

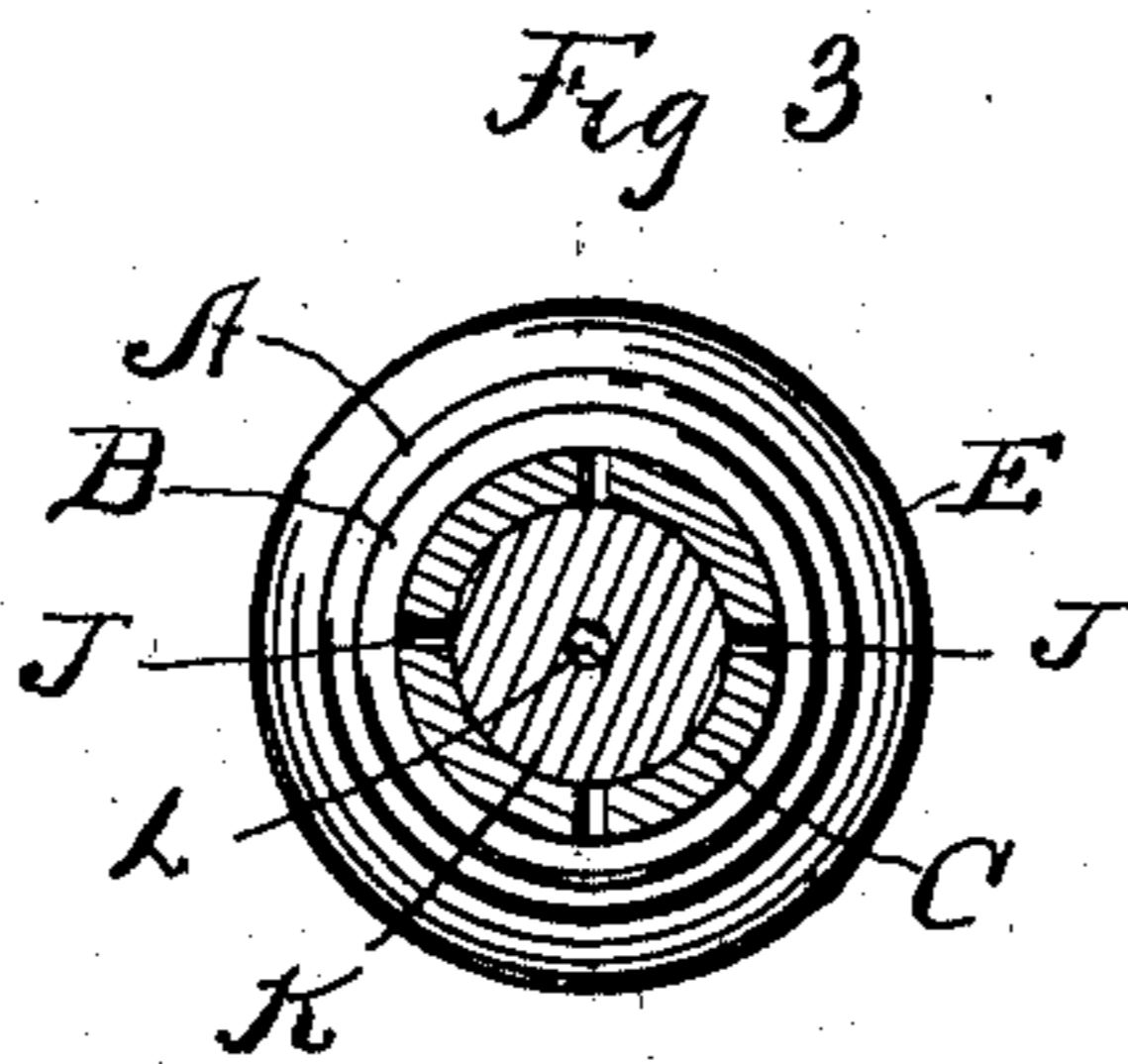
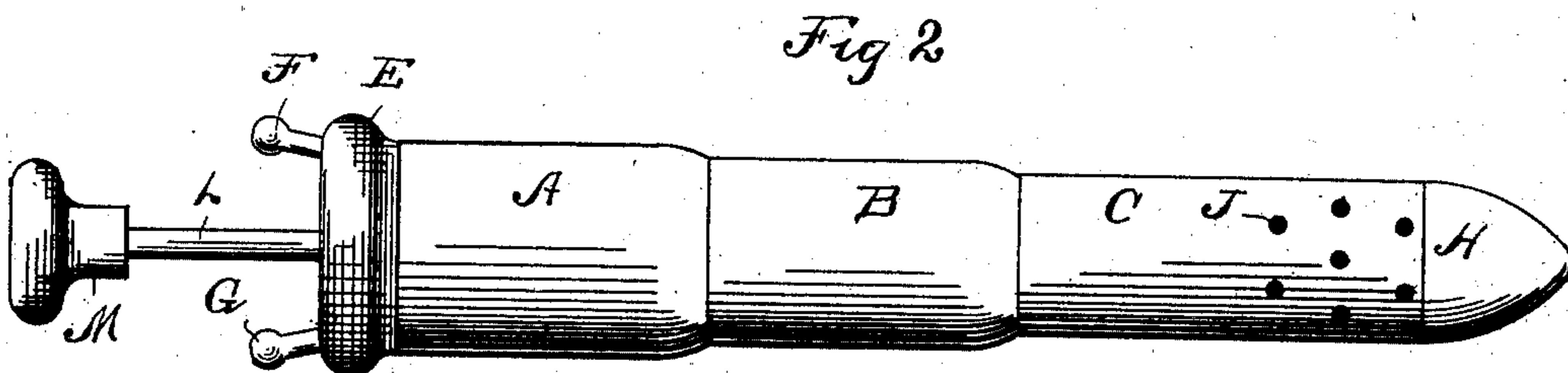
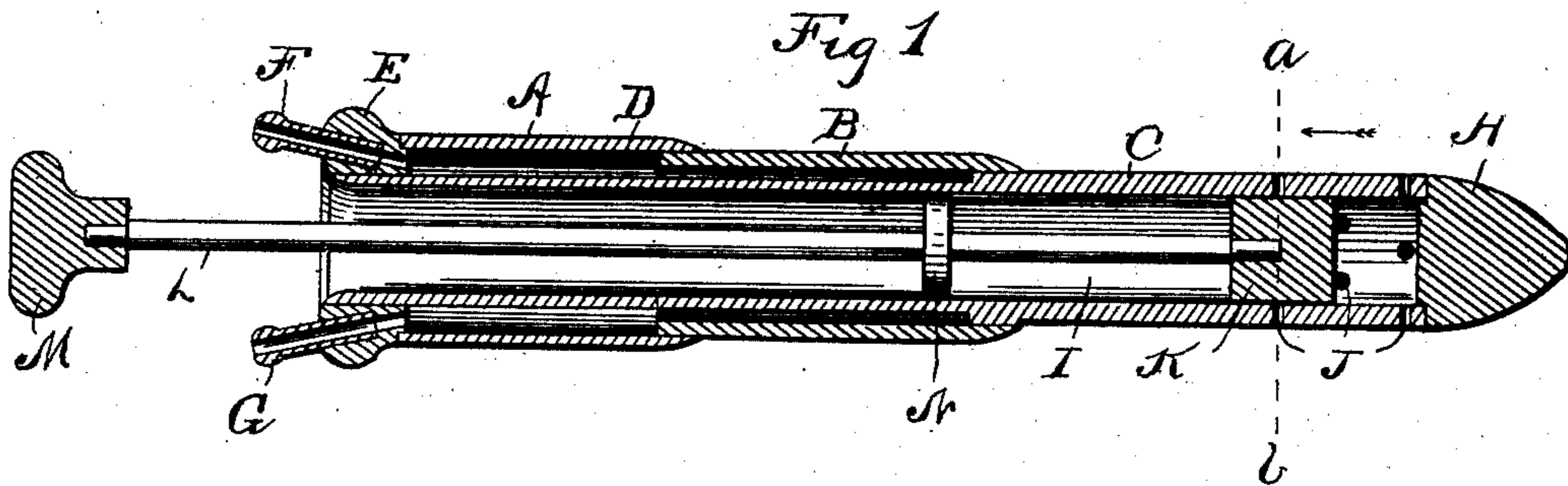
No. 719,487.

PATENTED FEB. 3, 1903.

W. E. MINOR.
DILATOR.

APPLICATION FILED SEPT. 16, 1901.

NO MODEL.



WITNESSES:

William Pitt.

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UNITED STATES PATENT OFFICE.

WILLIAM E. MINOR, OF KANSAS CITY, MISSOURI.

DILATOR.

SPECIFICATION forming part of Letters Patent No. 719,487, dated February 3, 1903.

Application filed September 16, 1901. Serial No. 75,443. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. MINOR, a citizen of the United States of America, residing in Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in a Combined Dilator and Ointment-Injector, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in dilators used for dilating orifices of the human body. Ordinarily the dilation is acquired by degrees by using instruments varying in diameter.

One of the objects of my invention is to provide a dilator in which the different degrees of dilation may be attained with the use of a single instrument. This is achieved by giving the dilator the form of a plurality of cylinders having their axes in line and abutting ends, the larger of the abutting ends tapering to the size of the smaller. The cylinders being of different diameters afford a means for varying the degree of dilation, the smaller cylinders only being at first inserted.

My invention provides, further, means for applying heat to the instrument at the time of its insertion, and thus obtaining the benefit of the healing properties of heat upon the parts operated upon.

My invention provides, further, in combination with the foregoing features, a chamber in the dilator for the reception of medicinal material, one or more openings leading from the chamber to the exterior of the dilator, and means for ejecting the said material from the said chamber through the said opening or openings.

My invention provides, still further, a chamber for the reception of a liquid heating material, such as hot water, so disposed as to heat the dilator and also the medicinal material held in the chamber provided for such material.

Other features of construction are hereinafter fully described and claimed.

In the accompanying drawings, which illustrate one form of my invention designed for the use of hot water as a heating material, Figure 1 is a central longitudinal sectional

view. Fig. 2 is a side elevation view. Fig. 3 is a cross-sectional view taken on the dotted line *a b* of Fig. 1.

Similar letters of reference indicate similar parts.

The body of the dilator comprises the three cylindrical tubular sections A, B, and C, having different diameters and abutting ends, the abutting ends of the larger cylinders tapering to the size of the smaller. The smaller cylinder C extends concentrically through the cylinders A and B, thus providing an annular chamber D for the reception of a heating substance, such as hot water. The outer end of the dilator is provided with an annular plug E, which tightly fits the inner wall of the cylinder A and the rear end of the tube C. Two nipples F and G are provided in openings made therefor in the plug E. To these two nipples are connected rubber tubes, (not shown,) which convey the water to and from the chamber D. The opening in the discharge-nipple is preferably smaller than in the other, so that water will be retained in the chamber D and not flow therefrom as fast as admitted thereto. A conoidal cap H is secured in the inner or forward end of the cylindrical tube C, thus permitting the easy insertion of the dilator where it is to be employed. A chamber I is thus formed within the tube C, having one end open and adapted to receive through the open end suitable medicinal material, such as an ointment or salve. In the body of the dilator are provided openings J, leading from the chamber I to the exterior of the dilator and located preferably near the cap H. Within the tube C is closely fitted a reciprocative piston K, secured to the inner end of a plunger L, the outer end of which projects outside the chamber I and has mounted thereon a button or finger-hold M. To prevent cramping of the piston in the tube, a supplemental guiding-disk N may be mounted upon the plunger-rod L.

In operating my invention the patient first inserts in the orifice to be treated the smaller end C of the dilator, the medicinal ointment having been previously forced to the inner end of the chamber I by the piston K. Hot water is then permitted to flow through the chamber D, the degree of heat applied being

regulated by regulating the amount of water permitted to flow through the chamber at a given period of time or by regulating the temperature of the water admitted. The piston

5 K is then forced inward by applying pressure to the button M, thus forcing the medicinal material, which is preferably of a plastic nature, through the openings J, after which it comes into contact with the flesh of the parts
10 to be treated. After the patient has used the instrument several times the orifice treated becomes sufficiently enlarged to permit the insertion of the dilator far enough for the entrance into the orifice of the next larger cylindrical portion B, and continued insertions
15 of this portion of the dilator still further enlarges the orifice until the portion A of the dilator can be inserted.

Various modifications can be made without
20 departing from the spirit of my invention.

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

1. A dilator provided with a chamber for
25 the reception of a medicinal substance, an opening leading from the said chamber to the exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, and a chamber for
30 the reception of a heating material adjacent to but disconnected interiorly from the first chamber, substantially as described.

2. A dilator provided with a chamber for the reception of a medicinal substance, an
35 opening leading from the said chamber to the exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, and a chamber for the reception of a liquid heating material adjacent to but disconnected interiorly from
40 the first chamber, substantially as described.

3. A dilator provided with a chamber for the reception of a medicinal substance, an
45 opening leading from the said chamber to the exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, means for heating the body of the dilator, and the dilator having the form of a plurality of cylinders with abutting ends and different diameters, the larger
50 of the abutting ends tapering to the size of the smaller, substantially as described.

4. A dilator provided with a chamber for

the reception of a medicinal substance, an opening leading from the said chamber to the
55 exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, a chamber for the reception of a heating material, and the dilator having the form of a plurality of cylinders with abutting ends and different diameters, the larger of the abutting ends tapering
60 to the size of the smaller, substantially as described.

5. A dilator provided with a chamber for
65 the reception of a medicinal substance, an opening leading from the said chamber to the exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, and a chamber encircling the said chamber but interiorly disconnected therefrom for the reception of a
70 liquid heating material, substantially as described.

6. A dilator provided with a chamber for
75 the reception of a medicinal substance, an opening leading from the said chamber to the exterior of the dilator, means for ejecting the said substance from the said chamber through the said opening, a chamber encircling the said chamber for the reception of a
80 liquid heating material, and the dilator having the form of a plurality of cylinders with abutting ends and different diameters, the larger of the abutting ends tapering to the
85 size of the smaller, substantially as described.

7. A dilator provided with a chamber for the reception of a medicinal substance, an opening leading from the said chamber to the exterior of the dilator, a reciprocal plunger
90 in the said chamber for ejecting the said substance from the said chamber through the said opening, a chamber adjacent to but interiorly disconnected from the first chamber, and the dilator having the form of a plurality
95 of cylinders with abutting ends and different diameters, the larger of the abutting ends tapering to the size of the smaller, substantially as described.

In testimony whereof I have signed my
100 name to this specification in presence of two subscribing witnesses.

WILLIAM E. MINOR.

Witnesses:

KATHRYN M. PETTIGREW,
WARREN D. HOUSE.