

(No Model.)

H. J. MILLER,
PENCIL SHARPENER.

No. 460,753.

Patented Oct. 6, 1891.

Fig. 1.

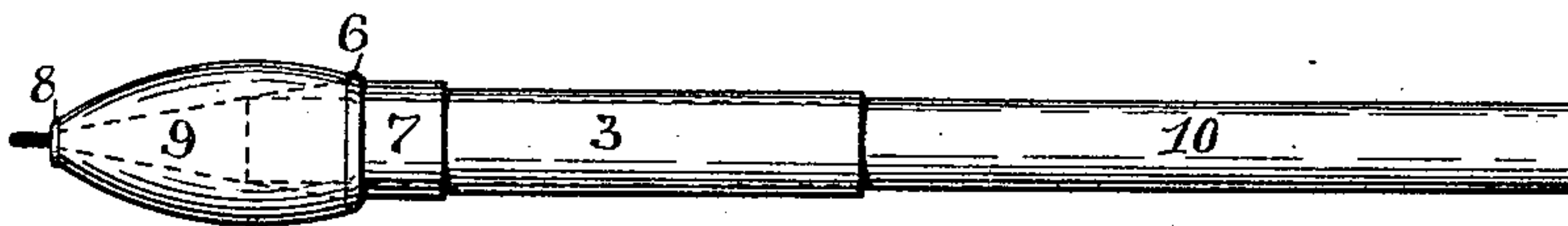
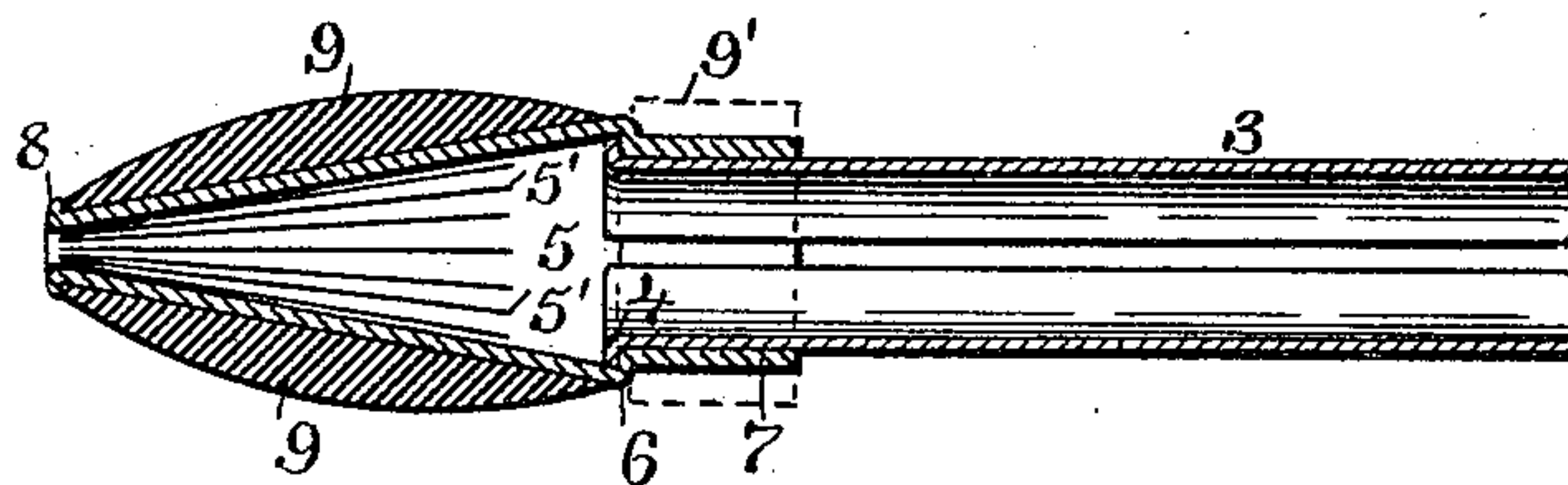


Fig. 2.



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HENRY J. MILLER, OF PROVIDENCE, RHODE ISLAND.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 460,753, dated October 6, 1891.

Application filed March 25, 1891. Serial No. 386,306. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. MILLER, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Pencil-Sharpeners; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to a new and useful improvement in pencil-sharpeners, whereby the pencil may be sharpened and used without removal from the sharpening device.

The object of this invention is to produce a new and improved pencil-sharpener adapted to be carried on the pencil to protect the point of the same from breakage, and which will take the place of the ordinary eraser.

To attain these ends my invention consists in certain peculiar features of construction and combination of parts, which will be more fully set forth hereinafter, and pointed out in the claims.

Figure 1 is a view of my improved pencil-sharpener with a pencil inserted in the same. Fig. 2 is a longitudinal section of the pencil-sharpener, showing the construction.

Similar numbers of reference designate corresponding parts throughout.

In the drawings, 3 is a spring-sleeve, which grasps the pencil. In the drawings this sleeve is shown with a longitudinal slit, which may be omitted or which may extend for only a portion of the length of the tube. At the inner end the sleeve 3 is provided with a turned-up lip 4.

The conical cutter 5 may be formed of sheet metal or may be cast in the shape shown. It is provided on its inner surface with longitudinally-extending cutting or filing blades 5', and has the base of the cone contracted somewhat to form the shoulder 6, and is then extended to form the collar 7, which bears on the surface of the spring-sleeve 3. At the tip of the conical cutter 5 the metal is turned outward slightly to form a lip 8. The friction-sleeve 9 is made of erasive rubber and

is cast in the shape shown, its interior being slightly smaller and of the same shape as the outer surface of the conical cutter 5, over which it is stretched and to which it is secured by a suitable cement.

The egg-shaped friction-sleeve 9 may be omitted, if desired, and in place thereof a section of rubber tubing 9' may be secured around the collar 7, as is shown in dotted lines in Fig. 2; this piece of tubing also acting as a friction-sleeve.

The operation of the improved cutter is as follows: A pencil 10 is inserted through the sleeve 3, by which it is grasped and is pushed into the conical cutter 5. The sleeve 3 and the protruding end of the pencil 10 are grasped in the hand and the friction-sleeve 9 is moved forward and backward over the top of a desk, or over any comparatively-smooth surface, the friction from the sleeve 9 on that surface causing the sleeve to turn and imparting a rotating movement to the conical cutter 5, which cuts or files away the wooden portion of the pencil, producing a point on the same. The cutting away of the pencil may be continued until the lead extends through the opening in the apex of the conical cutter, and in fact the pencil need not be removed from the cutting device until it is entirely used up. If desired, however, the sharpener may be removed after the operation of sharpening the pencil and may be placed on the other end of the pencil.

The rubber forming the friction-sleeve may be used to erase errors in the writing, as that portion of the sleeve near the apex or end of the cutter does not come in contact with the surface over which the sharpener is moved and is not soiled by such contact.

The collar 7 may be elongated, if desired, and may be split to give sufficient spring to hold the sharpener onto the pencil. In this case the sleeve 3 is dispensed with.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pencil-sharpener adapted to be carried on the sharpened end of the pencil, having a rotatory cutter and a friction device by which

the cutter may be rapidly rotated when such friction device is passed over a flat surface, as described.

2. In a friction-revolved pencil-sharpener, 5 the combination, with a conical cutter inclosing a blade or blades, of a sleeve 3, adapted to hold the pencil rigidly, as described.

3. In a pencil-sharpener, the combination, 10 with the conical cutter 5, having the file-blades 5' and provided with the shoulder 6 and collar 7, of the sleeve 3, adapted to hold a pencil having the lip 4, and means for frictionally revolving the cutter 5 around the pencil.

15 4. In a pencil-sharpener, the rotatory conical cutter 5, surrounded by the friction-sleeve

9 and having the shoulder 6 and collar 7, adapted to revolve on the surface of the pencil, as and for the purpose described.

5. In a pencil-sharpener, the combination, 20 with the conical rotatory cutter 5, having the shoulder 6 and collar 7, and a friction-sleeve surrounding said collar, of a sleeve or tube adapted to hold the pencil rigidly, and on which the collar 7, carrying the conical cutter, may revolve, as and for the purpose described. 25

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