No. 836,712. PATENTED NOV. 27, 1906.

D. D. RUSH.

PENCIL SHARPENER.

APPLICATION FILED APR. 4, 1905.

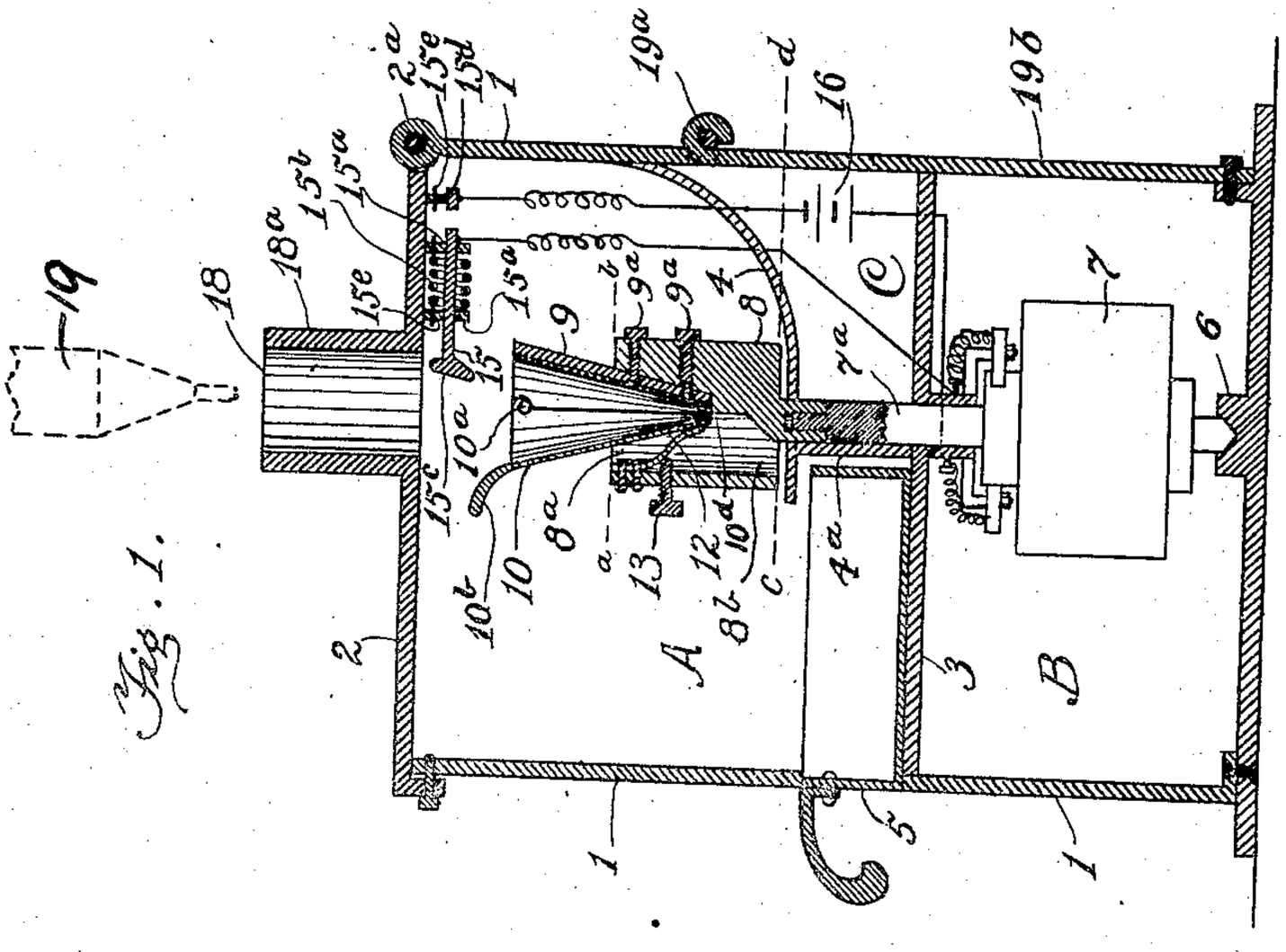

Fig. 1.

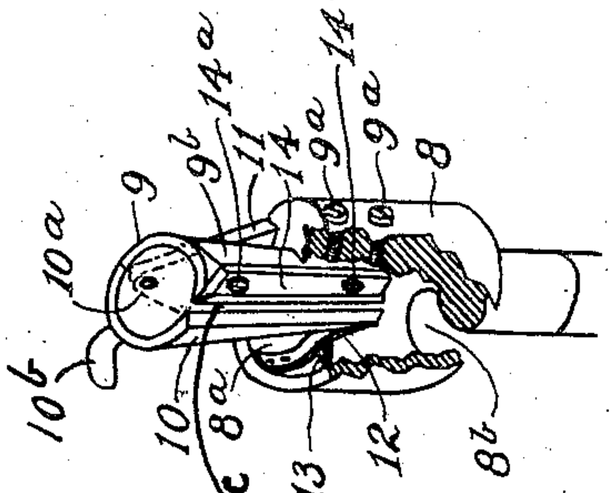

Fig. 2.

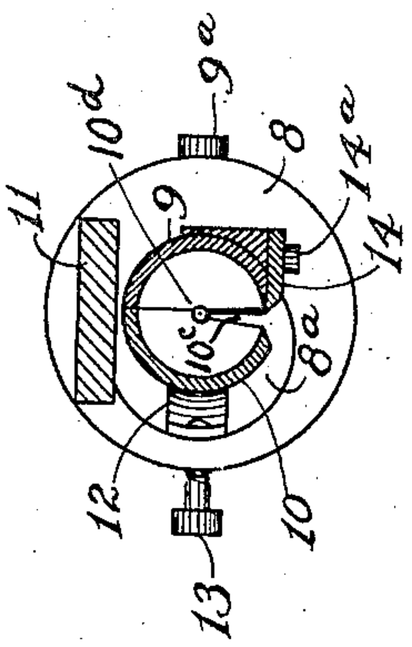

Fig. 3.

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PENCIL-SHARPENER.

No. 836,712. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed April 4, 1905. Serial No. 253,749.

To all whom it may concern:

Be it known that I, DELBERT D. RUSH, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Pencil-Sharpeners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to pencil-sharpeners, and has for its object the provision of a rotary sharpener adapted to be operated by a motor.

It has for a further object the provision of a sharpening-cone which may be easily opened to discharge broken leads or other refuse therefrom.

It has for a further object the provision of motor-governing means adapted to be operated by a pencil when said pencil is thrust into the sharpening-cone.

With these and other objects in view it consists of a motor, a sharpening-cone mounted on said motor, means for driving said motor, and governing means adapted to control the supply of power to said motor.

It also consists of certain other constructions, combinations, and arrangements of parts hereinafter described and claimed.

In the drawings, Figure 1 is a vertical transverse central section, partly in diagram, through my said invention. Fig. 2 is a perspective view, partly broken away, of a portion of the motor-shaft and of the head and sharpening-cone mounted thereon. Fig. 3 is a horizontal section of said head and sharpening-cone on the line *a*...*b* of Fig. 1, omitting the parts below the line *c*...*d* of said Fig. 1.

In said drawings, 1 is a casing or box having the lid 2 hinged thereto in any suitable manner, as at 2^a. Said box is horizontally divided into an upper and lower compartment A and B, respectively, by a partition, as 3. Said upper compartment is divided into two compartments A and C, respectively, by a shelving-partition 4, having the vertical extension 4^a. A drawer 5 is inserted through the wall of said box into the compartment A to catch the shavings of the pencils. Positioned in said compartment B and mounted in any suitable bearings therein, as C, is a motor 7 of any suitable construction and driven by any suitable power derived from any suitable source; but I preferably use an electric motor. Said motor is provided with a rotary shaft 7^a, which is projected through said partition 3 and preferably through the compartment C and the partition 4 and is provided at its upper end with a head or holder 8, secured thereto in any suitable manner. Said head is eccentrically recessed in its upper end, as at 8^a, said recess connecting with an eccentric aperture penetrating the lower face of said head, as at 8^b. Positioned within said recess and extending above said head and axially alined with said shaft is a hollow, split, or longitudinally-divided rotary sharpening-cone comprising the parts 9 and 10, respectively. Said part 9 is rigidly secured to said head in any suitable manner, as by the screws 9^a, extending through the side of said head and into the wall of said cone. The opposite part 10 of said cone is pivoted at its upper end, as at 10^a, to a suitable stanchion or post 11, erected on or forming part of said head. A finger-hold 10^b is formed upon said member 10 for the purpose of opening said member against the action of the spring 12 to permit dust or broken points to escape from said cone through the aperture 8^b. Within said recess is secured a spring 12, adapted to bear against the side of said part 10 and hold said part in operative position against said part 9. The tension of said spring may be adjusted by a set-screw 13, projected through the wall of said head and bearing against the spring, intermediate of the ends thereof. The edges of the cone do not, however, meet on one side thereof, but a space 10^c is provided between them for the escape of shavings and for the passage into said cone of the cutting edge of a knife 14, which knife is secured in any suitable manner to said part 9, as by screws 14^a, projected through the sides of said knife into a shoulder 9^b, formed on said part 9. Said cone is preferably apertured at the apex, as at 10^d, to further facilitate the escape of dust. Upon the inner face of said cover I mount in suitable bearings, as 15^a, secured thereto, a sliding rod or pin 15, which is normally held in retracted position by any suitable elastic or spring device, as by the spring 15^b. When in such retracted position, said pin is adapted to project slightly over the mouth or upper end of said cone and is preferably provided at such projecting end with a beveled head 15^c. Said pin in operative position is adapted, directly or indirectly, to cause the flow of power from a suitable source to said motor and in

retracted position to directly or indirectly cause the interruption of said flow. This may be done in any suitable manner; but when an electric motor is used I preferably make said pin one of the poles of the normally open circuit-controlling contact of an electric circuit including said motor and any suitable source of electricity, as a battery 16, or instead of said battery a near or distant dynamo or otherwise. The other pole 15^d of said normally open contact is preferably rigidly secured to said lid. Insulation members, as 15^e, may be inserted wherever necessary or desired. Formed in said lid in vertical registration with the mouth of said cone is an aperture 18, adapted to permit the passage of a pencil 19 to said cone. A vertically-arranged wall or neck 18^a may, if desired, be formed or erected on said lid around said aperture 18, to guide said pencil. The back of said case is preferably provided with a door 19^b, hinged to said case in any suitable manner, as at 19^a, to give easy access to the motor, and, if there be one in the casing, to the said battery. In operation the pencil to be sharpened is dipped into said neck and thrust down into said cone in much the same manner that a pen is dipped into an ink-well. In its downward passage it forces the power-supply valve into operative position and holds it so. The motor-shaft, head, and cone thereupon revolve, said knife revolving around said pencil and forming a point thereon. The pencil-shavings escape from the cone through the space 10^c and fall into said drawer or on said shelving-partition 4, whence they drop into said drawer. Suitable stuffing-boxes (not shown) may, if desired, be inserted in or on the partitions 3 and 4 around said shaft to prevent passage of dust to compartments C and B, but are not considered essential.

While I have described certain forms of construction, it is obvious that the same may be modified or altered in many details without departing from the spirit and scope of my said invention.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a rotary support of a hollow longitudinally-divided cone mounted thereon in axial alinement therewith, one of the halves of said cone being rigidly fixed to said support and the other of said halves being pivotally secured at its upper end to said support, means adapted in operation to hold the lower end of the pivoted half of said cone in close relation with the lower end of the opposite side of said cone.

2. In a pencil-sharpener the combination of a longitudinally-divided hollow cone having an elongated aperture or knife-passage formed in the wall thereof, a holder for said cone having a recess formed in one end adapted to receive the apex of said cone, said recess being greater in one transverse diameter than the portion of the cone received by it, one side of said cone being rigidly secured to said holder, and the other side of said cone being pivotally connected at its upper end, its lower end being adapted to swing away from the lower end of the opposite said half, a spring adapted to keep the lower end of the pivoted portion of said cone in close relation to the lower end of the fixed portion thereof, and a knife-blade provided with a cutting edge extending through said knife-passage, said holder having a passage formed therein extending from said recess through the lower end of said holder, and said pivoted portion of said cone being provided with means by which it may be swung on its pivot against the action of said spring.

3. In a pencil-sharpener, a casing including two compartments, one of said compartments containing a motor and the other of said compartments containing a sharpening device driven by said motor, a drawer in the second said compartment, the second said compartment containing an inclined or shelving partition overhanging the inner end of said drawer and adapted to discharge into said drawer shavings and dust escaping from said sharpening device toward the back of said casing, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

DELBERT D. RUSH.

Witnesses:
JAMES T. WATSON,
WELLINGTON M. BLEWETT.