Oct. 9, 1923. 1,470,416

A. P. WILSON

CUTTER FOR PENCIL SHARPENERS

Filed June 17, 1920 2 Sheets-Sheet 1

Fig. 1.

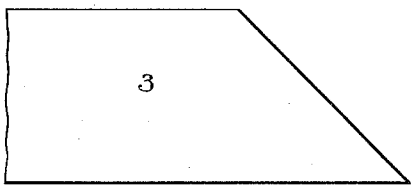


Fig. 2.

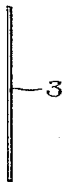


Fig. 3.

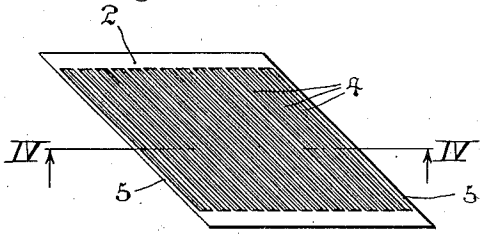


Fig. 5.

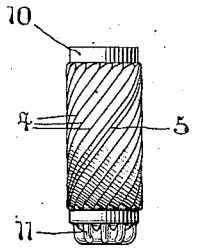


Fig. 4.

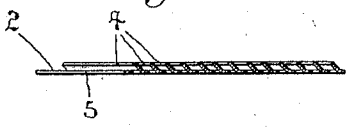


Fig. 6.

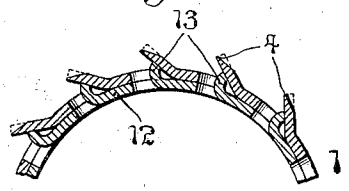


Fig. 7.

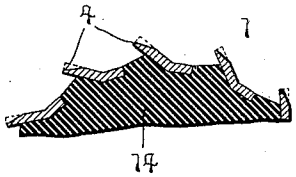


Fig. 8.

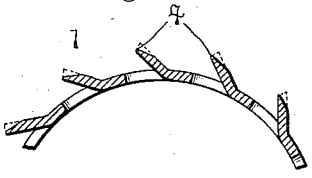
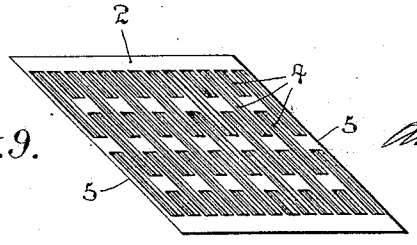


Fig. 9.



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A. P. WILSON

CUTTER FOR PENCIL SHARPENERS

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Fig. 10.

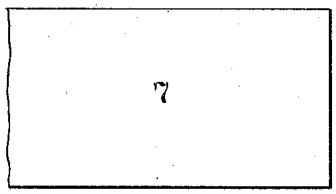


Fig. 11.

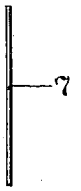


Fig. 12.

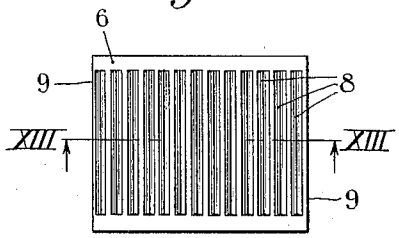


Fig. 14.

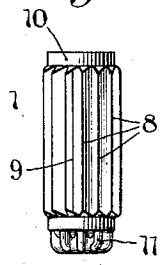


Fig. 13.

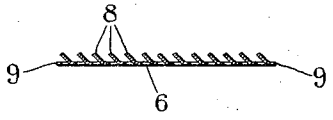


Fig. 15.

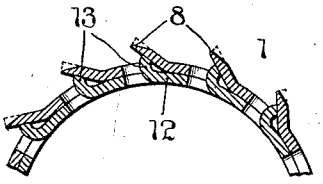


Fig. 16.

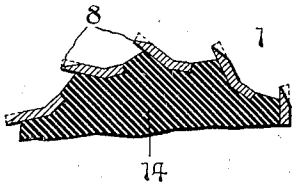


Fig. 17.

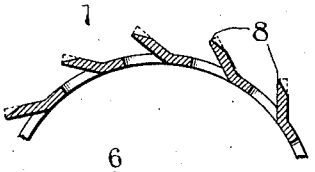
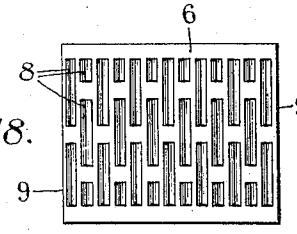


Fig. 18.



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Brown & Lewis

Patented Oct. 9, 1923. 1,470,416

UNITED STATES PATENT OFFICE.

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

CUTTER FOR PENCIL SHARPENERS.

Application filed June 17, 1920. Serial No. 389,648.

To all whom it may concern:

Be it known that I, ALLEN P. WILSON, a citizen of the United States, and resident of Waltham, 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 in which a sheet metal blank is struck up to produce one or more pencil sharpening blades and the blank then being curved and its side edges united to form a tube having the sharpening blade or blades arranged exteriorly thereon.

Practical embodiments of my invention are represented in the accompanying drawings in which,

Fig. 1 represents a plan view of a piece of sheet metal from which a blank for one form of my improved cutter is taken.

Fig. 2 represents an edge view of the same.

Fig. 3 represents a plan view of the blank struck up to produce the pencil sharpening blades thereon.

Fig. 4 represents a vertical section taken in the plane of the line IV—IV of Fig. 3.

Fig. 5 represents a side view of the cutter, the pencil sharpening blades being shown arranged spirally and exteriorly thereon, said cutter having the driving and bearing elements applied thereto.

Fig. 6 represents an enlarged detail section of the cutter showing a means of reinforcing the cutter blades.

Fig. 7 represents a similar view showing another means of reinforcing the cutter blades.

Fig. 8 represents a similar view of the cutter without any reinforcement.

Fig. 9 represents a view similar to Fig. 3 showing interrupted blades.

Fig. 10 represents a plan view of a piece of sheet metal from which a blank for a modified form of cutter is taken.

Fig. 11 represents an edge view of the same.

Fig. 12 represents a plan view of the blank struck up to produce the pencil sharpening blades.

Fig. 13 represents a vertical section taken in the plane of the line XIII—XIII of Fig. 12.

Fig. 14 represents a side view of the cutter, the pencil sharpening blades being shown arranged straight and exteriorly thereon and having the driving and bearing elements applied thereto.

Fig. 15 represents an enlarged detail section showing a means of reinforcing the cutter and blades.

Fig. 16 represents a similar view showing another means of reinforcing the cutter blades.

Fig. 17 represents a similar view of the cutter without any reinforcement.

Fig. 18 represents a view similar to Fig. 12 showing interrupted blades.

In the embodiment shown in Figs. 1 to 9 inclusive, the rotatable cutter comprises a tube 1 shown cylindrical in the present instance, which tube is produced as follows:—

A blank 2 of rhomboidal form is cut from a piece of sheet metal 3 and it is struck up by stamping, rolling or otherwise to produce pencil sharpening blades 4, either continuous or interrupted, which project outwardly from the surface of the blank.

These sharpening blades are formed parallel to the diagonal side edges 5 so that when the blank is curved into its tubular form, the sharpening blades will be arranged spirally and exteriorly thereon, with the abutting side edges of the blank meeting at a point between two sharpening blades. These side edges may be permanently united by any well known or approved means.

In the embodiment represented in Figs. 10 to 18 inclusive the blank 6 is of rectangular form and is cut from a piece of sheet metal 7 and is struck by stamping, rolling or otherwise to produce pencil sharpening blades 8, either continuous or interrupted, which project outwardly from the surface of the blank. These sharpening blades are formed parallel to the side edges 9 so that when the blank is curved into its tubular form the straight exterior sharpening blades will be arranged longitudinally

thereon, with the abutting side edges of the blank meeting at a point between two sharpening blades. These side edges may be permanently united by any well known or approved means.

In both of the embodiments herein shown and described, one end of the cutter may be provided with an element 10 forming a shaft bearing and the other end of the cutter may be provided with an element, in the present instance a gear 11, forming both a shaft bearing and a driving element.

If so desired, the cutter blades may be suitably reinforced. In the form shown in Figs. 6 and 15, the reinforcement is a tube 12 snugly fitted within the cutter and provided with outwardly turned ribs 13 corresponding in number to the number of the pencil sharpening blades, which ribs project outwardly along the under sides of said blades.

Another form of reinforcing means is disclosed in Figs. 7 and 16 in which the reinforcement is a suitable composition 14, such for instance, as hard rubber or wax composition.

It is to be understood that the curving of the blank into its tubular form may be accomplished by any suitable devices of a well known or approved type.

It is also to be understood that after the tube has been completed it may be hardened by any well known or approved process and if so desired, the exterior sharpening blades may be suitably sharpened.

What I claim is:

1. A rotatable cutter for pencil sharpeners comprising a sheet metal tube provided with a driving element, said tube having one or more exterior pencil sharpening blades struck up therefrom, and means engaging the undersides of said blades for reinforcing them.

2. A rotatable cutter for pencil sharpeners comprising a sheet metal tube provided with a driving element, said tube having one or more exterior pencil sharpening blades struck up therefrom, and means within the tube projecting outwardly along the undersides of said blades for reinforcing them.

3. A rotatable cutter for pencil sharpeners comprising a sheet metal tube having one or more exterior pencil sharpening blades struck up therefrom, and reinforcing means engaging the underside of said blade or blades.

4. A rotatable cutter for pencil sharpeners comprising a sheet metal tube having one or more exterior pencil sharpening blades struck up therefrom, and reinforcing means within the tube projecting outwardly along the underside of said blade or blades.

In testimony, that I claim the foregoing as my invention, I have signed my name this fifth day of June, 1920.

ALLEN P. WILSON.