A. P. WILSON.

CUTTER FOR PENCIL SHARPENERS.

APPLICATION FILED AUG. 23, 1917.

1,301,772. Patented Apr. 22, 1919.

Fig. 1.

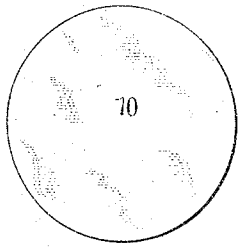



Fig. 2.

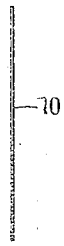



Fig. 3.



Fig. 4.



Fig. 5.

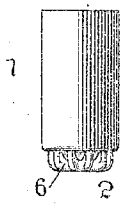



Fig. 7.

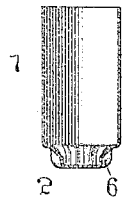



Fig. 8.

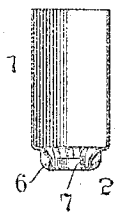



Fig. 6.

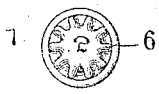



Fig. 10.

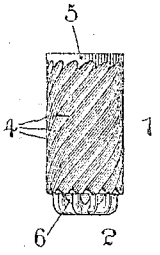



Fig. 9.

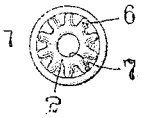



Fig. 12.

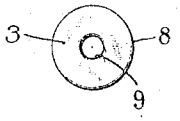



Fig. 11.

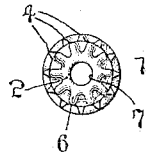



Fig. 14.

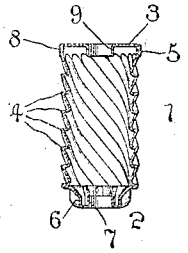
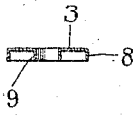



Fig. 13.




Inventor:
Allen P. Wilson
by attorneys
Brown & Durand

# UNITED STATES PATENT OFFICE.

ALLEN P. WILSON, OF WESTON, MASSACHUSETTS, ASSIGNOR TO BOSTON PENCIL POINTER COMPANY, OF WALTHAM, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## CUTTER FOR PENCIL-SHARPENERS.

1,301,772. Specification of Letters Patent. Patented Apr. 22, 1919.

Application filed August 23, 1917. Serial No. 187,799.

*To all whom it may concern:*

Be it known that I, ALLEN P. WILSON, a citizen of the United States, and resident of Weston, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Cutters for Pencil-Sharpeners, of which the following is a specification.

This invention relates to cutters for pencil sharpeners, with the object in view of providing a hollow cutter which is developed from sheet metal.

Another object is to provide a cutter of this character which will have one or more exterior cutting edges developed thereon.

Another object is to provide a cutter of this character which will have one of its ends developed into a driving element and a bearing for a shaft, while the other end is arranged to receive a cap having a bearing to support that end.

A still further object is to provide certain improvements in the form, construction and arrangement of the elements forming the cutter whereby the above mentioned and other objects may be effectively carried out.

A practical embodiment of my invention is represented in the accompanying drawings in which,

Figure 1 represents a plan view of a disk of sheet metal from which my cutter is developed,

Fig. 2 represents an edge view of the same,

Fig. 3 represents a side view of one stage of development of the cutter.

Fig. 4 represents a longitudinal central section of the same,

Fig. 5 represents a side view of the same showing a driving element developed therein.

Fig. 6 represents an end view of the same,

Fig. 7 represents a longitudinal central section of the same,

Fig. 8 represents a similar view showing the inwardly turned flange formed in the reduced end,

Fig. 9 represents an end view of the same,

Fig. 10 represents a side view of the body of the cutter having spiral cutting edges,

Fig. 11 represents an end view of the same,

Fig. 12 represents a plan view of the cap and bearing for the open end of the body of the cutter.

Fig. 13 represents a central section through the same, and

Fig. 14 represents a longitudinal central section of the body and cap assembled.

The cutter as a whole comprises a hollow body 1, shown cylindrical in the present instance, having a reduced end 2 integral therewith and a separate cap 3 for the other end. The body has formed thereon one or more cutting edges 4, shown spirally disposed in the present instance, which extend throughout the exterior surface to within a slight distance of the open end, leaving a plain surface 5 for the reception of the cap 3. Between the end 2 and the cutting edges 4, there is formed on the body, a driving element 6; in the present instance a gear is shown. The end 2 is provided with an inwardly turned annular flange 7 which forms a bearing for one end of the body of the cutter when mounted for use.

The cap 3 has a peripheral rim 8 which is adapted to snugly engage the plain surface 5 of the hollow body 1, and an inwardly turned annular flange 9 which forms a bearing for that end of the body.

Several stages of development through which the disk 10 is passed to complete the cutter body are shown in Figs. 1 to 11 inclusive, which operations are accomplished by suitable developing means such as drawing, rolling, stamping and punching devices of any well known or approved type.

The first stage of development is shown in Figs. 1 to 4 inclusive, in which the disk 10 is brought to a hollow body. The second stage of development is shown in Figs. 5 to 7 inclusive, in which the driving element is formed on the reduced end of the hollow body.

The third stage of development is shown in Figs. 8 and 9, in which the hole is punched in the reduced end and the walls turned inwardly to form the bearing at that end. The fourth stage of development is shown in Figs. 10 and 11, in which the cutting edges are formed on the body by a distortion of the walls of the body.

The cap 3 may be produced by a suitable punching and forming device of any well known or approved type.

The rim 8 of the cap is made to fit frictionally tight on the plain surface 5 and thereby obviate any further means of fastening between the cap and body.

It is to be understood that after the above operations are completed, the parts may be suitably hardened by any well known or approved method and if desired, suitably sharpened.

It is also to be understood that where the term "gear" is used in the specification and claims, I intend to cover any equivalent element.

What I claim is:

1. A cutter for pencil sharpeners comprising a tube having its side walls distorted to form one or more exterior pencil sharpening ribs of greater length than width, each rib being imperforate along its outer edge.

2. A cutter for pencil sharpeners comprising a tube having a gear and a shaft bearing at one end thereof and a second shaft bearing at the opposite end, the side walls of the tube being distorted to form one or more pencil sharpening ribs of greater length than width.

3. A cutter for pencil sharpeners comprising a tube having its side walls distorted but unbroken to form one or more exterior pencil sharpening ribs of greater length than width.

4. A cutter for pencil sharpeners comprising a tube having its side walls distorted but unbroken to form one or more continuous exterior pencil sharpening ribs of greater length than width.

5. A cutter for pencil sharpeners comprising a tube having its side walls distorted but unbroken to form one or more spiral exterior pencil sharpening ribs of greater length than width.

6. A cutter for pencil sharpeners comprising a tube having its side walls distorted but unbroken to form one or more continuous spiral exterior pencil sharpening ribs of greater length than width.

7. A cutter for pencil sharpeners comprising a tube having one end developed into a gear, the side walls of the tube being distorted to form one or more exterior pencil sharpening ribs of greater length than width.

8. A cutter for pencil sharpeners comprising a tube having one end developed into a driving element, the side walls of the tube being distorted but unbroken to form one or more exterior pencil sharpening ribs of greater length than width.

9. A cutter for pencil sharpeners comprising a tube having one end developed into a shaft bearing, the side walls of the tube being distorted to form one or more exterior pencil sharpening ribs of greater length than width and a member fitted to the other end of the tube developed into a second shaft bearing.

10. A cutter for pencil sharpeners comprising a tube having one end developed into a shaft bearing, the side walls of the tube being distorted but unbroken to form one or more exterior pencil sharpening ribs of greater length than width, and a member fitted to the other end of the tube developed into a second shaft bearing.

11. A cutter for pencil sharpeners comprising a tube having one end developed into a driving element and a shaft bearing, the side walls of the tube being distorted to form one or more exterior pencil sharpening ribs of greater length than width, and a member fitted to the other end of the tube developed into a second shaft bearing.

12. A cutter for pencil sharpeners comprising a tube having one end developed into a driving element and a shaft bearing, the side walls of the tube being distorted but unbroken to form one or more exterior pencil sharpening ribs of greater length than width and a member fitted to the other end of the tube developed into a second shaft bearing.

In testimony, that I claim the foregoing as my invention, I have signed my name this 4th day of August 1917.

ALLEN P. WILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."