June 28, 1938. W. F. WELLS 2,122,386

PENCIL SHARPENER

Filed May 6, 1937

Fig. 4

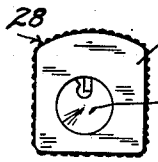


Fig. 3

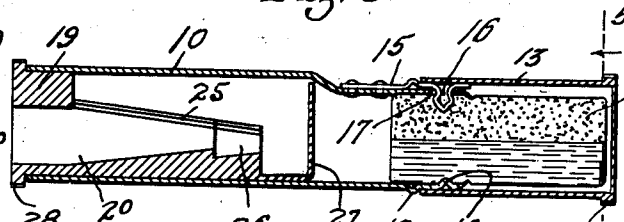


Fig. 5



Fig. 6

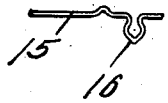


Fig. 2

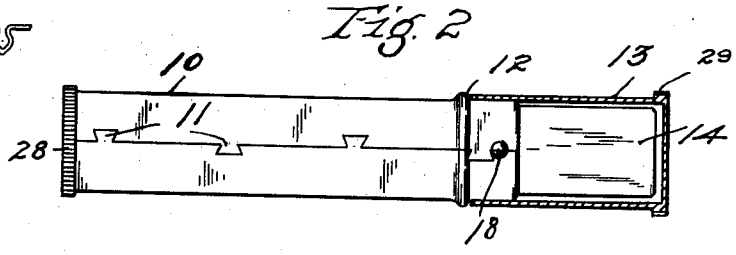


Fig. 1

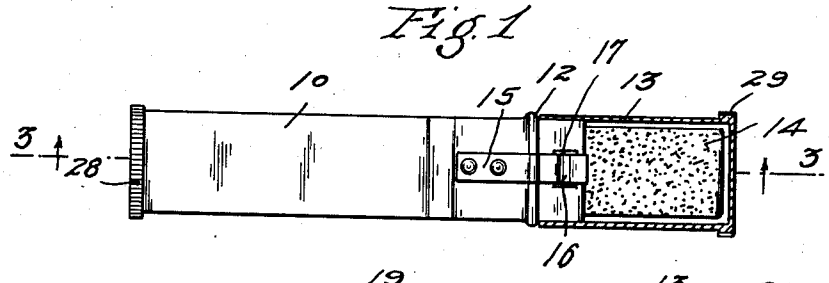


Fig. 7

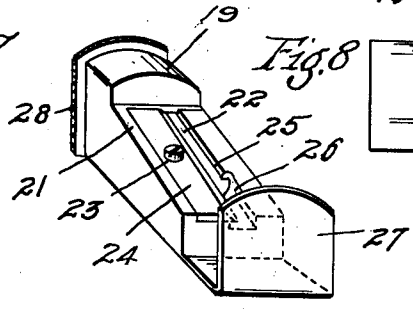
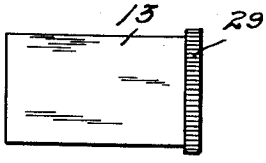


Fig. 8



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UNITED STATES PATENT OFFICE

2,122,386

PENCIL SHARPENER

William F. Wells, Minneapolis, Minn.

Application May 6, 1937, Serial No. 141,037

3 Claims. (Cl. 120—93)

My present invention provides an improved combination pencil sharpener and eraser or the like; and, generally stated, the invention consists of the novel devices, combinations of devices and arrangement of parts hereinafter described and defined in the claims.

A device of this kind is capable of use by various persons but is particularly adapted for the use of school children or other students. The device is of such size that it can be easily carried in a pocket. The device comprises a casing, a sharpener unit and an auxiliary device which, in the preferred embodiment of the invention, is an eraser applied in a novel manner.

A preferred form of the device is illustrated in the drawing, wherein like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a plan view of the device with the detachable cap thereof shown in axial section;

Fig. 2 is a bottom plan view of the device, the cap of the device also being shown in axial section;

Fig. 3 is a section taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is an end elevation looking at the pencil-sharpener-unit end of the device;

Fig. 5 is a section taken on the line 5—5 of Fig. 3;

Fig. 6 is a detail in side elevation showing the spring latch for holding the eraser;

Fig. 7 is a perspective showing the sharpener unit removed from the casing; and

Fig. 8 is a plan view of the detachable cap removed from the casing.

The casing is a tubular structure, preferably made approximately rectangular in cross section but capable of a great deal of deviation from such form. In practice I have found that the casing 10 can be cheaply and efficiently made from a sheet of metal bent into the form indicated, but provided at its adjoining edges with dovetail joints 11. This casing is normally open at both ends, but at the eraser end is formed with an outwardly pressed bead 12 that forms a stop for a detachable cap 13, adapted to be telescoped over that end of the casing to cover the exposed end of an eraser block 14 that is inserted into the end of the casing. The eraser block 14 is replaceable but is quite firmly held in place by a leaf spring 15, one end of which is riveted or otherwise rigidly secured to the top of the casing, and the free end of which is provided with an arrow-shaped head or portion 16 that works through an opening 17 in the casing and is driven into the body of the eraser.

The casing is also shown as provided with an inwardly pressed barb or portion 18 at a point opposite the anchoring head 16. The extreme free end of the spring 15 is exposed so that it may be engaged and forced outward to retract the head 16 from the eraser, thereby releasing the latter for removal. However, it is important to note that the head 16, which is quite resilient, will be contracted as it is moved inwardly or outwardly through the opening 17 and, when forced into the eraser, will expand and frictionally lock itself against a wall of the opening or passage 17. Of course, the purpose of the caps 13 is to keep the eraser clean when not in use.

The pencil sharpener is embodied in a block-like structure 19 that is fitted to telescope into the casing 10 and is provided with a conical pencil receiving passage 20 that extends longitudinally of the block and has a beveled surface 21 in which is a slot 22. Rigidly but replaceably and adjustably secured to the beveled surface 21, by means of a set screw 23 or the like, is a sharp-edged cutter blade or the like 24, the edge of which projects slightly into the slot 22 and is positioned to cut the pencil when the latter is rotated in the conical passage 20. Spaced slightly from the cutting edge of the blade 24 the beveled surface 21 is formed with a flange 25 that terminates short of the lower end of the cutting blade, thereby forming a clearance notch or depression 26 at one side of and extending below the conical surface of the passage 20.

Rigidly secured to and substantially filling the interior of the casing is an L-shaped chip ejecting flange or blade 27. This blade 27 is formed integrally with or otherwise rigidly secured to the block 19 and performs an important function that will hereinafter be more fully described. At its extreme outer end the block 19 is formed with a marginal stop flange 28 that is preferably serrated or roughened, and the cap 13 at its outer end is preferably formed with a similar outer flange 29.

The use of this device is probably obvious from the foregoing statements. When a pencil is placed within the conical passage or bore 20 and rotated in a clockwise direction, it will, of course, be sharpened, and the chips will be delivered into the pocket formed by the ejecting flange 27. The cut lead and any broken end of the cut lead will be dropped into the notch 26 and from thence will be delivered into the pocket formed by the flange 27. With this arrangement the cut lead

will not be delivered against the wood surface of the pencil and the latter will come out of the sharpener clean and free from lead marks. When the block 19 is pulled out of the casing, all of the chips or shavings and the cut lead will be drawn out of the casing and ejected.

The eraser shown is of a type one half for ink and the other half for lead erasing, but, of course, may be of any desired form. While all of the parts of the device described will probably most commonly be made of metal, it is possible that all thereof except the cutting blade may be of other material such, for example, as the material known to the trade as bakelite or rubber. The eraser, while securely held against accidental displacement, may be readily removed and another eraser substituted when the free end of the leaf spring 15 is raised.

The entire device can be produced at a small cost and, in practice, has been found to be efficient for the purposes had in view. In the drawing presented the size of the device is exaggerated and, in practice, will usually be made about two-thirds of the size illustrated in the drawing, but, of course, the size may be varied at will.

What I claim is:

1. In a device of the kind described, a tubular casing combined with a pencil sharpener including a block telescoped into said casing and formed with a conical bore and having an oblique longitudinal slot opening into said bore and provided adjacent said slot with a cutting blade, said conical bore being open at its inner end and said block being formed with a notch adjacent said open end, and which notch extends from the bottom up that side of the slot that is spaced from the cutting edge of said blade.

2. The combination with a tubular casing, of a pencil sharpener including a block-like portion telescoped into said casing and provided with an outer end fitting said casing, the inner top portion of said block being inclined and said block having a conical bore opening at its inner end and formed with a slot in the upper inclined wall of said block, and a cutter blade applied to the upper inclined wall of said block with its cutting edge projecting into said slot, and which block is provided at its inner end with a rigidly secured upwardly extending L-shaped ejecting blade substantially fitting the interior of said casing.

3. The combination with a tubular casing, of a pencil sharpener including a block-like portion telescoped into said casing and provided with an outer end fitting said casing, the inner top portion of said block being inclined and said block having a conical bore opening at its inner end and formed with a slot in the upper inclined wall of said block, and a cutter blade applied to the upper inclined wall of said block with its cutting edge projecting into said slot, and which block is provided at its inner end with a rigidly secured upwardly extending L-shaped ejecting blade substantially fitting the interior of the casing, said block at its inner end having a notch extending along the bottom and up that side of the conical bore that is spaced from the cutting edge of said blade.

WILLIAM F. WELLS.