

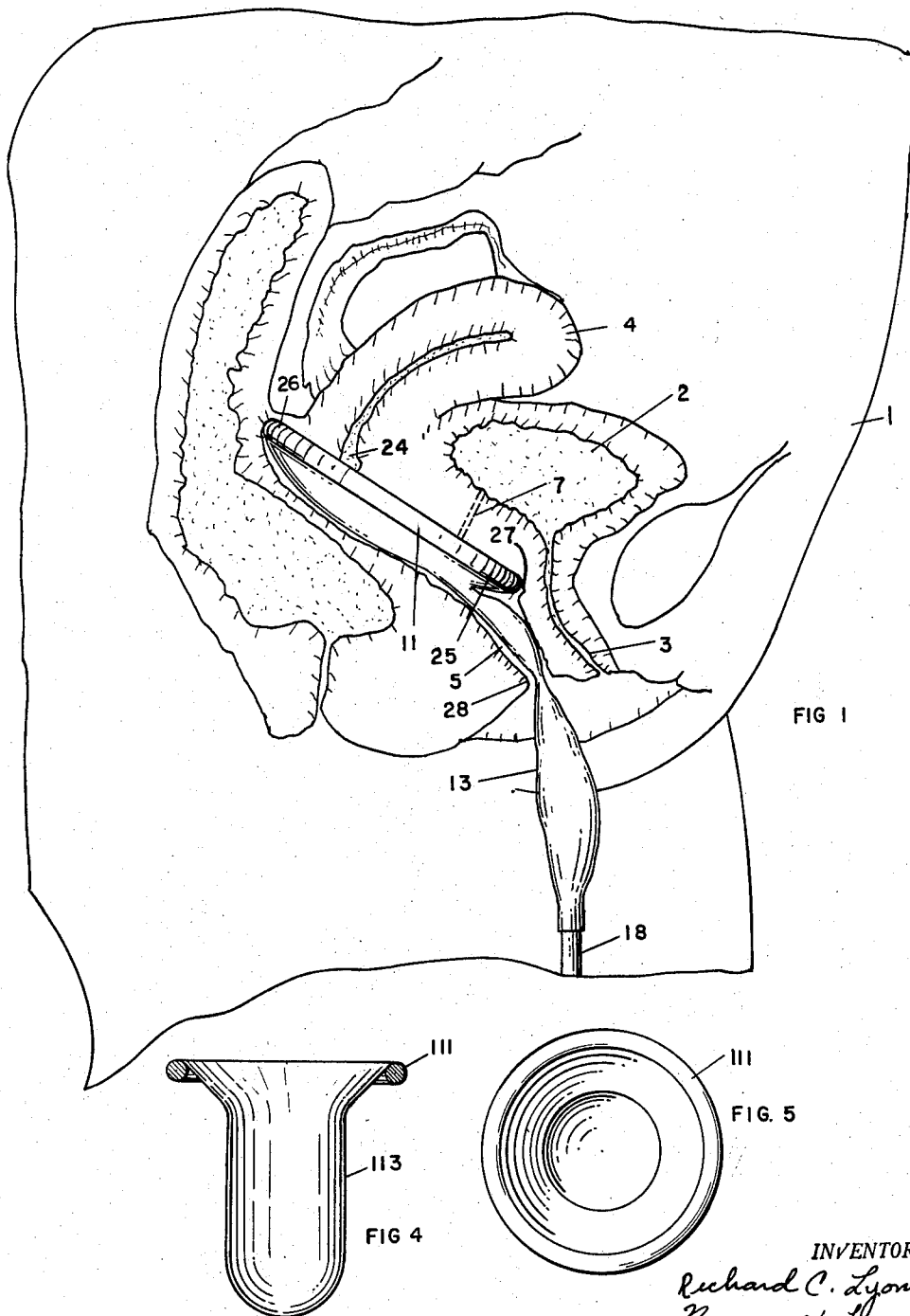
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R. C. LYONS ET AL
SURGICAL DEVICE

2,915,065

Filed Oct. 25, 1954

2 Sheets-Sheet 1



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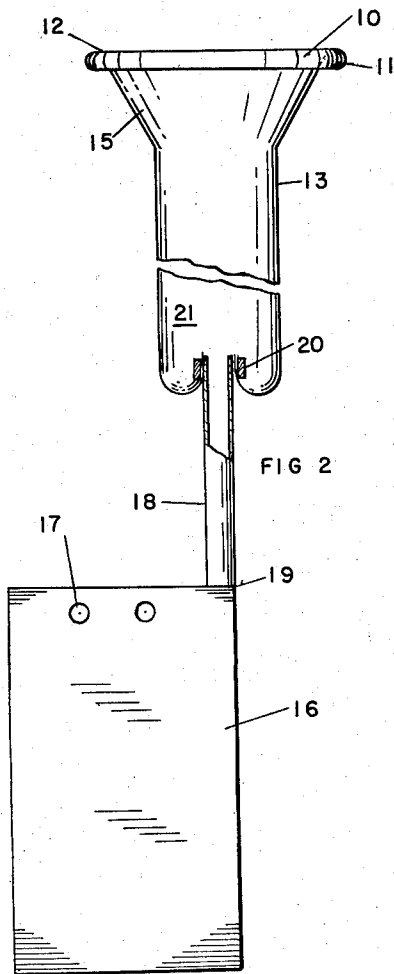


FIG 2

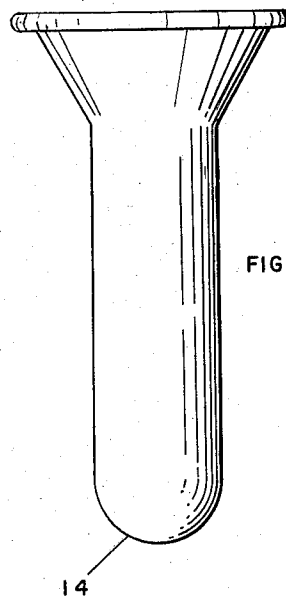


FIG 3

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SURGICAL DEVICE

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3 Claims. (Cl. 128—275)

This invention relates to surgical devices and more particularly to devices to receive discharges from the female organs. In cases of vesico-vaginal fistulae during the long preoperative period which is usual for cases of this kind the person suffering from this condition is compelled to wear inconvenient devices such as pads to absorb the urine that leaks out of the vagina as a result of this condition. This invention contemplates the elimination of the discomforts and inconveniences of the above condition by using a modification of the well-known contraceptive diaphragm. Instead of the usual thin diaphragm which is connected across the ring of the contraceptive diaphragm there is attached thereto a very thin tubular piece of flexible material of the nature of the well-known contraceptive condom. When the ring is in place in the vagina the tubular material extends between the lips of the vagina and distal end of the tubular material is attached to a conventional urine container which is adapted to be attached to the patient's leg. This invention is also useful in collecting the menstrual flow to eliminate the use of the ordinary troublesome and discomforting devices contrived for that purpose. In this embodiment one end of the condom is closed to form a sac attached to the ring.

It is an object of this invention to overcome the difficulties of previous devices for caring for patients suffering from vesico-vaginal fistulae and more particularly the object of our invention is to provide a device for the purpose described which is simple in construction, economical to manufacture and simple and efficient to use.

Another object of the invention is to provide a simple, efficient and comfortable device for use to collect the discharge during the menstrual period.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a longitudinal section of the lower portion of the human feminine torso with a device according to the invention in place,

Fig. 2 is a conductor,

Fig. 3 is a view of a portion of the device,

Fig. 4 is a view of another embodiment of the invention, and

Fig. 5 is a top view of the device shown in Fig. 4.

In Fig. 1 is shown a view of a feminine human torso 1 having a bladder 2, having the urethra 3 communicating therewith and adjacent the uterus 4 and in juxtaposition to the vagina 5.

During the course of childbirth in certain cases there develops what is known to the medical profession as

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vesico-vaginal fistulae. That is, during the course of childbirth a rupture occurs between the interior of the bladder and the vagina as illustrated at 7. When this condition occurs the urine from the interior of the bladder at 2 leaks through the rupture at 7 and drips out of the vagina and the patient suffering from this condition has no control of the flow of urine. The medical profession does not consider it desirable to operate on such patients until a considerable length of time after the child has been born and until the parts of the body, regain a normal condition. During this period it is extremely discomforting to the patient because of the condition that exists and the patient must resort to the use of pads and various other inconvenient devices to collect the urine as it runs from the body. A large number of pads are required and the patient is uncomfortable constantly.

Fig. 2 shows a ring 10 similar to the ring used on the well-known contraceptive diaphragm which has a relatively stiff resilient ring 11 which in some cases is made of hard rubber and in other cases may have a steel spring molded in the rubber to give it more stiffness and resiliency. To the inside of the ring at 12 is attached a very thin flexible sheet of material such as the body portion 13 which is attached to the ring. The body portion is made of thin rubber or plastic material and is of a general size and shape of the well-known contraceptive condom, that is, it is generally tubular in shape having a closed bottom portion 14 and it is preferably stretched outwardly at 15 to form a funnel shaped collecting portion. The portion 13 has a length greater than the diameter of the ring 11 in order to contain fluid below the lower end of a front portion 25 and hangs outside the body of a person. The tubular portion is extremely thin and soft so that it may engage the sensitive parts of the body without the parts being conscious of the presence thereof.

The urine bag 16 may be of the usual plastic type having eyelets 17 adapted to receive a cord for attaching the bag to the patient's leg. A tubular inlet member 18 is attached to the upper end thereof at 19 and communicates with the inside thereof. The lower end 14 of the tubular member is attached to the bag at 19. This is done by stretching the end 14 over the end of the tubular member 18 and pressing the collar 20 therearound to hold the tubular member in place. The lower end 14 will extend over the top of the tube at 21 and with the collar seal the tubular member to the tube 18. The portion 21 can be punctured by means of a pin or otherwise to break the lower end thereof to allow the urine to drain into the bag.

When the device is in place as shown in Fig. 1 with the ring 11 extending over the mouth 24 of the uterus and with a portion 26 thereof inserted as far back in the vagina as it will go and the front portion 25 tucked up behind the pubic bone at 27 to keep it in place the device can remain in place for several days without discomfort. The tubular member 13 in this position extends outward through the lips 28 of the vagina and downward to the urine bag 16. The tubular member being extremely thin and soft, the patient will not usually even be conscious of its presence. Urine leaking through the rupture 7 will follow the tubular member 13 and be collected in the bag 16 from which it can be discharged in the conventional manner. The entire device is comfortable to wear, and efficient for the purpose intended.

Fig. 4 shows another embodiment of our invention wherein the ring 111 is formed similar to the ring 11 in Figs. 2 and 3. However the tubular portion 113 is somewhat shorter than the tubular portion 13 shown in Fig. 2 so that the entire device can be contained within the vagina. The tubular portion is made of extremely

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thin high-grade rubber material or plastic material of the nature of approximately 1 or 2 thousandths of an inch in thickness or less. With the ring 111 in the same position that the ring 11 is shown in Fig. 1 the tubular member 113 will be completely housed in the vagina. And in this position the device can be used by a normal healthy female for a catamenial device for collecting the menstrual flow. The discharge from an ordinary human female during the menstrual period is approximately 8 cc. and it has been discovered that a thin flexible tube of this type can easily contain this quantity and the wearer will not even be aware that the device is in place. After the period of menstruation has passed the device can be disposed of or sterilized and used subsequently.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A surgical device comprising a ring of relatively rigid resilient material, a closed, elongated, generally cylindrical container of tissue-thin flexible resilient material attached to said ring and forming an elongated container therewith, said ring forming an edge of said container, the distal end of said thin material being turned back on itself inwardly of said cylindrical container and disposed around a tubular member comprising the inlet to a urine bag and a sleeve disposed around said turned back end of said thin member and said tube holding said thin member to said tube whereby urine from said thin material drains through said tube into a bag attached thereto, said bag being attachable to the leg of a person.

2. A surgical device comprising a ring of flexible material, a metal spring disposed in said material and adapted to urge said ring to retain a circular shape, and

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a tubular member attached to said ring, said tubular member being made of extremely thin material and decreasing in size from said ring and terminating in a cylindrical portion, the distal end from said ring of said tubular member being adapted to be turned back inside said cylindrical portion and to have a tubular inlet to a container inserted therein, and a collar adapted to fit around said distal end of said cylindrical portion clamping said distal end to said tubular inlet whereby liquid received in said cylindrical member is conducted into said container, said ring member being adapted to fit into the body of a person.

3. A catamenial device comprising a ring of relatively rigid yet flexible resilient material and a container of tissue thin flexible material, said thin material terminating in an opening, said opening being fixedly attached to said ring and forming an elongated container closed at the end remote from said ring, said ring forming an edge around an open end of said container, said ring having such outside diameter that it may be inserted in the vagina of a person with said ring surrounding the mouth of the uterus and a portion thereof disposed as far back in the vagina as it will go and at the front tucked behind the pelvic bone of the person, said elongated container having a depth greater than the diameter of said ring, said container receiving fluid from the body of said person, said elongated container being sufficiently long to extend outwardly between the lips of the vagina of said person a substantial distance and to terminate at a position spaced outwardly therefrom a substantial distance from said lips to receive fluid through said ring from the body of said person.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,915,065

December 1, 1959

Richard C. Lyons et al.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 3, line 10, for "8 cc." read -- 80 cc. --.

Signed and sealed this 20th day of September 1960.

(SEAL)

Attest:

KARL H. AXLINE

Attesting Officer

ROBERT C. WATSON

Commissioner of Patents