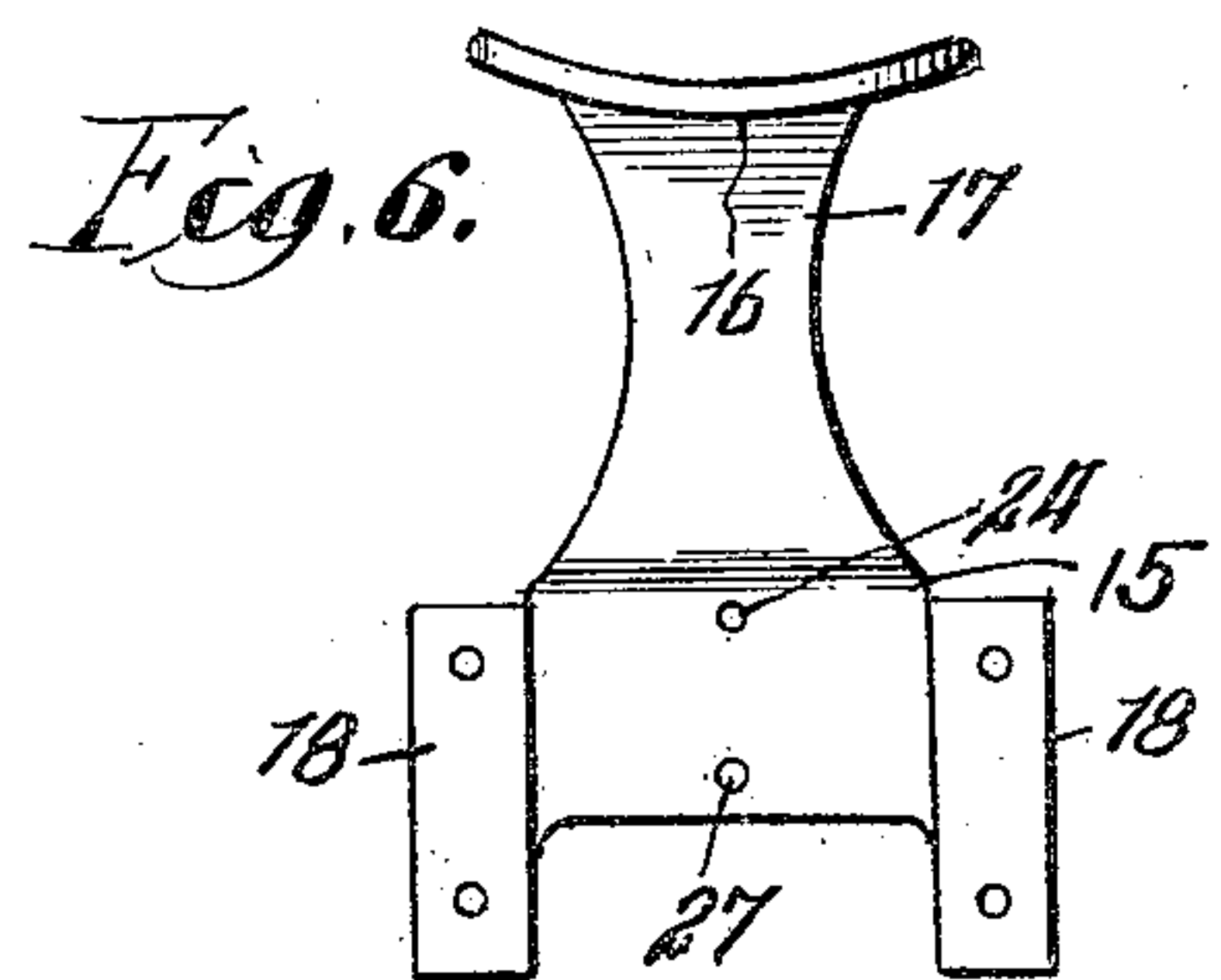
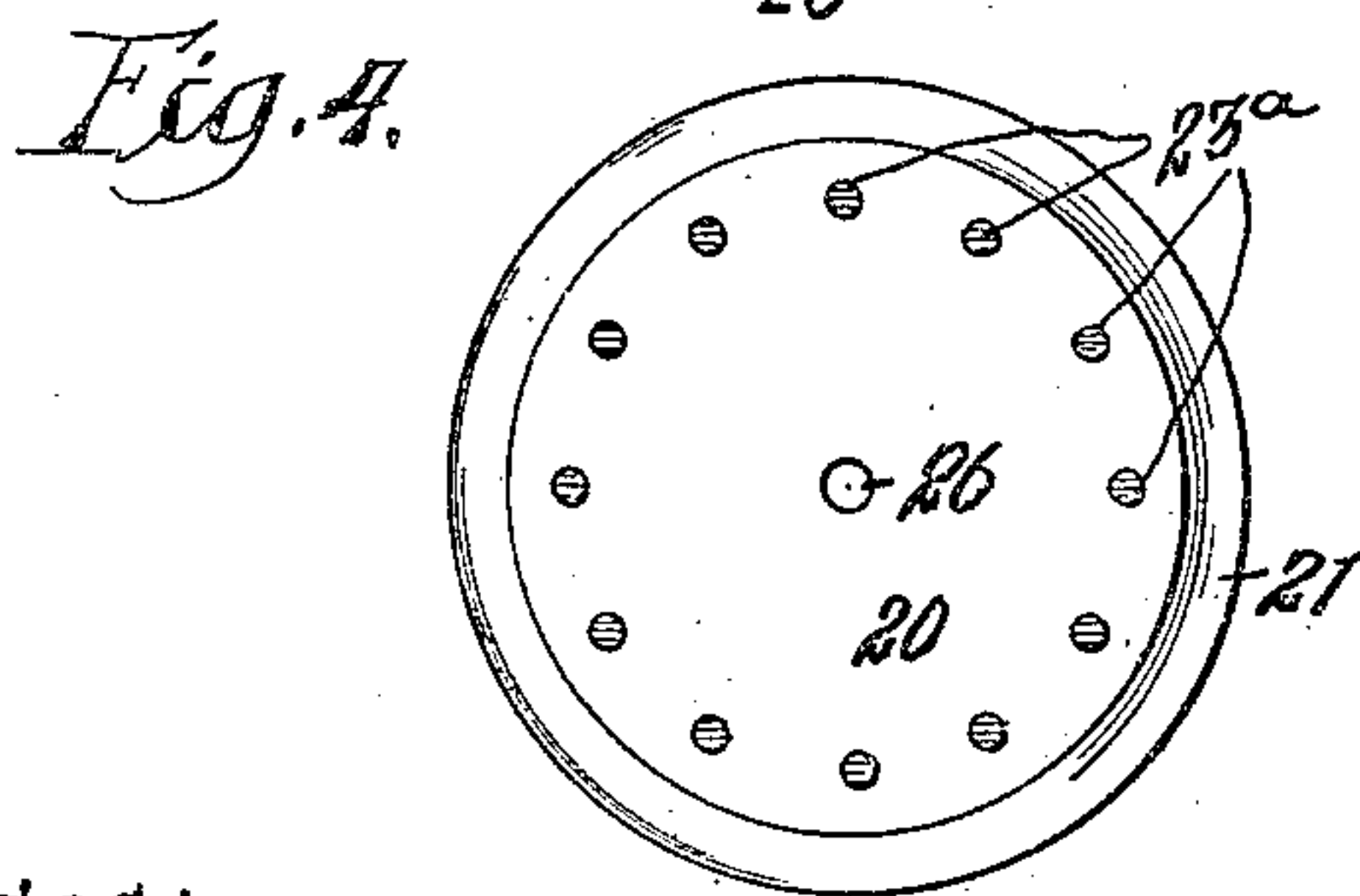
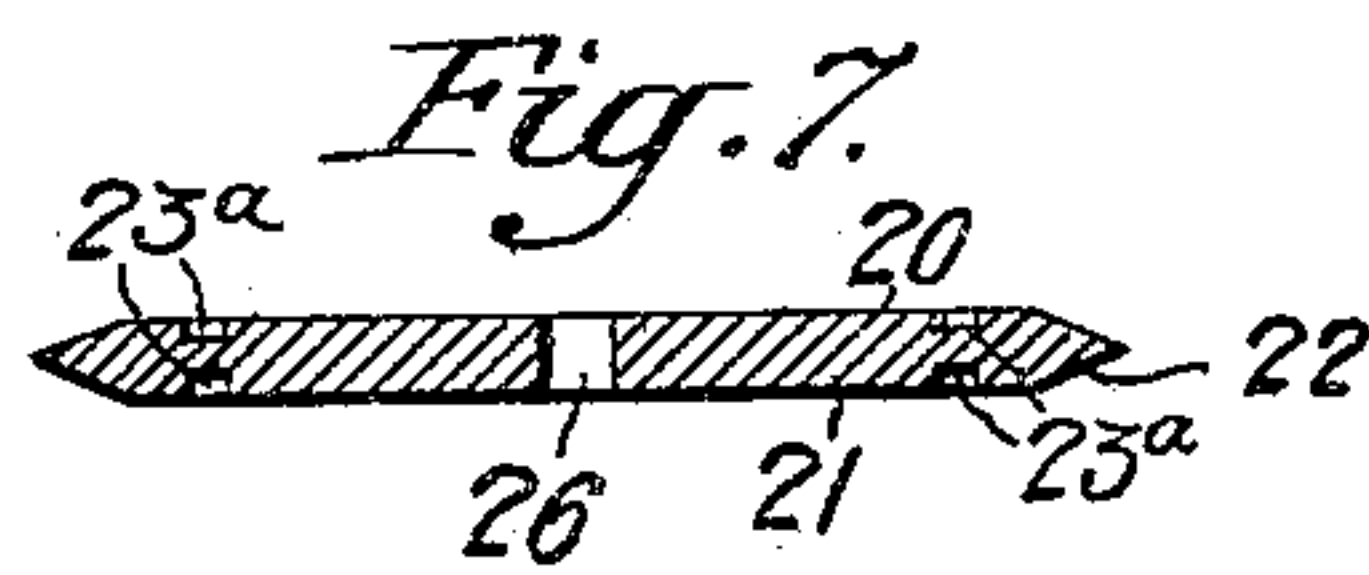
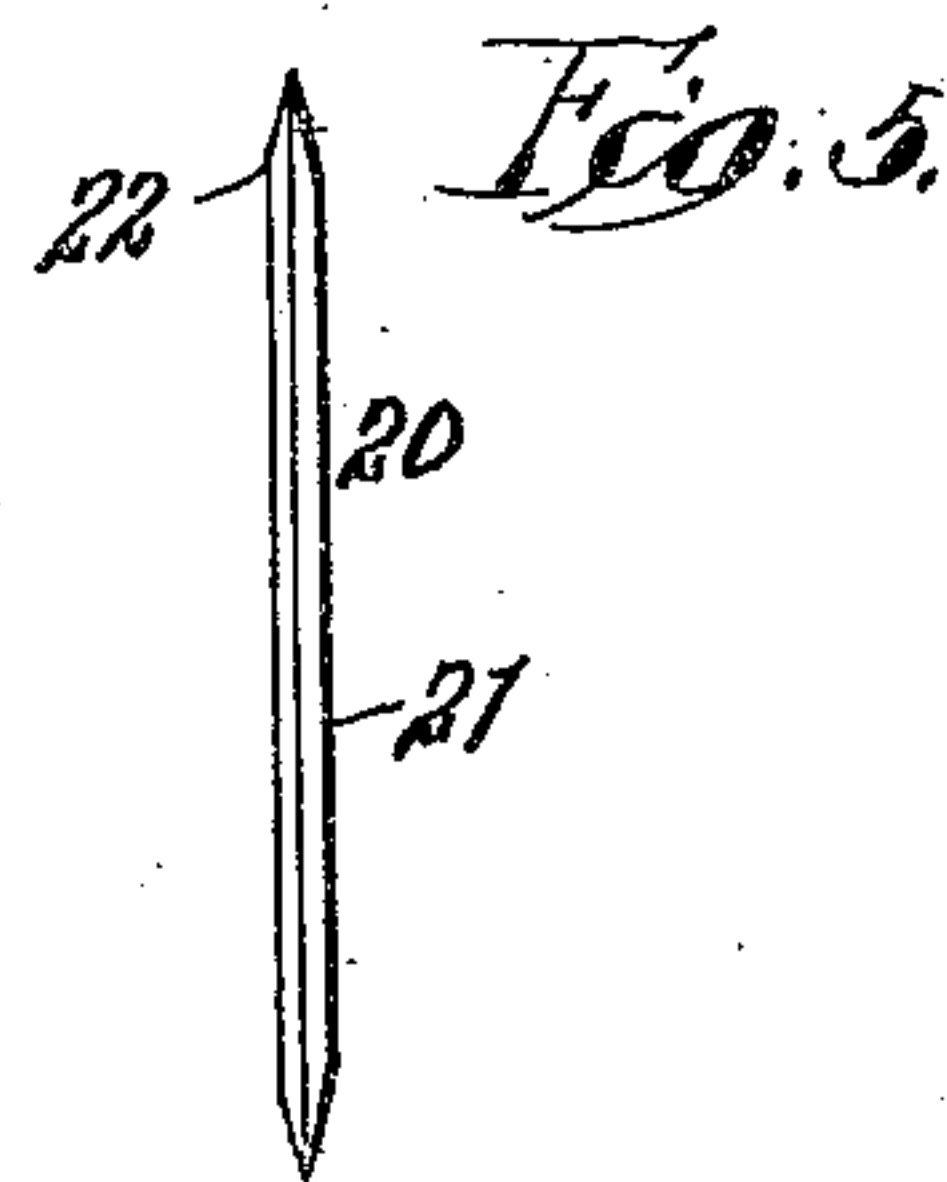
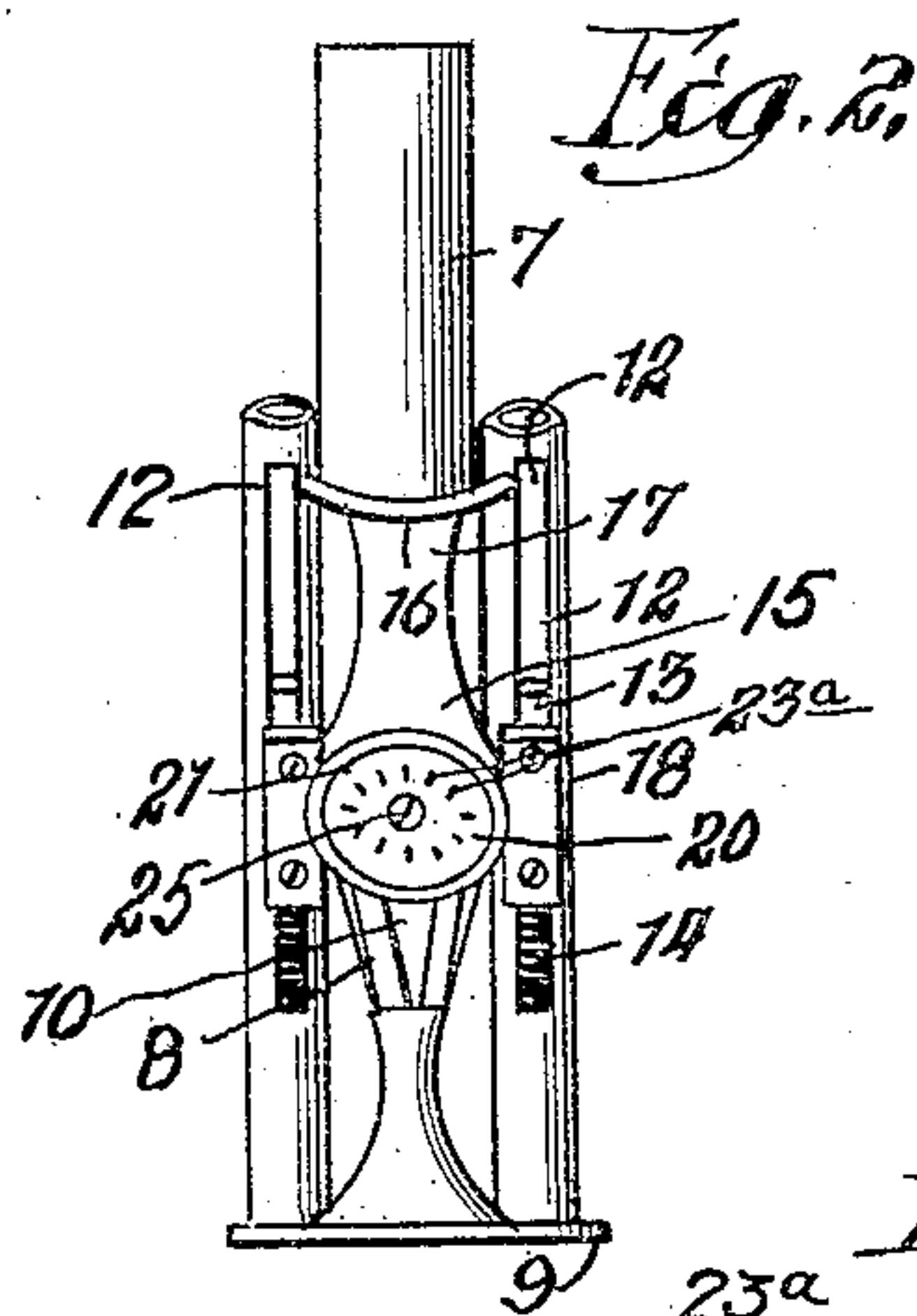
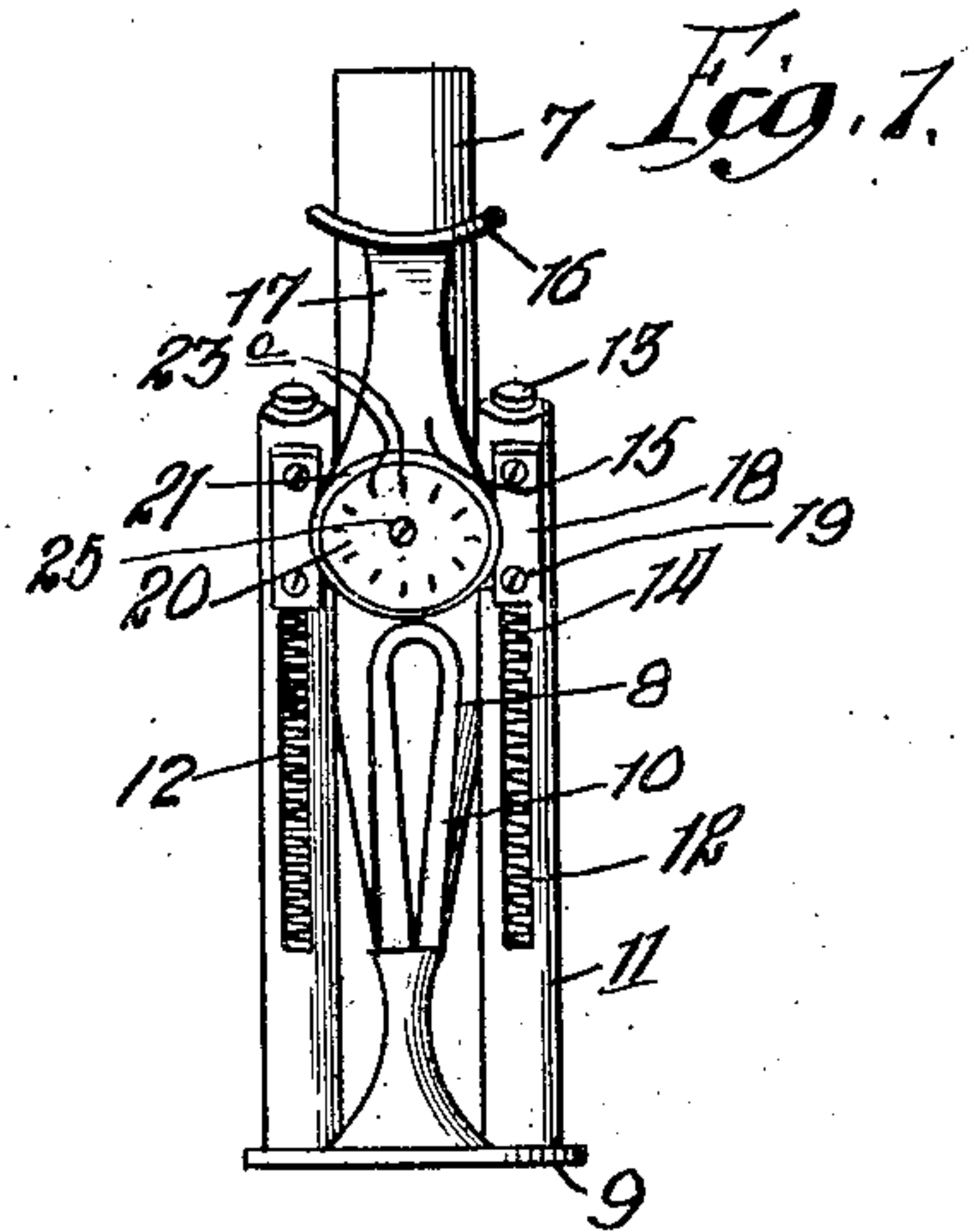
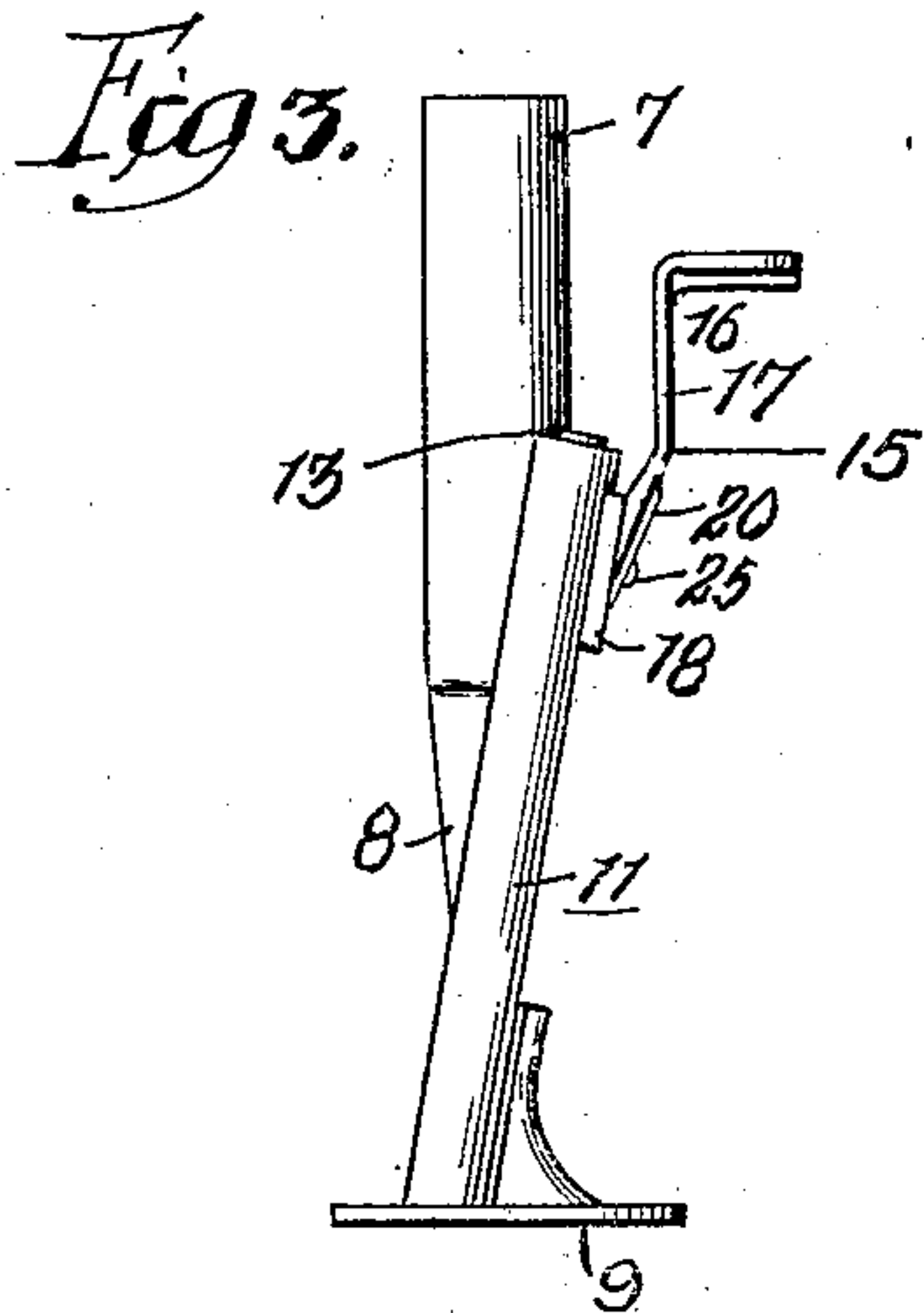


W. F. HERDRICH.
PENCIL SHARPENER.
APPLICATION FILED MAY 12, 1908.

955,513.

Patented Apr. 19, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM F. HERDRICH, OF CHICAGO, ILLINOIS.

PENCIL-SHARPENER.

955,513.

Specification of Letters Patent.

Patented Apr. 19, 1910.

Application filed May 12, 1908. Serial No. 432,493.

To all whom it may concern:

Be it known that I, WILLIAM F. HERDRICH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pencil-Sharpeners, of which the following is a specification.

The object of the present invention is to provide a rigid mounting for the knife which shaves the end of the pencil, whereby a true and even cut will be maintained without danger of the knife springing away from the wood by reason of elasticity of the steel or the frail character of the mounting.

The invention comprises a circular knife mounting between parallel guideways, which serve to maintain the knife in proper cutting position during its reciprocation. The sharpener is intended to be held between the thumb and first finger of one hand, leaving the other hand free to turn the pencil during the sharpening operation.

The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of the sharpener with the knife raised; Fig. 2 a similar view, showing the knife partially lowered; Fig. 3 a side elevation of the same; Fig. 4 a rear face view of the circular knife; Fig. 5 an edge view of the same; Fig. 6 a face view of the knife bracket, showing the knife removed; and Fig. 7 a cross sectional view of the circular knife.

The sharpener, as a whole, comprises a tubular pencil socket 7 which is tapered at its lower end 8 and terminates in a disk shaped thumb rest 9. The tapered end of the pencil socket is cut away on one side to provide a flat faced diagonally extending tapered opening 10, which permits the wood of the unsharpened end of a pencil to project through in position to be shaved off by the knife. Adjacent the flat faced opening 10 and in transverse alinement therewith are a pair of tubular guideways 11 which extend in diagonal relation with the base 9, and in register with the inwardly sloping open face of the pencil socket. Each of the guideways is cut away on its front face to provide an elongated vertical slot 12 of sufficient length to permit a full

reciprocation of the knife. Each of the guideways has entered therein a cylindrical guide block 13 which is normally held in raised position by means of a coil spring 14 interposed between the lower end of the guide block and the bottom of the tubular guideway. The guide blocks serve as a mounting for a knife bracket 15 which comprises an outwardly projecting handle 16 connected with the body of the bracket by means of a vertically extending neck 17. The body of the bracket is provided, on opposite sides, with laterally extending lugs 18 which are connected with the guide blocks 13 by means of screws 19.

The flat faced body of the bracket provides a mounting for a circular knife 20 which is beveled on the edge of its outer face 21 and slightly beveled on its inner face 22. The inner face of the knife is provided with a plurality of socket holes or depressions 23 whose position is indicated by marks 23^a on the front face of the knife, any one of which holes is adapted to be engaged by a small stud 24 outwardly projecting from the face of the bracket; and the circular knife is held in position by means of a screw 25 which is entered through a hole 26 in the knife and into a socket hole 27 in the bracket. The holes or depressions 23 are arranged in a circle equidistant from the center hole through which the screw is entered, so that any one of the socket holes can be brought into register with the stud.

In use, an unsharpened pencil is positioned within the pencil socket, which brings a portion of the wood beneath the beveled plate of the circular knife, after which the sharpener is held in one hand between the thumb and first finger and the knife depressed by the finger against the tension of the springs within the tubular guideways. The slight bevel on the inner face of the knife allows the cutting edge to travel easily and smoothly over the flat surface of the socket member adjacent the tapered opening therein. At the same time the inner bevel gives a better shaving action, since the edge does not tend to bite into or gouge the wood.

The cutting operation is performed by moving the knife up and down with the first finger of one hand while turning the pencil from time to time with the other hand, until the desired sharpness has been ob-

tained. The arrangement of the guideways provides a rigid mounting for the knife bracket, which is enabled to travel up and down without vibrations or displacement, thereby maintaining the knife rigidly in position to shave off the projecting surface of the wood. The circular formation of the knife is one which affords stiffness and rigidity to the cutting surface and at the same time permits the knife to be turned from time to time to bring an undulled cutting surface into play, whereby the knife can be continuously used for a very considerable period of time without being completely dulled. When the knife has been dulled it can be discarded, its formation being one which renders its production very cheap, so that a sharpener can be provided with several knives. The ends of the stops in the tubular guideways afford abutments for limiting the up and down movements of the knife bracket, so that the edge of the knife will never be dulled by contact with the metal of the socket at the end of the tapered slot within.

In certain prior constructions difficulty has been experienced by reason of the fact that the lead in the pencil would break off after the wood had been shaved away, so that it was impossible to secure a sharp point for the lead. The present sharpener, by reason of the exactness of movement of the knife and its freedom from vibration, due to the shape of the knife and the arrangement of the guideways, shaves off the wood cleanly and evenly, and thereafter sharpens the lead without breaking it.

What I regard as new and desire to secure by Letters Patent is:

1. A pencil sharpener, comprising a pencil socket tapered at its lower end and having connected therewith a thumb rest, the socket being cut away on one side for the projection of the pencil, a pair of guideways resting upon and rigidly secured to the thumb rest and laterally adjacent to the cut away portion of the socket and each provided on its front side with a slot, a guide block slidably mounted in each of the guideways, a spring in each of the guideways, bearing against the under face of the guide blocks and normally holding the guide blocks upwardly, a bracket having its ends secured to the guide blocks through said slots and being provided with an outwardly project-

ing handle, and a knife secured to the bracket, substantially as described.

2. A pencil sharpener, comprising a thumb rest, a pencil socket mounted upon the thumb piece and cut away on one side to permit the projection of the wood of a pencil, a tubular guideway on each side of the cut away socket, a spring in each of the guideways, a bracket having its ends slidable up and down the guideways under the tension of the springs, a circular knife carried by the bracket and provided on its rear face with a plurality of socket depressions, a stud on the bracket adapted to register with any one of the depressions, and a screw entered through the center of the knife and into the bracket, substantially as described.

3. A pencil sharpener, comprising a thumb rest, a socket tapered at its lower end and cut away on one side and attached to the thumb rest, a tubular guideway on each side of the socket, resting upon and having its end secured to the thumb rest and cut away to provide an elongated slot, guide blocks entered within the guideways, springs bearing against the guide blocks, a bracket having its end secured to the guide blocks, a circular knife carried by the bracket and having on its rear face a plurality of depressions arranged in a circle, a stud on the bracket adapted to register with any one of the depressions, and a screw entered through the center of the knife and into the bracket, substantially as described.

4. A pencil sharpener, comprising a thumb rest, a socket tapered at its lower end and cut away on one side and attached to the thumb rest, a tubular guideway on each side of the socket, resting upon and having its end secured to the thumb rest, and cut away to provide an elongated slot, a guide block entered within each guideway, springs bearing against the guide blocks, a bracket having its ends secured to the guide blocks, a circular knife secured to the bracket and having on its rear face a plurality of depressions arranged in a ring, a stud on the bracket adapted to register with any one of these depressions, and a screw entered through the center of the knife and secured to said bracket, substantially as described.

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Witnesses:

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