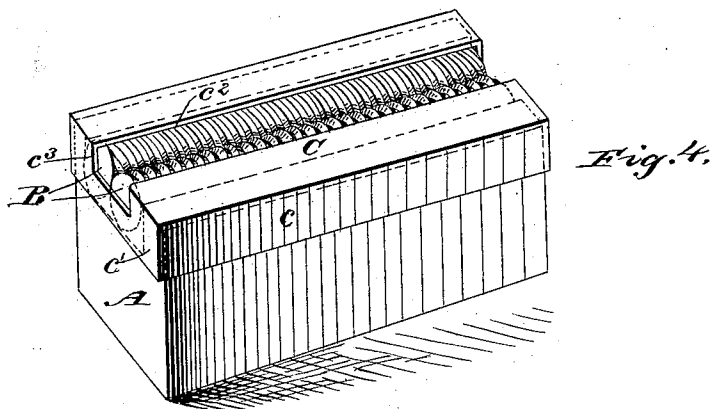
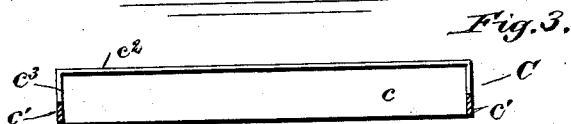
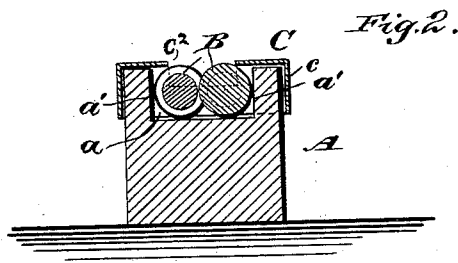
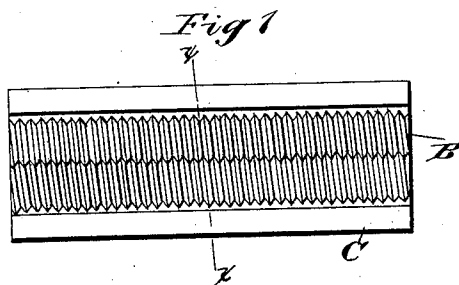


(No Model.)

M. E. WORN.
PENCIL SHARPENER.

No. 472,420.

Patented Apr. 5, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MARY E. WORN, OF PHILADELPHIA, PENNSYLVANIA.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 472,420, dated April 5, 1892.

Application filed February 3, 1892. Serial No. 420,163. (No model.)

To all whom it may concern:

Be it known that I, MARY E. WORN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Pencil-Sharpener, of which the following is a full, clear, and exact description.

The invention relates to slate-pencil sharpeners of small and compact form, suitable for carrying in one's pocket or in a desk or portable school-box; and the invention consists in the novel construction described hereinafter, and defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a pencil-sharpener constructed in accordance with my invention. Fig. 2 is a transverse section on the line *x x* in Fig. 1. Fig. 3 is a longitudinal central section through the removable cap, and Fig. 4 is a perspective view of the sharpener.

The body of my improved sharpener is composed of a block A, preferably of wood, having produced in its upper side a longitudinal recess *a*, the sides *a'* of which are vertical. In the recess thus formed are held the sharpening-cutters B, which consist of round threaded rods, the threads being quite fine and having a keen edge. The cutters are held in the block A by friction, their threads intermeshing with each other and contacting snugly against the respective vertical walls of the recess *a*. When in place in the block, the cutters are held against rotary movement and form a solid abrading surface, against which the pencil is rubbed.

A movable cap C is provided, having side flanges *c* and end flanges *c'*, adapted to the block A, and an opening *c²* is formed longitudinally therein for permitting entrance of the pencil to the cutters, and the side flanges *c'* are formed with openings *c³*, complementary to the longitudinal opening *c²*, for per-

mitting the pencil to be projected beyond the cutters and for permitting escape of the pencil dust.

The cap C is made removable, being held by the friction of its flanges against the block A, and when the cap and cutters are removed the latter may be partially rotated for presenting a new cutting-surface. In the event of the threads becoming clogged and filled with dust the latter may be readily removed either by holding the sharpener to the mouth and blowing the breath upon the same or by tapping the sharpener upon the hand or other convenient object.

When the cutters are considerably worn at one portion, it will be desirable to hold in proper position that portion which is most serviceable, and this I provide for in fixing the cutters against rotary movement. Should they be allowed to rotate freely and the major portion be worn and unserviceable, it is evident the serviceable portion would not retain a position to be utilized.

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

1. As a new article of manufacture, a pencil-sharpener comprising a recessed body and threaded cutters in the said recess, said cutters contacting with the side walls of the recess and intermeshing with each other throughout their entire length, as set forth.

2. As a new article of manufacture, a pencil-sharpener consisting of a block formed with a recess, two round threaded cutters removably fitted in said recess and in mesh with each other, and a removable cap fitting said block and formed with a longitudinal opening for exposing the cutters, substantially as described.

MARY E. WORN.

Witnesses:

EMMA D. WORN,
FRANK WORN.