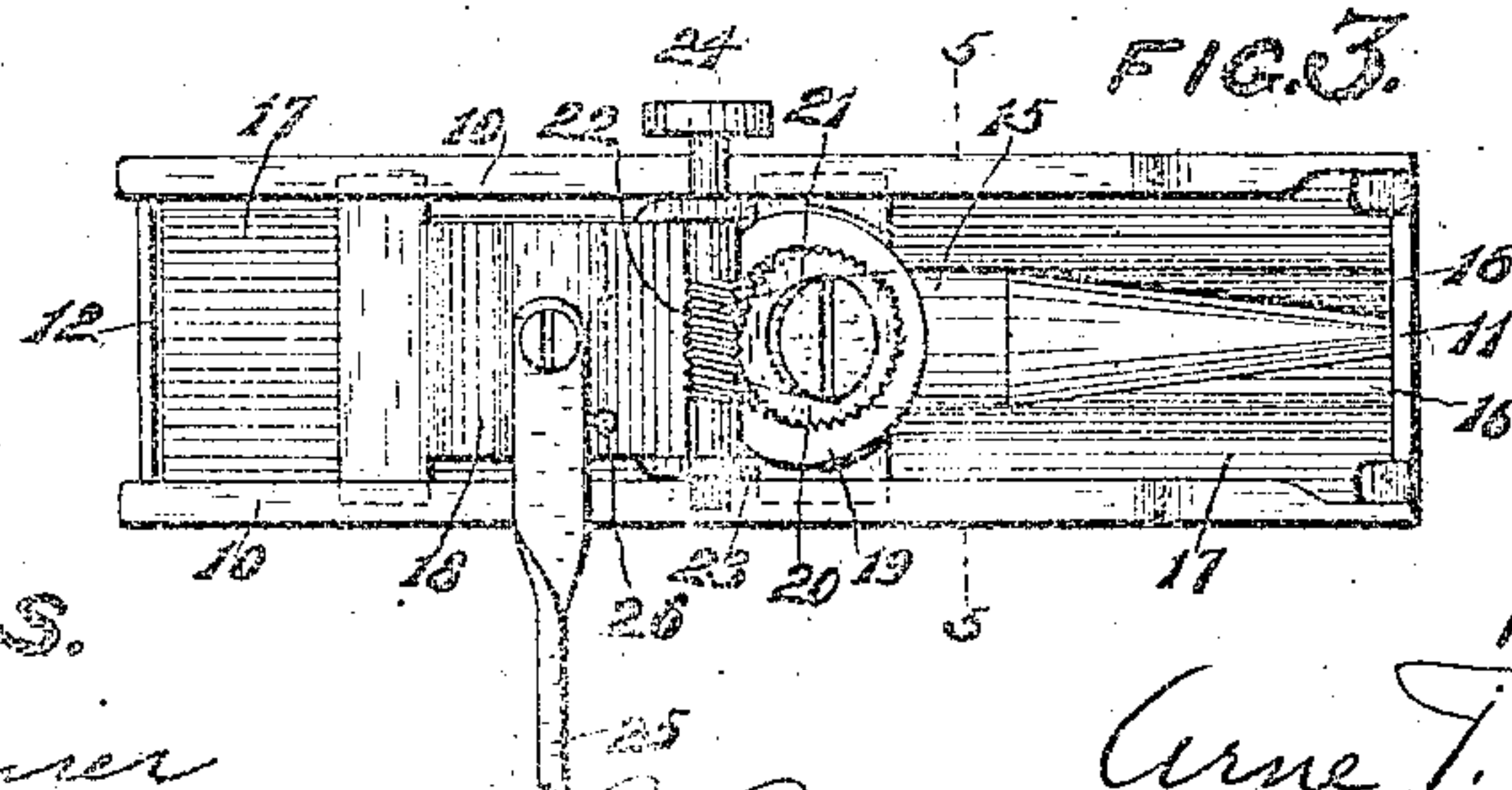
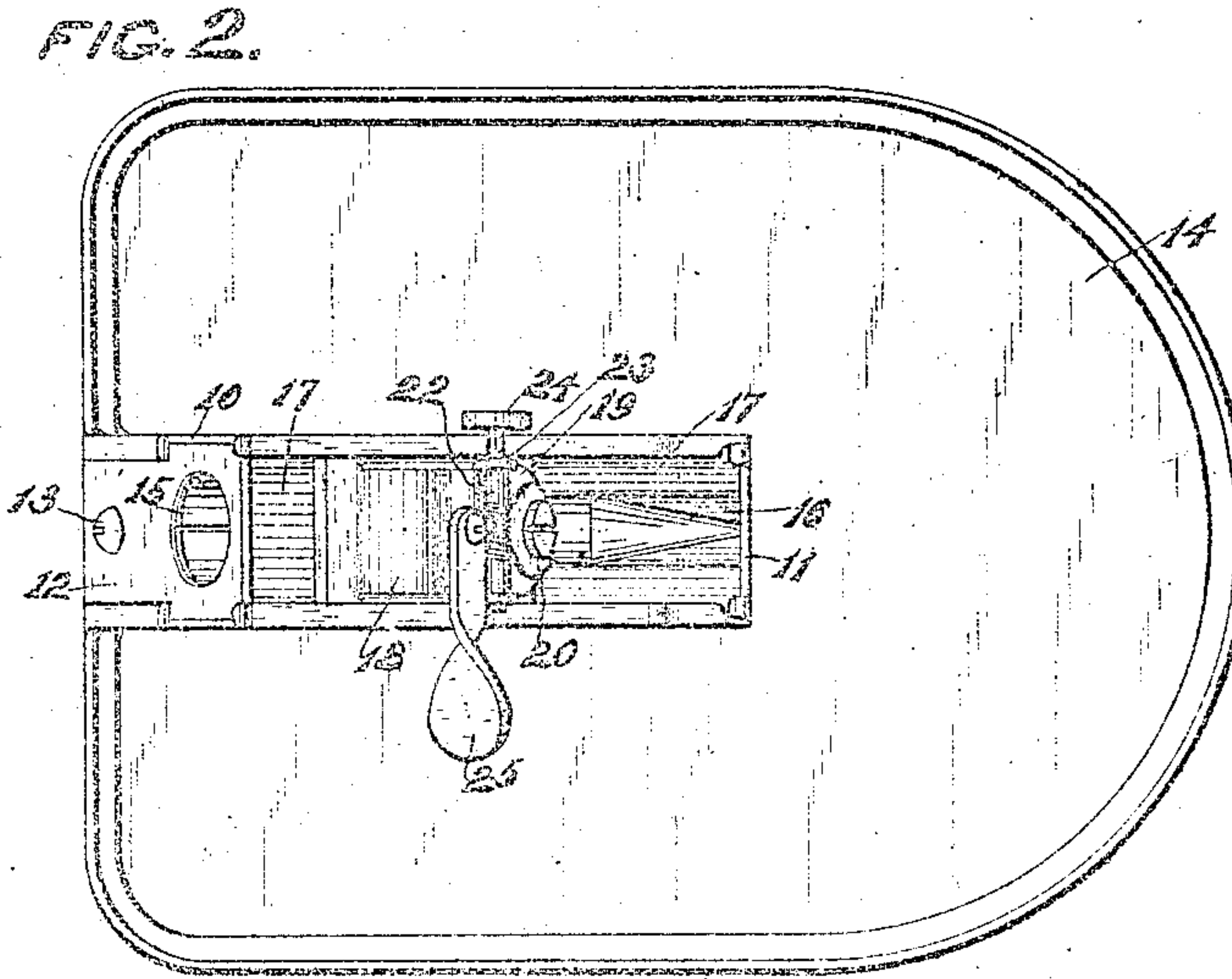
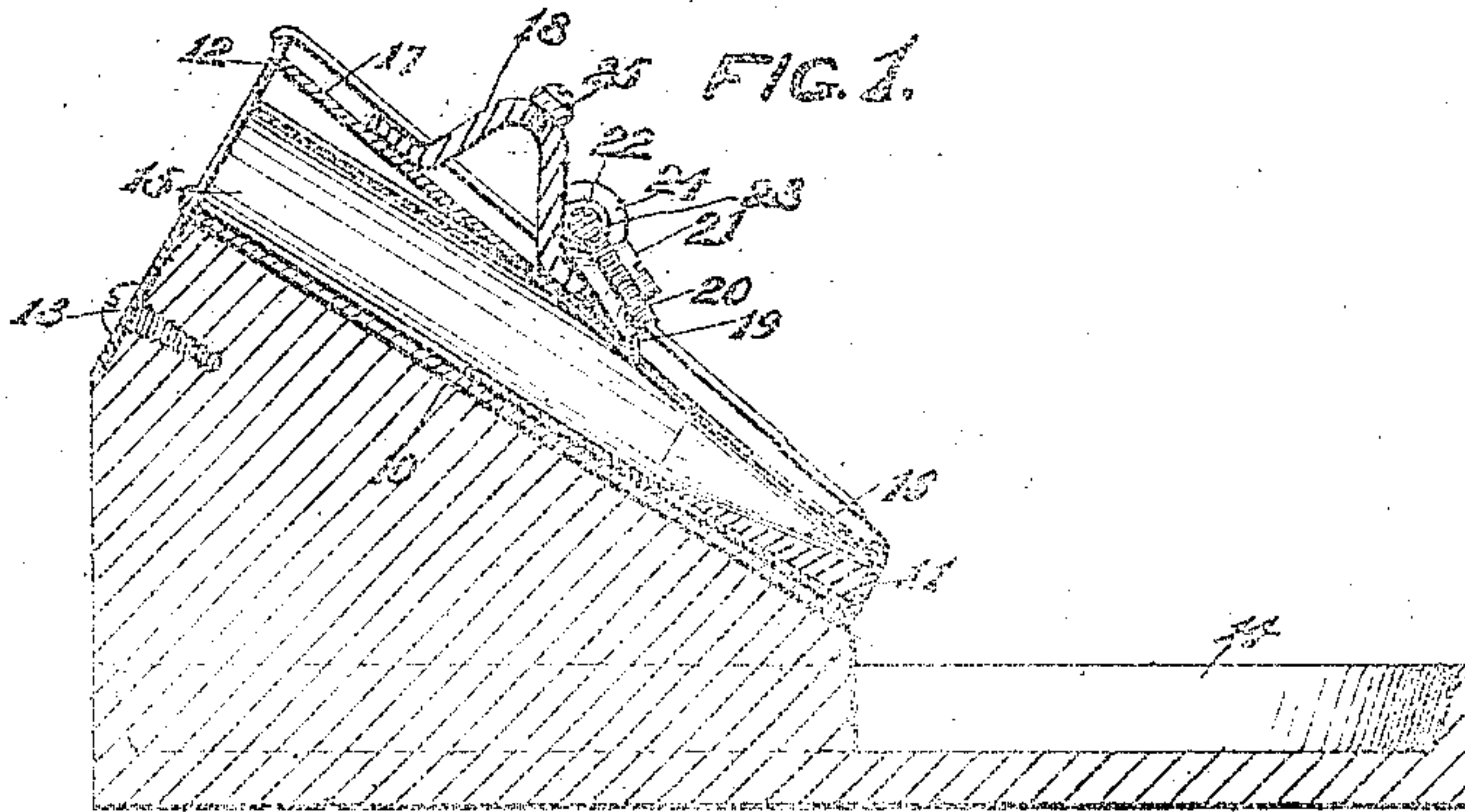


A. T. PETERSON.
PENCIL SHARPENER.
APPLICATION FILED JAN. 6, 1908.

898,502.

Patented Sept. 15, 1908.

2 SHEETS—SHEET 1.



WITNESSES.

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Asma F. Schmidtbauer

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Arne T. Peterson
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2 SHEETS—SHEET 2.

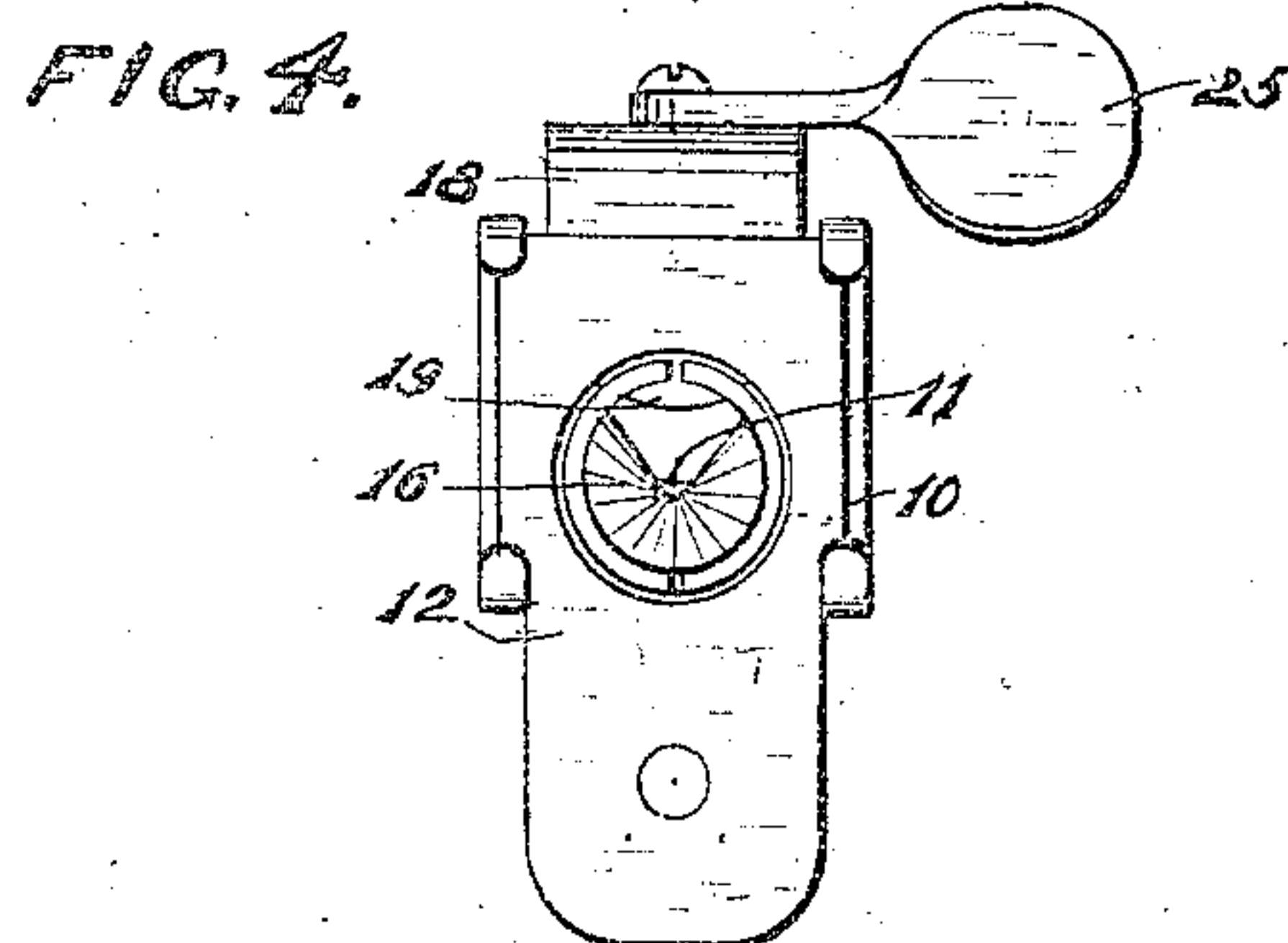


FIG. 3.

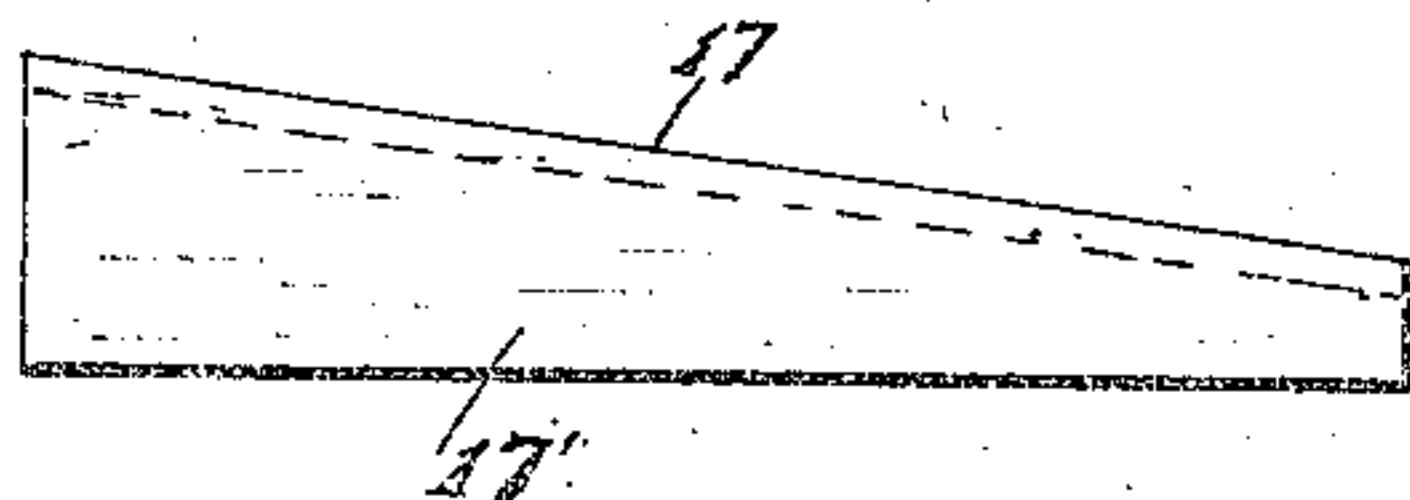
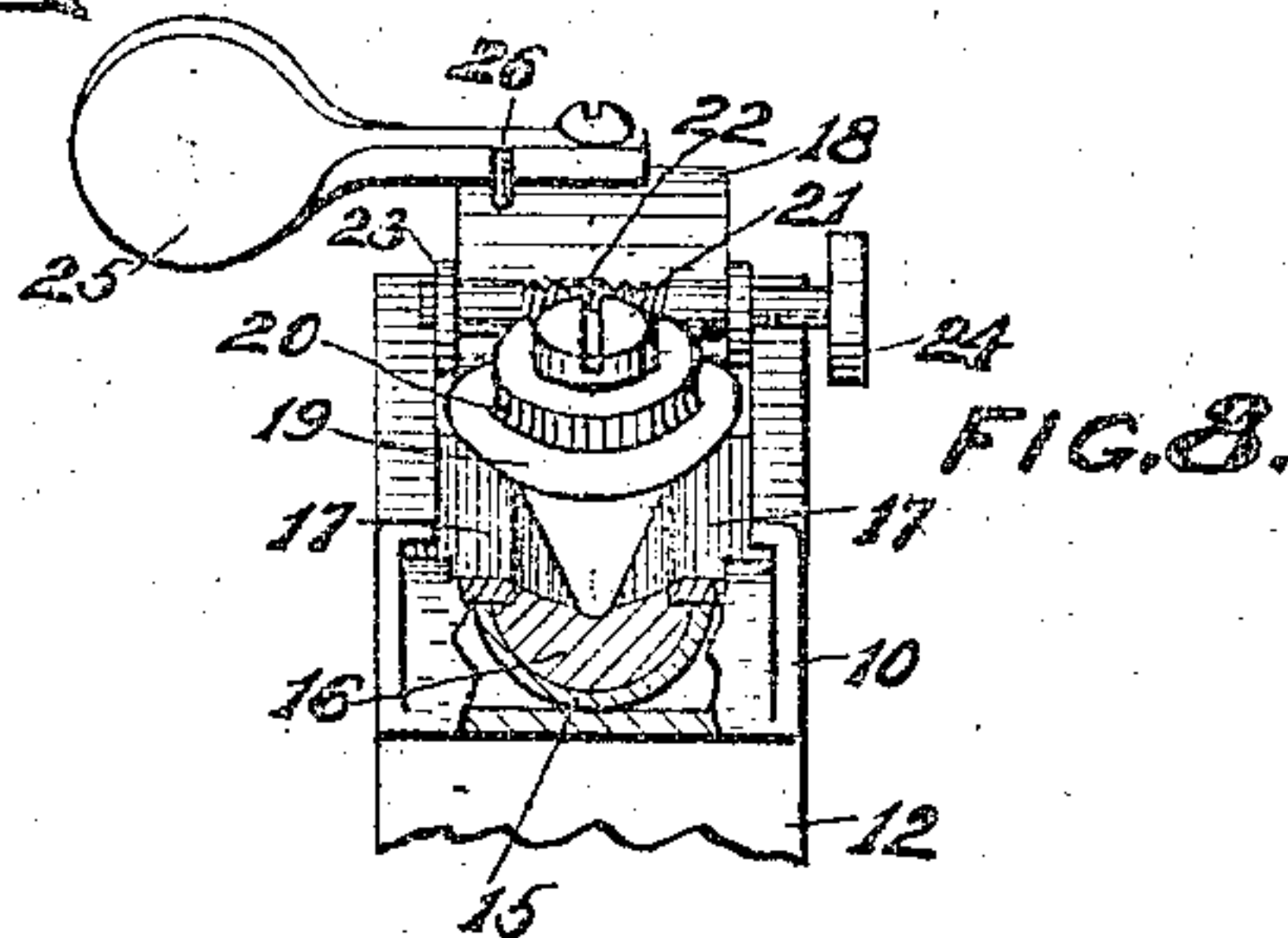
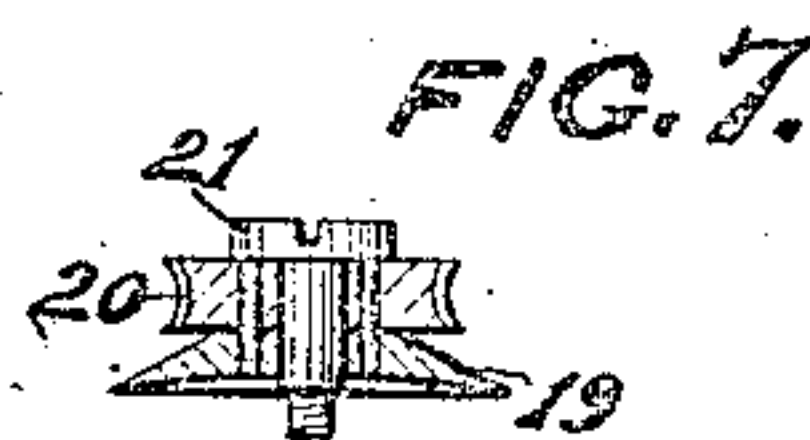
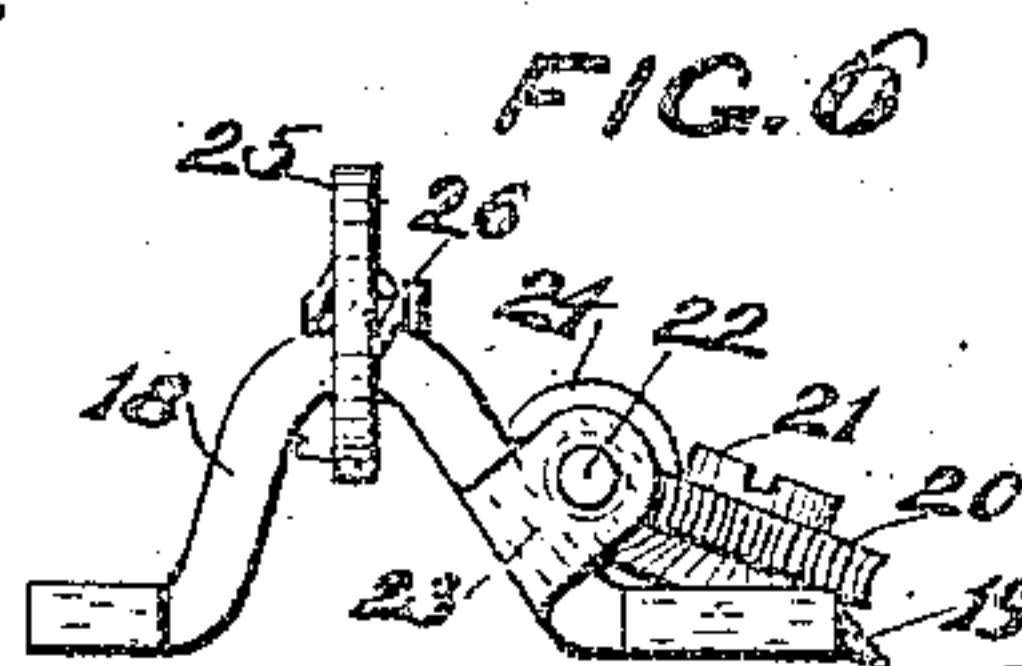
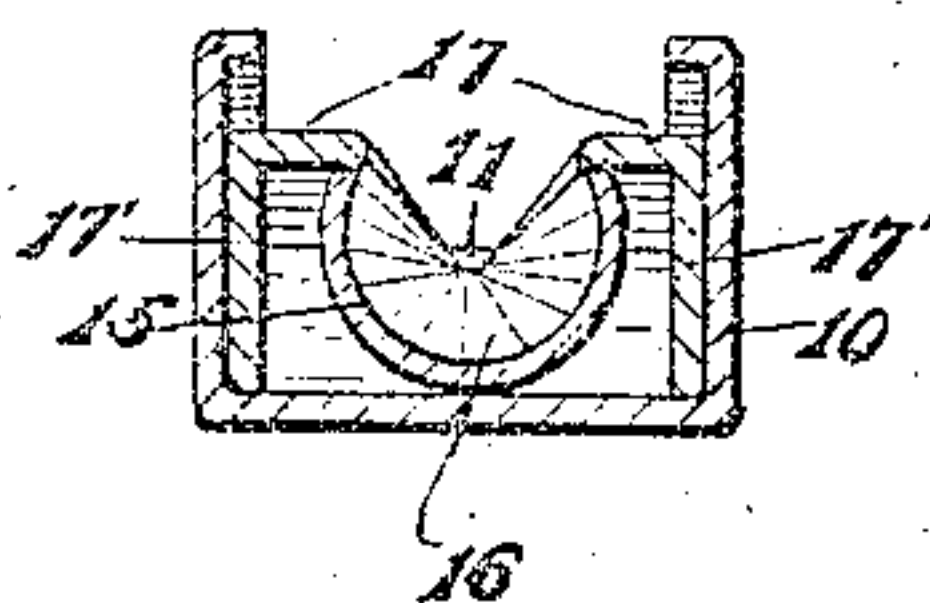


FIG. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ARNE T. PETERSON, OF RACINE, WISCONSIN.

PENCIL-SHARPENER.

No. 898,502.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed January 6, 1903. Serial No. 409,403.

To all whom it may concern:

Be it known that I, ARNE T. PETERSON, residing in Racine, in the county of Racine and State of Wisconsin, have invented new and useful Improvements in Pencil-Sharpeners, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention relates to pencil sharpeners and has for its object to provide a means for quickly and easily giving a point to a lead pencil by a reciprocating motion of a cutter which projects into the pencil support and
15 cuts shavings from the pencil therein.

A feature of novelty of the invention is the provision of means for adjusting the cutter to bring a new edge to the cutting position when the used edge has become dull.

20 Another object of this invention is to provide a pencil sharpener which will constitute an ornamental desk fixture, the cutter portion being removable and adapted to be carried in the pocket.

25 Another object of this invention is to improve upon details of construction whereby the expense of manufacture is reduced and the efficiency of the device is increased.

30 With the above and other objects in view the invention consists in the pencil sharpener herein claimed, its parts and combinations of parts, and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate
35 the same parts in the several views:—

40 Figure 1 is a central longitudinal sectional view of a pencil sharpener mounted on its tray support and constructed in accordance with this invention; Fig. 2 is a plan view thereof; Fig. 3 is an enlarged plan view of the pencil sharpener removed from the support; Fig. 4 is a rear end elevation thereof; Fig. 5 is a sectional view taken on the plane of line 5—5 of Fig. 3; Fig. 6 is a side elevation of the slide; Fig. 7 is a sectional view of
45 the cutter member and its associated parts; Fig. 8 is a front elevation of the pencil sharpener with the end portion broken away for clearness of illustration; and, Fig. 9 is a side
50 elevation of the plate member of the cutter, showing the shape of its side wings.

In these drawings 10 represents the casing which is preferably formed of sheet metal bent to form a wedge-shaped shell with one end 11
55 bent up to form a stop for the end of a pencil

and having a plate 12 secured at its other end with an opening to receive the pencil. The plate 12 projects below the bottom of the casing and is adapted to receive a screw 13 or other securing means for fastening the pencil sharpener to a correspondingly shaped projection on a tray like support 14.

A tube 15, preferably of spring metal, is mounted within the casing and has a filling 16 of Babbitt metal or other suitable material at its lower end shaped to form a conical pocket to fit the pointed end of the pencil during the sharpening operation. A plate 17 is secured to the tube 15 at an angle there to and the plate and tube have registering slots at their meeting edges forming an opening through which the cutter may project for engaging the pencil within the tube. The plate 17 forms the top for the casing and together with the intumed side edges or flanges of the casing forms a guide for a slide 18 carrying the cutter member 19, the plate being supported by downwardly bent side flanges 17' which bear on the bottom of the casing as shown in Fig. 5.

80 The slide desirably consists of a strip of sheet metal with its ends wider than its intermediate portion to fit beneath the intumed edges of the casing and its intermediate portion bent to form an arch as clearly shown in Figs. 1 and 6. The cutter member 19 is a disk shaped blade which has removably fixed on it a worm wheel 20 and is rotatably mounted on a screw 21 which threads into the beveled front end of the slide, the rear edge of the cutter member 19 being embedded in a suitably shaped recess of the arched portion of the slide to assure its firm seating on the slide. A worm 22 is journaled in ears 23 bent up from the sides of the slide and meshes with the worm wheel 20, having a knurled wheel 24 on its end by which it may be turned to change the position of the cutter 19.

100 In order to facilitate the operation of the device the slide is preferably provided with a thumb piece 25 which is secured to the arched portion thereof and is free to swing on its connecting screw to a position where it will stand above the casing instead of projecting laterally therefrom, as shown, and this is for convenience in carrying in the pocket. In use the thumb piece is swung to its lateral position in engagement with a stop pin 26 on the slide.
105
110

The rear end of the tube 15 is slotted to divide it into spring members and permit of its clasp- ing with pressure the pencil inserted therein, whether the pencil is large or small.

5 The parts of the slide which fit in the guide ways between the plate 17 and the inwardly turned flanges of the casing have sufficient play in these guide ways to permit of a liberal movement of the slide until near the end 10 of the downward stroke of the slide, where the space between the plate 17 and the said flanges is reduced to prevent more than the amount of play for the lower end of the slide that is necessary for its travel. If the guide 15 for the slide is snug throughout its length the pencil may be turned when the slide is in its lower position and by presenting an uncut surface thereof to the path of the blade the slide may be bound thereby. The loose fit of 20 the slide except at the extreme end of its movement avoids this possibility, while affording the close working that is necessary at the point of the pencil where the graphite is being cut.

25 The filling 16 of Babbitt metal, besides constituting a support fitting the point of the pencil while it is being sharpened to prevent its breaking, also forms shoulders within the tube 15 to limit the position of a pencil which 30 is being sharpened for the first time and preventing its being wedged in the tapering socket. Of course the Babbitt metal is curved on its upper surface to fit the cutter blade 19 during its travel, and this Babbitt 35 metal incidentally constitutes a means for securing the lower end of the tube and the plate 17 and the lower end of the casing together, becoming a solder for this purpose. The end of the casing forms a stop for the 40 point of the pencil to prevent the pencil being jammed into the socket of the Babbitt metal.

By means of the adjustment provided for the cutter it may be turned to present a new 45 sharp edge to the working position when it has become too dull for use, and the mounting thereof is such that it may be quickly and easily replaced with a new cutting disk by removing the screw 21 and separating the old 50 disk from the worm wheel and substituting the new disk in place thereof. The disk is separated from the worm wheel by merely slipping the disk off of the connecting pins which are loose therein.

55 The tray is a desirable feature of the device for desk use, forming a receptacle for containing shavings and dust and becoming an ornamental support for the sharpener proper to rigidly hold it in place during operation. Whenever desired the pencil sharp- 60 ener may be removed from the tray and carried in the pocket, when it may be operated while held in the hand.

What I claim as my invention is;

65 1. A sheet metal pencil sharpener, com-

prising a casing, a pencil-engaging tube contained in the casing and having an opening, a sheet metal plate secured to the tube at an angle thereto and having an opening regis- 70 tering with the opening of the tube, a slide movable on the plate, and a cutter carried by the slide and adapted to engage a pencil in the tube through the registering openings.

2. A pencil sharpener, comprising a cas- 75 ing, a pencil-engaging tube contained in the casing and having an opening, a plate se- cured to the tube at an angle thereto and having an opening registering with the open- ing of the tube, a slide movable on the plate, a cutter carried by the slide and adapted to 80 engage a pencil in the tube through the reg- istering openings, and a soft metal filling in the end of the tube forming a tapering socket to receive and support the point of the pencil and constituting a means for securing the 85 tube and the plate and the casing together.

3. A pencil sharpener, comprising a pencil- engaging tube having an opening, a plate se- 90 cured at an angle thereto having an opening registering with the opening of the tube, a slide movably mounted on the plate, a cutter carried by the slide and adapted to engage a pencil contained in the tube through the reg- 95 istering openings, and a filling in the end of the tube forming a conical socket to receive and support the point of the pencil and con- stituting a means for connecting the plate and tube together.

4. A pencil sharpener, comprising a cas- 100 ing, a pencil-engaging tube within the casing having an opening, a plate secured to the tube at an angle thereto and having an open- ing registering with the opening of the tube, flanges on the casing forming a guideway 105 with the plate, a slide movably mounted in the guideway, and a cutter carried by the slide and adapted to engage a pencil in the tube through the registering openings.

5. A pencil sharpener, comprising a cas- 110 ing, a pencil-engaging tube therein having an opening, a plate connected to the tube at an angle thereto and having an opening register- ing with the opening of the tube, flanges on the casing forming a guideway with the 115 plate, a slide movably mounted in the guide- way, a cutter carried by the slide and adapt- ed to engage a pencil in the tube through the registering openings, said flanges being closer to the plate near the end of the stroke of the slide. 120

6. A pencil sharpener, comprising a pencil support, a slide, a disk shaped cutter carried by the slide and adapted to engage a pencil in the pencil support and screw means for turning the rotary cutter to present a new 125 edge to the cutting position.

7. A pencil sharpener, comprising a pencil support, a slide, a disk shaped cutter mount- ed on the slide, a worm wheel carried by the 130 cutter, and a worm mounted on the slide and

meshing with the worm wheel by means of which the cutter may be turned to present a new edge to the cutting position.

8. A pencil sharpener, comprising a pencil support, a recessed slide, a disk shaped cutter carried by the slide and adapted to engage a pencil in the pencil support with its opposite edge embedded in the recessed portion of the slide, and means for adjusting the cutter.

9. A pencil sharpener, comprising a pencil support, an arched slide having a beveled end, and a recess a screw threaded in the beveled end of the slide, a disk shaped cutter mounted on the screw with its edge engaged in the recess in the arch shaped portion of the slide and adapted to engage a pencil in the pencil support, a worm wheel carried by the cutter, and a worm mounted on the slide and meshing with the worm wheel for changing the position of the cutter.

10. A pencil sharpener, comprising a casing, a split tube therein forming a pencil engaging support having an opening, a plate secured to the tube at an angle thereto and having an opening registering with the opening of the tube, side flanges on the plate bearing on the bottom of the casing, a filling in

the end of the tube forming a conical socket to fit the point of the pencil, flanges on the casing forming a guideway with the plate, an arched slide mounted in the guideway and provided with a beveled end, and a recess a screw threaded in the beveled end of the slide, a disk shaped cutter mounted on the screw and having its edge fitting in the recess in the arch shaped portion of the slide, a worm wheel on the cutter a worm mounted on the slide and meshing with the worm wheel for adjusting the position of the cutter, said cutter being adapted to engage a pencil in the tube through the registering openings of the tube and the plate, a thumb piece movably mounted on the arched portion of the slide, a projection on the end of the casing, and a tray support having an inclined projection on which the casing bears and adapted to have the projection of the casing connected therewith.

In testimony whereof, I affix my signature, in presence of two witnesses.

ARNE T. PETERSON.

Witnesses:

A. H. WADEWITZ,
CHAS. G. WILSON.