July 1, 1924. 1,499,519

J. GROEGER

ELECTRIC PENCIL SHARPENER

Filed April 12, 1923

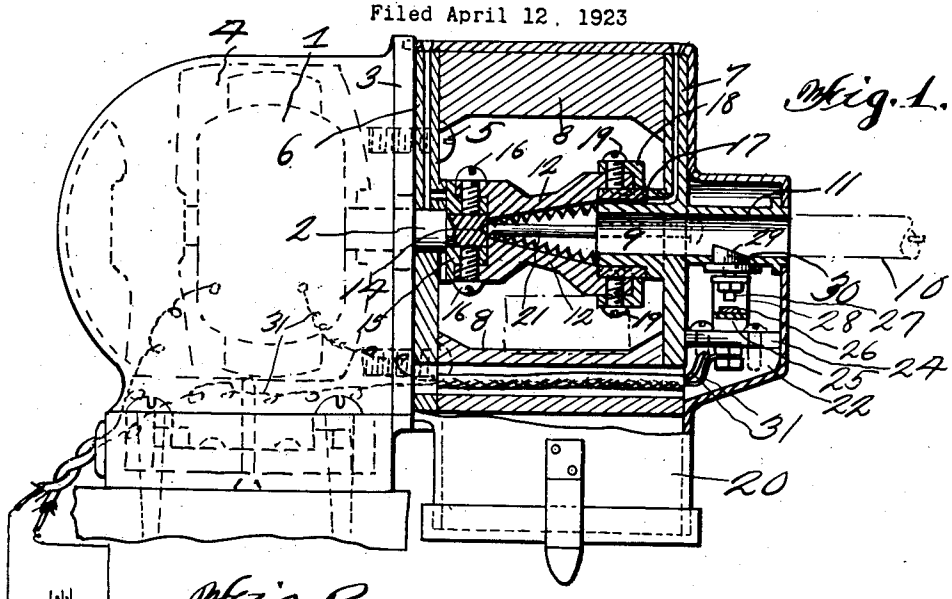


Fig. 1.

Fig. 2.

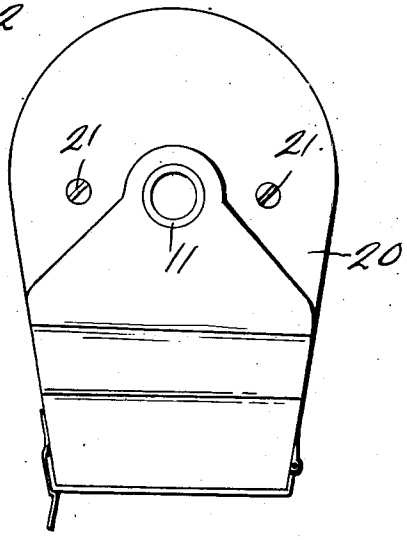


Fig. 3

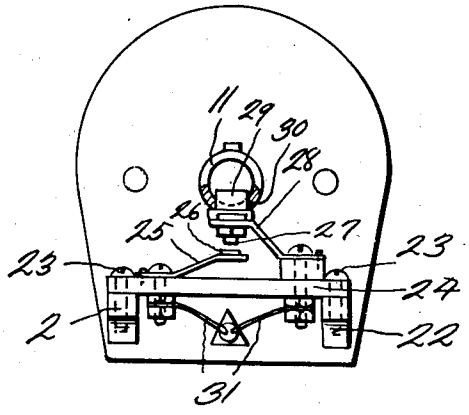


Fig. 4.

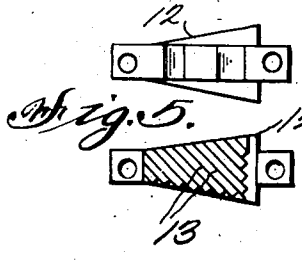


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN GROEGER, OF LINCOLN, ILLINOIS.

ELECTRIC PENCIL SHARPENER.

Application filed April 12, 1923. Serial No. 631,608.

To all whom it may concern:

Be it known that I, JOHN GROEGER, a citizen of the United States, residing at Lincoln, in the county of Logan, State of Illinois, have invented a new and useful Electric Pencil Sharpener; 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.

The invention relates to electric pencil sharpeners and has for its object to provide a device of this character wherein when a pencil is inserted in the device for sharpening, an electric motor will be started, and after the sharpening operation upon removal of the pencil the motor will be stopped.

A further object is to provide an electric pencil sharpener, said sharpener comprising a motor disposed within a casing, an auxiliary casing carried by the motor, and into which the shaft of the motor extends. Secured to a collar carried by the motor are oppositely disposed cutting elements, the outer ends of which are rotatably mounted on a bearing of a pencil receiving sleeve, which pencil, when inserted and removed into and out of the sleeve actuates a circuit maker and breaker for starting and stopping the motor. Also to provide the end of the motor shaft with a depression, with which depression the end of the pencil engages for limiting the inward movement thereof, and consequently stopping the pencil sharpening operation.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawing, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing:—

Figure 1 is a side elevation of the device, part being shown in section to better illustrate the same.

Figure 2 is a front elevation.

Figure 3 is a front elevation of the device with the casing removed.

Figure 4 is a top plan view of one of the cutter members.

Figure 5 is a view of one of the cutting elements showing the inner sides thereof.

Referring to the drawing, the numeral 1 designates a conventional form of electric motor and 2 the shaft thereof. Secured to the flange 3 of the casing 4 of the motor by means of screws 5 is a plate 6 in which the shaft 2 has a bearing. Plate 6 is connected to a plate 7 by means of members 8, therefore the plate 7 is held in a parallel plane to the plane of the plate 6. Extending inwardly from the inner side of the plate 7 is an annular sleeve 9, which sleeve receives the pencil 10 after it has passed through the outwardly extending sleeve 11 carried by the plate 7 and guides the same to a position between the cutter plates 12, which plates are rotated when the motor shaft 2 is rotated in such a manner that the cutting teeth 13 will sharpen the pencil 10 until the point of the pencil engages in the recess 14 and the end of the shaft and is limited in its inward movement by the shaft, thereby preventing excessive cutting away of the pencil during the sharpening operation. Disposed on the shaft 2 is a flanged sleeve 15, and to which sleeves the inner ends of the plates 12 are secured by means of the set screws 16, which extend through the plates and the sleeve and engage the shaft 2, thereby rigidly but detachably connecting the cutter plates 12 in such a manner that they may be easily and quickly removed. Surrounding the inner end of the sleeve 9 is a bearing 17, and surrounding said bearing 17 is an annular member 18, to which the outer ends of the plates 12 are secured by means of set screws 19, therefore it will be seen that when the set screws 19 are tightened, the bearing member 17 will be securely held and at the same time the outer end of the plate 12 supported and held in such a manner that the bearing ring 17 may easily rotate on the sleeve 9. The sleeves 9 and 11 are axially disposed in relation to the shaft 2, and consequently when the pencil 10 is passed therethrough the pencil will come into engagement with the cutting teeth 13 of the plate 12, thereby insuring a uniform and accurate sharpening of the pencil. Housing the plates 6 and 7 is a removable casing 20, which casing is secured to plates 6 and 7 by means of screws 21, which pass through the casing 20 and are threaded in to the plate 6. The casing 20 not only protects the mechanism, but at the same time allows ready access thereto for repair purposes.

Extending outwardly from the forward

side of the plate 7 are spaced arms 22, to the upper sides of which is secured, by means of screws 23, a transversely disposed member 24 formed from insulating material, which member 24 supports a spring contact arm 25, the contact end 26 of which underlies a contact member 27 carried by a second spring arm 28. The spring arm 28 supports a bevelled block 29 formed from conductor material, which block extends through an aperture 30, in the sleeve 11 to a position where it will be engaged when a pencil 10 is inserted in the sleeve 11. When the pencil 10 engages the block 29, it is forced downwardly, thereby forcing the contact member 27 into engagement with the contact member 28, and closing the motor controlling circuit through the wires 31, which lead to the motor and to a source of power 32, such for instance as a battery, thereby starting the motor when the pencil is inserted in the machine. After the pencil sharpening operation the removal of the pencil allows the bevelled block 29 to move upwardly to the position shown in Figures 1 and 3 where the contact members 26 and 27 are out of engagement with each other, thereby breaking the circuit and causing the motor to stop. It will be seen in the above structure the motor is automatically started and stopped upon the insertion of the pencil or removal thereof, and consequently electric current is conserved, and the pencil sharpening machine only operates during the sharpening operation. It will also be seen that there is no danger of the machine being left running through carelessness after a pencil sharpening operation as would be the case if the motor should be controlled by a conventional form of switch.

The invention having been set forth what is claimed as new and useful is:—

A pencil sharpening machine, said machine comprising an encased motor, a casing detachably connected to the motor, a shaft carried by the motor and extending into the casing, a tubular member for the reception of a pencil and in axial relation to the shaft, cutter members detachably connected to the shaft, the other ends of said cutter members being mounted on a bearing carried by the tubular member, a pencil point engaging depression in the end of the shaft and forming means for engaging a pencil point and limiting the inward movement of a pencil, a bevelled block extending through an aperture in the tubular member and into the path of the pencil, said bevelled member forming means whereby, when moved, a circuit maker and breaker will be actuated for controlling the motor.

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

JOHN GROEGER.

Witnesses:
ALBERT C. KAHN,
ERIC FEHLING.