

(No Model.)

W. M. MOSELEY.  
LEAD PENCIL SHARPENER.

No. 578,577.

Patented Mar. 9, 1897.

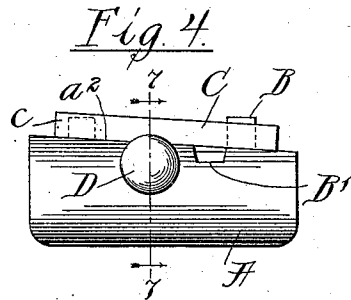
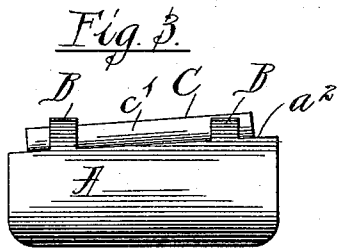
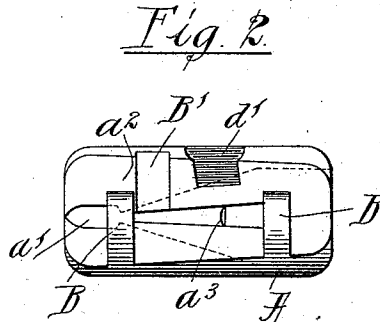
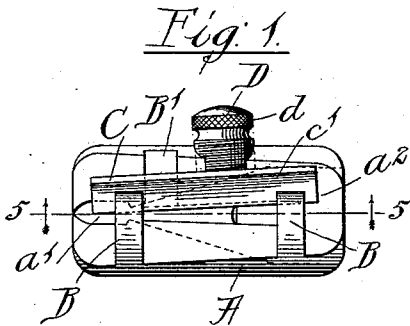
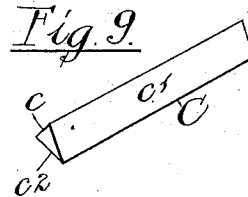
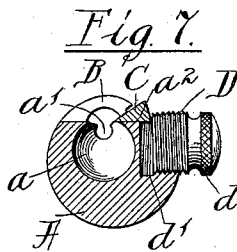
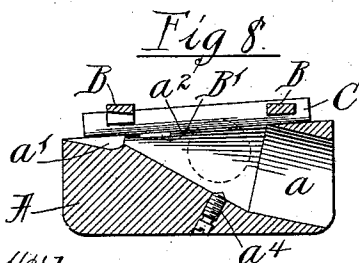
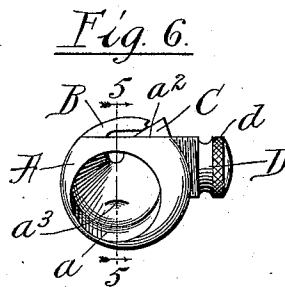
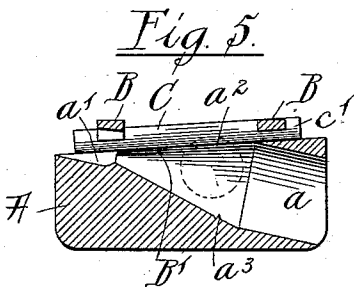
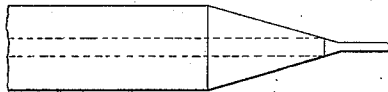


Fig. 10.



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# UNITED STATES PATENT OFFICE.

WILLIAM M. MOSELEY, OF ELGIN, ILLINOIS.

## LEAD-PENCIL SHARPENER.

SPECIFICATION forming part of Letters Patent No. 578,577, dated March 9, 1897.

Application filed August 21, 1895. Serial No. 560,030. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. MOSELEY, of Elgin, in the county of Kane and State of Illinois, have invented certain new and useful  
5 Improvements in Lead-Pencil Sharpeners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked  
10 thereon, which form a part of this specification.

This invention relates to pencil-sharpeners, and more particularly to that class of lead-pencil sharpeners in which the pencil is sharp-  
15 ened by rotating its end within a conical recess or bore formed in the body of the sharpener, within which recess the cutting edge of the blade projects, the contact of the pencil with the cutting edge of the blade serving to  
20 shave off the wood and graphite, and thus sharpen the pencil to a proper point.

The objects of this invention are to provide a pencil-sharpener which will have a much longer period of usefulness than has heretofore been usual in devices of this character by so constructing the same as to permit the bringing successively into proper operative position of different portions of the cutting edge of a cutting-blade relatively longer than  
30 the length of the bevel of the pencil produced by the sharpener, and thereby replace portions of said cutting edge which have been worn by the wood and graphite of the pencil, particularly by the latter, by sharper portions of the same cutting edge. Provision is also made for reversal of the cutting-blade end for end, thus bringing the opposite end portion of the same cutting edge into operation upon the graphite portion of the pencil;  
40 further, to provide a system of interchangeable blades, whereby when a blade has been dulled along the whole of the operative portion of its cutting edge it may be rejected and another blade substituted for it, means  
45 being provided whereby the cutting edge of such substituted blade will automatically register at the proper operative position in relation to the pencil within the bore independently of variations in the width of such blade, thus obviating all need of adjustment; further-  
50 moreover, to provide a special form of device for clamping the blade to the body portion

which permits the use of a blade of much less width than would be possible to otherwise use, thus reducing the cost of the blades, and,  
55 further, to provide means for reducing to a minimum the tendency of the sharpener to twist off the point of the pencil, due to particles of wood or graphite from the pencil lodging at the line of contact of the cutting-  
60 blade with its seat at the intersection of same with the bore, and, still further, to provide means for retaining the pencil within the bore when sharpening the same, contributing to the ease and uniformity of the result of the  
65 sharpening; also, to provide means for producing a cylindrical form of point upon the graphite core of the pencil instead of the usual conical point or point as of the frustum of a cone, thus contributing to the uniformity  
70 of the writing produced therewith and lessening the frequency of the resharpening thereof; finally, to produce a form of the body portion or holder of the device which will admit of its being made from material in the form  
75 of rods with the minimum amount of work.

To effect the above results, my invention consists in certain novel features of construction and arrangement hereinafter described, and more particularly pointed out in the ap-  
80 pended claims, and the same will be readily understood from the following description, reference being had to the appended drawings, in which—

Figure 1 is a top or plan view of a lead-  
85 pencil sharpener embodying my invention. Fig. 2 is a similar view with the cutting-blade and the screw for clamping the same removed. Figs. 3 and 4 are side views of the same, taken from opposite sides. Fig. 5 is a vertical longi-  
90 tudinal sectional view of the device, taken upon line 5 5 of Fig. 6 and looking in the direction indicated by the arrows. Fig. 6 is an end view of the sharpener, looking toward the small end of the recess or bore. Fig. 7 is  
95 a transverse vertical sectional view of the sharpener, taken upon the line 7 7 of Fig. 4 and looking in the direction indicated by the arrows. Fig. 8 is a view similar to that shown in Fig. 5, illustrating a modification. Fig. 9  
100 illustrates in perspective view the preferred form of cutting-blade used. Fig. 10 is a side view of the end of a pencil, showing the form of point produced by my improved sharpener.

As shown in the drawings, A designates the body portion or holder proper of the sharpener, which is of metal, hard rubber, or any other suitable material, and is preferably of general cylindrical form, rounded at its ends. Within one end (for convenience herein designated the rear end) of said body portion A is formed a tapered or conical recess or bore  $a$ , said bore tapering inwardly and forwardly from the rear end.

Extending rearwardly from the front end of the sharpener to a point in the rear of the apex of the conical aperture is an enlargement or cut-away portion  $a'$ , forming a clearance-space adjacent to the front end of the blade for the purpose of preventing material severed from the pencil from clogging this part of the bore and also for the purpose of preventing any undue friction or pressure upon the graphite point of the pencil that is being sharpened. It will be noticed that the axis of the conical bore is not parallel with the axis of the cylindrical holder, but is positioned at an angle thereto. The object of this construction is to facilitate the manufacture of the device. In such manufacture one of the more preferable methods is to make the body portion A from stock in the form of rods and to form a cutting-blade seat  $a^2$  thereon by cutting away or flattening one side of the cylindrical body. It is evident that the nearer to the original surface of the rod the cutting-blade seat  $a^2$  is located the less of the material of the rod it will be necessary to machine away to form said seat, and since the plane of said seat must be approximately parallel with the side of the conical bore it necessarily follows that the axis of the bore must be inclined to the general surface of the body portion, and in practice, therefore, the cutting-blade seat is located as near to the surface of the rod out of which the body portion is made as is consistent with proper width of said seat and sufficient strength of stop-arms B B, hereinafter more fully described. When, however, the body portion is cast in molds or struck up in dies, it is not material that the seat should be located as above, but the axis of the bore may then be parallel with the surface of the body portion, if desired.

The arms B B referred to are preferably formed by leaving two transverse ribs when cutting away to form the seat  $a^2$ , which arms are thereafter undercut, as shown clearly in Fig. 6, to permit the edge of the cutting-blade to project beneath the same. Preferably the arms B B will be provided with oblique faces at their free ends corresponding to the plane of the upper side of the cutter-blade. The cutting-blade C used with this device is preferably of triangular form, as shown in Fig. 9, being provided with a back  $c$  and with two converging surfaces  $c'$   $c^2$ , which latter unite to form a cutting edge. One of the two converging surfaces will rest on the seat  $a^2$  of the holder and the other will press against the forward oblique margin of the overhang-

ing arms B. When the cutting-blade C is then positioned as shown in the drawings, its cutting edge will be in proper operative relation with the conical bore or recess  $a$ .

In pencil-sharpeners the period of usefulness of the blade depends entirely upon the length of time its cutting edge can withstand the wearing action of the graphite core of the pencil, and heretofore when that portion of the cutting edge of the blade which acted upon the graphite became worn so that it would no longer act upon said graphite it has been necessary to throw away the blade and substitute another blade when the construction of the sharpener permitted, but usually it has been necessary to throw away the entire sharpener, though that portion of the cutting edge which had acted upon the wood portion of the pencil was practically unworn and as sharp as at first.

By making the blade longer than is necessary for its proper action upon the pencil I am enabled, when the graphite of the pencil has worn the cutting edge so that it is no longer effective at this portion, to move the blade endwise toward the end of the body portion opposite to that containing the large end of the bore, thus removing the said worn portion of the cutting edge beyond the points of contact with the pencil and by the same movement substituting a sharp portion of the cutting edge which previously was acting upon the wood of the pencil adjacent to the graphite core, and, furthermore, by the same movement to bring into action upon the wood part of the pencil a portion of the cutting edge which previously rested upon the seat  $a^2$  near the large end of the bore and which was not in action on the pencil.

The cutting edge when in operative position projects within the bore to engage the pencil, and I have found that the effect upon the cutting edge where in contact with the graphite is not really a dulling of the same, but instead is more of a wearing off of the edge slightly back until it no longer projects into the bore at this point and hence has no further effect upon the graphite portion, which then revolves idly against the walls of the bore, and no cutting effect is produced. Upon examining the portion of the cutting edge at this point it is found that it is still sufficiently sharp to be effective, but is worn to a somewhat less acute angle than it originally had, and also that it is slightly back of the line of the rest of the cutting edge. Means are provided for the further use of this worn portion of the cutting edge by reversing the blade end for end and locating the face of the stop at the large end of the bore, so that this portion of the cutting edge will have action upon the wood portion of the pencil, as hereinafter explained.

D is a peculiar screw-threaded stud having a knurled part  $d$  for the finger and a threaded body adapted to engage an interiorly-screw-threaded recess  $d'$  in the body of the sharpener

A. This recess is located so as to be intersected at its upper side by the plane of the blade-seat  $a^2$  and thus permit a portion of the stud D to come above said cutting-blade seat, as more clearly shown in Fig. 7. It will thus be understood that the stud D will engage the back  $c$  of the cutting-blade and the blade will be forced into contact with the stops B B. The advantages of this peculiar form of clamping-stud over an ordinary screw are that it may not only be made more cheaply, but it also permits the use of a much narrower blade than could otherwise be used, owing to the thinness of the wall of metal beneath the blade, as seen in Fig. 7, and into which an ordinary screw would have to be threaded.

It will be observed that the axis of the stud D is not at right angles with the back  $c$  of the cutting-blade, but is positioned at a slight inclination thereto. This arrangement, while not absolutely necessary, helps to facilitate the proper seating of the blade upon its seat, because the stud engages the back  $c$  of the blade, not at all portions of its end that projects above the seat  $a^2$ , but only at the forward portion thereof, or that part which is revolving downward toward the seat.

It is found in practice that it is desirable that the end of the pencil to be sharpened be held firmly within the conical recess and kept so during the operation of sharpening, and I have discovered that this may be best accomplished by providing a slight bur or projection in said conical recess to engage the pencil therein. In Figs. 5 and 6 I have shown in exaggerated proportion such a projection at  $a^3$ , the same consisting of a small upturned bur produced by the use of a chisel indenting the side of the recess. In Fig. 8 I have shown a modification of this projection, the same being the pointed or beveled end of a screw-threaded pin  $a^4$ , screwed within an interiorly-threaded aperture or opening extending through the body portion of the sharpener from the outside thereof and into the conical recess. The preferred form of the bur or of the end of screw or pin is not a point, but wedge or chisel shaped and with the direction of the edge of same somewhat diagonal to the axis of the bore, so that the action upon the pencil when revolved within the bore and in contact with the stud or bur will not only produce a friction upon it, but also, by the diagonal arrangement, tend to draw the pencil into the bore after the manner of an internal screw-thread, of which the projection acts as a portion. Other forms of projecting point or bur may be used, and anything that will produce friction upon the pencil within the bore and tend to keep it from falling out or that will tend to draw the pencil inwardly I desire to have regarded as within the scope of my invention.

At B' in Fig. 2 is shown a clearance-groove which is for the purpose of preventing lodgment of material severed from the pencil along the line of junction of the cutting-blade

and its seat at the intersection of same with the bore, particularly at that part of such line opposite where the graphite core meets the wood of the pencil. The effect in general of such lodgment, if permitted, is to keep the pencil from the action of the cutting edge, and particularly if the lodgment occur opposite, or nearly so, to the point of junction of the wood of the pencil with its graphite core it results in undue pressure upon the pencil at this point, tending to form a groove around it with a wedging action. This being a very weak portion of the pencil to resist torsion, if the sharpening of the pencil be persisted in, the result is that the point of the pencil is sometimes twisted off and wedged in the bore. Could the material of the body portion at the line of intersection of the cutting-blade seat with the bore be very sharp and lie closely to the under side of the cutting-blade this difficulty would not occur, as in that event, there being no place of lodgment for the particles of wood or graphite severed from the pencil, they would be carried around with the pencil and discharged over the top of the cutting-blade with the chips; but this is not practical, since the thin feather-edge thus formed would be liable to displacement either upward, and thus raising the cutting-blade from its seat, or downward into the bore, thus dragging upon the pencil and producing the same effect as a lodgment of severed particles. The clearance-groove B' obviates this difficulty by permitting the exit beneath the blade of the severed particles which would otherwise lodge at this point.

In the use of the device the blade C is clamped in operative position upon the seat with one end substantially even with the rear end of the body portion. After using the sharpener for some time it is noticed that the blade refuses to act upon the graphite portion of the pencil, for reasons heretofore mentioned. The clamping-stud is now loosened and the blade moved endwise toward the other end of its seat upon the body portion sufficiently to remove the portion of the cutting edge which has been worn by the graphite from contact with the pencil, and the blade is then clamped again. The sharpener is now as effective as at first, and this procedure is repeated as often as it is found necessary, until the blade has reached the other end of the body portion. The blade is now removed and reversed end for end and replaced upon its seat in the same position as it first had. There is now in contact with the graphite portion of the pencil a portion of the cutting edge which before the reversal was acting upon the wood portion of the pencil and which is practically as sharp and unworn as a new blade, and that portion of the cutting edge which was worn by the graphite is now acting upon the wood portion of the pencil, the location of the cutting edge being such as to allow such action. The sharpener is now used as at first, or before the reversal of the blade.

When the blade has again reached the limit of the longitudinal movement, it may be thrown away and a new blade substituted, which by the construction of the sharpener at once automatically locates at its operative position without regard to variation in width or thickness of said cutting-blade.

The cutting-blade may be made of such length that after the reversal of the same the portion of the cutting edge which has been worn by the graphite will not come into action on the wood portion, as before mentioned, but the previously-mentioned proportion of length of blade to body portion is preferred, as the device may thereby be made very small in size.

It is to be understood that different forms of stops B B may be provided without departure from the invention, the essential feature of said stops being their rigidity and the position of their forward ends with respect to the cutting-blade when it is upon the seat  $a^2$  and its cutting edge in proper operative position with relation to the pencil within the bore, so that it will be immaterial whether or not said projecting stops B B are integral with the body portion A, although the form shown is preferred as being the best construction. I find it preferable to make the amount of bearing-surface of the stops where the blade abuts less than the full area of such ends for convenience in slight adjustment of the blade by filing such ends, if necessary, the fact of their being of smaller area facilitating the dressing operation, but the particular form of such ends as shown is not necessary.

In the location of the cutting-blade seat I prefer that the plane of the same shall be in such relation to the bore that the cutting edge of the blade when in operative position thereon is not parallel to the axis of the bore and does not intersect said axis to prevent the graphite core from being sharpened to a conical point, or to a point, as of the frustum of a cone, as has heretofore been the practice. By the arrangement specified the graphite core is reduced by the action of the cutting edge to a certain diameter at that point where the cutting edge crosses the axis of the bore, such diameter depending upon the distance at which the cutting edge crosses the said axis, and the graphite core after it has passed this point is cylindrical in form. It is obvious that a longitudinal movement of the cutting edge of the blade will not alter such cylindrical form of point. The advantages of this form of point are that a pencil so sharpened may be used for some time, depending upon how long the cylindrical portion is made before any change in the size of the point occurs. Hence greater uniformity of writing is secured than with the usual conical or frustum form of point produced heretofore, which latter from the first use of the same increases in diameter, hence bluntness, and consequent ununiformity of the writing produced therewith, and therefore making it necessary to re-

sharpen the pencil much oftener than is necessary with the cylindrical form of point.

I do not desire to be limited either to the particular construction or shape of the clearance-cavity B', nor to the particular construction and arrangement of the clearance-bore  $a'$ .

I claim for my invention—

1. In a pencil-sharpener comprising a body portion, a bore and a cutting-blade, means for locating the cutting-blade in operative position consisting of stops engaging the converging surfaces of the blade, which form its cutting edge, substantially as described.

2. In a pencil-sharpener comprising a body portion, a bore, a cutting-blade seat and a cutting-blade, means for locating the cutting-blade in operative position, consisting of stops engaging one of the two converging surfaces which form the cutting edge of the blade, while the other of said surfaces lies upon the seat, substantially as described.

3. In a pencil-sharpener comprising a body portion, a bore, a cutting-blade seat and a cutting-blade, means for preventing lodgment of material severed from the pencil, consisting of a clearance-groove passing beneath the blade, substantially as described.

4. In a pencil-sharpener comprising a body portion, a bore, a cutting-blade seat and a cutting-blade, means for retaining the pencil within the bore, consisting of a projection on the interior surface of the bore adapted to engage the pencil, substantially as described.

5. In a pencil-sharpener comprising a body portion, a bore, a seat for a cutter, a three-sided cutting-blade of such symmetrical form that either of the two converging surfaces which form its cutting edge may rest upon the seat without disarranging the cutting edge from its operative position, substantially as described.

6. In a pencil-sharpener comprising a body portion, a bore, a seat for a cutter, a three-sided blade of such symmetrical form that either of the two converging surfaces which form its cutting edge may rest upon the seat without disarranging the means for clamping the blade.

7. In a pencil-sharpener, comprising a body portion, a bore, a cutting-blade seat and a cutting-blade, a recess intersected by the plane of the cutting-blade seat, and a clamping-stud adapted to engage said recess, substantially as described.

8. In a pencil-sharpener comprising a body portion, a bore, a cutting-blade seat, a cutting-blade and a clamping-stud, a threaded recess in the body portion adapted to be engaged by the threaded exterior of the stud, the said recess being intersected by the plane of the cutting-blade seat, substantially as described.

9. In a pencil-sharpener comprising a body portion, a bore, a cutting-blade seat, a cutting-blade, and a clamping-stud, the axis of the stud being so arranged in relation to the blade that the back margin of the latter is impinged upon by that portion only of the end of the

stud which is revolving toward the plane of the cutting-blade seat, substantially as described.

10. In a pencil-sharpener the combination of a body portion, a bore, a seat for a cutting-blade, a cutting-blade, stops for locating the cutting-blade in operative position, a clamping-stud and a projection on the interior surface of the bore, substantially as described.

11. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a cutting-blade, stops for locating the cutting-blade in operative position, a clamping-stud, a clearance-groove and a projection on the interior surface of the bore, substantially as described.

12. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a longitudinally-adjustable cutting-blade, stops for locating the cutting-blade in operative position, a clamping-stud and a projection on the interior surface of the bore, substantially as described.

13. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a longitudinally-adjustable cutting-blade, stops for locating the cutting-blade in operative position, a clamping-stud, a clearance-groove and a projection on the interior surface of the bore, substantially as described.

14. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a reversibly-adjustable cutting-blade, stops for locating the blade in operative position, a clamping-stud and a projection on the interior surface of the bore, substantially as described.

15. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a reversibly-adjustable cutting-blade, stops for locating the blade in operative position, a clamping-stud, a projection on the interior surface of the bore and a clearance-groove, substantially as described.

16. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a longitudinally and reversibly adjustable cutting-blade, stops for locating the blade in operative position, a clamping-stud and a projection on the interior surface of the bore, substantially as described.

17. In a pencil-sharpener, the combination of a body portion, a bore, a seat for a cutting-blade, a longitudinally and reversibly adjustable cutting-blade, stops for locating the blade in operative position, a clamping-stud, a projection on the interior surface of the bore, and a clearance-groove, substantially as described.

18. The body portion of a pencil-sharpener comprising a bore, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat and stops for locating the cutting-blade in operative position, substantially as described.

19. The body portion of a pencil-sharpener comprising a bore, a cutting-blade seat, a

threaded recess intersected by the plane of the cutting-blade seat, stops for locating the cutting-blade in operative position, and a clearance-groove, substantially as described.

20. The body portion of a pencil-sharpener comprising a bore, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, stops for locating the blade in operative position, and a projection on the interior surface of the bore, substantially as described.

21. The body portion of a pencil-sharpener comprising a bore, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, stops for locating the cutting-blade in operative position, a clearance-groove and a projection on the interior surface of the bore, substantially as described.

22. The body portion of a pencil-sharpener comprising a bore with its axis inclined to the axis of the body portion, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, and stops for locating the cutting-blade in operative position, substantially as described.

23. The body portion of a pencil-sharpener comprising a bore with its axis inclined to the axis of the body portion, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, stops for locating the cutting-blade in operative position and a clearance-groove, substantially as described.

24. The body portion of a pencil-sharpener comprising a bore with its axis inclined to the axis of the body portion, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, stops for locating the cutting-blade in operative position, and a projection on the interior surface of the bore, substantially as described.

25. The body portion of a pencil-sharpener comprising a bore with its axis inclined to the axis of the body portion, a cutting-blade seat, a threaded recess intersected by the plane of the cutting-blade seat, stops for locating the cutting-blade in operative position, a clearance-groove and a projection on the interior surface of the bore, substantially as described.

26. The combination with a pencil-sharpener, comprising a body, a conical bore therein and a cutting-blade projecting at its edge within the periphery of said conical bore, of a screw-threaded stud tapped into said body and projecting at its inner end within the periphery of said conical bore, substantially as described.

27. A pencil-sharpener, comprising a body provided with a conical bore or recess, a cutting-blade seat intersecting the periphery of said conical bore to form a throat-opening, a cutter-blade mounted upon said seat and projecting at its cutting edge within said throat, and a clearance-space extending out across the face of said seat beneath the cutter-blade thereon from a point below the apex of the conical recess, substantially as described.

28. A pencil-sharpener, comprising a cylindrical body, a tapered or conical bore having its axis inclined at an angle to the axis of said body, a cutter-blade seat substantially tangent to the periphery of said conical bore, a cutter-blade triangular in cross-section mounted upon said seat, overhanging arms formed integrally with said body engaging the upper surface of said blade, and a retaining-stud arranged to impinge against the rear of said blade to hold the latter in operative position between its seat and said overhanging arms, substantially as described.

29. A pencil-sharpener, comprising a cylindrical body having a cutter-blade seat, a conical recess or bore extending inwardly from one end of said body and intersecting at its periphery the plane of said cutter-blade seat, the axis of said bore being inclined to the axis of the cylindrical body, a cutter-blade mounted upon the seat, and means for holding the same in position, substantially as described.

30. A pencil-sharpener comprising a body portion and bore, a cutting-blade seat, a triangular cutting-blade and a stop to engage one of the two oblique surfaces of the blade which unite to form a cutting edge, and a clamping-stud, the arrangement of the axis of which in relation to the blade being such that a portion only of the end of the stud will engage the back margin of the blade, substantially as described.

31. A pencil-sharpener comprising a body portion, a bore, the axis of which is inclined with relation to the axis of the body portion, a cutting-blade seat and a cutting-blade, the cutting edge of the latter being so arranged with relation to the axis of the inclined bore that the line of the cutting edge is not parallel to and does not intersect the axis of the bore, whereby a cylindric, instead of a conical end, is given to the graphite core of the pencil being sharpened.

32. In a pencil-sharpener the combination of a body portion, an inclined bore, a cutting-blade seat and cutting-blade stops for locating the blade in operative position, a clamping-stud and a clearance-groove, the latter in the blade-seat extending from the intersection of the latter with the bore at that part of the intersection opposite where the graphite core of the pencil joins the wood, substantially as described.

33. A pencil-sharpener comprising a body portion, a bore, a cutting-blade, the two oblique surfaces of which unite to form a cutting edge, means for preventing the move-

ment of the cutting-blade toward the bore beyond the operative position of the blade, consisting of a bearing surface or part on the body portion against which one of the oblique surfaces of the blade abuts and a stop engaging the rear or outer edge of the blade, substantially as described.

34. A pencil-sharpener comprising a body portion having a seat for a cutter, a cutting-blade having two oblique surfaces which unite to form its cutting edge, a bearing surface or part on the body portion engaging one of said oblique surfaces whereby the other oblique surface is held upon the said seat and the position of the cutting edge determined, and a stop engaging the back or outer edge of the cutter, substantially as described.

35. A pencil-sharpener comprising a body portion provided with a seat for a cutter, a cutting-blade having two oblique surfaces which form a cutting edge, surfaces on the body portion engaging one of said oblique surfaces whereby the other surface is held to said seat, and an adjustable stop engaging the back or outer margin of the cutter, substantially as described.

36. A pencil-sharpener comprising a body portion having a seat for a cutter, a three-sided cutting-blade the two oblique sides of which unite to form a cutting edge, a stop on the body portion to engage the third or outer side of the cutter, and means for removably securing the cutter to its seat whereby it may be reversed end for end, or shifted endwise thereon comprising stops on the body portion engaging one of the oblique surfaces when the other is upon said seat, substantially as described.

37. A pencil-sharpener comprising a cutting-blade, a body portion provided with a seat for the cutting-blade, and means for holding the cutting-blade in place, comprising stops engaging the oblique surface of the cutting-blade by which its cutting edge is formed at its side opposite that which is in contact with said seat, and a screw acting against the outer edge of the cutting-blade to hold the same in contact with said stops, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 16th day of August, A. D. 1895.

WILLIAM M. MOSELEY.

Witnesses:

H. L. GIVEN,  
F. S. BURT.