

C. C. SPENGLER.
PENCIL HOLDING MEANS FOR PENCIL SHARPENERS.
APPLICATION FILED NOV. 3, 1909.

998,044.

Patented July 18, 1911.

Fig. 1.

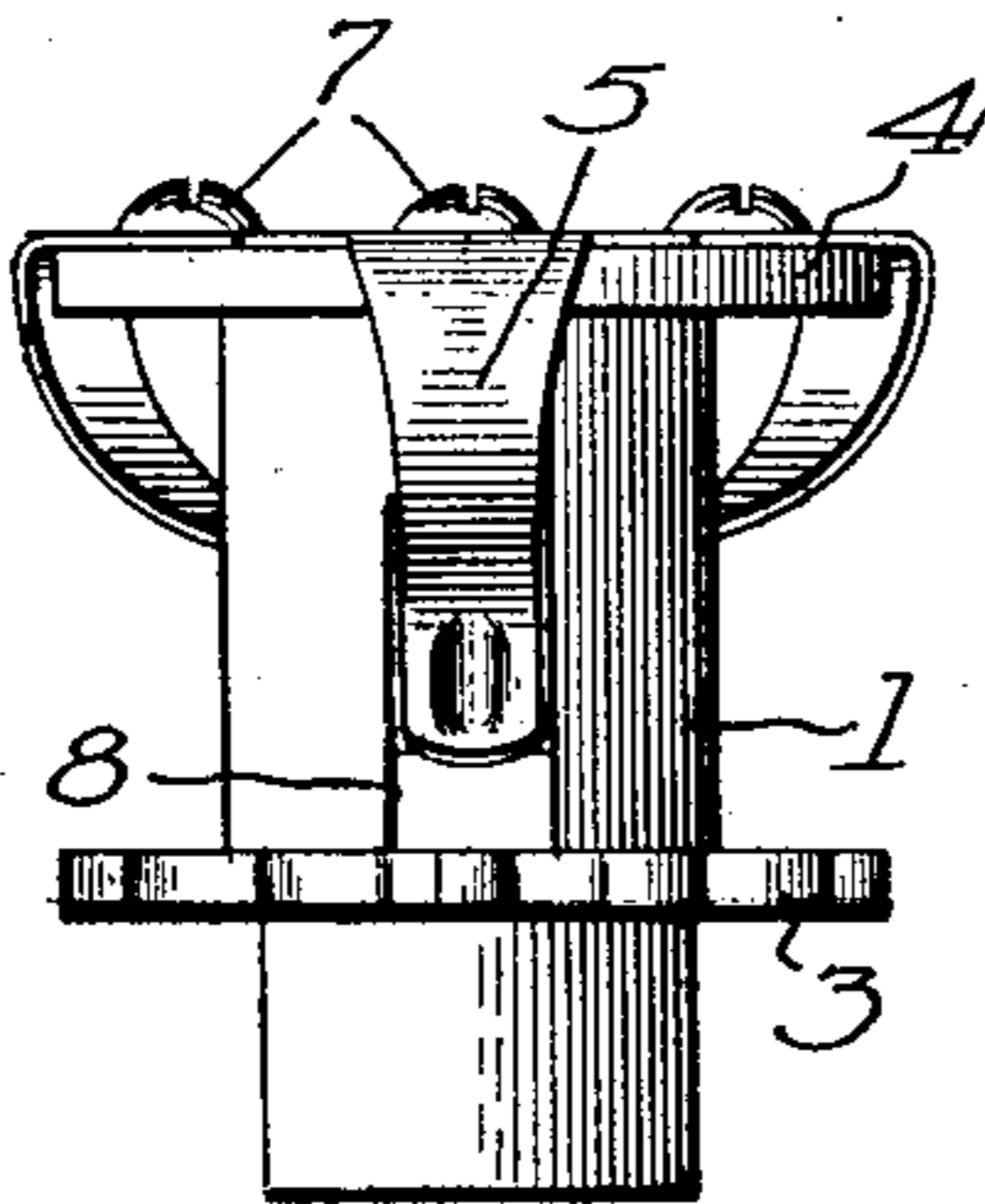


Fig. 2.

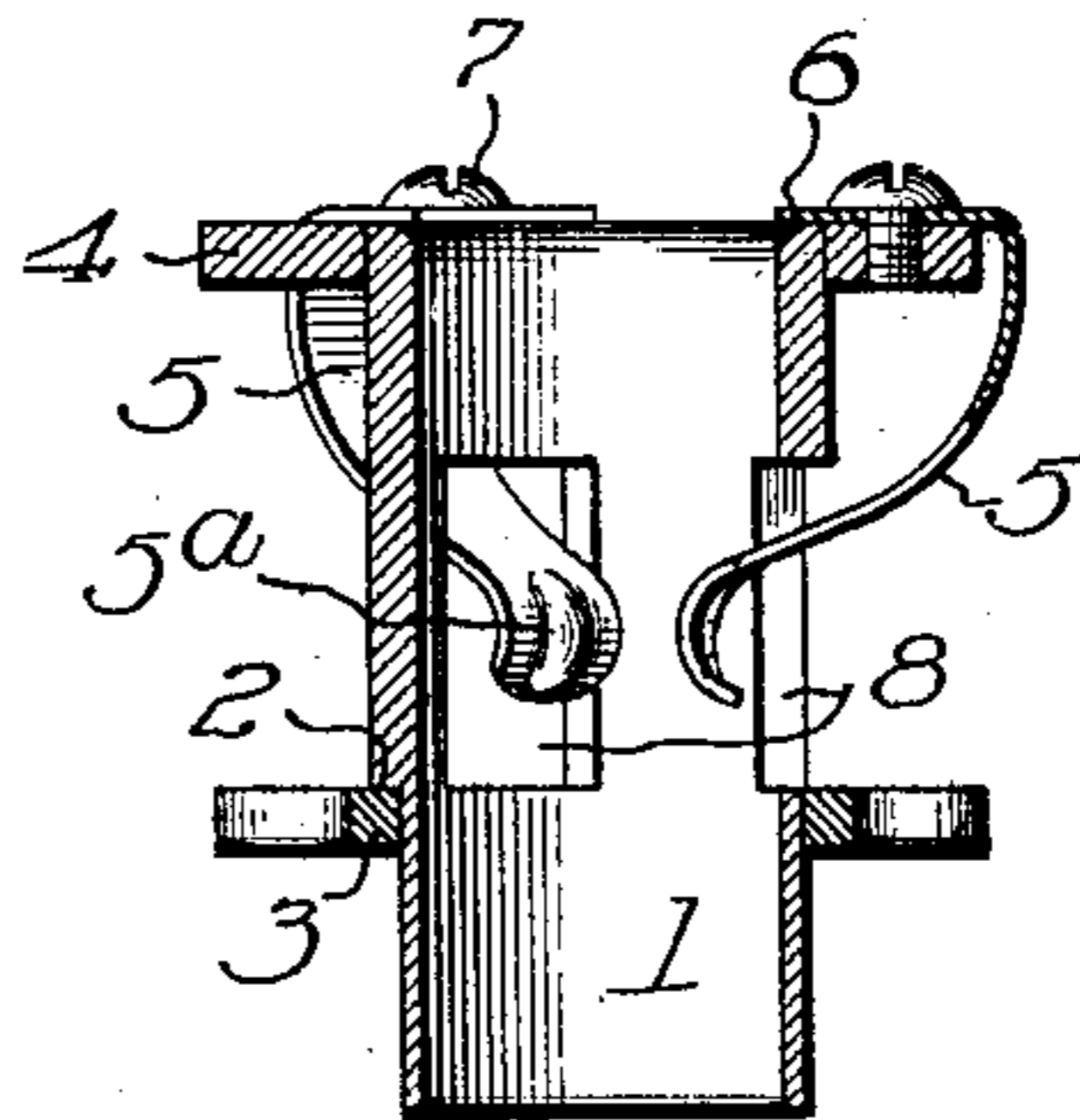


Fig. 3.

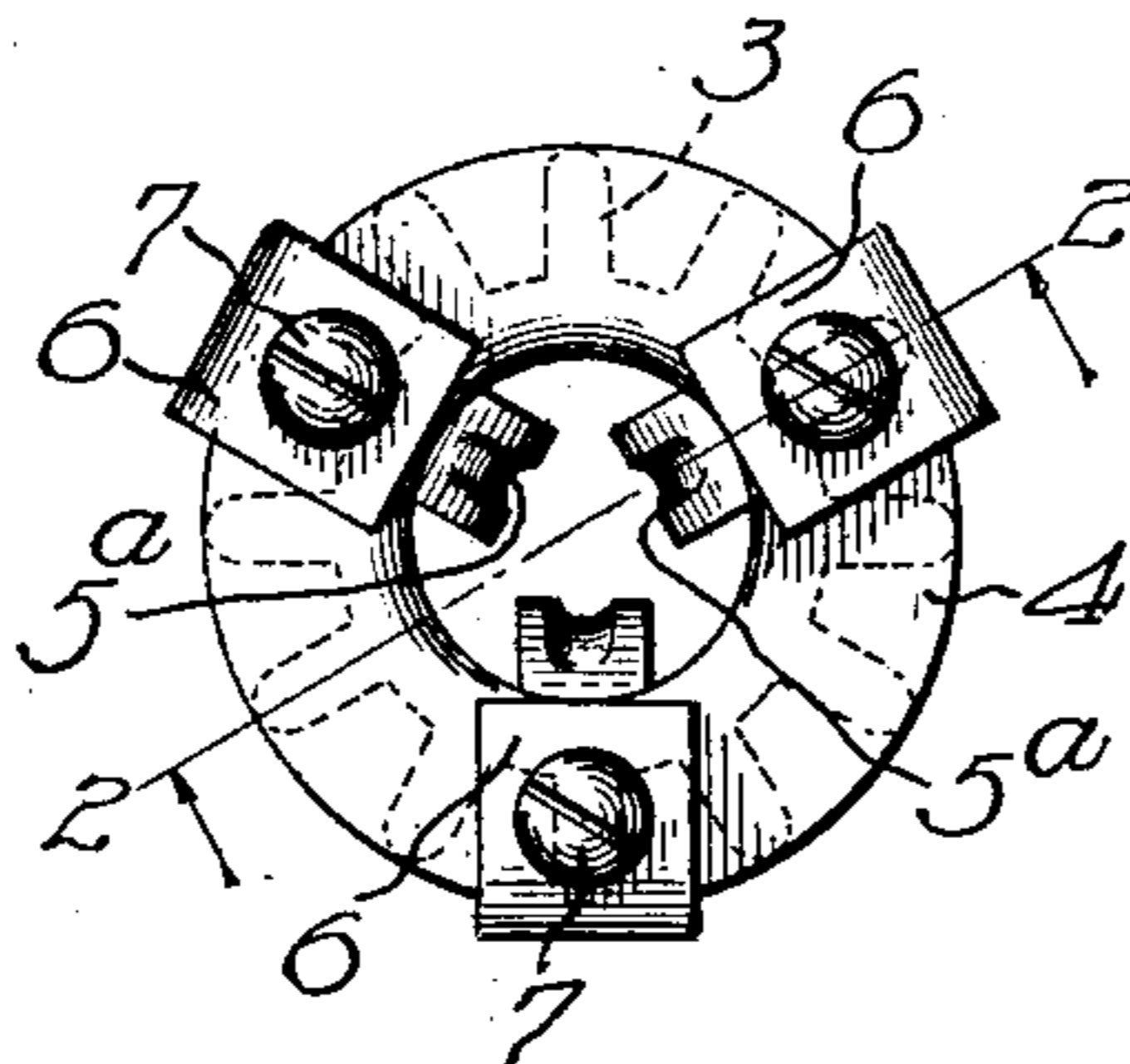


Fig. 4.

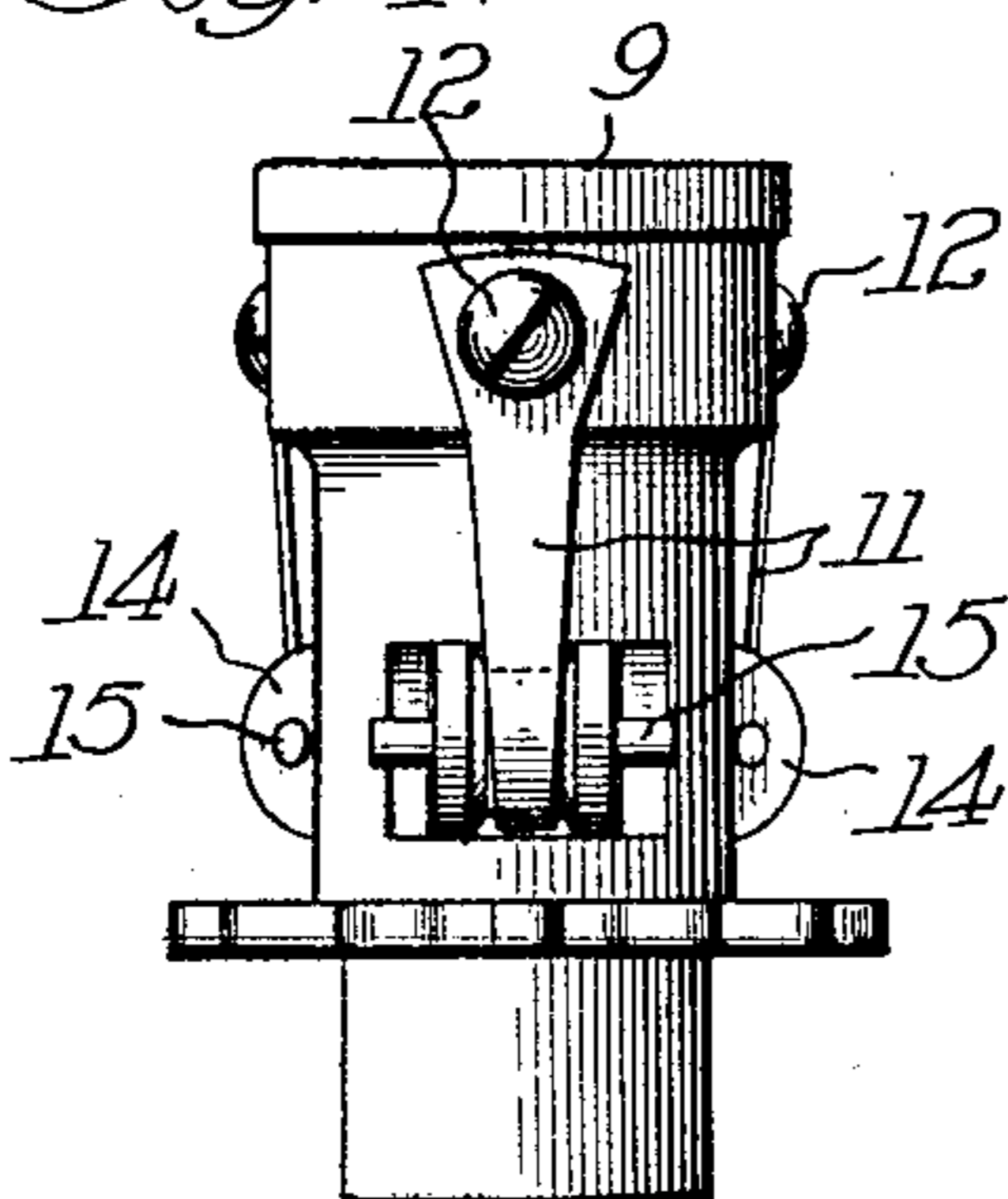


Fig. 5.

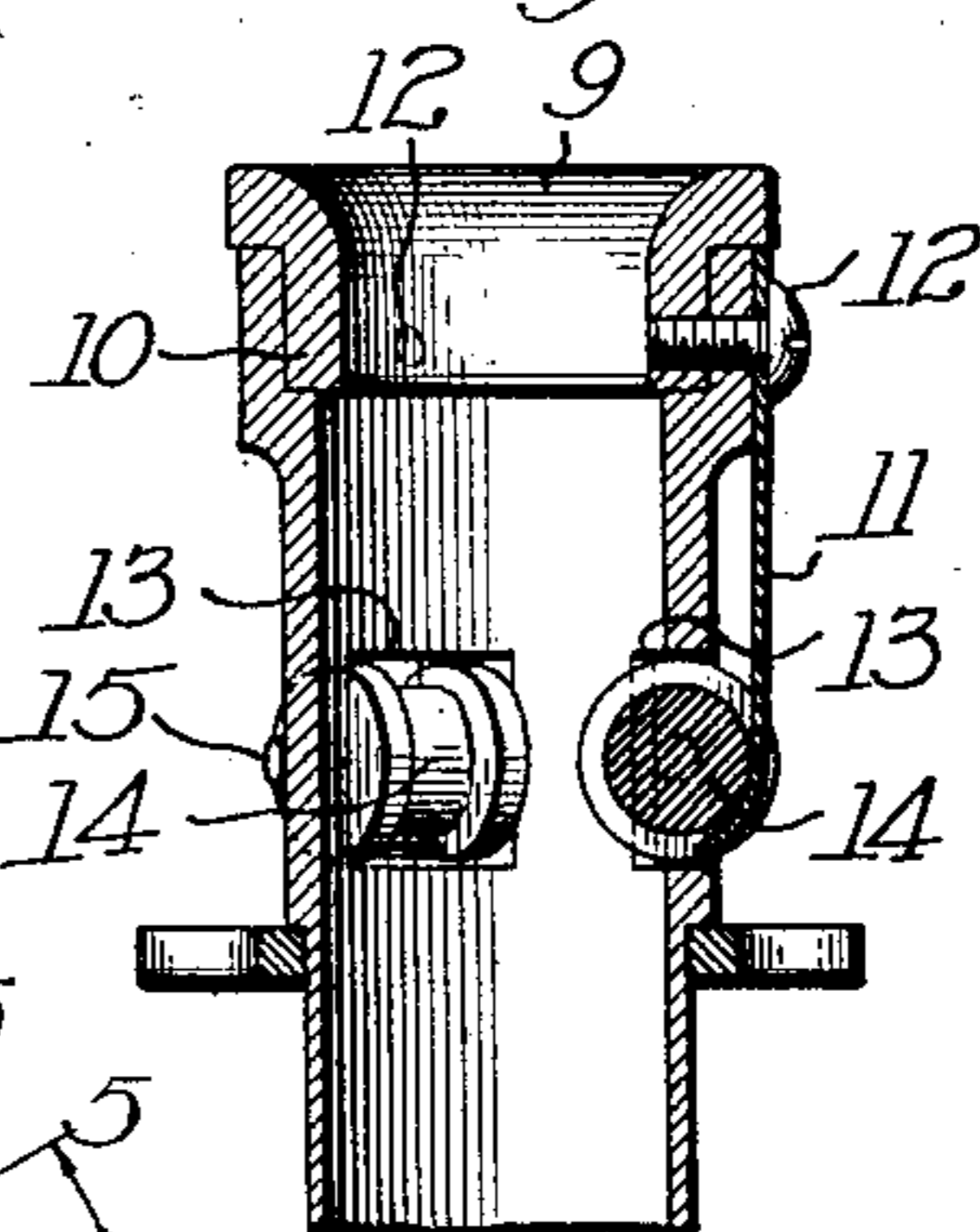
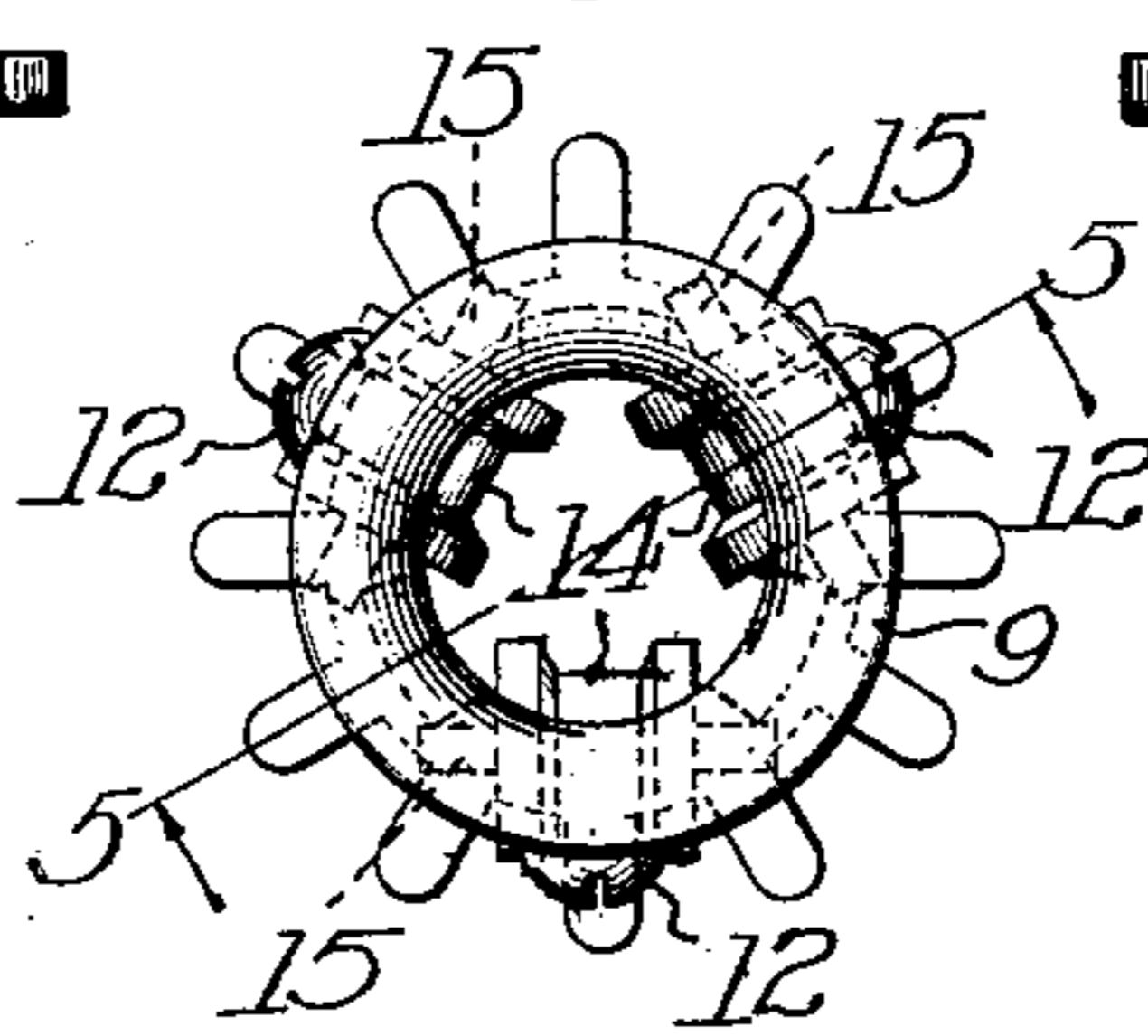


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES C. SPENGLER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO AUTOMATIC PENCIL SHARPENER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

PENCIL-HOLDING MEANS FOR PENCIL-SHARPENERS.

998,044.

Specification of Letters Patent.

Patented July 18, 1911.

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To all whom it may concern:

Be it known that I, CHARLES C. SPENGLER, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Pencil-Holding Means for Pencil-Sharpener, of which the following is a specification.

This invention relates to pencil sharpeners of the general type shown in Letters Patent Nos. 868,028 and 889,056, issued to me October 15, 1907, and May 26, 1908, respectively. The machine shown in said patents comprises a member for supporting the operating mechanisms, said member having an opening therein into which the pencil extends. In the upper end of said opening is rotatably and removably mounted a sleeve having means thereon adapted to be engaged by a moving part for intermittently rotating the sleeve, and spring fingers for frictionally holding the pencil so that it rotates with the sleeve. In the construction shown in said patents, each of the spring fingers extends laterally around the periphery of the sleeve and has an angular portion at one end which extends through a slot in the sleeve into the interior thereof, the extreme inner end of said angular portion yieldingly engaging the pencil. It has been found that these extreme ends of the spring fingers do not present a large enough surface to obtain a grip upon the pencil which is sufficient to insure the pencil being rotated regularly with the sleeve.

It is one of the objects of the present invention to produce an improved pencil-holding sleeve wherein the spring fingers have a much greater gripping surface than heretofore.

Another object of the invention is to prevent twisting or sidewise movement of the spring fingers caused by the resistance of the pencil to rotation.

In the accompanying drawings, Figure 1 is a side elevation of a sleeve embodying the features of my invention. Fig. 2 is a vertical central section through said sleeve on the line 2—2 Fig. 3. Fig. 3 is a plan view thereof. Figs. 4, 5 and 6 illustrate an alternative construction of sleeve, Fig. 4 being a side elevation; Fig. 5 a vertical central section on the line 5—5 of Fig. 6; and Fig. 6 a plan view.

In the embodiment herein shown in Figs.

1 to 3 the pencil-holder comprises a cylindrical sleeve 1, the wall of which at its lower end is reduced in thickness to form an annular shoulder 2 on the sleeve. A star wheel 3 is fitted on the lower end of the sleeve and lies against the shoulder 2. The portion of the sleeve below the star wheel 3 adapted to be rotatably seated in the upper end of the pencil-receiving opening in the body of the pencil sharpener, the star wheel extending into position to be intermittently engaged by a moving part of the machine to rotate the sleeve 1. At the upper end of the sleeve is an annular flange 4 which may be in the form of a flat ring fitted on the end of the sleeve as shown. A plurality of spring fingers 5, in this instance three in number, have angular attaching portions 6 which are secured to the upper side of the flange 4 by means of screws 7. The lower portions of said fingers are curved inwardly and extend through openings 8 formed in the wall of the sleeve between the flange 4 and the star wheel 3. The inner or lower ends of the fingers 5 may be curved as shown and may have grooves 5^a formed therein so as to provide a wider contact with the pencil. The openings 8 are only slightly wider than the lower ends of the fingers 5. The walls of said openings therefore prevent sidewise or twisting movement of said fingers with relation to the sleeve. The sidewise movement mentioned is imparted to the fingers by the supporting socket resists the rotation which the sleeve through the fingers 5 tends to give the pencil. Such twisting or sidewise movement of the spring fingers 5 is objectionable because it is apt to break the fingers 5; and also because it permits too much relative movement between the sleeve and the pencil. This relative movement allows the pencil to be irregularly rotated and therefore unevenly sharpened.

In the alternative construction illustrated in Figs. 4, 5 and 6 the bore of the sleeve is somewhat enlarged at its upper end, and an annular cap 9 is placed on said upper end, the cap 9 having a flange 10 which fits in the enlarged upper end of the sleeve. The spring fingers 11 have their upper ends secured to the sleeve by means of screws 12 extending through the wall of said sleeve and into the flange 10 on the cap 9. Po-

sitioned in the openings 13 in the sleeve are rollers 14 having trunnions 15 overlying the edges of the openings 13 at the outer surface of the sleeve, said rollers being yieldingly held in this position by the curved lower ends of the spring fingers 11. The middle portion of each roller is reduced in diameter and the lower ends of the spring fingers 11 lie in the grooves thus formed. The rollers are of sufficient diameter to extend through the wall of the sleeve into the interior thereof so that the inner sides of the rollers will engage a pencil thrust into the sleeve and yieldingly hold the pencil to rotate with the sleeve. The rollers present a sufficient surface to firmly grip the pencil. It will be seen that the twisting or sidewise movement of the fingers 11, due to the resistance of the pencil to rotation, is entirely prevented by engagement of the rollers 14 with the walls of the openings 13.

I claim as my invention:

1. A pencil holding means for pencil sharpeners comprising a sleeve adapted for rotation and having openings in its wall, and a plurality of spring fingers, each having its upper end attached to the upper end of said sleeve and having inwardly facing means at its lower end extending into one of said openings and formed with a longitudinally concaved face for frictional engagement with the pencil to prevent accidental turning movement thereof, said fingers extending downward longitudinally of said sleeve, the pencil engaging means being guided by the side walls of said openings.

2. A pencil holding means for pencil sharpeners comprising a sleeve adapted for rotation and having openings in its wall and transversely flat and longitudinally curved spring fingers secured at one end of the sleeve and extending downward longitudinally of the sleeve, the lower portions of said fingers extending through said openings and the inner faces of said lower portions being formed to frictionally engage the pencil and to prevent accidental turning movement thereof, the side edges of the lower portions of the fingers being adjacent to and guided by the side walls of said openings.

3. A pencil holding means for pencil sharpeners comprising a sleeve adapted for rotation and having openings in its wall, an annular flange at the upper end of said sleeve, and spring fingers having angular attaching portions secured to said flange, each of said fingers being transversely flat and longitudinally curved and extending downwardly in a plane parallel to the axis of the sleeve, the lower portions of said fingers protruding through said openings, and the inner faces of said lower portions being formed to frictionally engage the pencil and to prevent accidental turning movement thereof, the side edges of the lower portions of the fingers being in movable contact relation with and guided by the side walls of said openings.

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