

E. H. CLINTON & W. PRATHER.
Combined Slate-Pencil Sharpener and Slate-Frame.

No. 220,057.

Patented Sept. 30, 1879.

Fig1.

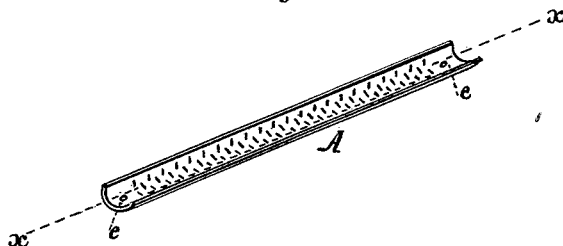


Fig2.

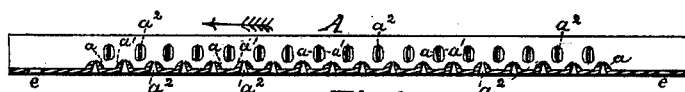


Fig3.

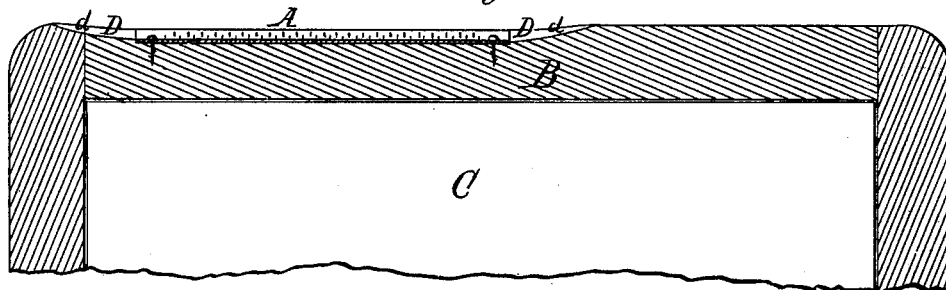
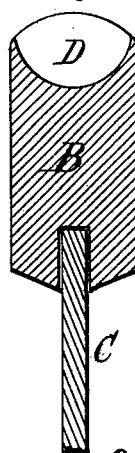


Fig4.



Fig5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD H. CLINTON AND WASHINGTON PRATHER, OF IOWA CITY, IOWA.

IMPROVEMENT IN COMBINED SLATE-PENCIL SHARPENER AND SLATE-FRAME.

Specification forming part of Letters Patent No. **220,057**, dated September 30, 1879; application filed April 21, 1879.

To all whom it may concern:

Be it known that we, EDWARD H. CLINTON and WASHINGTON PRATHER, of Iowa City, Johnson county, State of Iowa, have invented a new and Improved Combined Slate-Pencil Sharpener and Slate-Frame; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon, forming a part of this our specification, in which—

Figure 1 is a perspective view of our slate-pencil sharpener, and Fig. 2 a longitudinal section thereof in the line xx of Fig. 1, this view being enlarged to more clearly show the several parts. Fig. 3 is a central longitudinal section of a slate-frame, showing our sharpener applied thereto; and Figs. 4 and 5 are enlarged cross-section views, respectively, of Figs. 1 and 3, the sharpener being out of the frame in Fig. 5.

The nature of our invention consists in the combination of the slate-pencil sharpener, constructed as hereinafter described, and a slate-frame having a groove formed in it to receive the sharpener, as hereinafter specified.

In the drawings, A indicates the slate-pencil sharpener, composed of sheet metal, (steel preferred,) and of a thickness corresponding to that of the ordinary steel pen. It is made of semi-cylindric form, as shown, in order that its inner or face surface may correspond with the rotundity of the ordinary slate-pencil, and be adapted to impart a rounded tapering end to a slate-pencil when sharpened thereon, as well as admit of a free longitudinal movement of the pencil throughout its length without liability to cramp or wedge the pencil, and thus break it, as would often be the case were its face-surface made in V form. It is also provided with several series of cutting-burrs, $a\ a'$ throughout, the greater part of its length, as shown, said burrs consisting of portions of the metal composing the sharpener A, punched through from the outer or convex side of the sharpener, so as to leave a tapering oblong hole or aperture, as at a^2 , between said burrs. These holes, being made to taper outwardly from the inner or working face of the sharpener A, freely permit the dust from a pencil being sharpened to pass through the metal

plate of which the sharpener is composed, and thus not clog the action of its working-face.

The perforations a^2 , being made oblong and at right angles to or across the sharpener, necessarily cause the burrs $a\ a'$ to be oblong also in the same direction, and hence alternately present a cutting-edge to the pencil as the pencil is passed forward and back in contact with the burrs and longitudinally of the sharpener. Thus the burrs become a series of knives cutting either way the pencil may be passed in contact with them longitudinally of the sharpener; or, in other words, if the pencil is thrust upon and over the burrs in the direction of the arrow, as shown in Fig. 2, the burrs a' will cut the pencil, while at the same time the burrs a will be sharpened by the pencil, and vice versa. In this manner our pencil-sharpener is self-sharpening by use, and its cutting effectiveness maintained until said burrs are finally worn down to the level of the plate of metal of which it is made.

As shown in the drawings, the perforations a^2 and burrs $a\ a'$ of one series of perforations and burrs longitudinally of the implement occupy a position directly opposite a blank space between the perforations and burrs of an adjoining longitudinal series, and thus the cutting action of the sharpener becomes distributed over such surface of the pencil as may be in contact with the burrs during the act of sharpening it, whereby uniformity in sharpening is secured.

In Fig. 3 the slate-pencil sharpener is shown within one of the pieces B which compose the frame of a slate, C.

D is a gouge-shaped groove cut in the edge of the piece B of a slate-frame longitudinally thereof, the groove being formed with tapering ends, as at $d\ d$, which terminate flush with the edge surface of the piece B. This groove is continuous from end to end, so as to afford free movement of the pencil to and fro during the act of sharpening, while the tapered ends d permit the operator to properly present the pencil to the action of the burrs.

The groove D is made of a proper width and depth to snugly fit the sharpener A when placed therein, as shown, and the sharpener is held in position in the groove by means of

metal pins passed through pin-holes *e* of the sharpener, and into the frame-piece B of the slate, as signified in the drawings. For greater security the metal pins may be barbed.

It will thus be seen that our slate-pencil sharpener may be easily attached to a slate; that it is durable, owing to the fact that it is self-sharpening, as heretofore explained; that when applied to a slate, as shown, the perforations *a*² will allow the dust of the pencil to be knocked or jarred out from between the sharpener and the frame-piece B; and that when the sharpener has been once secured in the groove D it does not detract from the symmetry of the slate, is not liable to become casually displaced, or liable to scratch and disfigure the school-desk or injure the hands of

the pupil, as would be the case if made to project beyond the frame of the slate.

What we claim is—

The perforated semi-tube sheet-metal sharpener A, open at both ends, and of less length than the groove D, in combination with the slate-frame having a gouge-shaped groove, D, terminating with tapering ends *d d* in one of its frame-pieces, substantially as and for the purpose described.

Signed in presence of two subscribing witnesses.

EDWARD H. CLINTON.

WASHINGTON PRATHER.

BENJ. KING,

JOSEPH DEHNER.