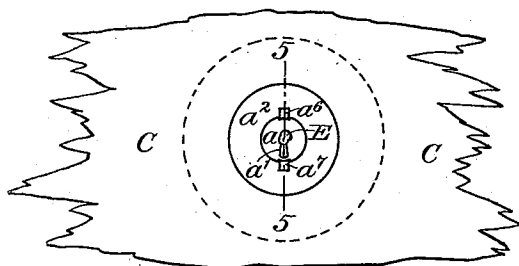


(No Model.)

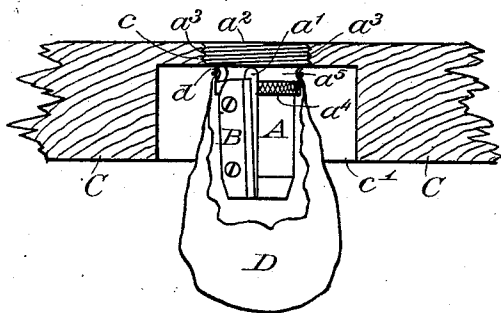
H. W. HOPKINS.
PENCIL SHARPENER.

No. 507,437.

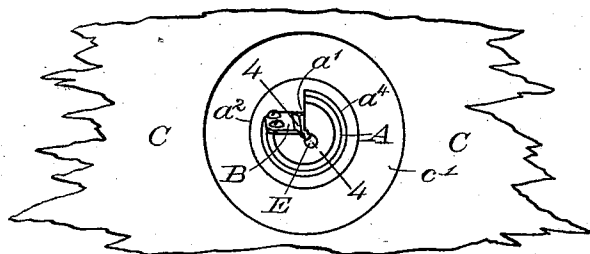
Patented Oct. 24, 1893.



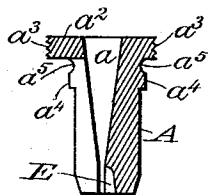
— Fig. 1. —



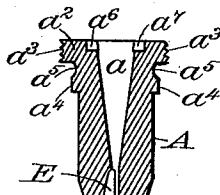
— Fig. 2. —



— Fig. 3. —



— Fig. 4. —



— Fig. 5. —

Witnesses.

Sam. G. Stephens,
Myrtle C. Beale

Inventor.

Henry W. Hopkins,
By Albert M. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

HENRY W. HOPKINS, OF WILTON, NEW HAMPSHIRE.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 507,437, dated October 24, 1893.

Application filed May 20, 1892. Serial No. 433,724. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. HOPKINS, a citizen of the United States, residing at Wilton, in the county of Hillsborough, in the State of New Hampshire, have invented a certain new and useful Improvement in Pencil-Sharpeners, of which the following is a specification.

My invention relates to pencil sharpeners of the kind in which the end of the pencil to be sharpened is rotated in a hollow cone against a knife which projects slightly into the hollow of the cone through a slit and consists in means of attaching the same to a desk, ink-bottle stand, table or other convenient article, means of catching the chips made by the sharpener and means of diminishing the friction of the sharpener upon the lead to avoid the breaking of the point of the lead.

In the accompanying drawings, Figure 1 is a plan of a pencil-sharpener, provided with my improvement and secured in a board which may be the top of a desk or table; Fig. 2, a section of such a board through the center of the sharpener showing the sharpener in front elevation and a bag secured to said sharpener to receive the cuttings, a portion of the bag being broken away to show the pencil sharpener; Fig. 3, a plan of the bottom of the sharpener and a board in which the sharpener is secured; Fig. 4, a vertical central section of the sharpener on the line 4 4 in Fig. 3; Fig. 5, a central section of the sharpener on the line 5 5 in Fig. 1.

The holder A is of the usual construction, except as hereinafter stated, and is provided in the usual manner with a conical hole a which tapers downwardly from the top to the bottom of said holder. The holder A is provided with a slit a' into which projects a knife B, arranged nearly tangentially to the curved surface of the conical hole but projecting within said surface sufficiently to cut a pencil rotated therein, in the usual manner. Such a pencil sharpener is usually held in one hand while the pencil is turned therein by the other and the sharpener is frequently mislaid and, being of small size, cannot always be found when wanted. I provide the upper end of the holder A with an enlarged head or external annular flange a^2 having an external screw-thread a^3 to enable the device to be secured in a corresponding hole c in a board C,

flush with the surface of said board which may be a table, the top of a desk or an ink-bottle-stand, where it will always be in reach of the writer. The top of the head may be provided with slots a^6 a^7 on opposite sides of the hole a to receive the point of a screw-driver to assist in turning the pencil-sharpener into the hole in the board C. I retain on the holder A the usual milled collar a^4 to enable the sharpener, when detached, to be held by the fingers, in the usual manner, while sharpening a pencil. I surround the holder below the head a^2 with a bag D to receive the cuttings of pencils, the mouth d of said bag being drawn into the annular space a^5 between said head a^2 and the collar a^4 , using preferably a rubber bag, the mouth of which, by its own elasticity, will contract into said annular space a^5 and retain the bag on the holder and which will allow the bag readily to be removed, when necessary to empty the same. The board C, if thicker than the depth of the head a^2 , should be counterbored, at c' , from beneath, to enable the fingers to reach up into the board, to remove and replace the bag D while the top of said head is flush with the top of said board.

It is quite common for the part of the lead which projects beyond the wood of the pencil to be broken while the pencil is being sharpened. The breaking of the lead is caused partly by the resistance of the knife and partly by the friction of the holder on the lead twisting the lead off, and I have found that by reducing the friction the danger of breaking the lead is almost wholly avoided. I accomplish this by drilling a hole E in the lower end of the holder, about parallel with the axis of the conical hole a and as long as the projection of the lead beyond the wood of the pencil, said hole E being of such a size and nearness to the axis of said conical hole as to leave the projecting lead out of contact with said holder, except close to said knife and on the opposite side of said conical hole, or in other words, just back of the cutting-edge of the knife and just opposite said edge, which gives a bearing sufficient to support said lead from breaking but greatly diminishes the friction of the lead on the holder and allows the lead to be pointed without danger of being broken. The same result may be accomplished in other ways than by drilling the hole E, it only being necessary

to remove the walls of said conical hole at and near the apex of said hole, for a distance from said apex as great as the projection of the lead beyond the wood of the pointed pencil, except at and opposite the cutting edge of said knife.

I claim as my invention—

1. In a pencil-sharpener, the combination of the knife and the holder, provided at its pencil-receiving end with an external screw-thread, to enable said holder to be secured in a board, and said pencil-receiving end to be flush with the surface of said board; as and for the purpose specified.

2. In a pencil-sharpener, the combination of the knife and the holder, provided with an external screw-thread and provided with slots to receive a screw-driver, to enable said holder to be attached to a board, as and for the purpose specified.

3. In a pencil-sharpener, the combination of the knife and the holder, provided at its pencil-receiving end with an enlarged head, having an external screw-thread, to enable said holder to be secured in a board, and said pencil-receiving end to be flush with the surface of said board; as and for the purpose specified.

4. The combination of the knife and the holder, provided with an external screw-thread, to enable the same to be attached to a board, and provided below said head with an annular space or groove, and a bag adapted

to surround the lower part of said holder and provided with a mouth, adapted to be drawn into said annular space to retain said bag on said holder, as and for the purpose specified.

5. The combination of the knife and the holder, provided with an external screw-thread, to enable the same to be attached to a board, and provided below said head with an annular space or groove, and a bag, adapted to surround the lower part of said holder and having an elastic mouth, adapted to contract into said space, to retain said bag on said holder, as and for the purpose specified.

6. The combination of the knife and the holder, provided with a conical hole and with a slit, arranged to admit the edge of said knife into said conical hole, the walls of said conical hole being removed at and near the apex of said hole, for a distance from said apex as great as the projection of the lead beyond the wood of a pointed pencil, except at and opposite the cutting edge of said knife, to support said lead and to diminish the friction of said holder on said lead, as and for the purpose specified.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 14th day of May, A. D. 1892.

HENRY W. HOPKINS.

Witnesses:

ALBERT M. MOORE,
MYRTIE C. BEALS.