

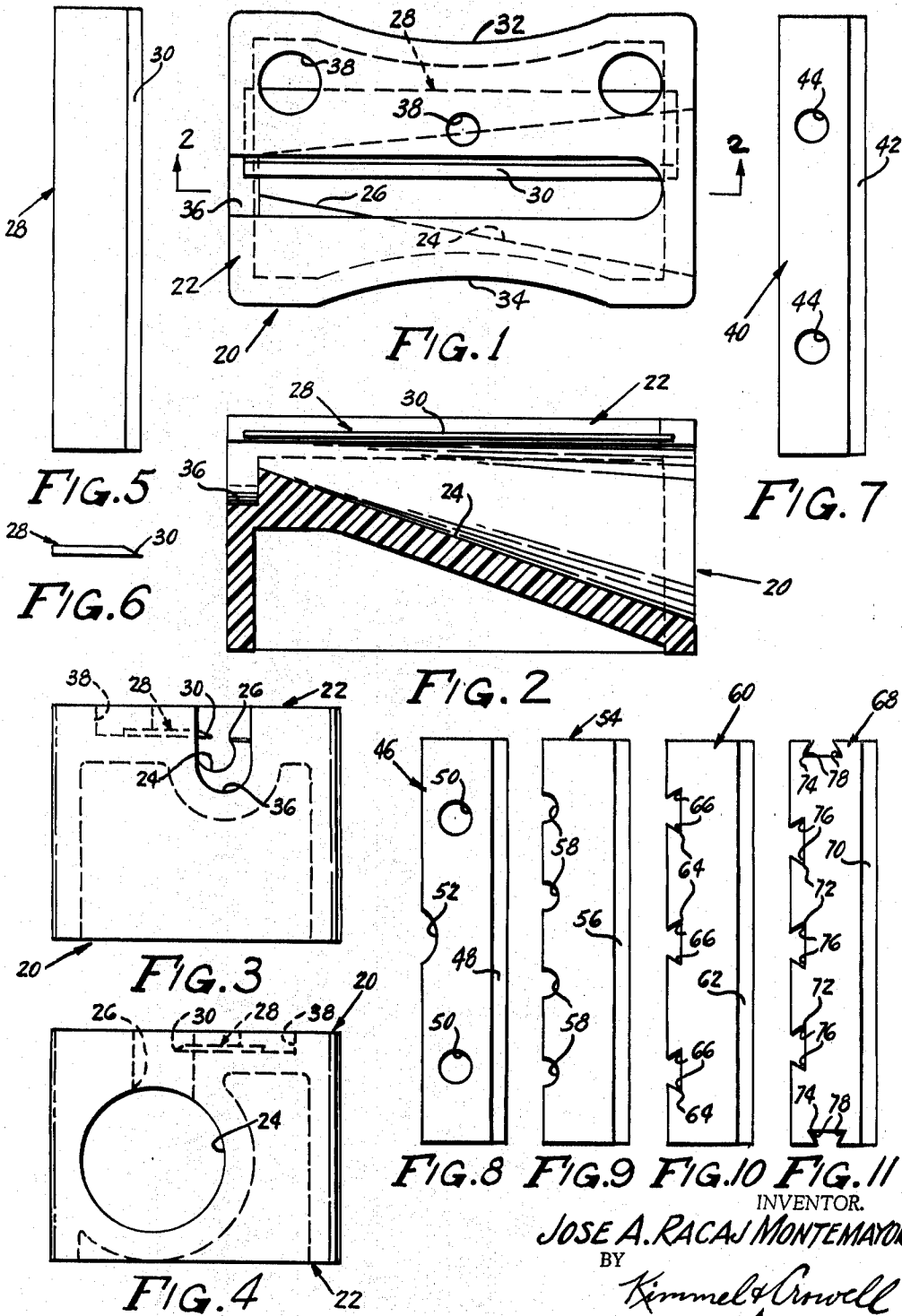
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PENCIL SHARPENER

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PENCIL SHARPENER

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1 Claim. (Cl. 120-93)

This invention relates to a pencil sharpener and more particularly to a small, manually operated pocket or desk type pencil sharpener including a blade means which is integrally formed within a housing means to preclude disengagement between these elements.

A primary object of this invention is to provide a pencil sharpener which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and maintain.

Another object of this invention is the provision of a pencil sharpener having a blade means integrally carried by a housing means, no additional securing means such as screws or the like being necessary.

A further object of the instant invention is to provide a pencil sharpener wherein a blade means is substantially entirely encompassed by the material forming a housing means to prevent tampering with, or removal of, the same.

A still further object of the instant invention is the provision of a pencil sharpener wherein a blade means is cast or molded directly within a housing means.

Yet another object of this invention is the provision of a pencil sharpener having a blade means integrally formed within a housing means, the blade means including portions defining perforations, peripheral recesses or a combination of the two with a part of the material forming the housing means passing through the same to securely fix the blade means to the housing means.

A further object of this invention is the provision of a pencil sharpener wherein the blade means has a cutting edge with a prefixed cutting angle which requires no adjustment in use and which cannot be changed from its original position, thereby preventing damage to the sharpener itself and injury to the user.

Other and further objects reside in the combination of elements, arrangement of parts, and features of construction.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds and as shown in the accompanying drawing wherein:

FIGURE 1 is a top plan view of a pencil sharpener in accordance with the instant inventive concept;

FIGURE 2 is a vertical cross-sectional view therethrough taken substantially on line 2-2 of FIGURE 1 looking in the direction of the arrows;

FIGURE 3 is a left hand view of the device as seen in FIGURE 1;

FIGURE 4 is a right hand view thereof;

FIGURE 5 is a top plan view of one form of blade means for use with the pencil sharpener of the instant invention;

FIGURE 6 is an end view of the blade means of FIGURE 5; and

FIGURES 7 to 11 are top plan views of modified forms of blade means for use with the pencil sharpener of the instant invention.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing in general, and more particularly to FIGURES 1 to 6, a pencil sharpener in accordance with the instant inventive concept is designated generally by the reference numeral 20 and comprises basically a housing means 22 formed of plastic or other similar material and including a substantially conical guide section 24, with a longitudinal portion of the

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periphery of the guide section 24 defining an opening 26, a blade means 28 being carried by the housing means 22 with a cutting edge 30 communicating with the opening 26.

5 The housing means 22 may include oppositely disposed finger engaging portions 32, 34, both ends of a guide section 24 being open, the cutting edge 30 of the blade means 28 extending beyond the smaller end of the guide means 24 and an offset dropped portion 36 being provided below this end of the cutting edge 30 to receive lead or graphite dust or shavings to be later disposed of.

10 The pencil sharpener 20 is manufactured by casting, injection molding, or otherwise forming the housing means 22, the blade means 28 being positioned within the mold and integrally formed with the housing means 22 to preclude the necessity of additional securing means, such as screws or the like, the remainder of the blade means 22 other than the cutting edge 30 being substantially encompassed by the material forming the housing means 22 during the manufacturing procedure whereby it is fixedly maintained therewithin in a predetermined relationship and protectively covered by the material to preclude access for disengagement or adjustment, plastic discharge or relief openings being shown at 38.

20 To increase the gripping relationship between the housing means 22 and the blade means, perforations or peripheral recesses may be formed in the blade means for passage therethrough of a part of the material forming the housing means during the casting, molding or other manufacturing operation. One form of such a blade means is shown in FIGURE 7 at 40 having a cutting edge 42 and a pair of spaced perforations 44.

25 The embodiment of FIGURE 8 designated generally by the reference numeral 46 has a cutting edge 48, a pair of spaced perforations 50 and an arcuate peripheral recess 52.

FIGURE 9 shows another embodiment of blade means 54 having a cutting edge 56 and a plurality of spaced arcuate recesses 58 along the peripheral edge opposite from the cutting edge 56.

40 In the embodiment of FIGURE 10 the blade means 60 includes a cutting edge 62 and a plurality of spaced recesses 64 defined in the peripheral edge opposite the cutting edge 62, each of the recesses 64 including undercut portions 66 to increase the interlocking engagement between the blade means and the housing means.

45 Similarly, in the embodiment of FIGURE 11 the blade means 68 includes the cutting edge 70, the recesses 72 on the peripheral edge opposed to the cutting edge 70 and the additional recesses 74 on the remainder of the peripheral edges, each recess 72, 74 having undercut portions 76, 78, respectively.

50 The use and operation of the pencil sharpener of the instant invention will be apparent. In manufacture, any of the blade means shown in FIGURES 5 through 11, or any other blade means having differently shaped or positioned perforations or peripheral recesses may be fixedly secured in any conventional manner within the molding or casting apparatus, the plastic or other material forming the housing means 22 embedding the major portion of the blade means with the cutting edge communicating with the longitudinal opening 26 in the guide section 24 of the housing means 22. The forward end of a pencil or the like is inserted into the guide section 24 from the enlarged end of the same and rotated there-
55 within, the fingers of the user supporting the housing means 22 by engaging the portions 32, 34 of the same, the cutting edge of the blade means shaving the wood and graphite of the pencil to define a point thereon in a well
60 known manner.

65 It will now be seen that there is herein provided an improved pencil sharpener which satisfies all the objec-

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tives of the instant invention, and others, including many advantages of great practical utility and commercial importance.

Since many embodiments may be made of the instant inventive concept, and since many modifications may be made of the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

A pencil sharpener comprising a unitary assembly formed of a single piece of plastic material defining a relatively flat top wall having an elongated slot extending the full length thereof, a pair of depending side walls having arcuate finger engaging concavities therein, a first solid end wall and a second end wall having a circular pencil receiving opening therein centered beneath said slot, said top, side and end walls defining a hollow interior having an open bottom, means defining a hollow substantially conical pencil receiving socket extending into said hollow interior extending from said circular opening, the inner end of said conical socket being open, said slot intersecting

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and defining an opening in said conical socket at said top wall, and a metal sharpening blade having a sharpening edge projecting into said slot and extending the full length thereof, said blade having recess means therein for the reception of protrusions of said plastic and comprising an integral part of said top wall and except for said sharpening edge completely encompassed in the material of said top wall.

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