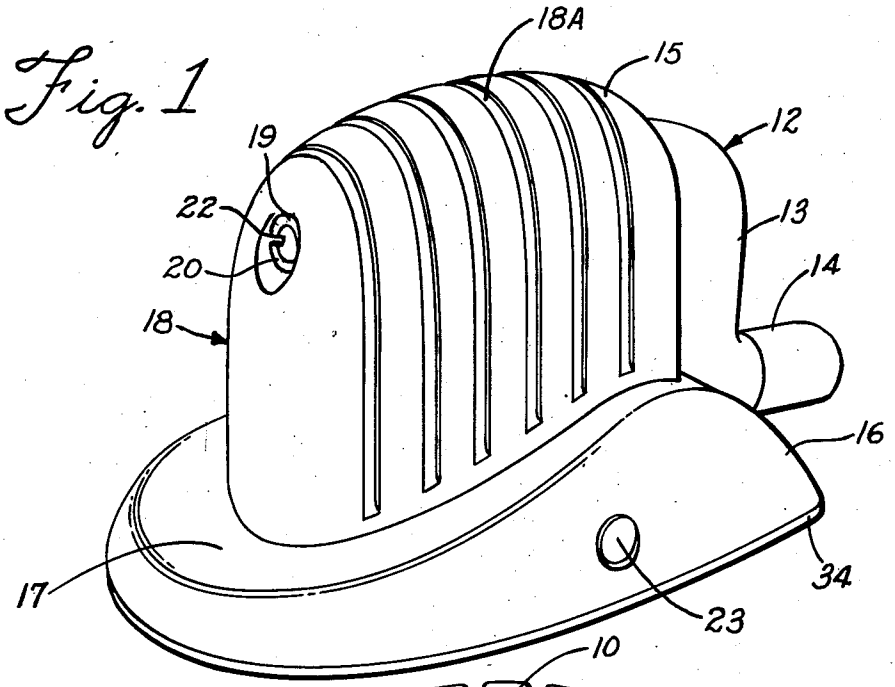
Oct. 28, 1952 G. N. FRYER 2,615,426

PENCIL SHARPENER

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Fig. 1



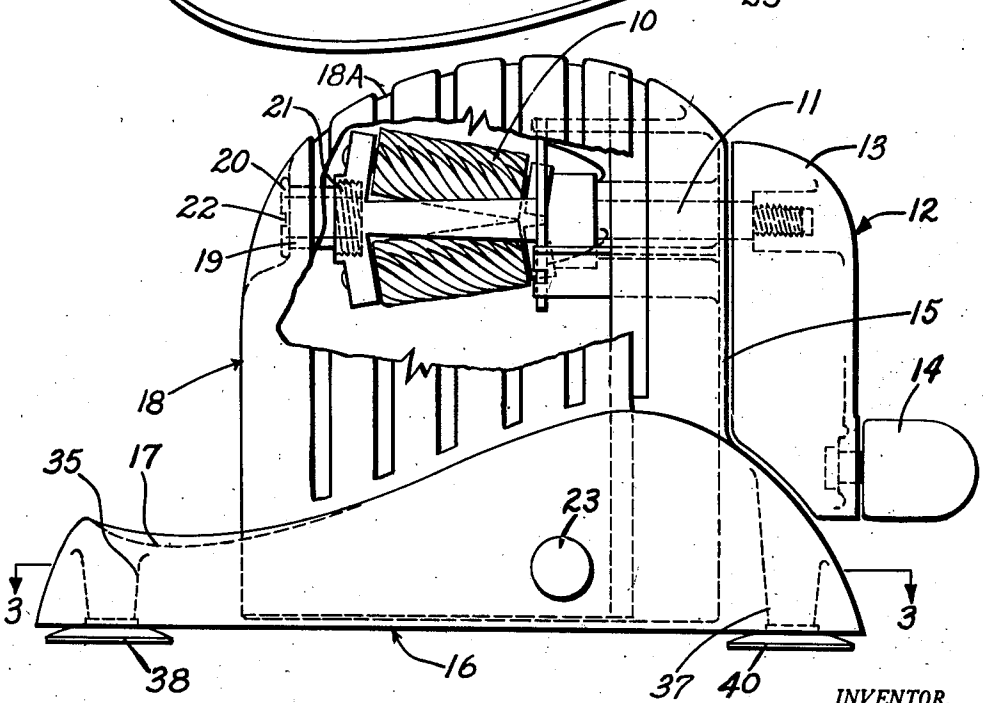


Fig. 2

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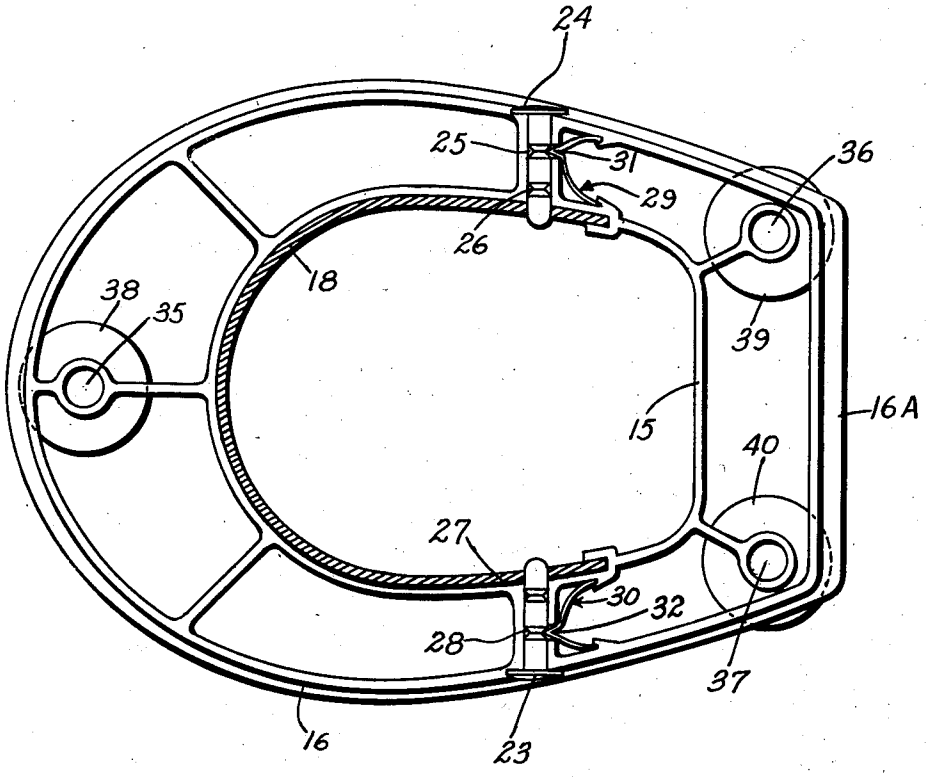


Fig. 3

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Patented Oct. 28, 1952

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UNITED STATES PATENT OFFICE

2,615,426

PENCIL SHARPENER

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Application June 5, 1950, Serial No. 166,150

3 Claims. (Cl. 120—96)

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This invention is concerned with pencil sharpeners and provides an improved housing for a pencil sharpener which facilitates its use while it is disposed in an unattached state on a flat surface, say a table or desk top.

Conventional pencil sharpeners of the type having a cutter head and a crank for turning it, are usually mounted rigidly, because otherwise they are inconvenient to use. On the other hand, portability in a pencil sharpener of this type is desirable.

I have developed a pencil sharpener housing which permits the pencil sharpener to be disposed on any flat surface, say a desk or table top, and operated conveniently in this position without slippage. Thus, I provide a pencil sharpener having a broad base with a case mounted thereon and enclosing the cutter head with the means for rotating the head projecting at the front of the apparatus. When the base is rested on a level surface, the cutters are in approximately horizontal position, i. e. with the axis of the crank parallel to the base. An aperture in the case permits a pencil to be inserted into the cutter head, and the base projects beyond the rear of the case to provide a hand rest. In operating the apparatus, one hand (which holds the pencil) rests on the projection of the base, the distance between the aperture through which the pencil is inserted and the base being such that the pencil can be held and fed to the sharpener conveniently with one hand at the same time that the base is held down on the table by the same hand. The other hand twists the crank and sharpens the pencil.

In my preferred construction the projecting hand rest on the base at the rear of the mechanism is slightly cupped, to aid the hand which holds the pencil in also holding the apparatus on the table top.

Preferably, the base projects on both sides of the case to give increased bearing surface.

The base may be provided with means for preventing slippage of the apparatus on the table top during use. Thus, a rubber pad may be fastened underneath the base to give increased friction, or if desired, the base may be supported on a plurality of feet, say three, having rubber friction discs or suction cups on the bottom.

These and other aspects of the invention will be understood more thoroughly in the light of the following detailed description taken in conjunction with the accompanying drawings in which:

Fig. 1 is a perspective view of one form of the apparatus of the invention, provided with a bottom pad to increase the friction between the base and the flat surface upon which it rests;

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Fig. 2 is a side elevation, partly in section, of another form of the apparatus of my invention, provided with rubber feet which tend to grip the table top; and

Fig. 3 is a horizontal section taken through the apparatus of Fig. 2 along the line 3—3.

The apparatus of Figs. 2 and 3 is identical with that of Fig. 1, except for the provision of rubber feet instead of the friction pad.

The apparatus illustrated comprises a conventional cutter head 10 adapted to be disposed on a horizontal axis and rotated by a shaft 11, to the outside end of which is fastened a conventional crank 12 comprising a lever 13 and a handle 14.

The cutter mechanism, i. e. the cutter head, the shaft and the crank, are supported on an upright 15 which preferably is formed integrally with the base 16, as by die castings. The upright forms the closure for the front end of the apparatus and also acts as a journal for the shaft.

The base, as viewed in plan (see Fig. 3), is generally oval in shape with a straight front end 16A. It projects beyond the case both at the ends and at the sides in order to give stability to the apparatus.

The rear of the base projects substantially beyond the case and is slightly cupped to provide a firm rest 17 for the side of the hand.

The cutter head is covered by a case 18. This is substantially dome-shaped and is provided with vertical flutings 18A which aid in picking up the apparatus. The front of the case abuts snugly the upright and thus encloses the cutter head.

A removable guide barrel 19 projects through the rear of the case. The barrel has a flange 20 on its outside end. Its inside end 21 is threaded into the cutter head and aids in holding the cutter head in a firm position. The outside flange is provided with a diametrical groove 22 into which a coin or a screw driver may be inserted when the apparatus is to be disassembled or the case taken off for cleaning. If desired, the apparatus may be provided with a number of removable barrels each having a different bore, so as to accommodate various sizes of pencils.

The case preferably is molded from transparent plastic and is a thin relatively pliable shell which fits down inside the base (see Fig. 2).

Various means may be employed for holding the case firmly on the base. This function may be served by the guide barrel alone, but as shown clearly in Fig. 3, the apparatus may be provided with a pair of pins 23, 24 which project horizontally into the sides of the case. Each pin is provided with a pair of annular grooves 25, 26, 27, 28. Springs 29, 30 having pointed portions 31, 32

are fastened within the base and the pointed portion of the spring engages one or the other of the grooves on the respective pin. When the case is to be removed, for example to clean out pencil shavings, the barrel is screwed out with a coin and the two pins are pulled out until the springs engage the interior grooves, after which the case is removed by simply pulling it upward.

As shown in Fig. 1, the base may be provided with a friction pad 34, say a rubber mat, fastened thereto. However, as shown in Figs. 2 and 3, I prefer to provide a somewhat different anti-friction means in the form of three legs 35, 36, 37 having rubber feet 38, 39, 40 on the ends. These may be discs or suction cups. Two of the feet are provided at the front end of the apparatus, with a single foot at the rear of the apparatus in the center. The feet are wide spread, i. e. mounted at the outside of the base, in order to increase stability of the structure.

The distance from the cupped projection or hand rest at the rear of the base to the removable barrel into which the pencil is inserted should be such as to conveniently accommodate the hand, permitting it to hold the base firmly on the table or other flat surface and at the same time push the pencil into the cutters while the other hand is employed in turning the crank. This distance is approximately two and one half inches.

The base, as shown in Fig. 2, is hollow, thus providing an increased space for the accumulation of pencil shavings.

In operating the apparatus just described, for example by a right-handed person, the sharpener is placed on a table or desk; the right hand is employed to turn the crank and the left hand is disposed so that the side of the hand opposite the thumb rests in the cupped portion at the rear of the base. The pencil is propelled into the barrel with the fingers of the left hand at the same time that the hand presses down and holds the apparatus firmly on the table.

I claim:

1. In a pencil sharpener including a cutter in which the end of a pencil to be sharpened is inserted and means for rotating the cutter, the combination which comprises a base adapted to rest on a level surface and supporting the cutter so that a pencil therein will be in an approximately level position, a cover disposed around the cutter and supported by the base independently of the cutter and having an aperture in one end through which a pencil is inserted into the cutter, the base extending substantially beyond the apertured end of the cover to provide a rest for a hand holding the pencil to be sharpened, at least one pin journalled through the base and adapted to project into an aligned hole in the cover, the pin having a pair of longitudinally spaced annular grooves, and a leaf spring mounted to the base and positioned to releasably engage in said grooves so as to position the pin to project into said cover when engaged in one of said grooves and to position the pin disengaged from the cover when engaged in the other of said grooves.

2. In a pencil sharpener including a cutter in which the end of a pencil to be sharpened is inserted and means for rotating the cutter, the combination which comprises a base adapted to rest on a level surface, an upright member projecting upwardly from one end of the base and supporting the cutter so that a pencil therein will be in an approximately level position, the base having a central portion extending from the upright member which is hollow and having an outer portion which curves upwardly from the end opposite the upright member, a cover having a dome-shaped top and a flat bottom disposed around the cutter and having its lower portion extending into the hollow central portion of the base, the cover having an aperture in one end aligned with the cutter and being open at the other end with the open end abutting against said upright member, and a removable guide barrel fastened to the cutter head and extending through the aperture in the cover, the guide barrel having an annular flange at its outer end which is larger than the aperture in the cover for securing the cover to the cutter.

3. In a pencil sharpener including a cutter in which the end of a pencil to be sharpened is inserted and means for rotating the cutter, the combination which comprises a base adapted to rest on a level surface, an upright member projecting upwardly from one end of the base and supporting the cutter so that a pencil therein will be in an approximately level position, the base having a central portion extending from the upright member which is hollow and having an outer portion which curves upwardly from the end opposite the upright member, a cover having a dome-shaped top disposed around the cutter and having its lower portion extending into the hollow central portion of the base, the cover having an aperture in one end aligned with the cutter and being open at the other end with the open end abutting against said upright member, and a removable guide barrel fastened to the cutter head and extending through the aperture in the cover, the guide barrel having an annular flange at its outer end which is larger than the aperture in the cover for securing the cover to the cutter.

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