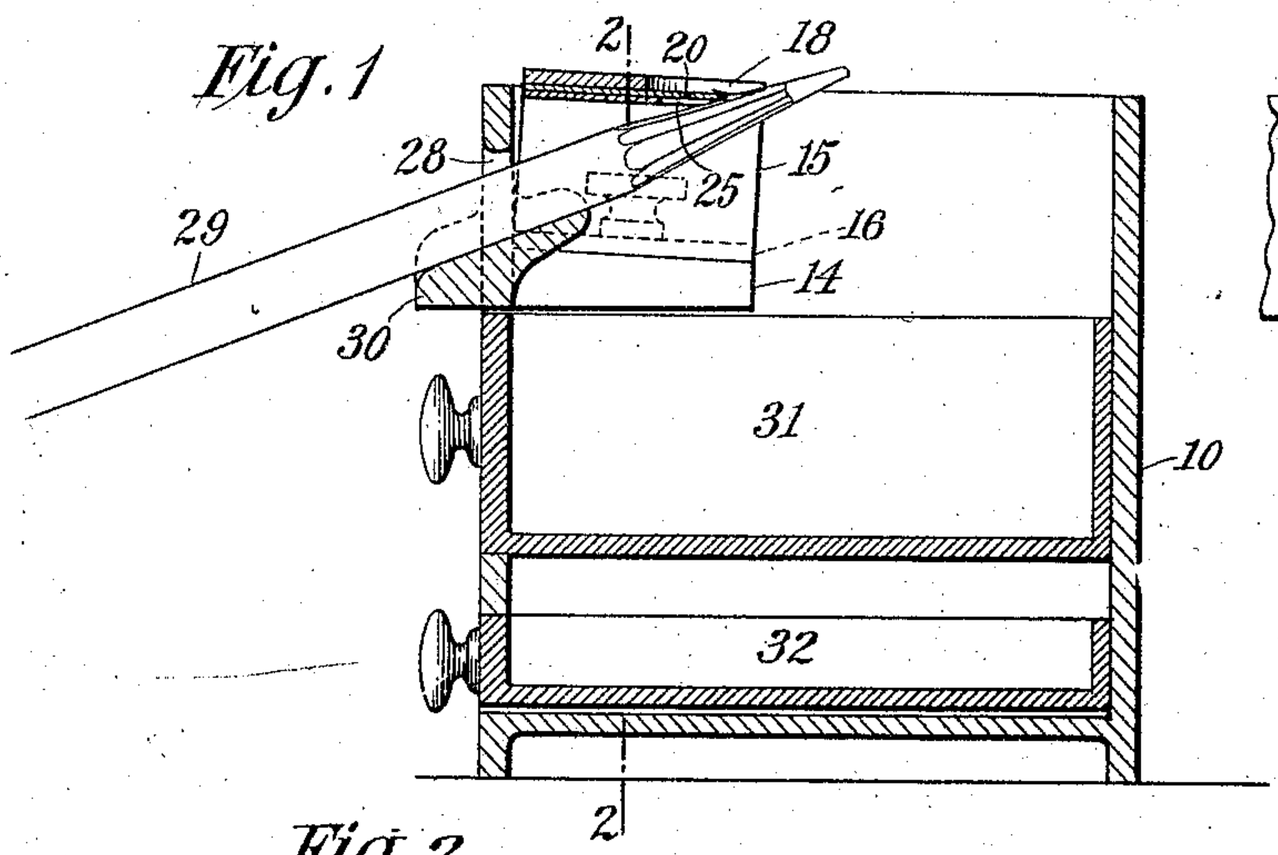
F. A. BECKETT.

PENCIL SHARPENER.

APPLICATION FILED MAR. 4, 1910.

992,749. **Patented May 23, 1911.**

Fig. 1



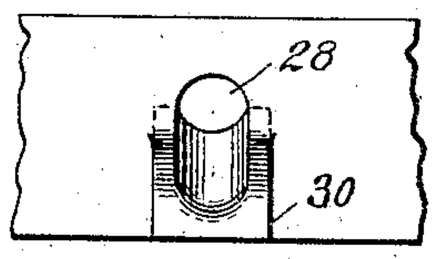


Fig. 3

Fig. 2

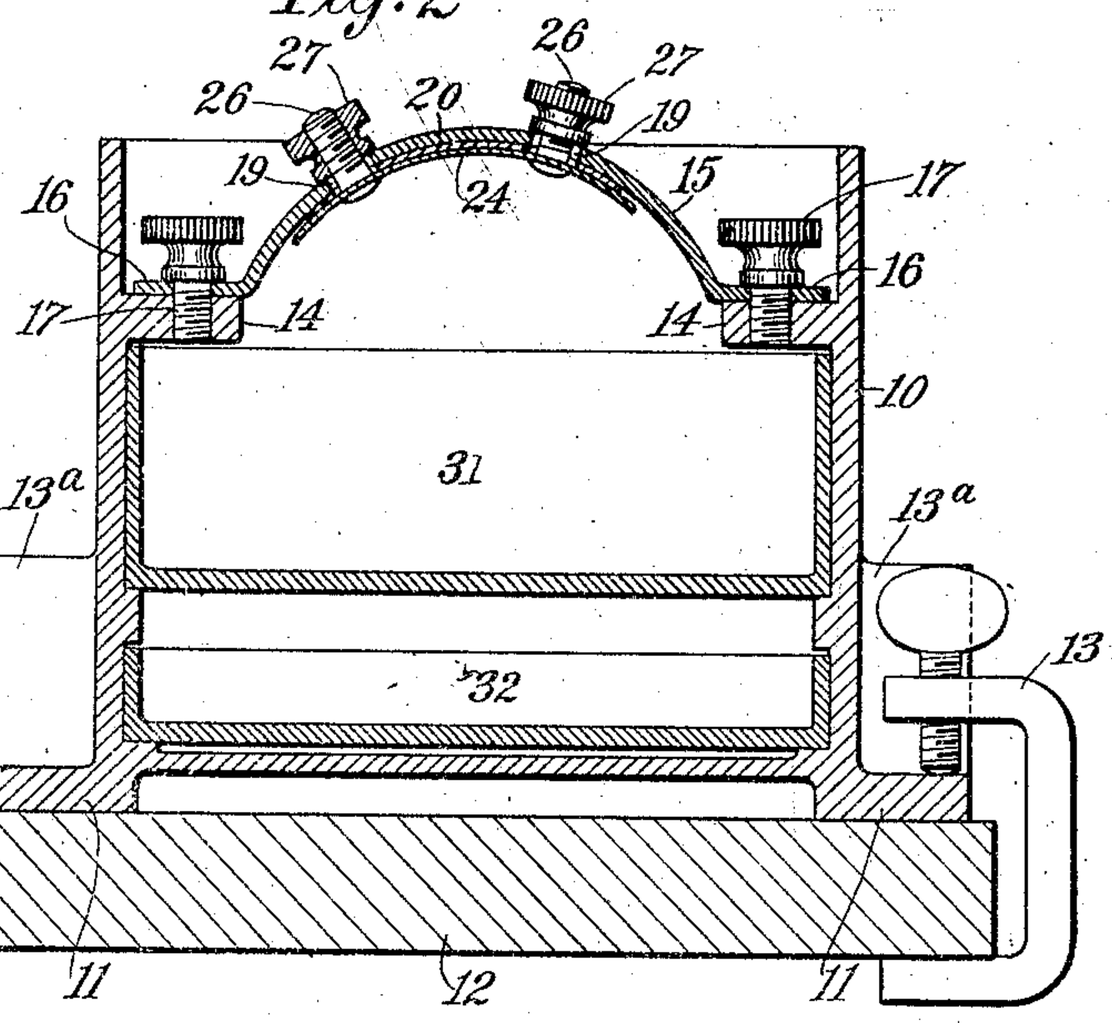


Fig. 6

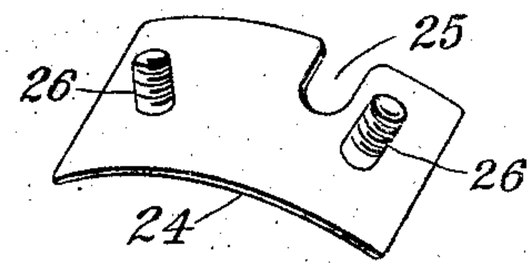


Fig. 5

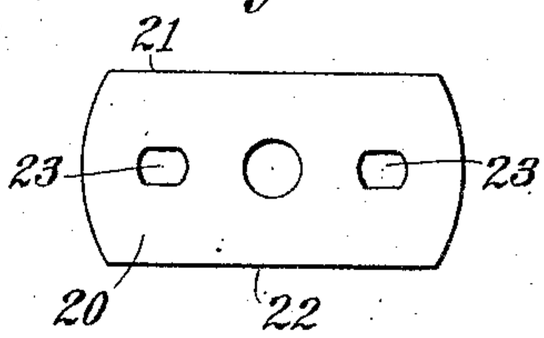
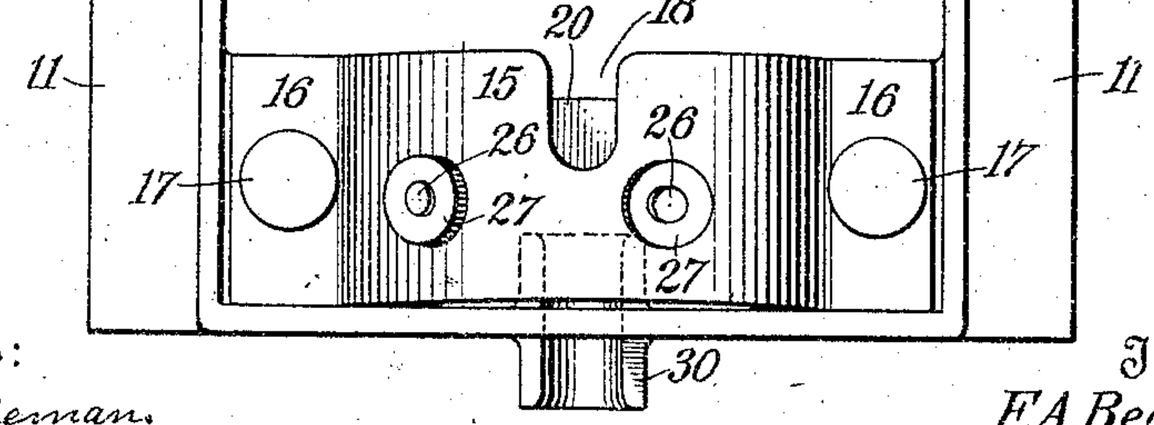


Fig. 4



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UNITED STATES PATENT OFFICE.

FREDERICK A. BECKETT, OF NEW YORK, N. Y.

PENCIL-SHARPENER.

992,749. Specification of Letters Patent. **Patented May 23, 1911.**

Application filed March 4, 1910. Serial No. 547,225.

To all whom it may concern:

Be it known that I, FREDERICK A. BECKETT, a citizen of the United States, residing at New York, county and State of New York, have invented certain new and useful Improvements in Pencil-Sharpeners, of which the following is a full, clear, and exact description.

This invention relates to pencil sharpeners, and its chief object is to provide a simple, inexpensive and withal thoroughly effective device by which a pencil can be sharpened rapidly and easily with the production of a neat, accurate point without waste or breakage of the lead.

To these and other ends the invention consists in the novel features of construction and combinations of elements hereinafter described.

In carrying out the invention in the preferred manner I provide a suitable receptacle or box, preferably cubical in form, having an open top and provided near its upper edge with a groove or slot in which the pencil is moved in the sharpening operation. Mounted within the box, adjacent to the said slot, is an arc-shaped support carrying a thin, flexible, and preferably double-edged, blade, which is held flexed in close conformity to the curvature of the support by suitable means in the nature of a removable clamp. Below the blade support is a removable drawer to receive the chips and shavings, and below this drawer is a second drawer which serves as a receptacle for storing extra blades. The embodiment thus briefly described, is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section, through the pencil-guide or slot, showing the pencil in process of being sharpened. Fig. 2 is a cross-section on line 2—2 of Fig. 1. Fig. 3 is a detail front view of the pencil guide. Fig. 4 is a detail plan view of the arc-shaped blade support, with the blade in position. Fig. 5 is a plan view of the flexible blade employed. Fig. 6 is a perspective view of the clamping device for securing the flexible blade to the arc-shaped support or carrier.

The cubical box 10, open at the top as shown and preferably of cast metal, serves as a support for the other parts, and its base is flanged or extended as at 11, to permit it to be screwed to a table or desk 12 or secured by means of clamping devices, such for example as is shown at 13. Vertical and lateral extensions 13^a may also be provided for securing the box to a wall or other upright support if desired. On the inside of opposite sides of the box or support near the top thereof and adjacent to one of the other sides are two lugs or shelves 14, on which is mounted the arc-shaped blade-carrier 15. The latter is provided with ears 16 at its ends, resting on the lugs 14 and detachably secured thereto by means of thumbscrews 17. In the forward edge of the blade-carrier is a notch 18 and in the rear of the notch are two apertures 19, on opposite sides of the notch but at different distances therefrom, as shown. Below the blade-carrier, on the under or concave side of the same, is the flexible blade 20, provided with two cutting edges 21, 22, and having two slightly elongated apertures 23, registering with the holes 19 in the blade-carrier; and below the blade is a clamping member in the form of a spring plate 24 formed with a notch 25 in one edge and having a pair of threaded studs or pins 26 extending upwardly through the registering holes 23 and 19 in the blade and the blade-carrier respectively. This clamping member is of less curvature than the blade-carrier, but being of spring metal it may be drawn, and with it the flexible blade 20, into close conformity to the carrier by the thumbnuts 27 on the studs 26, thereby holding the blade firmly in place. As shown in Figs. 1 and 2 the clamping member is slightly shorter and narrower than the curved portion of the blade-carrier, and the notch 25 is less deep than the notch 18 in the former, so that the metal of the clamping member, extending forwardly under the notch 18, will afford adequate support to the flexible blade at that point. These notches expose the cutting edge of the blade, and their forward edges serve as guides for the pencil in the sharpening operation, as will be more apparent hereafter.

In the box-wall adjacent to the blade-carrier is an aperture 28, through which the pencil, indicated at 29, is passed, and at the bottom of the aperture is an inclined trough-

shaped support 30, in which the pencil slides in the sharpening operation.

The method of using the device will now be readily understood from the foregoing. The blade being properly clamped to the carrier the pencil is introduced through the aperture 28 into engagement with the blade as shown in Fig. 1, and is then retracted, in which movement the blade removes a chip or shaving from the pencil. This operation is repeated, the pencil being slightly rotated between strokes, until a point of the desired length and taper is produced. The chips and shavings drop into a removable drawer 31, which may be removed and emptied from time to time as the debris accumulates.

It will be observed that the arc-shaped support gives the blade an arch form. This is one of the most important features of the device, as it gives the flexible blade the necessary stiffness or rigidity and prevents springing or "chattering" of the blade as the pencil is drawn against its edge. The curvature of the blade also rounds the point nicely, so that a neatly rounded point can be produced with ease. The trough 30 and the blade 20 have such relative inclination as to give a neat taper to the point, and for this purpose the blade itself is inclined slightly instead of giving all the inclination to the troughed pencil-support so as to afford plenty of room for the hand in manipulating the pencil. This desired downward inclination of the blade is most conveniently accomplished by properly inclining the tops of the lugs 14 on which the blade-carrier rests. The location of the blade-holding studs at unequal distances from the sharpening notch is also an important feature, as it permits two portions of each cutting edge to be used, as will be readily understood.

If desired the box 10 may be provided with a shallow drawer 32, below the chip-drawer or receptacle 31, for holding a supply of blades. The box itself is thus a convenient support for the blade carrier and the receptacles 31, 32.

As previously stated, the embodiment herein illustrated is the preferred form of the invention, which may be embodied in other forms without departure from its proper spirit and scope.

I claim:

1. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier, a thin flexible blade, and means for holding the blade curved in close conformity with the carrier with the cutting edge of the blade curved longitudinally whereby to support the blade and give the cutting edge thereof the requisite stiffness, said blade-carrier exposing the cutting edge on the concave side of the blade for engagement with a pencil applied to such concave side.

2. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier having a notch in its edge, a thin flexible blade mounted on the carrier and having its cutting edge exposed at said notch, and means for holding the blade curved in close conformity with the carrier whereby to support the blade and give the cutting edge thereof the requisite stiffness.

3. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier, a thin flexible blade on the concave side of the carrier, and clamping means for holding the blade curved in close conformity to the carrier with the cutting edge of the blade curved longitudinally whereby to support the blade and give the cutting edge thereof the requisite stiffness, said blade-carrier exposing the cutting edge on the concave side of the blade for engagement with a pencil applied to such concave side.

4. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier, a thin flexible blade, means for holding the blade curved in close conformity with the carrier with the cutting edge of the blade curved longitudinally whereby to support the blade and give the cutting edge thereof the requisite stiffness, and a support for the carrier provided with a guide arranged to direct the pencil into operative engagement with the cutting edge of the blade on the concave side thereof.

5. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier, a thin flexible blade on the concave side of the carrier, and a resilient clamping member provided with releasable means for drawing the member and the blade into close conformity with the carrier whereby to support the blade and give the cutting edge thereof the requisite stiffness.

6. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier having a notch in its edge, a thin flexible blade mounted on the carrier and having its cutting edge exposed at the said notch, and means for removably securing the blade to the carrier in close conformity to the curvature thereof, said means being constructed to permit the shifting of the blade to expose different portions of the same cutting edge at the said notch.

7. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier having a notch in its edge and provided with apertures spaced laterally from said notch at unequal distances therefrom, a thin flexible blade having apertures in register with those in the carrier, and a removable clamping member having binding means extending through said registered apertures to bind the blade in close conformity to the curvature of the carrier.

8. In a pencil sharpener, in combination, a rigid arc-shaped blade-carrier having a

notch in its edge, a thin flexible blade mounted on the carrier and having its cutting edge exposed at said notch, and a clamping plate for binding the blade in close conformity with the carrier whereby to support the blade and give the cutting edge thereof the requisite stiffness, said clamping plate having in its edge a notch registering with but of less depth than the notch in the blade-carrier.

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

FREDERICK A. BECKETT.

Witnesses:

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M. LAWSON DYER.