

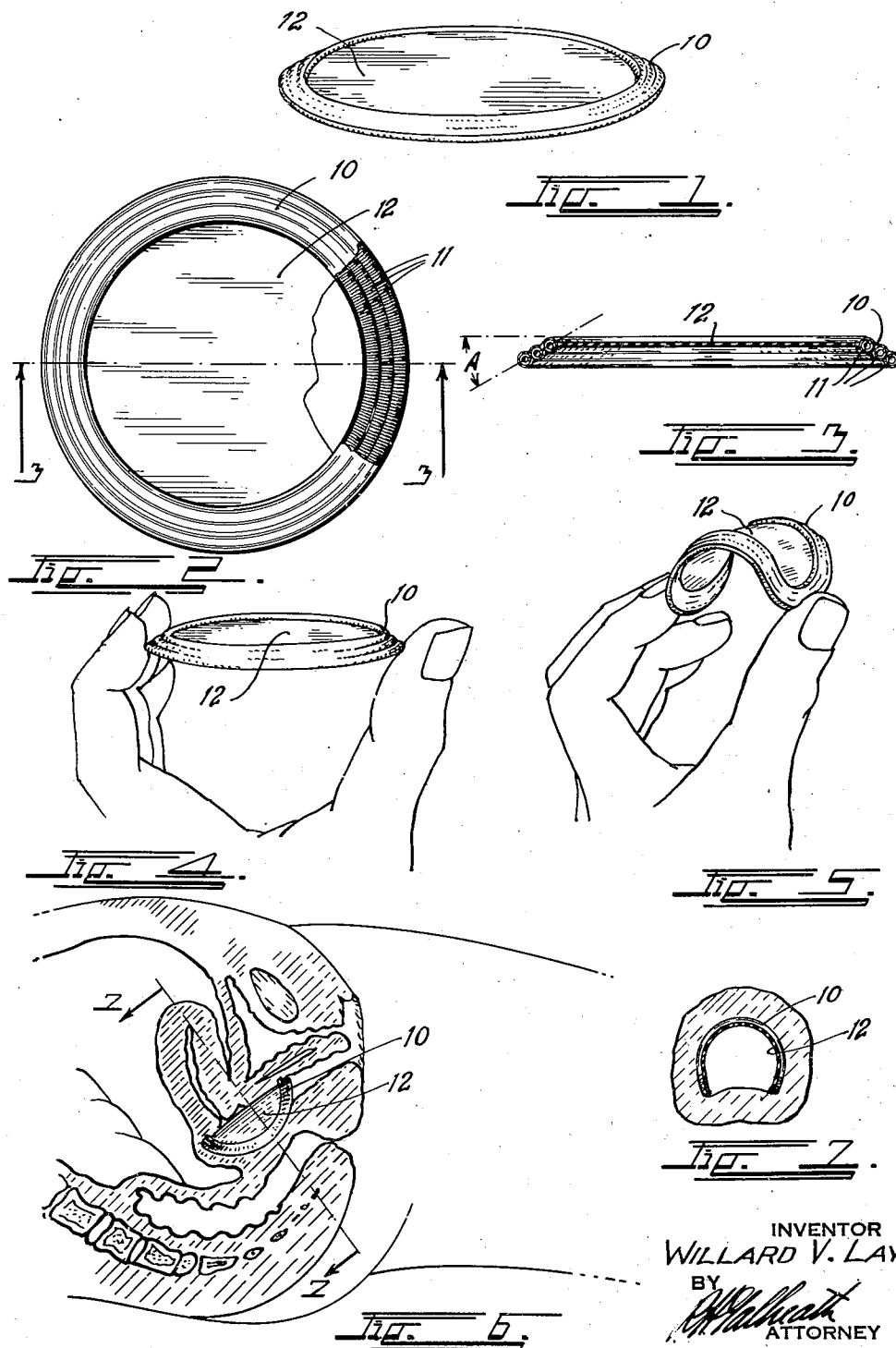
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PESSARY

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PESSARY

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5 Claims. (Cl. 128—127)

This invention relates to a vaginal pessary for the treatment of uncomplicated displacements of the uterus and for supporting prolapse of the anterior vaginal wall and bladder (cystocele), or the posterior wall (rectocele).

The principal object of this invention is to provide a simple easily insertable pessary which will always and automatically assume the correct position for insertion and will automatically retain its correct position after insertion.

Other objects of the invention are to provide a pessary which will provide a gentle, non-irritating, resilient, uniform pressure over a relatively large area of the prolapsed portion of the anterior vaginal wall; and which, after proper fitting, can be easily removed, cleansed and replaced by the patient without medical assistance.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a perspective view of the improved pessary.

Fig. 2 is a plan view thereof partially broken away to show the interior construction.

Fig. 3 is a cross section taken on the line 3—3, Fig. 2.

Fig. 4 illustrates the pessary held in its natural flat position.

Fig. 5 illustrates the pessary as it appears when subjected to side pressure.

Fig. 6 is a diagrammatic view illustrating a position of the pessary in the vagina.

Fig. 7 is an enlarged cross section of the vaginal canal, taken on the line 7—7, Fig. 6, illustrating the pessary in place therein.

Pessaries and vaginal diaphragms have been manufactured with a single annular coiled spring around the periphery. These have not been satisfactory due to the fact that when subjected to side edge pressure, the spring may fold either upward or downward. When placed in position and subjected to the varying pressures of the vaginal walls and to the movements of the patient's body such devices have been found to invert themselves so as to bow in the direction opposite to that intended. In fact when inserted carelessly, or by an inexperienced person they

are often accidentally bowed or arched in an entirely wrong direction.

This improved pessary however makes all such accidents impossible for whenever it is subject to side pressure it will always bow or arch in the intended direction and should it, due to abnormal flexations or movements, become partially or fully flattened in the vagina it will immediately resume its correctly positioned arch when the side wall pressure resumes.

The improved pessary is formed with an annular resilient rim 10 having a conical transverse axis, that is, the cross section of the rim lies normally at an acute angle to the plane of the annular faces thereof as indicated by the angle "A," Fig. 3. The rim is of greater width than thickness, the width extending along the angular, conical axis thereof.

A relatively thin elastic diaphragm 11 closes the center of the rim. The rim and its diaphragm could be molded integrally from rubber or similar elastic, resilient material. The relatively thick rim portion would serve to keep the diaphragm at proper tension.

It has been found, however, that rubber alone does not have sufficient resilient strength, in the size and weight which can be used, to provide the necessary support for the uterus and the vaginal wall. For this reason metallic springs are incorporated in the rim 10. Due to the relative thin wide contour of the rim it is not feasible to employ a single cylindrical coiled wire spring in the rim and a coiled wire of spring having a flat contour has not been found satisfactory. For these reasons a plurality of coiled wire springs 11 having a diameter substantially equal to the thickness of the rim are employed in concentric, adjacent relation. The number of springs employed depends upon the width of the rim and the stiffness desired.

The pessary illustrated employs three annular concentric coiled wire springs of differing circumferences and the three springs have been found to be very satisfactory. The three springs are imbedded in or molded in the rubber in a stepped relation to produce the conical outline of the rim.

The pessary may be produced as a unit by placing the springs, wrapped in raw rubber, in a suitable mold having a cavity for forming the complete pessary and subjecting it to the proper heat and pressure.

The pessaries have also been formed by painting or dipping the springs with latex or rubber cement while they are held in place on a form-

ing fixture. Sufficient coats are applied to completely cover the springs and bind them securely together. A rubber diaphragm is then cemented at its periphery to the rim to close the open interior thereof and the entire assembly is allowed to properly cure.

To place the pessary in position, it is only necessary to press the opposite sides together, as shown in Fig. 5, sufficiently to insert it, as an open tube, in the vagina. The sides are then released against the side walls of the vaginal canal.

Let use herein designate the side of the pessary having the smallest diameter as the top and the side having the greatest diameter as the bottom. It is desired to call attention to the fact that whenever two sides of the pessary are forced together the top side will always form a convex surface never a concave one. Even if intentionally or accidentally distorted to bow in the opposite direction, the pessary will immediately return to its normal convex top position as soon as the distorting pressure has been released. This tendency to always assume and continuously retain its correct position, even though it is freely pliable and elastic, is one of the valuable features of the invention. It cannot be wrongly formed nor incorrectly inserted and it cannot become incorrect during or after insertion.

For support of the uterus and anterior vaginal wall the pessary is positioned with the top-convex face upward and forward as shown in Fig. 6. The downwardly turned sides of the rim rest against the side walls to maintain the proper curvature. The relatively tight resilient diaphragm 12 forms a firm continuous support for the entire prolapsed area. For support of the posterior wall the pessary is inverted with the convex side downward.

The automatically correct flexure of the pessary is due to the fact that the outer edge of the pessary is to one side of the medial plane thereof, that is, at the bottom face. This outer edge of course receives the initial side pressure as when the pessary of Fig. 4 is compressed to the position of Fig. 5. The necessary result is therefore to arch the intervening area of the pessary toward the top surface.

The pessary is supplied in a variety of sizes to enable the physician to select the one best fitted for each individual patient. After being properly fitted by the physician, the pessary may be removed and replaced by the patient as necessary and desirable, since it will always automatically assume the correct position.

The pessary provides a mechanical support which, due to its free pliability is not in any way injurious to the tissues.

It is desired to call particular attention to the fact that it is the confining side pressure of the

vaginal walls which causes the arched inner and outer extremities of the rim to elevate in the vaginal vault where they will act to force redundant tissue, or a prolapsed bladder or uterus back into normal position. The weight of the prolapsed organs, and/or tissue is not transmitted to the vaginal floor for support but is resiliently, uniformly, and radially distributed over all areas of the pessary contacting the vaginal vault. In fact, it is not necessary that the rim even contact the vaginal floor in order to produce an upward pressure.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A pessary comprising: a conical annular rim of greater width than thickness; and a flexible diaphragm closing the center of said rim, the width of said rim lying at an incline to the plane of the face of the rim to form a hollow truncated cone.

2. A pessary comprising: a conical annular rim of greater width than thickness; and a flexible diaphragm closing the center of said rim, the plane of said rim forming an acute angle with the plane of the annular face of said rim to form a relatively flat hollow truncated cone.

3. A pessary comprising: a conical annular rim of greater diametric width than thickness; a plurality of concentric annular coil springs lying in said rim, each annular spring increasing in circumference as the outer edge is approached; and a flexible diaphragm closing the open center of said rim.

4. A pessary comprising: a plurality of annular coiled springs, each spring being smaller in circumference as the axis is approached, said springs being arranged in stepped relation to produce a conical series of springs; a resilient cover enclosing said springs, said cover being supported by said springs to form an annular band in the shape of a hollow truncated cone; and a flexible diaphragm within and surrounded by said band.

5. A pessary comprising: an outer annular spring; an intermediate annular spring of lesser circumference; an inner annular spring of less circumference than the intermediate spring, said springs being placed concentrically in adjacent planes to form the outline of a hollow, truncated cone; an elastic covering over said springs forming an annular band of similar outline; and a flexible circular diaphragm secured to and outlined by said band.

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