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DISPOSABLE URINE SPECIMEN TUBE

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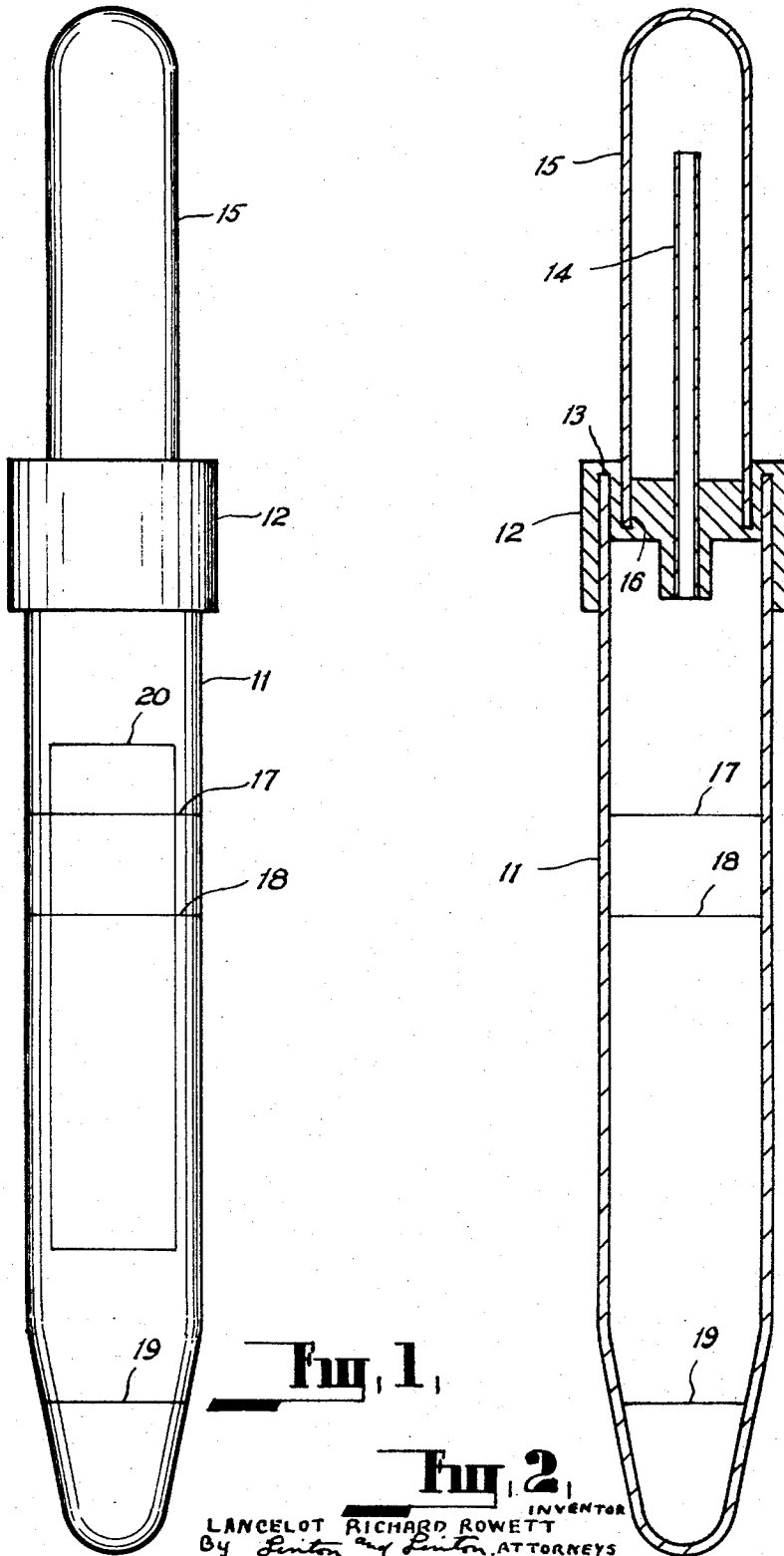


Fig. 1,

Fig. 2,

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**DISPOSABLE URINE SPECIMEN TUBE**

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1 Claim

**ABSTRACT OF THE DISCLOSURE**

A disposable urine specimen tube comprising a test tube formed of flexible plastic material, the test tube having a rounded closed end to facilitate the use of the test tube as a centrifuge tube and being provided with a cap adapted to fit onto the open end of the test tube, the cap having a dropper tube projecting outwardly therefrom so that urine can be aspirated into and expelled from the test tube through the dropper tube, and a removable cover for the dropper tube.

This invention relates to a disposable urine specimen tube.

The object of the present invention is to provide a urine specimen tube which is simple to use, eliminates the possibility of cross infection from mishandling of the specimen, and which is sufficiently cheap so that it can be dispensed with after each use.

Broadly, the present invention resides in a disposable urine specimen tube comprising a test tube formed from a flexible plastic material such as polyethylene, a cap fitted on the top of the test tube and forming a liquid tight seal therewith, a dropper tube projecting from the cap, and a removable cover for the dropper tube.

Preferably the lower closed end of the test tube is formed of a rounded conical shape to facilitate the use of the test tube as a centrifuge tube.

The present invention will be better understood by reference to the following description of one specific embodiment thereof shown in the accompanying drawings, wherein:

FIG. 1 is an elevation; and

FIG. 2 is a longitudinal section.

As shown in the drawing, the test tube 11 is formed from resilient polyethylene, is substantially cylindrical and, is open at the top, the lower closed end thereof being formed of a rounded conical shape. The cap 12 is also formed from polyethylene and is provided with a deep groove 13 into which the upper end of the tube 11 can be inserted to form a liquid tight seal therewith. One end of a dropper tube 14 also formed from polyethylene is sealed within the central portion of the cap 12 so that the tube projects upwardly from the cap. A substantially cylindrical cover 15 also formed from polyethylene is fitted over the cap, the open end of the cover 15 being accommodated within a second groove 16 formed in the cap. Preferably the tube 11 is calibrated with a series of lines 17, 18 and 19 to indicate the various volumes normally used in microbiological tests, and it may also be provided with a substantially rectangular area 20 which has been treated so that various identifying marks can be written. After manufacture, the various components of the tube 11 are sterilized in any suitable fashion and preferably by gamma radiation.

In use, the cover 15 is removed, the dropper tube 14 inverted and inserted into the urine sample and the test

tube 11 compressed. When the pressure is released, a quantity of the sample will be drawn up through the dropper tube into the test tube. When a sufficient quantity (generally about 10 to 15 ml.) has been collected in this way the cover 15 is replaced and the tube can then be dispatched to the laboratory. The microbiologist removes the cap and then uses the dropper tube to dispense drops of urine onto culture plates, and there being a measured number of drops in a measured amount of saline solution to produce a suitable dilution for the colony count technique to determine the number of bacteria present in 1 ml. of urine. The plastic cap 12 is then removed from the tube 11 and the tube placed in a centrifuge and the remainder of the specimen centrifuged for the determination of types of cells, crystals or casts in the centrifuged deposit. When the examination is finished all parts of the apparatus are incinerated.

Whilst the invention has been described with particular reference to a specimen tube in which all the components are formed from polyethylene, other suitable plastic materials may be used. Any flexible plastic material such as nylon which can be sterilised by gamma radiation and which is unaffected by the urine sample may be used for the various components.

The sample tube of the present invention has the following advantages:

(1) Eliminates the necessity for a sterile jug or funnel to transfer urine from the collecting bowl to a narrow necked specimen bottle or jar and this avoids the risk of spilling urine on outside of the containers with subsequent risk of cross-infection to other patients.

(2) Saves the cost of a specimen bottle or jar.

(3) It is less bulky and lighter for transport to the laboratory.

(4) Saves the cost of dropping pipettes for making of cultures and dilutions for colony counts.

(5) Eliminates the cost of centrifuge tubes.

(6) Eliminates the possibility of further spillage of urine when pouring from the specimen bottle to a centrifuge tube.

(7) Saves necessity for sterilization, washing, labelling and reesterilization of glass specimen bottles.

I claim:

1. A disposable urine specimen tube comprising a test tube formed from a flexible plastic material, a cap having two faces fitted on the top of the test tube and forming a liquid tight seal therewith, a dropper tube projecting outwardly from the cap, and in communication with the interior of the test tube, and a removable cover mounted over the dropper tube, the closed end of the test tube being formed to a rounded conical shape to facilitate its use as a test tube, said cap being provided on a first one of its faces with a first deep groove adaptable to receive the open end of said test tube so as to form a liquid tight seal therewith, said cap being further provided with a second groove on its second other face adapted to receive the open end of said removable cover.

**References Cited**

**UNITED STATES PATENTS**

1,760,841	5/1930	Garhart	215—73
1,889,209	11/1932	Mazoyer	141—24
2,707,469	5/1955	Feinstein	128—233
2,729,364	1/1956	Malko	222—212 X
3,253,728	5/1966	De Putron	215—73
3,288,318	11/1966	Corbin et al.	215—73 X

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