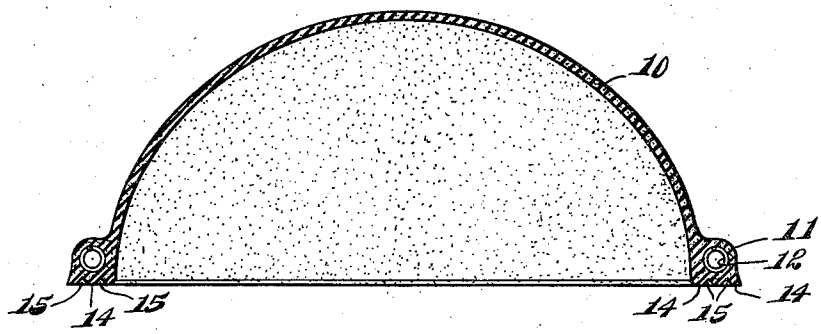
July 1, 1947. C. C. WATERBURY 2,423,356

PESSARY

Filed July 6, 1945

Fig. 2.



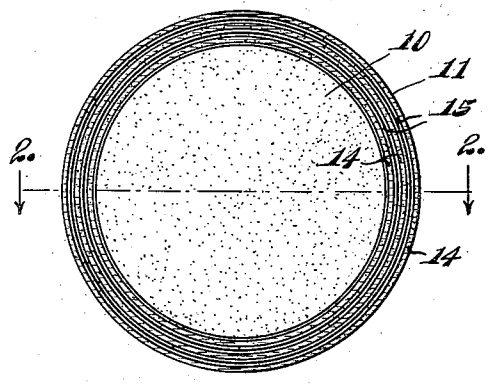


Fig. 1.

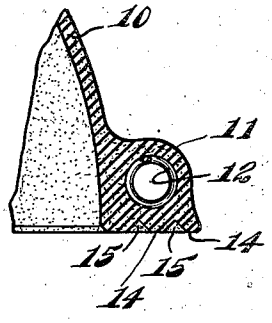


Fig. 3.

INVENTOR.
Carl C. Waterbury.
BY
Bair & Freeman
Atty's.

Patented July 1, 1947 2,423,356

UNITED STATES PATENT OFFICE

2,423,356

PESSARY

Carl C. Waterbury, Chicago, Ill., assignor to Diaphragm & Chemical Company, Chicago, Ill., a corporation of Illinois

Application July 6, 1945, Serial No. 603,565

4 Claims. (Cl. 128—127)

1

This invention relates to flexible diaphragms of the type adapted to be introduced into the vaginal canal in a position to cover the mouth of the uterus.

Devices of this type have heretofore been made principally of rubber, in various forms and constructions, and usually comprise a dome-like membrane having a thickened peripheral rim. In using the diaphragm it is usually filled or partially filled with a suitable medicament, preferably in the form of a cream or jelly. In some constructions the rim has embedded therein a relatively light coil spring or rubber cord for the purpose of providing reinforcement, flexibility, and maintenance of shape. All prior constructions, to my knowledge, have been made with the tissue contacting surface of the rim in a manner, usually rounded, so as to provide a substantially line contact, and hence do not provide adequate or effective sealing action and insure against outside organisms passing over the contacting face of the rim.

One of the objects of this invention is to provide an improved diaphragm of the character indicated, having a rim constructed and arranged to make an effective sealing contact with the tissue when the device is in a position of use.

Another object is to provide an improved diaphragm construction having a relatively wide face rim provided with recessed areas for creating a suction action for insuring adequate sealing contact with the tissue when the device is in a position of use.

A further object is to provide an improved diaphragm construction of the character indicated, having a rim formed with a relatively wide tissue contacting face in which there is provided one or more continuous grooves for the reception of medicament for effectively precluding the passage of outside organisms across the tissue contacting face of the rim.

Still another object is to provide an improved diaphragm of the character indicated, which is simple in construction, economical to manufacture, and which effectively serves the intended purpose of use.

Other objects and advantages of this invention will be apparent from the following description, taken in connection with the accompanying drawing, in which:

Figure 1 is an underside view of the improved diaphragm embodying the present invention;

Figure 2 is an enlarged cross sectional view of the device, taken substantially as indicated at line 2—2 on Figure 1; and

2

Figure 3 is an enlarged, fragmentary sectional view through the rim of the device.

The diaphragm embodying the present invention may be produced in conventional forms, that is, circular or oval, by usual practices and methods, such, by way of example, as illustrated in my United States Letters Patent No. 2,294,589, dated September 1, 1942. The diaphragm may be made of rubber or rubber-like material and includes a dome-like membrane 10 which terminates at its marginal edge in a thickened peripheral rim 11. As shown in the drawing, a light coil 12 is embedded in the rim 11, and the ends of the spring are preferably connected together prior to molding of the diaphragm.

The tissue contacting face of the rim, as indicated at 14, is relatively wide and extends in a plane substantially normal to the central axis of the dome-like membrane 10. Said contacting face 14 is provided with one or more (herein shown as two) continuous grooves 15 extending around the entire rim.

The wide contacting face 14, being broken up into a plurality of narrow concentric faces, thus insures a more positive sealing contact with the tissue when the diaphragm is in a position of use. Moreover, the grooves 15 tend to create a suction action for assisting in holding the diaphragm in proper position. A further function of the grooves is to serve as shallow reservoirs for the medicament cream or jelly, thus serving as a moat for insuring intimate contact of the medicament with the tissue, and thus preventing any outside organism from completely traversing the rim of the diaphragm.

Although I have herein shown and described one preferred embodiment of my invention, manifestly it is capable of modification without departing from the spirit and scope thereof. I do not, therefore, wish to be understood as limiting this invention to the precise embodiment herein disclosed, except as I may be so limited by the appended claims.

I claim as my invention:

1. A device of the character described, comprising a thin dome-like membrane having a thickened peripheral rim provided with a relatively wide, flat, contacting face, said face being formed with recessed portions to create a suction action for assisting in holding the device in place while in use, and a continuous coil spring embedded in said peripheral rim, in substantially axial alignment with said recessed portions.

2. A device of the character described, comprising a thin dome-like membrane having a

thickened peripheral rim provided with a relatively wide, flat, contacting face extending in a plane substantially normal to the central axis of said membrane, said face being formed with a continuous groove, with narrow flat contacting surfaces at each side thereof, adapted to create a suction action for assisting in holding the device in place while in use.

3. A device of the character described, comprising a thin dome-like membrane having a thickened peripheral rim provided with a relatively wide, flat contacting face extending in a plane substantially normal to the central axis of said membrane, said face being formed with two continuous grooves spaced apart in transverse direction to provide narrow flat contacting surfaces at each side of said grooves.

4. A device of the character described, comprising a thin dome-like membrane having a thickened peripheral rim provided with a relatively wide, flat contacting face extending in a plane substantially normal to the central axis of said membrane, said face being formed with two continuous grooves spaced apart in transverse direction to provide narrow flat contacting surfaces at each side of said grooves, and a continuous coil spring embedded in said peripheral rim, in substantially axial alignment with said grooves.

CARL C. WATERBURY.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,404,384	Kurkjian	July 23, 1946
1,995,818	Riddlesbarger	Mar. 26, 1935
2,079,022	Martin	May 4, 1937
2,295,062	Townsend	Sept. 8, 1942