

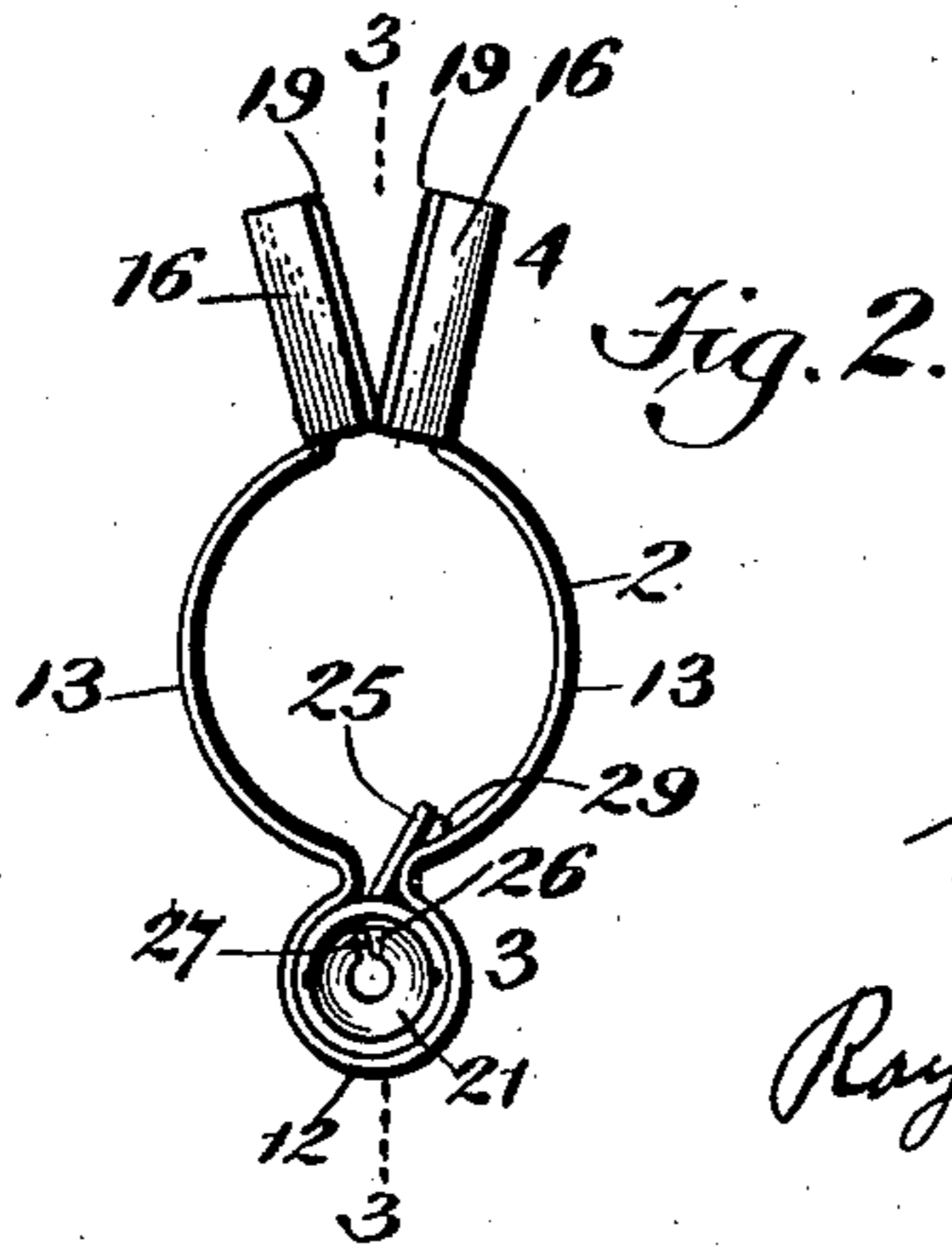
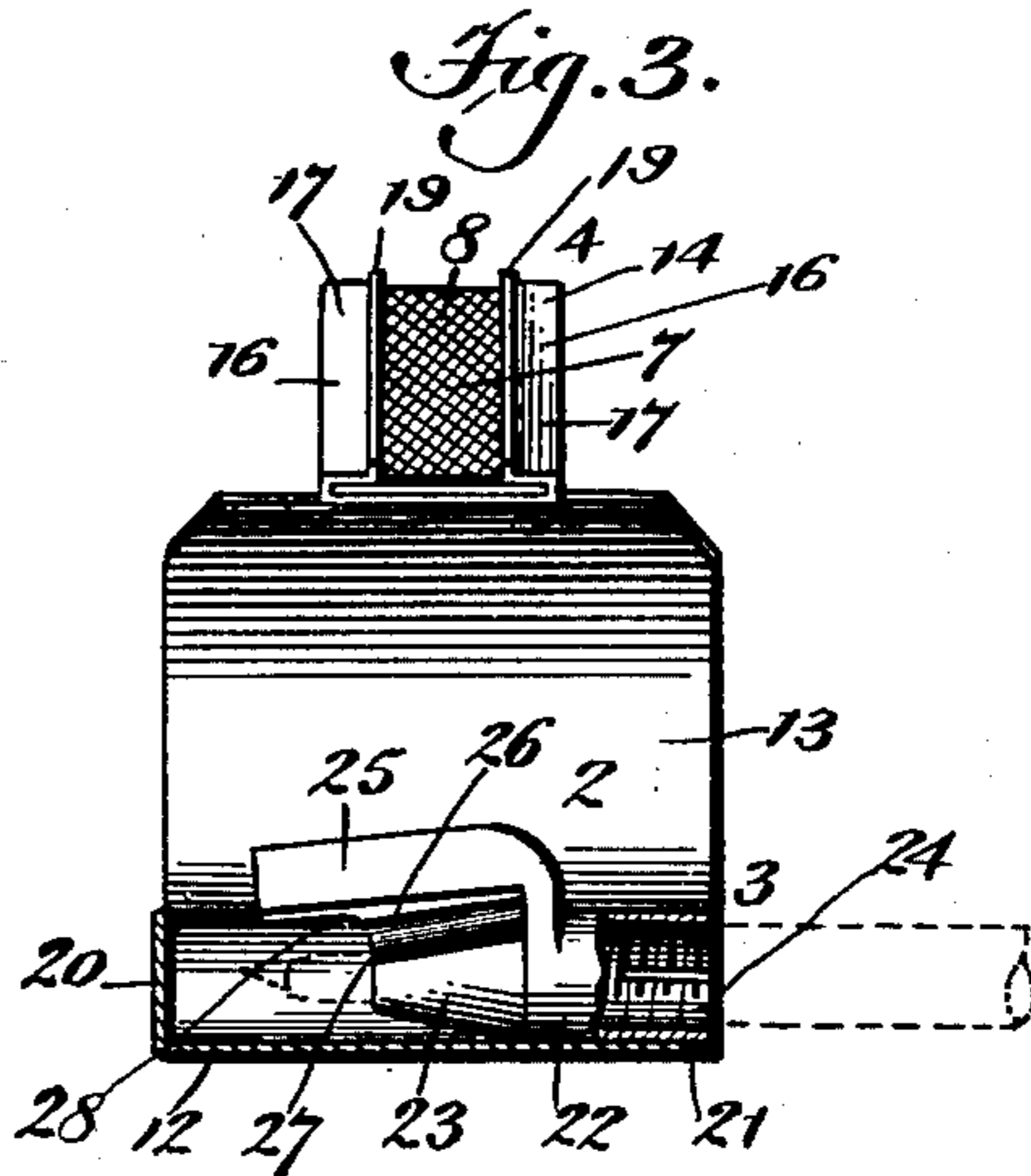
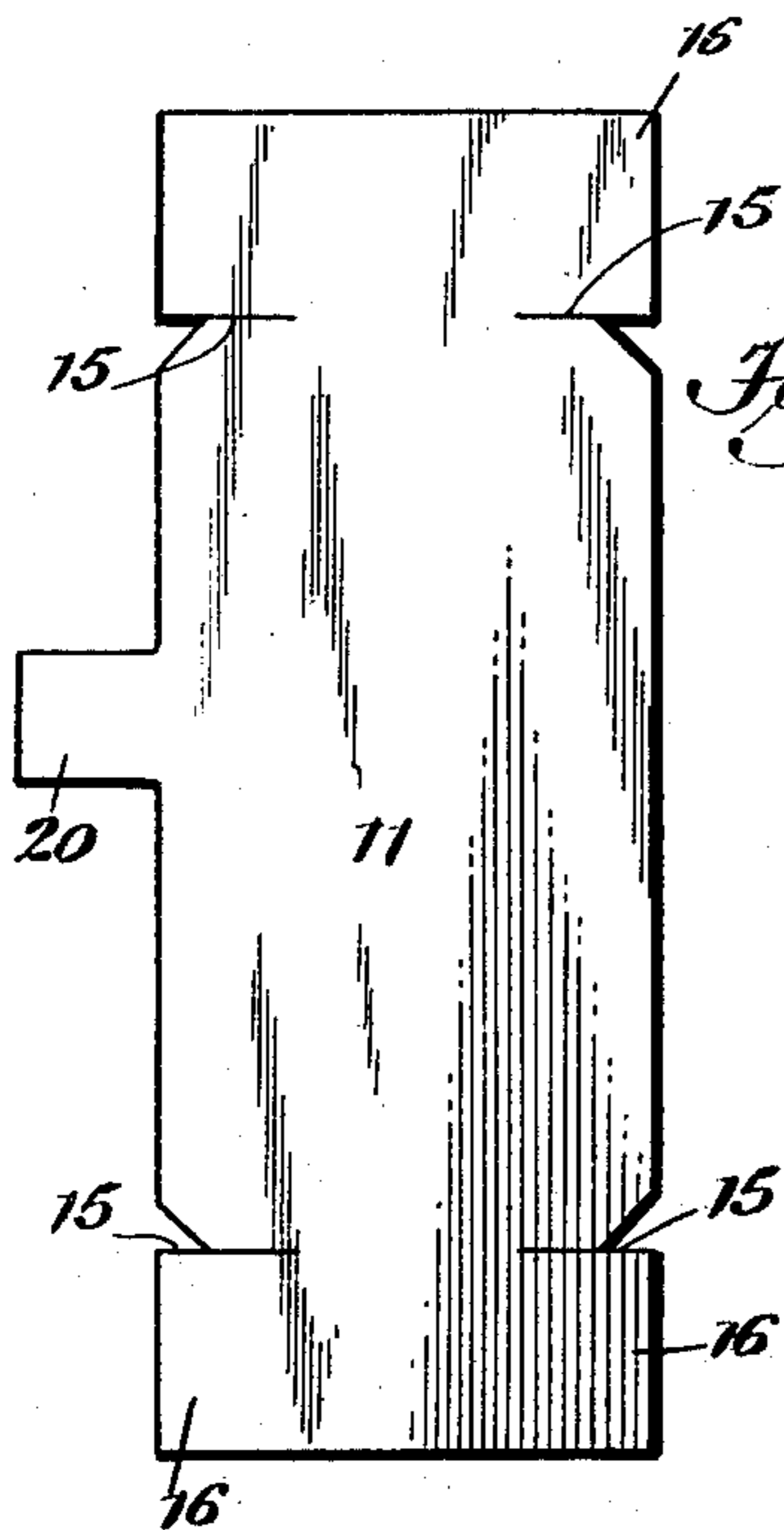
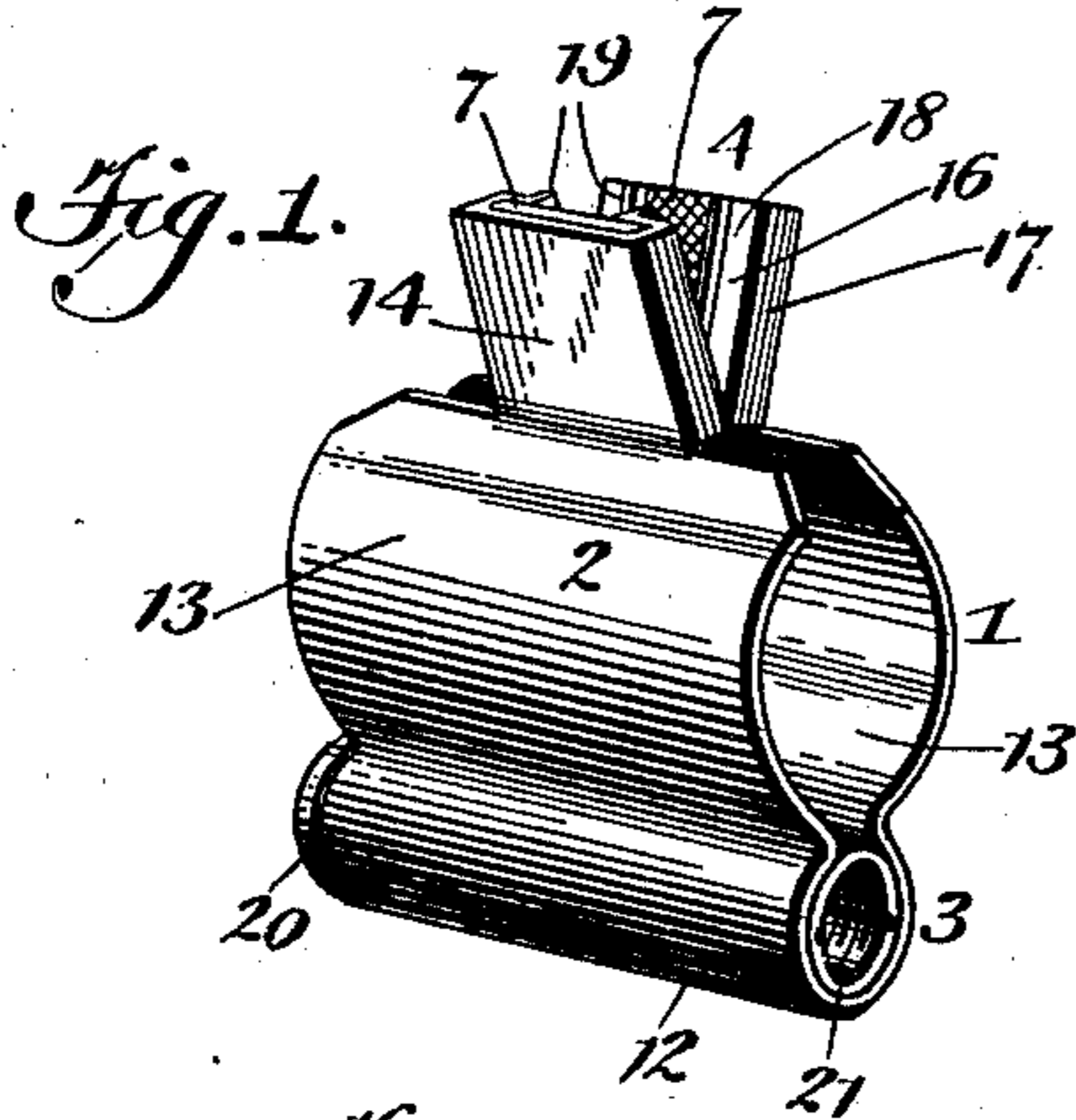
No. 679,710.

Patented July 30, 1901.

H. E. TITUS.  
PENCIL SHARPENER.

(Application filed Mar. 14, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY E. TITUS, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO EMMA W. TITUS, OF SAME PLACE.

## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 679,710, dated July 30, 1901.

Application filed March 14, 1901. Serial No. 51,131. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY E. TITUS, a citizen of the United States, residing at Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Pencil-Sharpeners, of which the following is a specification.

This invention relates to pencil-sharpeners; and it has for its object to provide an improved device of this class whereby a pencil may be brought to a perfect working point without fracture of the lead, which shall perform a perfect symmetrical job and the operation of which shall be superior in point of ease, expedition, and general efficiency.

With pencil-sharpeners as at present commonly constructed the reduction of the wood and lead to form the working point are performed simultaneously and under relatively great operative pressure. It frequently results that before the perfect point is formed the lead is fractured and the entire sharpening operation has necessarily to be repeated. Furthermore, it is impossible with ordinary pencil-sharpeners to sharpen the lead alone, as required, the wood being of necessity included with the lead in the cutting operation. This operation requiring full operative pressure upon the pencil causes ordinarily the fracturing of the lead.

By means of my improved pencil-sharpener the above disadvantages are overcome and the lead may be readily and effectively pointed and maintained pointed as desired.

In the drawings, Figure 1 is a perspective view of my improved pencil-sharpener. Fig. 2 is an end view of same. Fig. 3 is a detail vertical sectional view of the same, illustrating the pencil-sharpener in operation. Fig. 4 is a plan view of a metallic blank from which the body portion of my improved pencil-sharpener may be formed.

Corresponding parts in the figures are denoted by the same reference characters.

Referring with particularity to the drawings, 1 designates my improved pencil-sharpener, which comprises a body portion 2, an initial sharpening member 3, and a final sharpening member 4. The initial sharpening member 3 embodies a cutter 5 and a guide and feed device 6 and is formed to reduce the

wood of the pencil until down to the lead, but not to materially uncover the lead, which is thus left covered with a thin film or layer of wood. The danger of fracturing the lead which ultimately constitutes the point of the pencil is thus obviated. The pencil is then operated upon by the final sharpening member 4, which embodies two elements 7, having opposed abrasive surface portions 8, which latter consist of a plurality of file-like cutting points or edges 9. The two elements 7 are divergently opposed in their normal position and are so relatively movably supported that their angle of divergence may be varied according to the work to be performed, permitting the perfect adaptation of the same to pointed pencil ends of varying conical and general formation. The initially-reduced end of the pencil is introduced between the abrasive elements 7 and is turned or axially oscillated in contact with the same under slight pressure until the thin film or layer of wood over the lead is removed and a perfect symmetrical final point is produced. The elements 7 are preferably yieldingly or resiliently mounted, as at 10, and are thus free to move relatively and prevent undue pressure upon the pencil, thus obviating fracture of the lead. The pencil after treatment by the final sharpening member 4 is in perfect pointed condition and is symmetrical and neat in appearance. The elements 7 may be brought substantially into parallel opposed relation for sharpening the lead of the pencil.

In the preferred form of construction the body portion 2 consists of a single broad blank 11 of spring metal, which is generally oblong in form, as shown in Fig. 4, and is doubled or looped centrally, as at 12, to form a seat for the initial sharpening member 3 and is thence oppositely bowed, as at 13, and formed at its ends into divergent seats or sockets 14 for the two elements 7 of the sharpening member 4. The seats or sockets 14 are formed by slitting the blank 11 at its side edges and adjacent its ends, as at 15, to form flaps or ears 16, which are bent outwardly at right angles to the major portion of the blank, as at 17, thence laterally at right angles, as at 18, and thence outwardly at right angles, as at 19. The elements 7 of the sharpening mem-

ber 4 are secured between the bent flaps or ears 16, which, due to the spring quality of the metal blank, firmly bind the elements 7 in position. The bent portions 19 project respectively in parallel-spaced relation from the opposed operative surface portions 8 of the elements 7 and constitute guides for the pencil when the latter is inserted between the elements 7. The elements 7 may consist of small file-like metallic pieces, the abrasive surface portions 8 of which may be serrated, roughened, or pointed to meet the conditions of use or preferment. The blank 11 may embody at one edge and adjacent its central portion a flap or ear 20, which when the blank is folded into operative condition may be folded and crimped about the central looped portion 12 of the blank to maintain the same in permanent form. The oppositely-bowed portions 13 of the folded blank have a free relative spring movement, whereby the elements 7 of the sharpening member 4 are tensionally and yieldingly supported.

The sharpening member 3 in the preferred form of construction consists of a metallic tube 21, which is open and cylindrical at one end, as at 22, and open and conical at the other end, as at 23. The cylindrical end 22 is of proper size to exactly receive a lead-pencil and is provided interiorly with a threaded and channeled surface portion 24, which serves as a screw to advance and as a tap to thread and tear the wood of the pencil. The conical end 23 of the tube 21 carries an upwardly-projecting bracket 25, in which is secured a cutting blade or knife 26, which projects slightly within the conical end 23 of the tube 21 through a longitudinal slot 27, formed in one side of the same. The knife 26 is set at an angle with the axis of the tube 21, which angle corresponds with the taper of the conical end 23. The knife 26 is cut away, as at 28, beyond the end of the conical end 23, and the conical end is of such formation as to permit the reduced end of the pencil to project through and beyond the same with a thin film or layer of the wood remaining upon the same, as shown in Fig. 3. The cutting away of the knife at 28 prevents the further reduction of the pencil at the point of the same.

The bracket 25 projects upwardly between the bowed portions 13 of the body portion and may be positively fixed against rotation by the application of a lump of solder 29 between the bracket and one of the bowed portions.

The operation and advantages of my improved pencil-sharpener will be readily understood. The pencil is first inserted into the tube 21 and is axially turned to cause the threaded inner walls 24 of the cylindrical end of the same to advance the pencil into the conical end 23 of the same. The threaded portion of the tube also operates to cut and tear the wood of the pencil in a tapping operation and prepares the same for the posi-

tive cutting operation of the knife 26, which reduces the wood of the pencil until only a thin film or layer of the same covers the end of the lead. The tube 21 projects only part way through its seat 12, formed by centrally folding the blank 11, and the reduced end of the pencil projects within said seat beyond the conical end 23 of the tube 21 and is thereby protected against breakage. When the pencil has been reduced to the proper extent by the initial sharpening member 3, it is inserted between the divergent spring-mounted elements 7 of the final sharpening member 4 and is axially rotated to remove the thin film or layer of wood from the point of the lead and to finally round and smooth the tapered end of the pencil. The point of the lead being operated upon by spring-supported abrasive elements is prevented from fracture. The cuttings and chips formed during the sharpening operation are collected in the pocket which provides the seat for the initial sharpening member, and are thus prevented from scattering, but may readily be dislodged from the device by shaking or blowing through the same and the entire device is simple and efficient in construction and operation and may be operated readily by school children and other unskilled persons.

It will be noted that while the angular divergence of the elements 7 of the final sharpening member may be varied, the inner or lower edges of the same may be at the same time maintained in parallel relation, the perfect adaptation of the members 7 to the pointed pencil end, of whatever generally conical formation, being thus insured.

I do not desire to be understood as limiting myself to the specific construction and arrangement of parts as shown and described, but reserve the right to all variations from and modifications of the same which shall fall within the scope of my invention and the terms of the following claims.

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

1. An improved pencil-sharpener, comprising a body portion provided with an initial sharpening member, and with a final sharpening member consisting of two elements; said body portion consisting of a broad spring-metal blank which is looped centrally to form a seat for the initial sharpening member and a pocket for the cuttings of the pencil, the blank being thence oppositely bent and formed at its end portions into divergent sockets for the elements of the final sharpening member, said sockets embodying angular flaps or ears which embrace said elements and terminate in outwardly-projecting spaced portions which are directed from the opposed operative surface portions of said elements and constitute guides for the pencil when the same is introduced between said elements.

2. An improved pencil-sharpener, comprising a body portion provided with an initial sharpening member, and a final sharpening

member consisting of two elements; said body portion consisting of a broad spring-metal blank which is looped centrally to form a seat for the initial sharpening member and a pocket for the cuttings of the pencil, the blank being thence oppositely bowed and formed at its end portions into divergent sockets for the elements of the final sharpening member, said sockets embodying angular flaps or ears which embrace said elements and terminate in outwardly-projecting spaced portions which are directed from the opposed operative surface portions of said elements and constitute guides for the pencil when the same is introduced between said elements, said blank also embodying at one edge and at its central portion a flap or ear which is folded and crimped about one end of the central looped portion of the blank to close the same.

3. An improved pencil-sharpener, comprising a body portion provided with an initial sharpening member and a final sharpening member consisting of two elements; said body portion consisting of a broad spring-metal blank which is looped centrally to form a seat for the initial sharpening member and a pocket for the cuttings of the pencil, the blank being thence oppositely bowed and formed at its end portions into divergent sockets for the elements of the final sharpening member, said sockets embodying angular flaps or ears which embrace said elements and terminate in outwardly-projecting spaced portions which are directed from the opposed operative surface portions of said elements and constitute guides for the pencil when the same is introduced between said elements, said blank also embodying at one edge and at its central por-

tion a flap or ear which is folded and crimped about one end of the central looped portion of the blank to close the same; and said initial sharpening member being provided with a projecting portion which is secured between the oppositely-bowed portions of the blank to prevent displacement of the initial sharpening member.

4. An improved pencil-sharpener, comprising a body portion provided with an initial sharpening member and a final sharpening member consisting of two elements; said body portion consisting of a broad spring-metal blank which is looped centrally to form a seat for the initial sharpening member and a pocket for the cuttings of the pencil, the blank being thence oppositely bowed and formed at its end portions into divergent sockets for the elements of the final sharpening member, said sockets embodying angular flaps or ears which embrace said elements and terminate in outwardly-projecting spaced portions which are directed from the opposed operative surface portions of said elements and constitute guides for the pencil when the same is introduced between said elements; and said initial sharpening member being provided with a projecting portion which is secured between the oppositely-bowed portions of the blank to prevent displacement of the initial sharpening member.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

HENRY E. TITUS.

Witnesses:

RAYMOND I. BLAKESLEE,  
CHARLES MCCONKEY.