

No. 716,732.

Patented Dec. 23, 1902.

M. E. MEAD.
PENCIL SHARPENER.

(Application filed July 16, 1902.)

(No Model.)

FIG. 1.

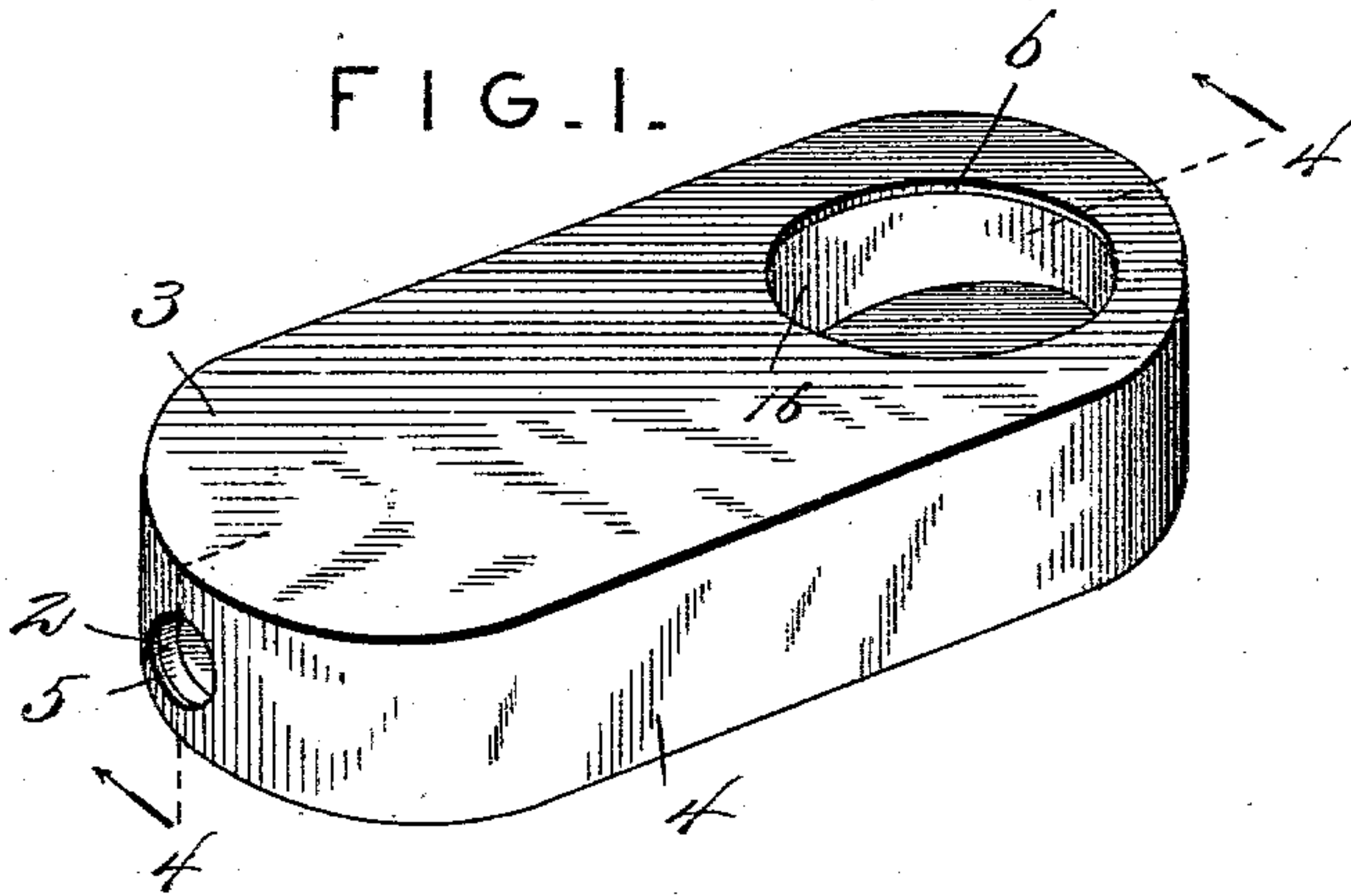


FIG. 2.

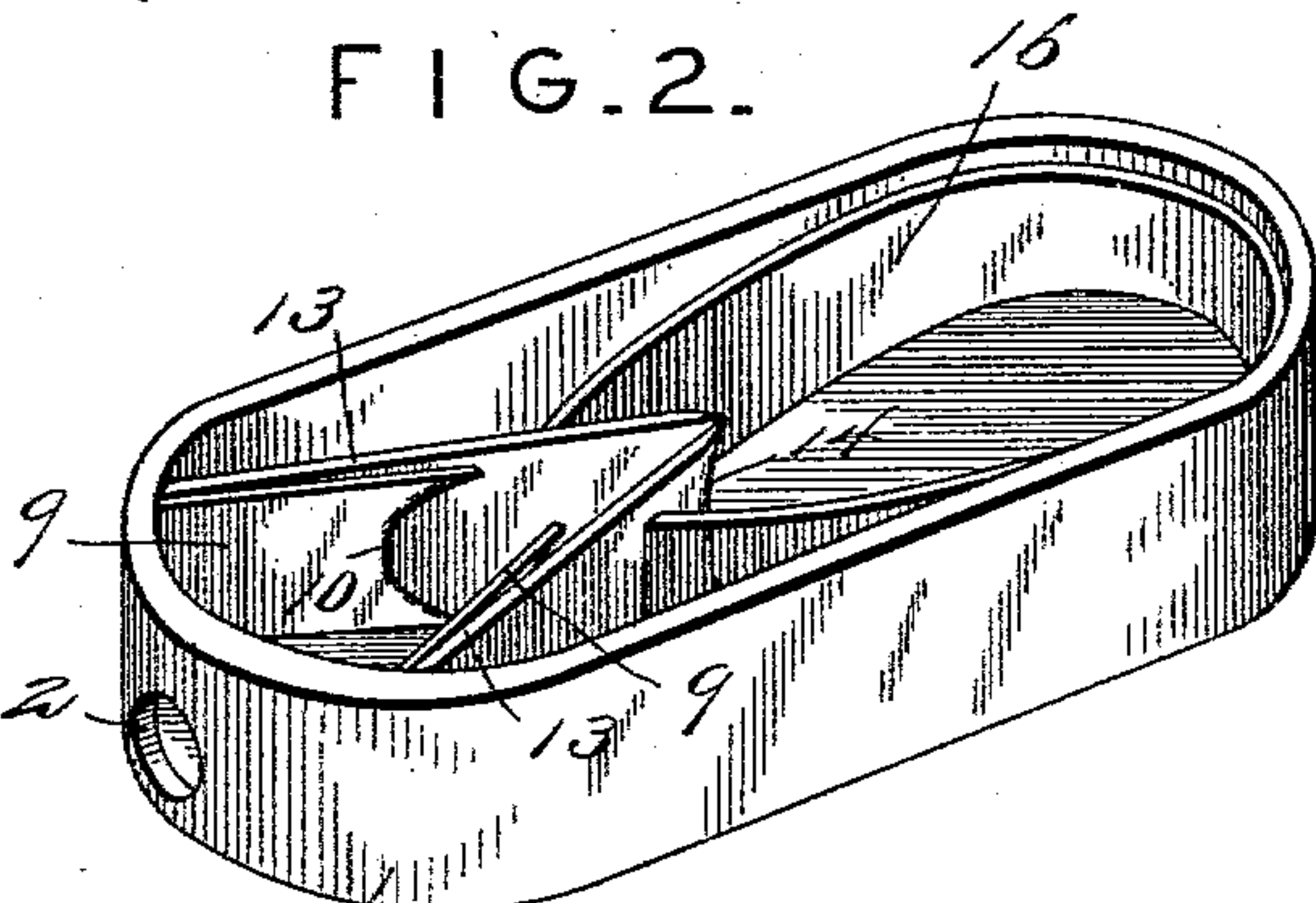


FIG. 5.

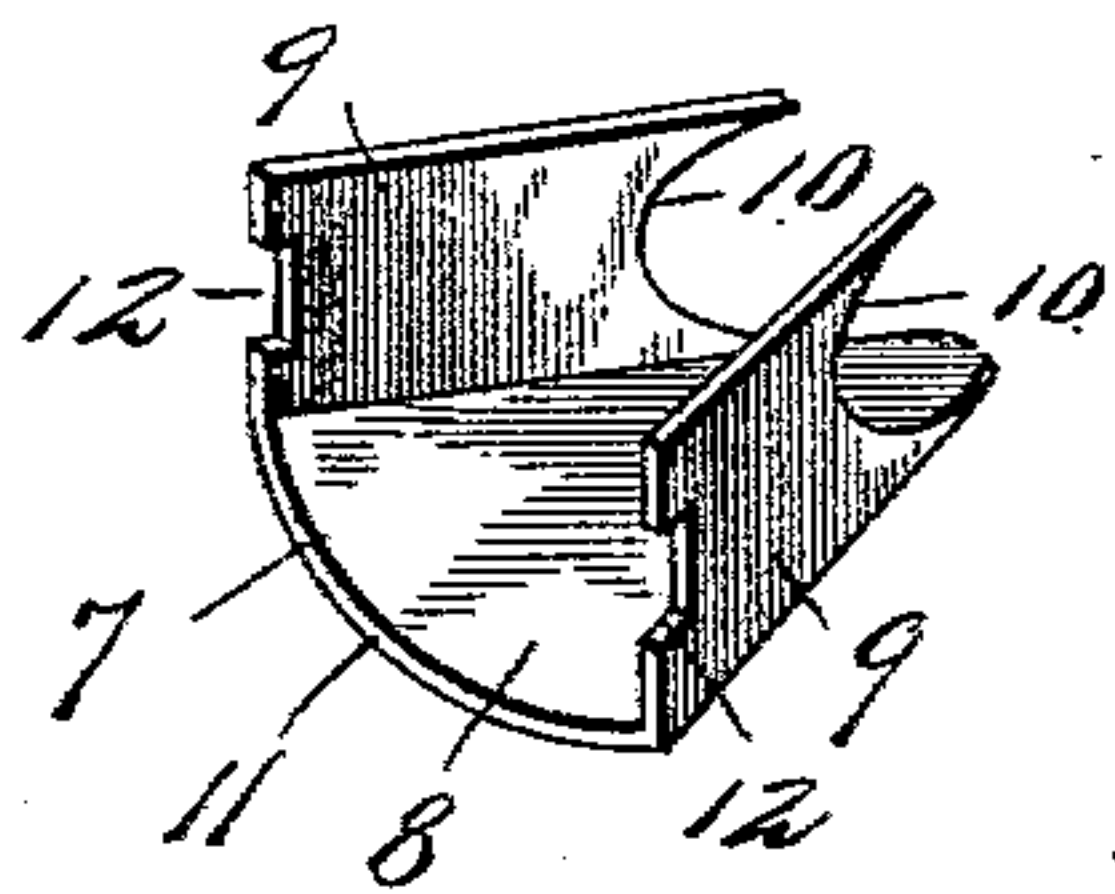


FIG. 6.

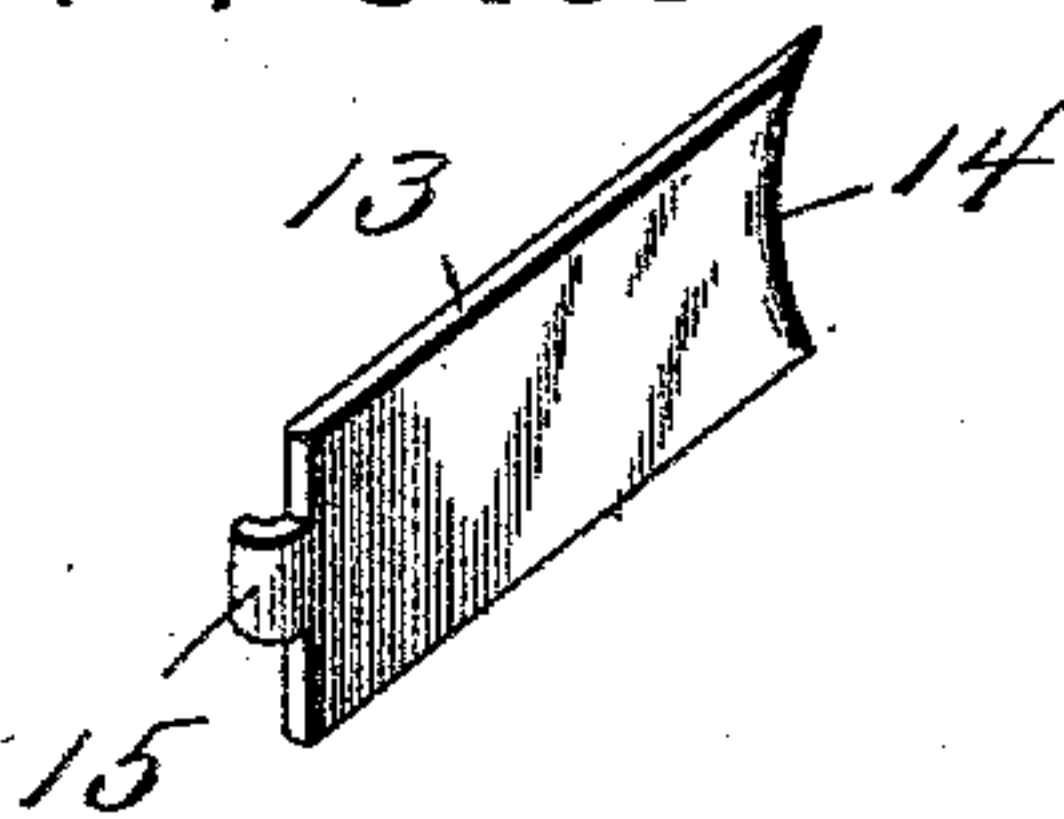


FIG. 3.

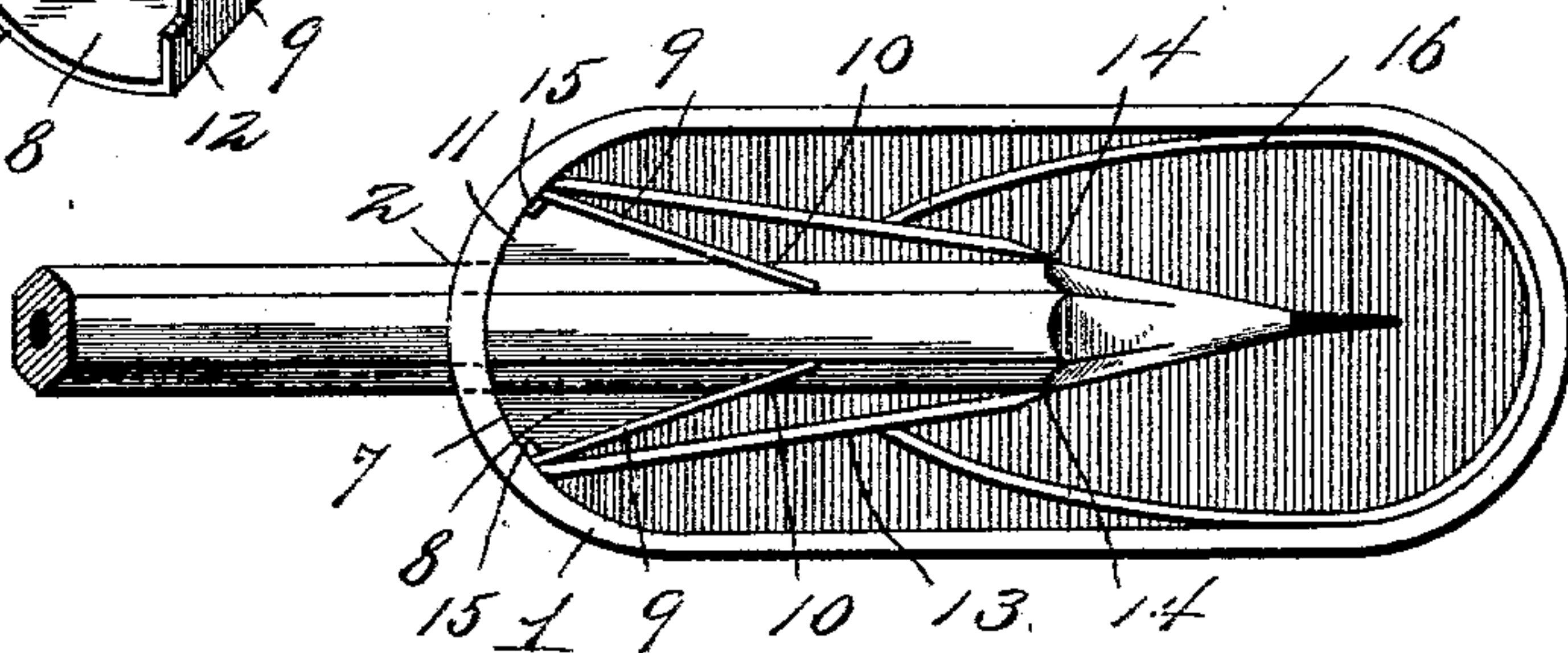
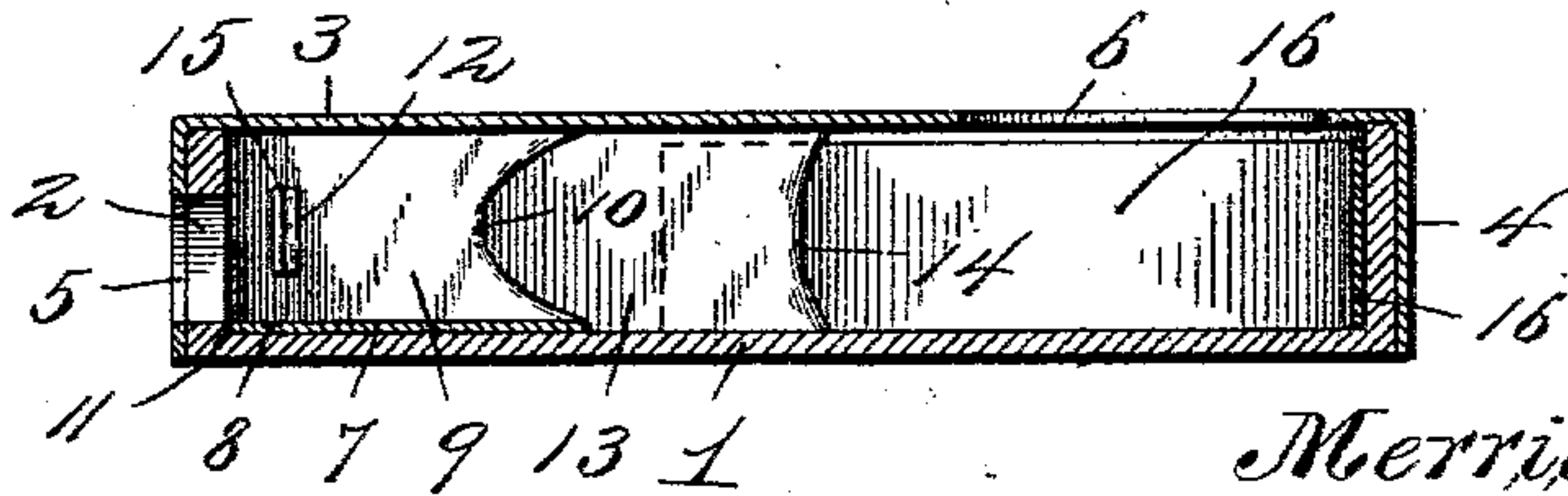


FIG. 4.



Witnesses

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PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 716,732, dated December 23, 1902.

Application filed July 16, 1902. Serial No. 115,853. (No model.)

To all whom it may concern:

Be it known that I, MERRITT E. MEAD, a citizen of the United States, residing at Lisle, in the county of Broome and State of New York, have invented new and useful Improvements in Pencil-Sharpeners, of which the following is a specification.

This invention relates to pencil-sharpeners; and the purpose of the same is to provide a simple, practical, and inexpensive device whereby the end of the wood inclosure of a pencil and the lead point may be conically shaped at one operation by longitudinally drawing the pencil extremity through the sharpener and removing the wood and a portion of the lead in a manner similar to sharpening pencils by the use of an ordinary knife or through the medium of a draw cut, the sharpening operation being carried on in a reliable manner owing to the positive disposition of the several contributing elements.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed and subject to wide range of modification in the dimensions, proportions, and minor details without departing from the principle of the invention.

In the drawings, Figure 1 is a perspective view of a pencil-sharpener embodying the features of the invention. Fig. 2 is a similar view of the improved device with the cover removed. Fig. 3 is a top plan view of the body of the sharpener with the cover removed. Fig. 4 is a longitudinal vertical section on the line 4-4, Fig. 1. Fig. 5 is a detail perspective view of a guide element forming part of the organization of the sharpener. Fig. 6 is a detail perspective view of one of the knives or cutters.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a body in the form of an inclosing case with opposite parallel sides and rounded ends, an opening 2 of a diameter approximating that of a lead-pencil being formed in one end of the body. Over the body a cover 3 is fitted and has a depending side flange 4 of a depth equal to the sides of the body in order that the lower edge of the

flange of the cover will coincide with the under surface of the bottom of the body to avoid the formation of rough projections and prevent injury to the hand of the operator while the sharpener is in use. The cover 3 has an opening 5 in one end of the flange, which coincides and is of equal diameter with the opening 2 in the one end of the body 1, and in the top of the cover near the opposite end is an enlarged outlet-opening 6 for the passage thereof of the shavings and lead particles deposited in the body beneath during the operation of sharpening the lead-pencil.

Within the body 1, against the end having the opening 2 therein, a guide 7 is disposed and firmly held in place, the said guide having a bottom plate 8, which rests against the bottom of the body 1, and upstanding side flanges 9, the bottom plate 8 and flanges 9 regularly converging in straight lines toward the inner end of the said plate. The inner ends of the flanges 9 are formed with concave recesses 10, and said inner ends of the flanges are transversely spaced apart a distance equaling the diameter of a lead-pencil of ordinary construction and dimensions. The distance between the deepest parts of the recesses 10 is just equal to the diameter of a lead-pencil, and the upper projecting portions of the inner ends of the flanges extend over the pencil to thereby steady the movement of the latter and prevent it from having sidewise or irregular vibration during the reciprocation thereof in sharpening the same. The inner reduced terminal of the plate 8 also serves as a bottom support for the pencil and is in direct alinement with the openings 2 and 5, respectively formed in the ends of the body 1 and cover 3. The outer end edge 11 of the plate 8 is curved to conform to the arch of the end of the body against which it is placed, so as to have the guide in snug engagement with the said body. The outer ends of the flanges 9, at a suitable elevation above the plate 8, are also formed with slots 12, and when the said outer ends of the flanges are in engagement with the inner surface of the inner end of the body 1 said slots are closed.

The improved device also embodies in its organization a pair of cutting blades or knives 13, having their inner ends sharpened and re-

cessed to provide concave cutting edges 14. At the center of the outer end of each blade 13 is an inwardly-projecting curved lip 15, which is movably fitted in the one slot 12, the blades 13 being disposed outside of the flanges 9 and of considerably greater length than the latter. By the loose connection of the blades 13 to the flanges 9 in the manner set forth said blades are permitted to expand or open to cause the blades to conform to the conical reduction of the end of the lead-pencil and lead during the sharpening operation, and the inner ends of the blades, having the cutting edges formed therein, are normally held in engagement by the terminals of a bowed plate-spring 16 engaging the blades in advance of the cutting edges 14 thereof, the said bowed plate-spring being retained in the body by the frictional contact thereof with one end of the latter, said frictional contact being reliable and resisting accidental displacement of the spring in view of the resiliency of the latter. When the blades 13 are opened or expanded, the terminals or extremities of the plate-spring 16 are forced apart, and the tendency of the inner ends of the blades in view of the engagement therewith of the spring is to contract or return to normal position, and hence the conical reduction of the end of the pencil sharpened is effected.

In the operation of the sharpener the pencil is pushed inwardly thereinto through the coinciding openings 2 and 5 and between the inner recessed ends of the flanges 9 of the guide and also a suitable distance between and beyond the inner concave cutting edges 14 of the blades 13. The operator then reciprocates the pencil longitudinally to cut away the wood and taper the lead, and during such operation the end of the pencil being sharpened may be seen through the opening 6. By successive draw cuts, obtained through the use of the blades 13, a pencil can be expeditiously and regularly sharpened, particularly in view of the obstruction of lateral movement of the pencil by the guide having the flanges 9 with the rear or inner recessed ends 10, as heretofore described. The shavings and lead particles may be thrown out of the sharpener through the outlet-opening 6 and the device thus be kept clean.

It is proposed to suitably ornament or plate the box and its cover, and by changing the dimensions a convenient form of the sharpener may be produced, having a practical operation, that may be carried in the pocket of the user. This reduction, however, is not essential, as it is proposed to vary the dimensions as may be found desirable.

Owing to the simplicity of the several parts of the improved device, the cost of manufacture is reduced to a minimum, and at any time desired the blades 13 may be removed and sharpened and again reset without difficulty.

Having thus fully described the invention, what is claimed as new is—

1. In a pencil-sharpener, the combination of inclosing means having an opening through one end, a guide disposed adjacent to said opening within the means and provided with rearwardly - converging flanges, cutting-blades loosely connected to said flanges and having cutting edges at their rear ends, and resilient means for holding the said cutting-blades normally converged.

2. In a pencil-sharpener, the combination of an inclosing means having an opening in one end thereof through which a pencil is adapted to be inserted and longitudinally reciprocated, a substantially triangular guide located in said means adjacent to the opening, and loosely-mounted cutting-blades held within the said means and means to hold the blades normally converged.

3. In a pencil-sharpener, the combination with an inclosing means having a cover, the one end of the cover and said means being formed with coinciding openings for the insertion and movement therethrough of a lead-pencil, and the opposite end of the cover having an outlet-opening in the top thereof, loosely-mounted blades disposed within the said inclosing means and having cutting edges at their rear ends normally converged, and a flat spring having the terminals thereof loosely embracing and extending in advance of the rear cutting ends of the said blades, the said spring closely fitting throughout its major portion against the side of the inclosing means.

4. A pencil-sharpener comprising inclosing means having an opening in one end thereof, a substantially triangular guide mounted in said means close to the opening and blades having their front terminals loosely connected to the sides of the guides and their rear ends provided with cutting edges and means to hold the rear ends of said blades normally and yieldingly in close relation, the said cutting edges being also normally in direct alignment with the opening in the said means.

5. In a pencil-sharpener, the combination of an inclosing body having an opening in one end, a guide mounted in the body and having rearwardly - converging side flanges projecting upwardly therefrom and provided with concave recesses at their rear ends, cutting-blades having their outer ends loosely and removably connected to said flanges and formed with rear cutting edges, and a spring-controlled device engaging the cutting-blades and normally holding the cutting edges thereof in close relation.

In testimony whereof I affix my signature in presence of two witnesses.

MERRITT E. MEAD.

Witnesses:

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