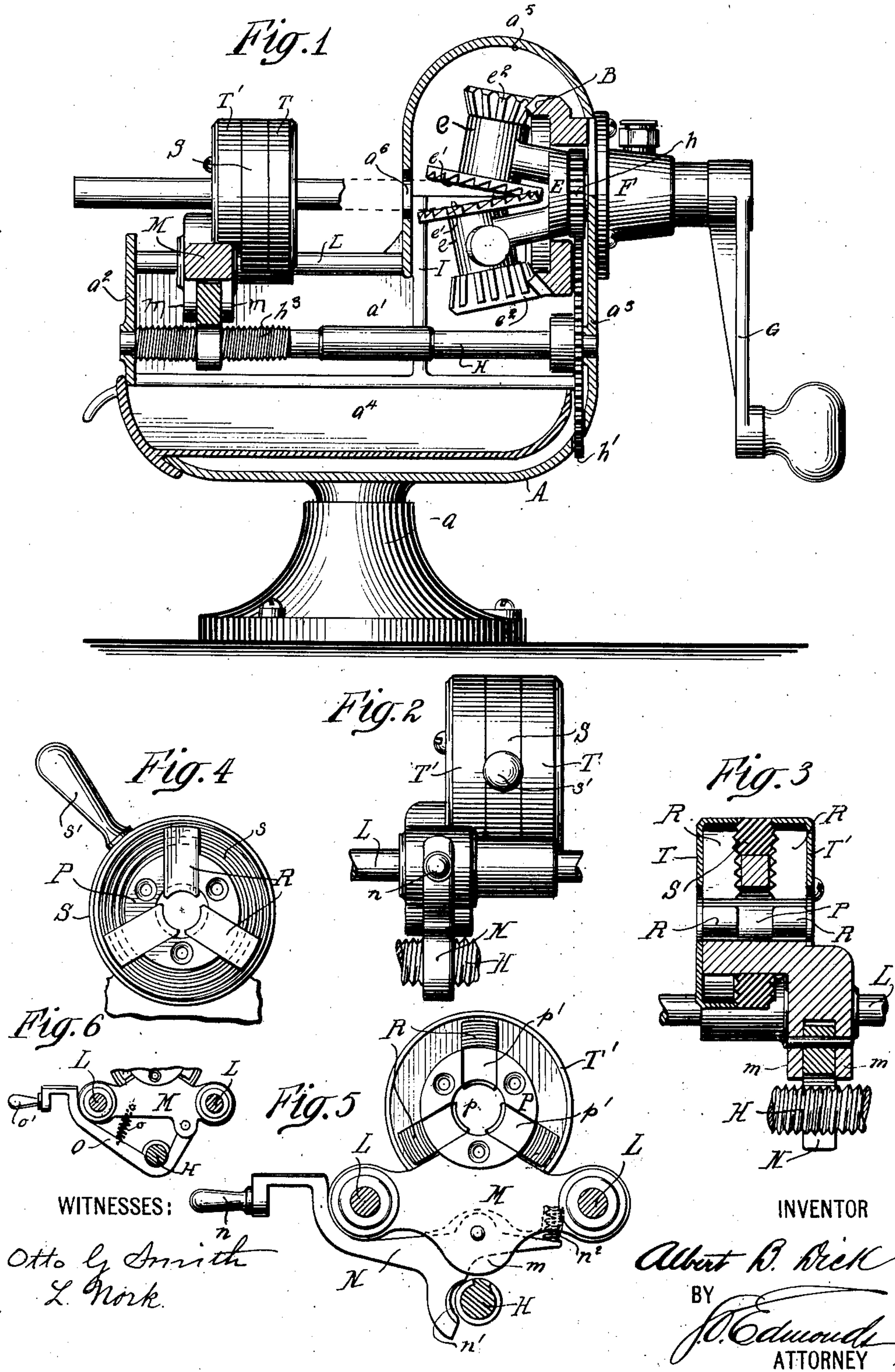


No. 826,837.

PATENTED JULY 24, 1906.

A. B. DICK.  
PENCIL POINTER.

APPLICATION FILED JULY 6, 1906.





# UNITED STATES PATENT OFFICE.

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## PENCIL-POINTER.

No. 826,837.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed July 6, 1905. Serial No. 288,451.

*To all whom it may concern:*

Be it known that I, ALBERT B. DICK, a citizen of the United States, residing at Lake Forest, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Pencil-Pointers, of which the following is a specification.

The object of the invention is to provide simple, durable, and effective mechanism for grasping a pencil and feeding the same forward for coaction with the pointing or cutting apparatus of a pencil-pointer in order that the forward end of such pencil may be properly pointed.

A further object is to so connect this mechanical feeding provision with the cutting device as to make them interdependent and operable from a single source of power.

In carrying out the invention to obtain these ends I employ a pencil-pointer of suitable type—such, for instance, as the well-known “planetary” pencil-pointer now on the market—connecting with the cutters thereof, preferably by means of suitable pinions, a feed-screw which therefore is operated interdependently with the cutters. Coacting with such feed-screw I employ a carriage, mounted to slide forward and rearward, such carriage having a chuck so constructed as to be readily opened to permit introduction of the pencil and as readily closed to assure the firm retention of the pencil therein. The connection between the carriage and the feed-screw is preferably movable to operative and inoperative positions, by reason whereof such feed-screw will feed the carriage, chuck, and the pencil carried by such chuck for coaction with the cutters. If the carriage be normal in engagement with the feed-screw, means may be provided for temporarily terminating such engagement in order to permit the carriage to be retracted. Conversely, the carriage or an appurtenance thereof may be normally out of engagement with the feed-screw and such engagement effected when it is desired to move the pencil forward to the cutters by the manual operation of a suitable arm or lever.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of a pencil-pointer embodying my invention, the chuck being shown in its operative position and a pencil being held thereby for coaction with the cutters. Fig. 2 is an

enlarged detail view illustrating the inoperative position of the chuck. Fig. 3 is a central section of the chuck and adjacent parts on a line representing the longitude of the device. Fig. 4 is a detail view showing the interior of one side of the chuck, one of the members shown in Figs. 1, 2, and 3 being removed for that purpose, as hereinafter described. Fig. 5 is an end view illustrating the carriage, a portion of the chuck mechanism carried thereby, and the means for throwing said carriage and chuck mechanism into operative relation to the feed-screw; and Fig. 6 is a detail view illustrating a portion of the carriage and a modified appurtenance for coaction with the feed-screw, this appurtenance being normally in engagement with said screw, whereas that shown in Fig. 5 is normally out of engagement with that screw.

Referring more in detail to the drawings, in which similar letters denote corresponding parts, A indicates a casing, preferably of metal, supported either movably or rigidly, as desired, in a pedestal  $a$  and having upwardly-extending sides  $a'$  and ends  $a^2$   $a^3$ . Operating through an opening in this casing is a tray  $a^4$ , designed to receive shavings from the cutting mechanism now to be described. Generally speaking, the said cutting mechanism is similar to that disclosed in Letters Patent No. 556,709, granted March 17, 1896, in that it employs a stationary bevel-gear B, supported by the end member  $a^3$  of the casing, a yoke E, carrying at its outer ends bearings  $e$  for the shafts of the cutters  $e'$ , the opposite ends of said shafts being provided with bevel-gears  $e^2$ , coacting with the stationary gear B, in order to give planetary motion to said cutters  $e'$ . The shaft on which the yoke E is mounted is mounted in the end member  $a^3$  of the casing—as, for instance, by means of the sleeve F—and power may be applied thereto in any suitable manner—as, for instance, by means of the crank G. Keyed or otherwise screwed upon such shaft and within the casing is a pinion  $h$ , meshing with a pinion  $h'$ , the latter being mounted upon a feed-screw H, one end whereof is journaled in the end member  $a^3$  of said casing, its distant end being journaled in the opposite end member  $a^2$  of said casing. Adjacent to this rearward end said feed-screw is threaded, as shown at  $h^3$ , for coaction with the pencil-feeding device presently to be described.



I have here shown the cutting mechanism as completely covered by a hood  $a^5$ , preferably hinged to one of the side members  $a'$  of the casing, thereby protecting said mechanism from dust, &c. The side of said hood is provided with an orifice  $a^6$ , through which the pencil may be fed forward into coaction with the cutters  $e' e'$ . I designate a vertical wing or partition, screwed or formed integral with each of the side members  $a'$  and projecting inwardly toward the center of said casing.

L L indicate guide-rods the forward ends whereof are preferably threaded and received in correspondingly-threaded orifices in the wings or partitions I, the rearward ends of said guide-rods projecting through suitable orifices in the end member  $a^2$  of the casing and the extreme ends thereof being slotted, if desired, in order to permit said rods to be turned into their coacting orifices in said wings I. Slidably mounted upon said guide-rods L is a carriage M, supporting the chuck, presently to be described. Journaled between two downwardly-projecting ears  $m$  upon the under side of said carriage is a lever N, having operating-handle  $n$  and a threaded lip  $n'$ , adapted when said handle is depressed to coact with the feed-screw H. Said lever is normally pressed to inoperative position by the coil-spring  $n^2$ . In order, therefore, to operate the carriage by means of said feed-screw, it is necessary to depress the handle  $n$  of said lever and in the form now under discussion to maintain the same depressed until the pencil has been fed to the cutters, as hereinafter explained. In Fig. 6, however, I have shown a lever O, pivotally carried by the under side of the carriage, and a spring  $o$ , whereby the threaded portion of said lever is normally maintained in contact with the feed-screw H. The handle  $o'$  of said lever O may be depressed against the tension of said spring only when it is necessary to retract the carriage to withdraw a pencil from coaction with the cutters.

Turning now to the chuck mechanism, P designates a cylindrical core through the opening  $p$ , in which the pencil may be inserted. Said core is provided at both ends with radial slots  $p'$  (here shown as three in number) at each end, and in these slots operate the radially-moving chuck members R, the inner surfaces whereof are threaded for coaction with the correspondingly-threaded surfaces  $s$  of the actuating-annulus S, which is provided with a handle  $s'$ . The threads formed on the sides of said annulus are convolute spirals and are at all times in positive mechanical coaction with the threads of the inner surfaces of said chuck members R, so that when said annulus is moved to the position in which it is shown in Fig. 2 said chuck members will be drawn outwardly from the opening in the core P, thereby presenting an

unobstructed opening through said core for the insertion of said pencil. When, however, said annulus is moved to the position in which it is shown in Fig. 1, (partial movement in this direction being shown in Fig. 4,) the threads  $s$  coacting with the corresponding threads on the internal faces of the chuck members R cause said members to be moved inwardly toward the center to thereby firmly grip the pencil inserted in the orifice  $p$  in said core and to firmly hold the same therein for the purpose described. As will be understood, the operation of said actuating-annulus S involves the movement described with respect to the chuck members R on both sides thereof, so that the pencil is grasped at six different points, thereby assuring the firm retention of the same against undesirable movement, either longitudinal or rotary. It will also be understood that this provision makes the chuck independent of variations in the thickness of the pencils, allowing ample latitude for pencils of many different sizes.

If desired, the chuck members R may be loosely held within the radial slots  $p'$ , but prevented from moving outwardly from such slots and away from the threaded faces of the actuating-annulus S by means of the caps T T', secured in any suitable manner—as, for instance, by screws—to the ends of the central core P.

I have shown the inner ends of the chuck members R as curved correspondingly with the curvature of the pencil. This curvature, however, may be dispensed with, and, if desired, the inner ends of said members may be provided with serrations or toothed projections. This, however, is a detail that may be varied as desired.

The operation of my apparatus has been explained to a considerable extent in connection with the description of the mechanism. In its extreme retracted position the carriage M lies adjacent to the end member  $a^2$  of the casing. In order to position the pencil, the actuating-annulus S is thrown to the position illustrated in Fig. 2 and the pencil inserted through the orifice in the core P, and therefore past the inner ends of the chuck members R, the end of said pencil being preferably adjacent to the orifice  $a^6$  in the hood  $a^5$ . Said annulus is then turned as indicated by Fig. 4, thereby throwing said chuck members to operative position, where their inner ends will firmly grasp the pencil. If now the carriage be either normally connected with the feed-screw H by means of the lever shown in Fig. 6, or if the lever shown in Fig. 5 be depressed at its outer end, so as to bring the same into coaction with said feed-screw, Fig. 5, the crank G may be turned and planetary movement thereby transmitted to the cutters  $e'$ , the carriage being simultaneously fed forward at the



proper speed to enable said cutters to neatly and expeditiously remove the surplus wood or other material from the end of said pencil and to form a point of such wood or other material and the lead inclosed thereby. Preferably the threaded portion  $h^3$  of the feed-screw will extend only so far as to feed the pencil a sufficient distance to enable a properly-tapered point to be formed thereon by the cutters  $e'$ . After reaching this point the forward movement of the carriage ceases, and further operation of the crank G will therefore be ineffective to further cut the end of said pencil. The carriage and the chuck and the pencil supported thereby may then be moved to retracted position in the manner indicated, the annulus S thrown to inoperative position, and the pencil removed.

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

1. In a pencil-pointer, the combination of two rotary cutters or grinders adapted to operate on opposite sides of a pencil, means for giving a planetary motion to said cutters, a threaded shaft connected to said means so as to be actuated thereby, a support for a pencil movable toward and away from said cutters, and a lever having a threaded portion pivoted upon said support and adapted to be turned on its pivot to bring said threaded portion into engagement with said threaded shaft, substantially as described.

2. In a pencil-pointer, the combination of two rotary cutters or grinders, a yoke having bearings for the spindles of said cutters, gears

on said spindles, a stationary gear with which said gears mesh, a shaft upon which said yoke is mounted, means for rotating said shaft, a threaded shaft parallel to and actuated by said shaft, a support for a pencil movable toward and away from said cutters, and a lever pivoted to said support and having a threaded portion adapted to be brought into coaction with said threaded shaft, substantially as described.

3. In a pencil-pointer, the combination of two rotary cutters or grinders, a yoke having bearings for the spindles of said cutters, gears on said spindles, a stationary gear with which said gears mesh, a shaft upon which said yoke is mounted, means for rotating said shaft, a support having an opening therethrough in axial alinement with said shaft, said support being mounted for movement toward and away from said cutters, a part rotatable on said support, a plurality of clutch members actuated by the rotation of said part to grasp a pencil extending through the opening in said support, a threaded shaft parallel to and actuated by said shaft, and a lever pivoted to said support and having a threaded portion adapted to coact with said threaded shaft, substantially as described.

This specification signed and witnessed this 29th day of June, 1905.

ALBERT B. DICK.

Witnesses:

M. H. BURKART,  
W. G. ARNOLD.