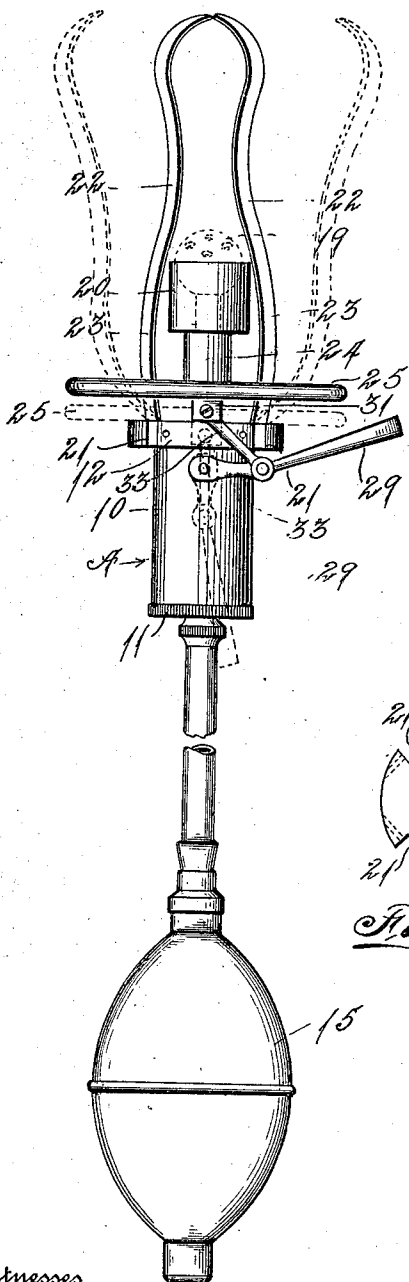


G. A. CONRAD.  
 SURGICAL APPLIANCE.  
 APPLICATION FILED JUNE 27, 1910.

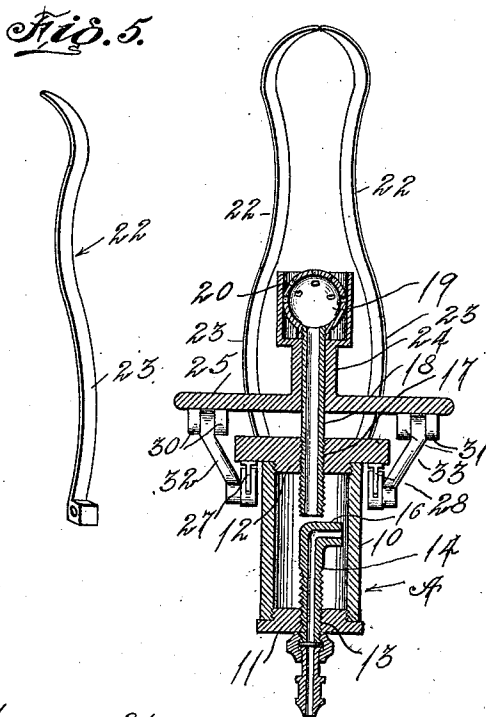
996,836.

Patented July 4, 1911.

*Fig. 1.*



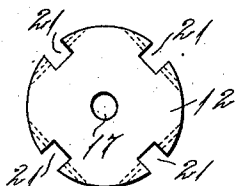
*Fig. 2.*



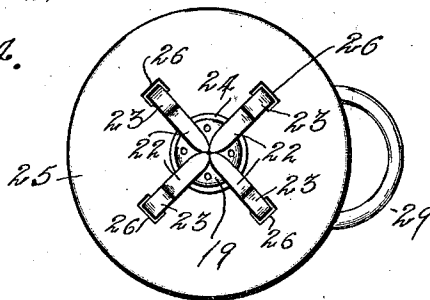
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

GEORGE A. CONRAD, OF HOUGHTON, MICHIGAN.

## SURGICAL APPLIANCE.

996,836.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed June 27, 1910. Serial No. 569,184.

*To all whom it may concern:*

Be it known that I, GEORGE A. CONRAD, a citizen of the United States, residing at Houghton, in the county of Houghton, State of Michigan, have invented certain new and useful Improvements in Surgical Appliances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to surgical appliances and especially to that class employed in the treatment of the vagina.

The object of the invention is to provide an improved appliance of the character named embodying a receiver for a medicinal powder, means for discharging the powder to the vaginal walls and other means for holding the vagina distended so as to eliminate folds that would prevent access of the powder to the corresponding portions of said walls.

With these and other objects in view the invention consists in the detail of construction and in the arrangement and combination of parts as will be hereinafter more fully described and particularly pointed out in the appended claims.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters of reference denote corresponding parts in the several views; and in which,

Figure 1 is a side elevation of the appliance shown in full lines in a contracted state and in dotted lines in an expanded state; Fig. 2, a vertical longitudinal section of the appliance with the bulb removed; Fig. 3, a top view of same; Fig. 4, a detail view of the plate which supports the dilating arms and also constitutes one end of the powder receiver; and, Fig. 5, a detail perspective view of one of the dilating arms.

Referring to the drawings, the invention is shown as comprising a receiver A which is constructed of a tubular member 10 closed at its lower end by a threaded plug 11 and at its upper end by a threaded plug 12, the diameter of which latter is considerably in excess of the diameter of the plug 11. Formed centrally in the plug 11 is a threaded aperture 13 through which projects the threaded outer end of an intake tube 14, and detachably secured to the projecting

portion of the threaded outer end of said intake tube 14 is a valved bulb 15 of the usual construction for intermittently supplying compressed air to the interior of the receiver A. The inner end of the intake tube 14 is bent transversely of the receiver as at 16 so that air blasts discharging therefrom will act upon the powder within the receiver in a horizontal direction and thus prevent said powder from packing as would be the case if the inner end of the intake tube were positioned so as to discharge air blasts longitudinally of the receiver A. Formed centrally in the plug 12 is a threaded opening 17 through which extends the lower end of a discharge tube 18, the upper end of said tube terminating in a rose 19 through which the contents of the receiver is finally discharged. Surrounding the rose 19 is a tubular jacket 20 adapted to prevent secretions from coming into contact with the rose when the appliance is in use.

The plug 12 has its periphery provided with four corresponding recesses 21 in which are pivotally mounted respectively the lower ends of dilating arms 22, which latter are provided at their lower ends with corresponding cam faces 23 for a purpose that will presently appear. Slidably mounted upon the discharge tube 18 through the instrumentality of a tubular bearing 24 integral therewith is a plate 25; said plate being provided with a plurality of apertures 26 through which the arms 22 respectively extend. The size of the apertures 26 is such that their front and rear walls coact with the cam faces of the arms 22 when said plate is reciprocated so as to cause said arms to move toward and away from each other.

In order to reciprocate the plate 25 the plug 12 is provided on its under side with depending ears 27 and 28 and a U-shaped lever 29 has its terminals pivotally connected to said ears respectively. Depending from the under side of the plate 25 at diametrically opposite points are ears 30 and 31 to which are pivotally connected respectively one end of toggle levers 32 and 33; the other ends of said toggle levers being pivotally connected respectively to the arms of the U-shaped lever 29. By this construction it will be apparent that when the lever 29 is moved upwardly the plate 25 will in turn be moved upwardly and cause the arms 22 to move toward each other, while a downward move-

ment of said lever will draw the plate 25 downwardly and cause the arms 22 to move away from each other.

What is claimed is:

5 1. In a device of the character described, the combination of a receiver provided with a discharge element at one end and an intake tube extending through its other end having the terminal thereof disposed within  
10 the receiver bent transversely of the latter, means for forcing compressed air through said intake tube, a plurality of dilating arms pivoted to the receiver, each having corresponding cam faces, and means coacting with  
15 said cam faces for moving said arms toward and away from each other.

2. In a device of the character described, the combination of a receiver provided with a discharge element, means for expelling  
20 the contents of the receiver through said discharge element, a plurality of dilating arms pivoted to the receiver, each having corresponding cam faces, a reciprocating plate coacting with said cam faces during its reciprocation to move said arms toward and  
25 away from each other, and means for reciprocating said plate; said means comprising a lever pivoted to the receiver, a toggle lever having one end pivotally connected to  
30 the plate and its other end pivotally connected to the first named lever, said first named lever and toggle lever being so positioned and arranged that the pivotal connection between the first named lever and  
35 the receiver and the pivotal connections between the toggle lever and the plate and between the toggle lever and the first named

lever will be disposed in vertical alinement when said first named lever is swung to the limit of its movement to open said dilating  
40 arms.

3. In a device of the character described, the combination of a receiver provided with a discharge element, means for expelling the contents of the receiver through said discharge  
45 element, a plurality of dilating arms pivoted to the receiver, each having corresponding cam faces, a reciprocating plate coacting with said cam faces during its reciprocation to move said arms toward and  
50 away from each other, and means for reciprocating said plate; said means comprising a U shaped lever having its terminals pivotally connected to the receiver at diametrically opposite points thereon, a pair of  
55 toggle levers having corresponding ends pivotally connected to said plate on diametrically opposite points and their other ends pivotally connected to the respective arms of the U shaped lever, said toggle levers and  
60 U shaped lever being so constructed and arranged that when the latter is shifted to the limit of its movement in one direction to open the dilating arms the pivotal connection between said U shaped lever and the  
65 receiver and between the toggle lever and the plate and the toggle levers and the U shaped lever will be disposed in alinement.

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

GEORGE A. CONRAD.

Witnesses:

THOMAS W. RICKARD,  
WARREN CROW.