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METHOD AND APPARATUS FOR COLLECTING A CLEANER URINE SPECIMEN

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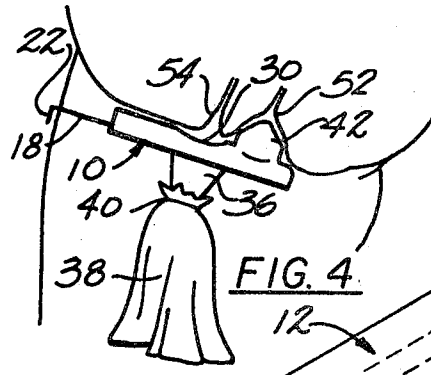


FIG. 4

FIG. 1

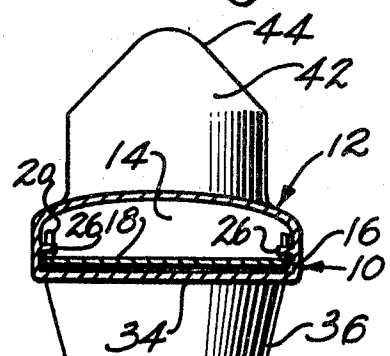


FIG. 2

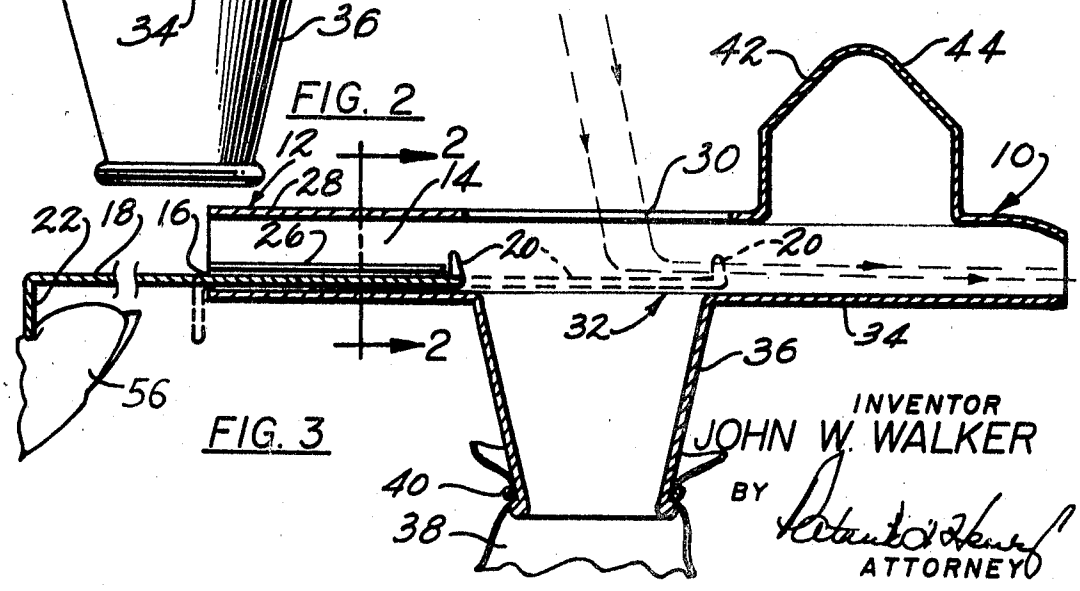


FIG. 3

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METHOD AND APPARATUS FOR COLLECTING A CLEANER URINE SPECIMEN

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U.S. Cl. 128—2 9 Claims

ABSTRACT OF THE DISCLOSURE

A method and apparatus for collecting a specimen of urine from a female as, for example, by a physician for test purposes, which may be done by the female herself in privacy without help through the use of the present deflector means and the guide means for the urine which can be in the form of a stainless steel passageway so located as to enable the female to deflect the initial flow and direct it into a waste collector such as a toilet or urinal, and then the urine is deflected after the initial flow into the collection container. The apparatus, which may be stainless steel, plastic or the like, is positioned, located and operated by the female herself and may include a positioning and locating speculum member to assist in separating the labia.

The specimen of urine taken from the whole of an entire amount which has been voided into a container is contaminated by the initial flow which contains vaginal secretions and which usually cleans the way for the subsequent flow that is much less contaminated. Bladder catheterization is one procedure for obtaining a cleaner specimen but this is uncomfortable to the patient, requires assistance from a nurse or doctor or attendant, is inconvenient for outpatient or office visits, and usually is embarrasing to the patient. On the other hand, attempts to get cleaner specimens through the procedure of instructions, verbal and written, to the patient are not as productive or convenient as the present method and apparatus. There is a need for a method and apparatus for the present invention for a patient to obtain a specimen of her urine without the help of anyone else and in a simple manner which provides the specimen in a closed container.

Generally described, the present method comprises starting the urine flow through an opening which directs this part of the flow into a waste container such as the ordinary commode bowl, positioning the collection container, such as a plastic bag, near the flow, and then moving a deflector surface from the opening through which the flow initially started to pass, allowing the flow to direct itself from its own pressure into the collecting container. In performing the method, a surface may be placed in front of the female organ at the opening for the urine and the opening through that surface initially directs the first part of the urine flow into the waste container such as the toilet, and then moving a closure away from the collector container allows the urine to flow thereinto. A locating device may be inserted slightly into the vaginal opening to assist in finding the proper position.

In one form of the invention, without regard to the scope of the invention as defined in the claims, a stainless steel, plastic, or the like, housing has a transverse opening therethrough leading from the urine input to the collector container which is a plastic bag, and a passageway through the housing which leads to the waste depository, such as the toilet. A vaginal locating protrusion, selected as to position according to the distance to the opening, readily assists the patient in finding the proper position. A manually operated closure for the urine opening of the

device permits the patient to direct the flow from the initial purging into the toilet to the collection of the less contaminated specimen into the bag, which may be held to a flange about the collection opening by means of a rubber band. The female patient, without assistance and in privacy, may assume any position found comfortable for urination, such as sittting on the toilet or in bed on a urinal basin. The labia are spread with the fingers and the locating projection is inserted only slightly into the vaginal opening, and still holding open the labia the urinal is manipulated to press the housing to depress the perineum and is angled toward the symphysis pubis. Urination is initiated by the patient and the initial part falls through the housing into the toilet or urinal. After urination is well in progress the patient easily shifts the closure and lets the remainder flow into the collection bag. The bag neck may be twisted for removal and closed by the rubber band.

An object of this invention is to provide a method of collecting a cleaner urine specimen by the female patient herself without assistance through normal urination as opposed abnormal methods such as bladder catheterization.

The method of this invention relates to collecting a urine specimen from the female which is less contaminated with vaginal secretions and would more accurately reveal the composition of the urine from the bladder.

Another object of this invention resides in the method whereby initial urination is used to collect the contaminated part and then diversion is used to collect the remainder, all through the independent operation of the patient.

Still another object of this invention is in the method of directing the initial flow of urine through one path and diverting it to another for collection.

Another feature of this invention is found in the way for locating the collecting container and the discharge opening by means of a vaginal locating member.

An additional advantage of one form of the collecting device itself is in the means for shifting from the initial waste flow period to the final collection flow period during which time the specimen is collected all though the sole, private procedure by the patient herself.

Other and further objects and advantages of my invention will be apparent from the reading of the following specification taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of one form of the present collecting device having the removable bag thereon.

FIG. 2 is a cross-section view of the device in FIG. 1, with the collection bag removed, taken along lines **202** in FIG. 3.

FIG. 3 is a longitudinal cross-sectional view taken along lines **3—3** of FIG. 1.

FIG. 4 is a diagrammatic view of the device shown in FIGS. 1 through 3 in position on the female patient to start the collection procedure.

Referring to FIG. 1 initially and thence as the description proceeds to the other figures of the drawings, the urine speciman collecting device is designated generally and overall in assembly by reference number **10** and comprises a deflector means in the form of a housing **12** constructed from plastic, stainless steel or the like and shaped and sized to provide some fitting to the female organs and surrounding area and to cover same to some extent. Housing **12** has a longitudinal passageway therein at **14** which is provided at one end—the upper end **15** using the front of the female patient as a reference—with slot **16** into which is mounted a sliding closure member **18** prevented from complete retraction by an inside flange **20** and from complete insertion by hand manipulated tab

edge 22. Guides 26, spaced from housing 12, help maintain the alignment of member 18 as it slides.

One side 28 of housing 12 is pressed against the female patient and is provided with an opening 30 leading to the inside passageway 14 (and the hollow interior of housing 12). Substantially in alignment with opening 30, there is another opening 32 in the other side 34 of housing 12 which is flanged into a smooth tapered hollow neck 36 to which is attached the plastic collection bag 38 by means of a rubber band 40. Bag 38 is a fluid tight bag much like those used for packaging food products, sandwiches and the like, and may be heat sealed plastic film like polyethylene. Such bags 38 are inexpensive in quantity, are disposable but durable, and serve the purpose of this invention well. Member 42, somewhat cylindrical in shape and tapered on the end 44, for very limited insertion into the vagina to assist the female patient in properly positioning the present collecting device without assistance and without requiring any inconvenient and possibly messy experimentation. Member 42 may also be called a speculum projection. The size of openings 30, 32 assures satisfactory positioning and alignment and allows some amount of flexibility to compensate for unstable holding, sudden movement, and any other variables.

In the operation of the device shown in FIGS. 1 through 3, inclusive, a typical female patient, from whom, for example, the gynecologist desires a substantially clean and uncontaminated specimen, and designated diagrammatically in FIG. 4 by number 50, may assume any position to permit urination, including sitting on a toilet. The female patient spreads the labia and inserts the locating member 42 or speculum projection in the vagina 52, which positions the entire device 10 and especially the opening 30 with respect to the urine opening 54. With the female patient's fingers 56 still holding open the labia, the housing 10 is pressed to depress the perineum and is angled toward the symphysis pubis. The patient, still holding the device 10, with at least one hand, starts the initial urine flow which, with the closure 18 in the normal down position covering opening 32, which causes the initial urine flow to pass through the housing 12 through passageway 14, in the manner shown in the broken lines in FIG. 3, and out the lower end into the waste receptacle such as the toilet. After urination is well in progress, the patient opens the closure 12 by pulling on member 22 and the urine stream continues but is directed into the opening 32 and into the bag 38.

It is to be noted that the method employed includes diverting the initial flow of urine by deflecting same into a waste collector and then as the flow continues deflecting the flow to the collector means.

While I have shown and described a particular method together with a procedure, and also have described and shown a particular device, this is by way of illustration only and does not constitute any sort of limitation on the scope of my invention, since various alterations, changes, substitutions, eliminations, deviations, omissions, ramifications and revisions may be made in both the method and apparatus without departing from the scope of my invention is defined in the appended claims.

What is claimed:

1. In a method for collecting a urine specimen from a female, without the required assistance of anyone else:
(a) the female assuming position to urinate through a guide means into a waste collection means such as the conventional toilet or urinal,
(b) the female starting urination causing the urine to flow through said guide means and deflecting the initial flow into the waste collection means by means of a deflector in the guide means,
(c) positioning a specimen collecting means within the range of the flow and initially maintaining the flow from entering said specimen collecting means,
(d) after the flow has started and continued for a period to purge some contamination, deflecting the flow into the specimen connecting means and effecting entry of the flow into the specimen collecting means.

2. The method in claim 1, wherein:
(e) the specimen collecting means is substantially covered to prevent the initial flow from entering same, and at the proper time the collecting means is uncovered to receive the urine therein.

3. The method of claim 2, wherein:
(f) the initial flow is deflected into the waste collection means by a deflector means that has an opening therein, said specimen collector being positioned to receive through said opening but being covered initially,
(g) said uncovering of said specimen collection means permitting the flow to pass through said opening into the collection means.

4. In an apparatus for a female to position on herself in the genito-urinary region, and adjacent to the urine outlet, for collecting a less contaminated specimen without assistance and without entering the urine outlet:
(a) a urine deflector and positioning means,
(b) a collector container on said means in (a) having means thereon for removing same from the means in (a),
(c) and means for diverting the flow of urine from one direction to the collector container for starting the flow initially to remove some contaminants and then deflecting same into the container in (b).

5. The apparatus claimed in claim 4, wherein:
(d) said deflector includes a surface positioned by the female on her genital area and at the urine outlet, said collector container having an inlet on said surface, and said means in (c) including a member movable relative to said deflector.

6. The apparatus in claim 5, wherein:
(e) said deflector surface has an opening therein leading to the inlet of said container, said opening being covered at times by said member movable relative to said deflector, and said member being a closure mounted to open and close said inlet.

7. The apparatus in claim 4, wherein:
(f) there is a positioning member protruding from said deflector for positioning in the vaginal opening to locate the apparatus.

8. The device in claim 7, wherein:
(g) said deflector is a hollow housing having a transverse opening therein, and said closure moves in said housing to close same with respect to the collector container.

9. The device in claim 8, wherein:
(h) said collector means is a water tight bag.

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