

A. P. WILSON.  
 METHOD OF PRODUCING CUTTERS FOR PENCIL SHARPENERS.  
 APPLICATION FILED JULY 2, 1918.

1,301,774.

Patented Apr. 22, 1919.

Fig. 1.

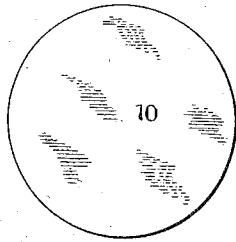


Fig. 2.

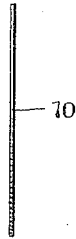


Fig. 3.

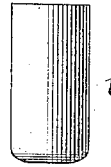


Fig. 4.

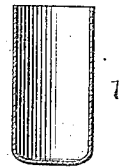


Fig. 5.

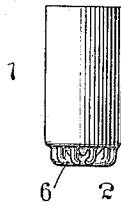


Fig. 7.

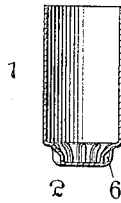


Fig. 8.

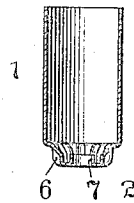


Fig. 6.



Fig. 10.

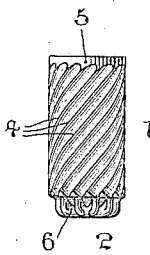


Fig. 9.

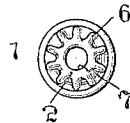


Fig. 12.

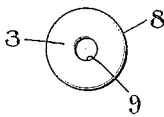


Fig. 11.

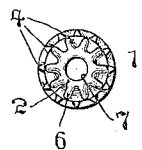


Fig. 14.

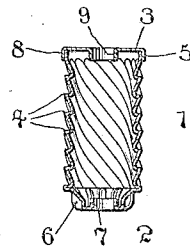
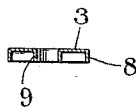


Fig. 13.



Inventor:

Allen P. Wilson  
 by attorneys  
 Brown & Swan

# UNITED STATES PATENT OFFICE.

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

## METHOD OF PRODUCING CUTTERS FOR PENCIL-SHARPENERS.

1,301,774.

Specification of Letters Patent.

Patented Apr. 22, 1919.

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1918. Serial No. 243,073.

*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 Methods of Producing Cutters for Pencil-Sharpener, of which the following is a specification.

This invention relates to the method of producing cutters for pencil sharpeners, one object being to produce a hollow cutter which is developed from sheet metal.

Another object is to produce a cutter which will have its side walls distorted to form one or more exterior pencil sharpening ribs.

Another object is to produce a cutter which will have one of its ends developed into a driving element and a bearing for a shaft and which will have a member at the other end developed into a second bearing for the shaft.

In the accompanying drawings,

Figure 1 represents a plan view of the disk of sheet metal from which my cutter may be developed.

Fig. 2 represents an edge view of the same.

Fig. 3 represents a side view of one stage of the 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 at one end of the tube.

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 to form one shaft bearing.

Fig. 9 represents an end view of the same.

Fig. 10 represents a side view of the body of the cutter with the side walls distorted to form a plurality of spiral exterior pencil sharpening ribs.

Fig. 11 represents an end view of the same.

Fig. 12 represents a plan view of the cap developed into the other shaft bearing.

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 tubular 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 its side walls distorted to form one or more exterior pencil sharpening ribs 4, shown in the present instance spirally disposed and as extending throughout the length of the body to within a slight distance of the open end, leaving a plain surface 5 for the reception of the cap member 3. Between the end 2 and the sharpening ribs 4, the body is developed into a driving element 6; in the present instance a gear is shown. The end 2 is developed into an inwardly turned annular flange 7 which forms a shaft bearing for one end of the cutter when mounted for use.

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

If the cutter is developed from the disk 10, the method of producing the cutter is as follows:

The 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 developed into a tubular body. The second stage of development is shown in Figs. 5 to 7 inclusive, in which one end of the tube is developed into the gear 6. 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 shaft bearing at that end of the cutter. The fourth stage of development is

shown in Figs. 10 and 11, in which the side walls of the tubular body are distorted to form the pencil sharpening ribs.

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

The rim 8 of the cap is preferably made to fit frictionally tight on the plane surface 5 of the tubular body and thereby obviate any further means of fastening between the cap member and the tubular 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, the pencil sharpening ribs may be 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. The method of producing cutters for pencil sharpeners comprising distorting the side walls of a tube to form one or more exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs.

2. The method of producing cutters for pencil sharpeners comprising distorting the side walls of a tube to form one or more continuous exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs.

3. The method of producing cutters for pencil sharpeners comprising distorting the side walls of a tube to form one or more spiral exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs.

4. The method of producing cutters for pencil sharpeners comprising distorting the side walls of a tube to form one or more continuous spiral exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs.

5. The method of producing cutters for pencil sharpeners comprising developing a tube at one end into a gear and distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width.

6. The method of producing cutters for pencil sharpeners comprising developing a tube at one end into a shaft bearing, distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs, developing a member into a second shaft bearing and applying it to the other end of the tube.

7. The method of producing cutters for pencil sharpeners comprising developing a tube at one end into a gear and a shaft bear-

ing, distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width, developing a member into a second shaft bearing and applying it to the other end of the tube.

8. The method of producing cutters for pencil sharpeners comprising distorting the side walls of a tube to form one or more exterior ribs of greater length than width without perforating the outer edges of the ribs and sharpening said ribs.

9. The method of producing cutters for pencil sharpeners comprising developing a tube at one end into a gear, distorting the side walls of the tube to form one or more exterior ribs of greater length than width and sharpening said ribs.

10. The method of producing cutters for pencil sharpeners comprising developing a tube at one end into a driving element and a shaft bearing, distorting the side walls of the tube to form one or more exterior ribs of greater length than width, developing a member into a second shaft bearing and applying it to the other end of the tube and sharpening said ribs.

11. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube and distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs.

12. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube, and distorting the side walls of the tube to form one or more exterior ribs of greater length than width without perforating the outer edges of the ribs and sharpening said ribs.

13. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube having a gear formed at one end and distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width.

14. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube having a gear formed at one end, distorting the side walls of the tube to form one or more exterior ribs of greater length than width and sharpening said ribs.

15. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube having a shaft bearing formed at one end, distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width, developing a member into a second shaft bearing and applying it to the other end of the tube.

16. The method of producing cutters for pencil sharpeners comprising developing a sheet metal blank into a tube having a gear and a shaft bearing formed at one end, distorting the side walls of the tube to form one or more exterior pencil sharpening ribs of greater length than width without perforating the outer edges of the ribs, developing a member into a second shaft bearing and applying it to the other end of the tube. 10

In testimony, that I claim the foregoing as my invention, I have signed my name this 28th day of June, 1918.

ALLEN P. WILSON.

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