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G. L. DE BRAY ET AL

2,540,325

PESSARY

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Fig. 1

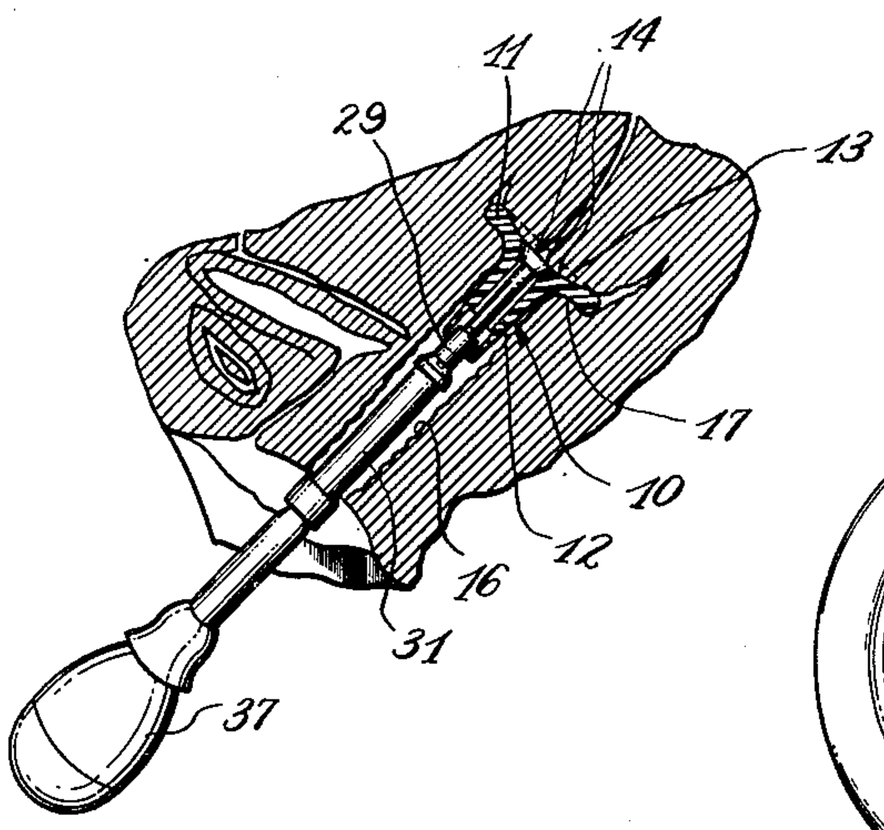
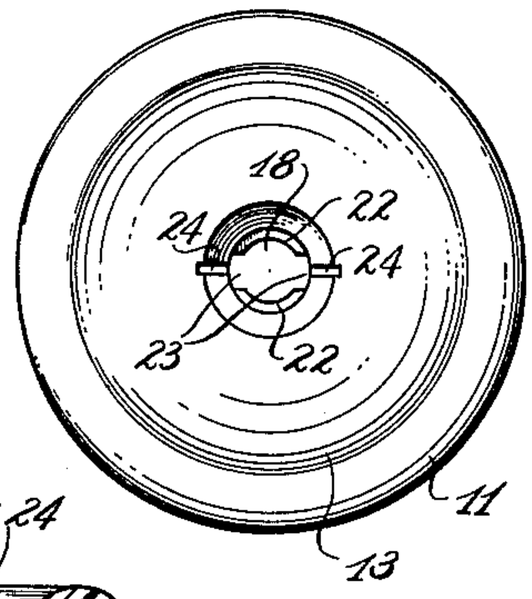


Fig. 4



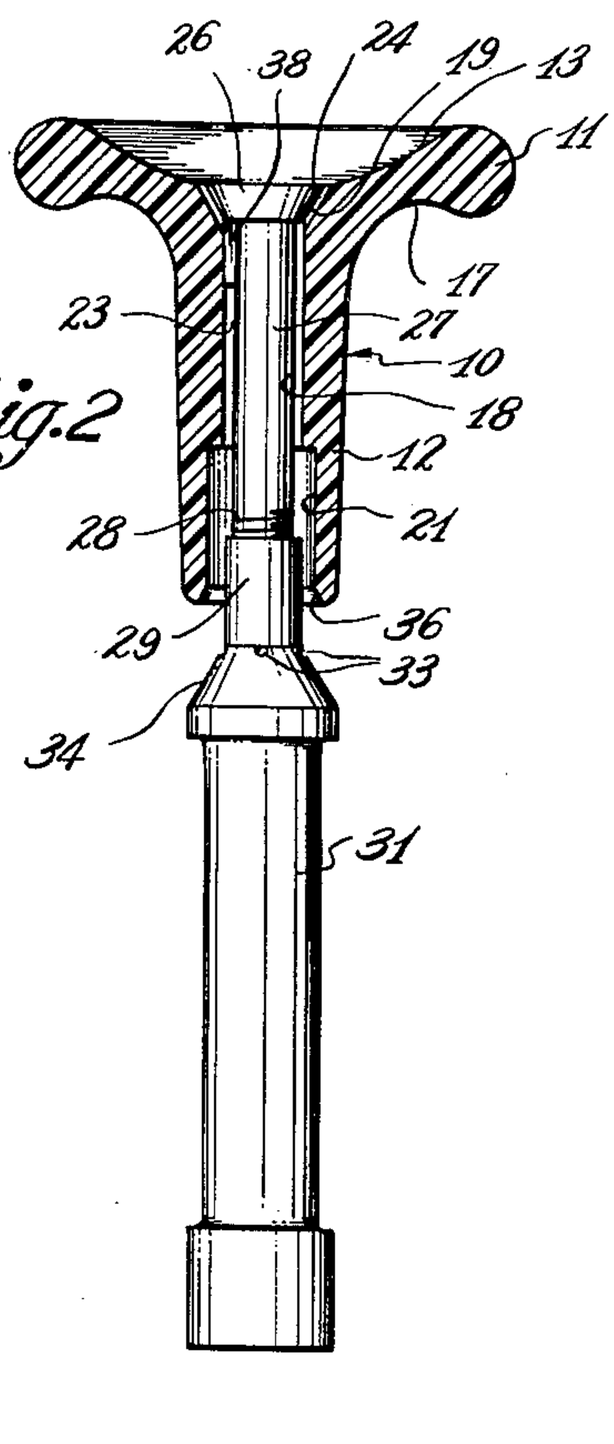


Fig. 2

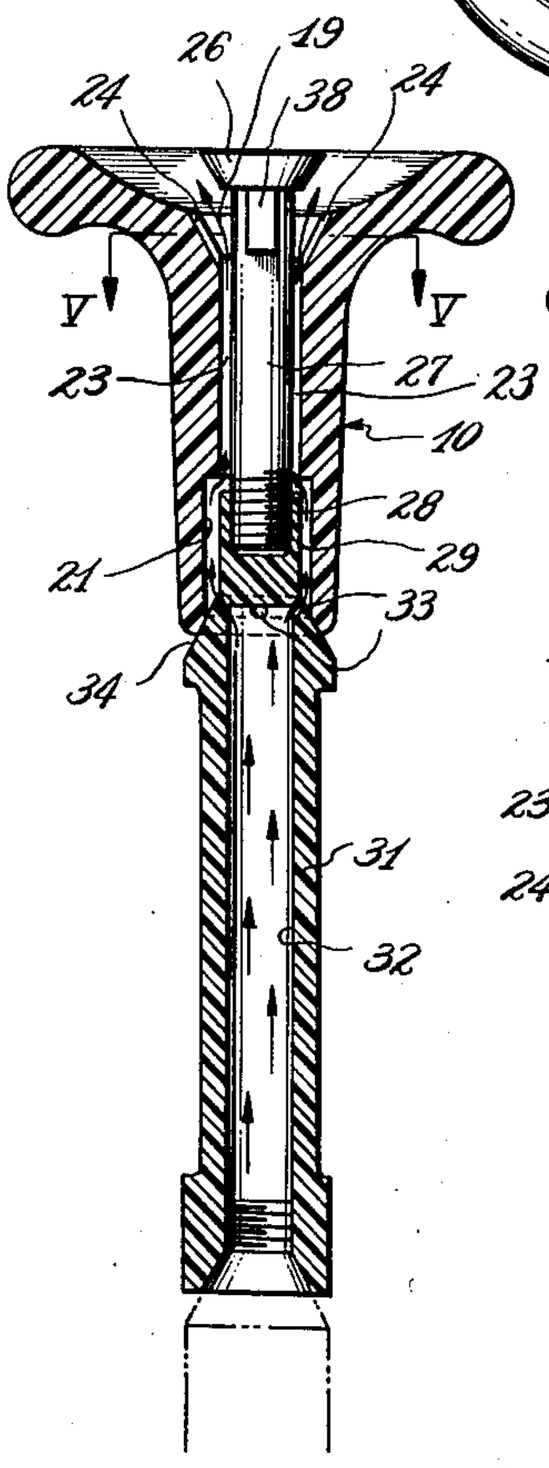
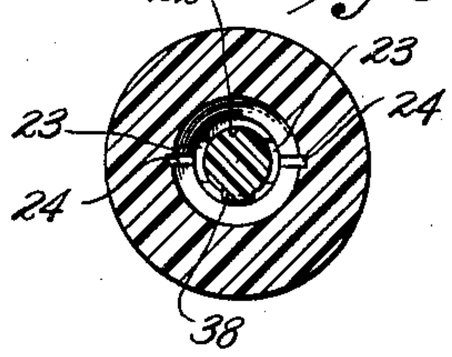


Fig. 3

Fig. 5



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PESSARY AND MANIPULATING HANDLE ASSEMBLY

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4 Claims. (Cl. 128—127)

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This invention relates to pessaries, and has particular reference to a pessary especially adapted for the treatment of uterine prolapse, in which the pessary is required to remain within the vaginal cavity over relatively long periods of time.

In the treatment of uterine prolapse, it is frequently desirable to provide an artificial support for the uterus which will hold the uterus in its normally retracted position for a sufficiently long period of time to permit restoration of the muscles to a condition in which they can naturally support the uterus.

In other instances it is found that it is necessary to maintain the artificial support for an indefinite period of time where the muscular development and restoration are insufficient to provide the necessary normal support.

In the treatment of such cases, it has heretofore been the practice to utilize a pessary adapted to be inserted into the vaginal cavity a sufficient distance to engage the exposed end of the uterus, the pessary then being pressed upwardly to position the uterus in its normal position, the pessary remaining in this position, engaging the vaginal walls with sufficient force to prevent a falling of the uterus back to its abnormal position.

Where such pessaries are required to remain in place over any appreciable period of time, it is desirable to remove the pessary from time to time for the purpose of permitting the physician or surgeon to determine whether or not a cure has been effected and considerable difficulty is encountered in removing pessaries of known construction due to the fact that body secretions tend to cement the pessary to the uterus, such that removal of the pessary causes the uterus to be pulled downwardly out of its normal position by its adhesion to the surfaces of the pessary.

In order to permit removal and readjustment of the pessary, it is, therefore, desirable to insure severance of any adhesion between the pessary and the uterus prior to the exertion of any outward pull on the pessary. In addition, it frequently occurs that the accumulation of body secretions above the pessary is of such volume as to require frequent irrigation, which is difficult, if not impossible, with known types of pessaries employed for this purpose.

The present invention is an improvement upon the invention disclosed and claimed in earlier application Serial No. 655,109, now Patent 2,452,229, and the present application is a continuation-in-part of the earlier case. The present invention differs importantly from the earlier construction

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in that the drainage passages are open in all relative positions of the parts of the unit permitting irrigation to aid in the breaking of adhesions hydraulically.

It is therefore an object of this invention to provide a pessary of the character described, which may be readily inserted and removed, and which is provided with a positive means for separating the pessary from the tissues engaged thereby prior to the exertion of any outward pull on the pessary, and which means also serves to provide an irrigation passage through which irrigating fluids may readily be passed from the exterior of the body to the portions of the pessary engaging the surrounding body tissue.

It is also an object of the present invention to provide a pessary of the type just noted wherein are provided permanent drain passages through which secretions may pass and thereby drain in a normal manner.

Still another object of the invention is to provide a pessary having a stem and an enlarged head that is concave on both upper and lower surfaces so that the vaginal wall may more positively engage the pessary for retaining it in position.

Other objects and advantages of the invention will be apparent in the following description and claims, considered together with the accompanying drawings, in which:

Fig. 1 is a sectional view through a portion of the body of a woman showing the uterus supported by a pessary embodying the invention and disposed in and retained by the vagina;

Fig. 2 is an enlarged vertical sectional view through the pessary of Fig. 1 and illustrating the manner in which a manipulating handle may be adapted thereto;

Fig. 3 is a view similar to Fig. 2 but illustrating the handle in section and illustrating the position of the pessary parts when the parts are in position for irrigation;

Fig. 4 is a top plan view of the pessary body with the valve removed; and

Fig. 5 is a detailed fragmentary sectional view taken along line V—V of Fig. 3.

Referring to the drawings, there is illustrated in Fig. 1 a pessary body 10 which is preferably constructed as a substantially large diameter cup portion 11 from which may extend a downwardly depending stem 12 of relatively small diameter. The upper surface of the cup portion 11 is concave as at 13 to conform with the convexity of the protruding end or cervix of the uterus 14 and is preferably polished to present a smooth, non-irritating surface to the engaged

tissues. The cup portion 11 is of sufficient diameter to spread the walls of the vagina 16 as the body is inserted therein, the surrounding vagina walls tending to hold the body in place against the cervix, the protruding end of the uterus, and to hold the uterus in its retracted position against accidental prolapse.

Referring to the other drawings, the cup portion 11 is made particularly in accordance with the invention and includes an annular concave portion 17 on the underside thereof which curves smoothly into the outer surface of the stem 12. The stem 12 is also preferably of sufficient diameter to provide a relatively great area of contact with the surrounding vagina walls. This gripping action of the vagina walls is shown particularly in Fig. 1, wherein it will be noted that the tissues mold themselves into the concave portion 17 to give a very firm and secure support to the entire pessary 10. This action induced by the concavity 17 is in contrast to the usual tapered walls which are generally straight and therefore offer but little resistance to sliding when forces are imposed that tend to move the pessary 10 downwardly.

The stem 12 may be provided with a central axial bore 18 terminating at its upper end in a conical enlargement 19 and terminating at its lower end in an enlarged counterbore portion 21. As noted particularly in Figs. 4 and 5, the bore 18 is non-circular and includes circular portions 22 separated by two concentric enlargements 23 which define irrigation passages, as will be explained more fully hereinafter. The upper conical enlargement 19 of the bore 18 is also formed particularly in accordance with the invention, and may include two drain notches 24 cut into the conical enlargement and aligned with the irrigation passages 23.

A closure member or cover 26 may be provided for the conical opening 19, and this cover may be guided for axial movement with respect to the bore 18 by a shaft 27 adapted to slide along the circular guide portions 22 of the bore 18. The upper surface of the cover 26 may be concave if desired to conform with the concave surface 13, or may be flat as illustrated in Fig. 2. In any event, the shape of the cover 26 should be such that it forms a smooth contact with the cup portion 11 when it is in a closed condition, as shown in Fig. 2, so that there will be no irritating projections or lines, the surface being smooth and broken only by the small drain passages 24.

The shaft 27 of the cover 26 is preferably sufficiently long to extend into the counterbore 21 formed on the lower end of the stem 12. The lower end of the shaft 27 may be provided with coupling means such as threads 28 adapted to be engaged by a complementary coupling 29 formed upon and constituting the upper part of a manipulating handle 31 by which the pessary and valve assembly may be inserted into or removed from its position within the vaginal cavity and by which irrigation through the handle and pessary may be obtained.

The handle 31 is preferably constructed as an elongated tubular member having a bore 32 extending from its lower end to a position immediately below the coupling 29. The bore 32 constitutes a fluid passage which communicates with the counterbore 21 in any suitable manner, as by means of a plurality of angularly extending ports 33. The ports 33 are preferably formed with their outer ends immediately adjacent the coupling 29 in a tapered surface 34 formed on the upper end of the handle 31 about the coupling 29. This tapered surface 34 accordingly may seat against the lower end of the body stem 12 which may have a corresponding tapered surface 36, if desired. Irrigating fluids may be supplied by any desired mechanism, such as a syringe 37 threaded into the lower end of the handle 31.

Referring now particularly to Figs. 3 and 5, it will be noted that the shaft 27 that guides the cover 26 may be provided with a lug 38 along one side thereof, and further that this lug may be of a size to fit within one of the irrigatng passages 23. Accordingly the shaft 27 may be locked against rotation when the lug 38 is disposed within one of the irrigating passages 23 as shown in Fig. 2. This lock renders the shaft 27 stationary, which permits the threading and unthreading of the manipulating handle 31. Further, the lug 38, by engaging the top part of the circular portions 22 of the bore 18, may act to hold the cover 26 in a raised position, as shown in Fig. 3. The length of the lug 38 and the length of the shaft 27 are preferably such that when the lug may be thus used to maintain the cover 26 in a raised position, the tapered surface 34 of the handle 31 will be seated to form a fluid-tight engagement with the pessary 10.

When it is desired to insert the pessary into the vagina, the handle 31 may be assembled thereto by threadedly engaging the lower end of the cover shaft 27. The shaft will be restrained against rotation during this threading operation by the lug 38 fitting within one of the irrigating passages 23. When the threaded coupling is made, the handle 31 may be positioned upwardly against the pessary 10 until the tapered surface 34 abuts against the lower end of the pessary 10, and the two thereafter move as a unit. The pessary is then moved to its proper location, for example that shown in Fig. 1, and the handle may then be rotated so that the lug 38 will fit within one of the passages 23 and the handle 31 may then be withdrawn outwardly, causing the cover 26 to close. The lug 38 will hold the shaft 27 against rotation, and the handle 31 may then be unthreaded from the shaft.

Thus the pessary 10 may be positioned with a relatively simple movement, and the manipulating handle 31 may be detached therefrom. The walls of the vagina 16 will tend to engage the under surfaces of the pessary closely and fit within the concavity 17 on its lower surfaces. This tends to give great support to the pessary, holding it tightly against the cervix 14 so that the uterus as a whole may be properly supported.

While the pessary is retained within the body, drainage of the usual secretions is accomplished in a normal manner because the passages 24 always remain open. Accordingly the secretions may pass down the passages 24 and into the irrigating passages 23 and out the counterbore 21. The pessary therefore offers no obstacle to normal drainage while it is performing its vital support function. The provision of a drainage means in the pessary also tends to reduce the cementing effect of secretions, which effect is normally present, and tends to cause the tissues of the cervix or uterus to adhere tightly to the concave upper surface 18 and to the upper surface of the cover 26.

If it is desired to supply irrigating fluids to

the cervix and the adjoining vaginal cavity, the handle 31 may be re-attached to the pessary 10 by threadedly engaging the shaft 27. The syringe 37 may then be secured to the lower end of the handle 31. The assembly of the handle 31 and syringe 37 may next be moved upwardly, lifting the cover 26 and at the same time forming a seal at the tapered surface 34. The irrigating fluids may then be forced through the bore 32 in the handle 31, thence through the ports 33 into the counterbore 21 and up the irrigating passages 23 to the upper surface of the cup shape 13. These irrigating fluids may be allowed to drain out immediately by maintaining the cover 26 in a raised condition as shown in Fig. 3, or they may be allowed to drain out slowly by closing the cover 26 and restricting the opening to the drain passages 24 only. This irrigating action may be facilitated by rotating the cover 26 slightly until the lug 38 holds it in the extended position as shown in Fig. 3. From the foregoing it is evident that a pessary made in accordance with the invention may permit irrigation of the vagina and cervix without removal of the pessary.

If it is desired to remove the pessary, as is necessary for inspection purposes, it is desirable that the adhesion between the pessary and the surrounding tissues be broken, since otherwise the withdrawal of the pessary would tend to pull the cervix 14 downwardly and thus undo any benefits obtained by having the pessary in position. Accordingly, therefore, the handle 31 may be threadedly attached to the stem 27 and the cover 26 may be moved upwardly as shown in Fig. 3. This upward movement raises the adjoining tissues of the cervix, breaking them free from contact with the cup-shaped portion 13 of the pessary. The contact of the cervix with the cover 26 may be broken by rotating the cover 26 when in this raised condition. The shaft 27 may then be rotated until the lug 38 again aligns with an irrigating passage 23 and drops therein. The entire pessary 10 may then be rotated to break any possible remaining adhesion between the pessary and the surrounding tissues. The entire pessary may then be removed by a downward movement of the handle 31 and the cover 26 engaging the conical enlargement 19 moves the entire pessary.

The passages 24 also permit the utilization of a novel procedure for breaking adhesions; namely the use of fluid or hydraulic pressure. If it is desired to remove the pessary, for example to permit examination, the handle 31 and the syringe 37 may be attached as previously described in connection with the irrigating operation. The syringe may then be operated by maintaining contact between the vagina and the handle, and forcing fluid into the vagina. Part of this fluid will work upwardly through the passages 24 to develop a pressure between the tissue and the pessary. This pressure will break adhesions and accordingly this procedure may be used independently or in combination with the mechanical technique for breaking adhesions.

From the foregoing description of a presently preferred embodiment of the invention it is obvious that the improvement provides natural drainage for pessaries of the type having movable and rotatable covers. Additionally, the passages permit the flow of air through the pessary in the event that the cover becomes closed during insertion of the pessary into the vagina. Further, the passages make possible the use of irrigating

fluid that may be used to break adhesions by fluid pressure developed between the pessary and the adhering tissue. Also, the present invention results in a more favorable shape of pessary cup portion, allowing it to be more securely engaged by the vaginal tissues and thus perform more effectively its purpose of holding the uterus in its normal position.

Any suitable material may be used for forming the pessary, and at present a plastic molding is preferred. Methyl methacrylate has proved quite satisfactory, particularly since it is light in weight. A cup diameter of about two inches has been found satisfactory, with a stem length of a corresponding dimension.

Although the invention has been described with reference to a presently preferred embodiment thereof, it will be apparent to those skilled in the art that various modifications and substitutions may be made in this structure without departing from the true spirit and scope of the invention. For example, various thicknesses of cup portion for the pessary could be used and still effectively employ the concavity 17. Likewise different shapes of cover 26 could well be employed without departing from the teaching of forming permanent drain apertures. Also it is obvious that the drain apertures could be separately drilled holes and are not necessarily notches in a conical enlargement of a bore. Accordingly the invention is not limited to the specific description, nor otherwise, except by the terms of the following claims.

What is claimed is:

1. A pessary comprising a body terminating in a cup shape, a bore extending through the body and opening into the cup shape, a shaft disposed within the bore and defining irrigation passages between it and the bore, a cover secured to the upper end of the shaft and adapted to close the opening of the bore into the cup shape, and notches formed in the bore adjacent to the cup shape to define permanent drain passages communicating the cup shape with the irrigation passages in all positions of said cover.

2. A pessary comprising a body having a cup-shaped portion of large diameter and a lower stem of relatively small diameter and having a thick bead formed on the outer edge of the cup shape so that an annular concave surface is formed on the lower surface of the cup shape adjacent to the stem, a bore passing through the stem and opening conically outwardly into the cup-shaped portion and having circular guide portions along the length thereof, a shaft disposed within the bore and guided on the circular portions thereof and defining irrigation passages between it and the other portions of the bore, a conical cover secured to the upper end of the shaft and adapted to seat on the conical enlargement of the bore to substantially close the bore, and notches cut in the conical enlargement of the bore in alignment with the irrigation passages to define drain passages between the interior of the cup shape and the bore so that a communication is maintained at all times between the interior of the cup and the bore.

3. A pessary comprising a body having a cup-shaped portion of large diameter concave upon its under side and having a lower stem of smaller diameter extended therefrom, a bore passing through said stem and cup-shaped portion, a valve including a head adapted to seat in said bore at said cup-shaped portion and a shaft

extended through said stem and having handle-engaging means at its end, cooperating means on said valve and body member to prevent rotation of said valve when seated to close said bore and to retain said valve in open position, a liquid-conducting handle to conduct liquid to said bore including cooperating engaging means to engage said valve shaft with said valve in its closed position and adapted to raise it to open position, and cooperating means on said handle and on said body member to close the lower end of said bore with said valve raised, characterized in that said cooperating means on said valve and body member function, when retaining said valve in open position, to hold said last-mentioned cooperating means in their non-closing relationship.

4. A pessary comprising an enlarged disc-like body formed with a thickened rounded rim and with apposed concave sides, an integral stem of lesser size than said body extending centrally from one side thereof, said body and said stem being formed with a continuous bore, a headed valve including a shaft positioned in said bore and a head adapted to close said bore at the side

of said body spaced from said stem, passage means connecting said bore with the concave side of said body spaced from said stem and at a point spaced from said valve to provide for uninterrupted drainage and to prevent the creation of a vacuum in all positions of said valve, said shaft being slidable in said stem to open and close said bore, and means to prevent the rotation of said valve in its closed position but offering no opposition thereto with said valve in its open position.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
3,289	White et al.	Sept. 24, 1843
395,008	Sharp	Dec. 25, 1888
1,230,112	Carey	June 19, 1917