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Beckford

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[54] **MODIFIED PETRI DISH FOR AUTOMATIC INOCULATION**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 329,084, Feb. 2, 1973, abandoned.

[52] **U.S. Cl.** **195/139**

[51] **Int. Cl.**[2] **C12K 1/10**

[58] **Field of Search** 195/103.5, 139

[56] **References Cited**

UNITED STATES PATENTS

3,728,228 4/1973 Durantz 195/127

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[57] **ABSTRACT**

A dish is provided for use in mechanical inoculation devices employing an inoculating loop or cotton swab. The tray has compartments containing combinations of differential or selective media to separate mixtures of gram-positive and gram-negative bacteria, facilitate isolation of organisms from clinical specimens and compare colony growth characteristics of pure cultures. The tray has compartments to separate the media and the media is filled above the heights of the barriers, so that the swab or inoculating loop may freely pass from one media to another.

The aforementioned Abstract is neither intended to define the invention of the application which, of course, is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

5 Claims, 2 Drawing Figures

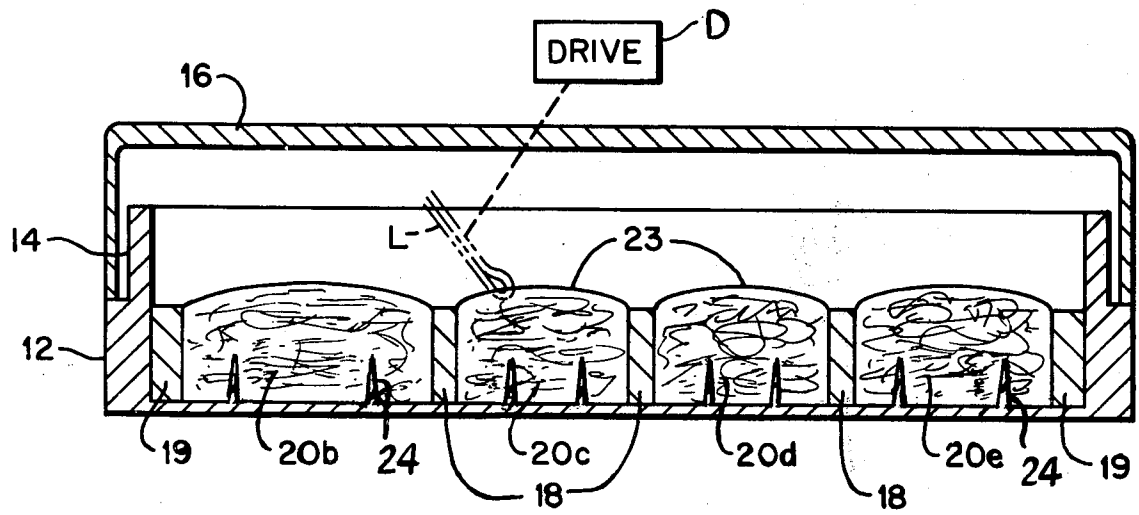


FIG. 1

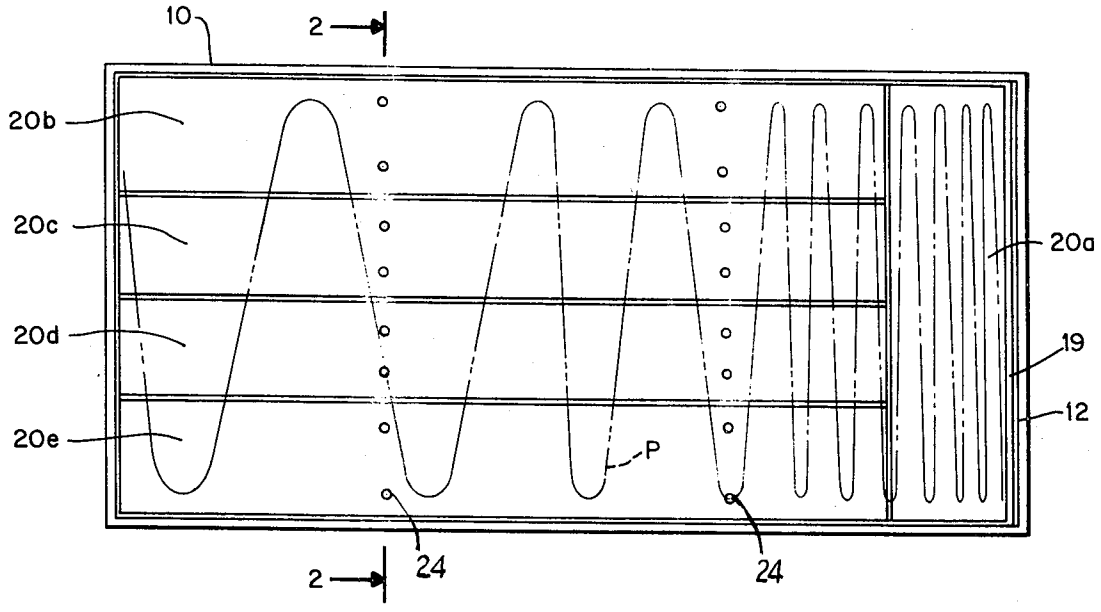
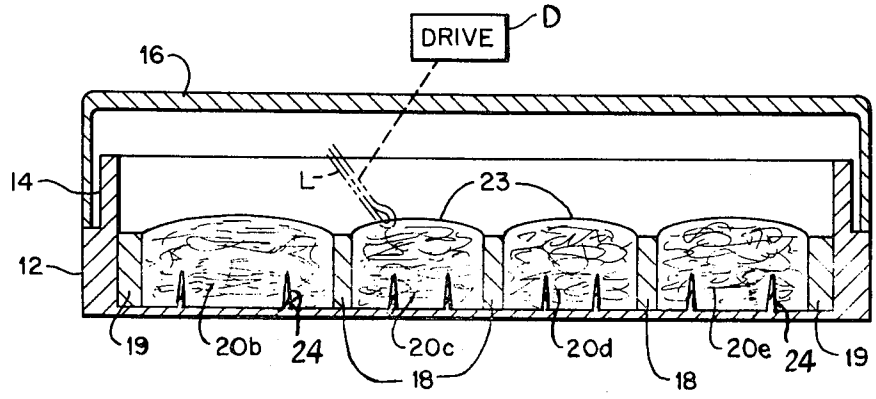

10
2
20b
20c
20d
20e
20a
19
12
P
24
24
2

FIG. 2


DRIVE
D
16
14
L
23
12
19
20b
24
20c
18
20d
18
20e
24
19

MODIFIED PETRI DISH FOR AUTOMATIC INOCULATION

This application is a continuation in part of my corresponding application Ser. No. 329,084 filed Feb. 2, 1973 now abandoned.

BACKGROUND OF THE INVENTION

A need exists for more uniform methods of inoculation of plates and further to perform this repetitive task with a minimum of time on the part of trained technicians. To this end there is currently much effort being made to develop automatic inoculating machines. One of the problem areas is the development of a suitable tray which will permit the use of a simple mechanical movement to perform the inoculation.

Accordingly, it an object of this invention to provide an improved multi-media tray for use in an automatic inoculating machine.

SUMMARY OF THE INVENTION

A multi-compartment dish is provided having ribs separating the compartments. Liquid media is filled slightly above the ribs and to gell in that condition whereby an inoculating tool may traverse from compartment to compartment without interference. Means are provided to engage the gelled media to prevent shifting in the event of shrinkage during gelling or upon drying in storage.

These and other features, objects and advantages of the invention will, in part, be pointed out with particularity and will, in part, become obvious from the following more detailed description of the invention, taken in conjunction with the accompanying drawing, which forms an integral part thereof.

In the various figures of the drawing like reference characters designate like parts.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a top plan view of the tray with its cover removed; and

FIG. **2** is a section taken along lines **2—2** of FIG. **1.**

DESCRIPTION OF THE INVENTION

The apparatus consists of a tray **10** approximately 15 cm. by 7 cm. wide and about 4 cm. high. The outer walls **12** of the tray are preferably indented, as shown at **14** to receive a cover member **16.** Partitions **18** and end barrier **19** extend about half the height, forming compartments **20***a* to **20***d* which contain media **22***a* to **22***e*. The media uses agar as a gelling material. Because of its cohesive characteristic it forms a meniscus providing a raised ridge **23.**

The cover is removed and a specimen is swabbed across a media contained in compartment **20***a* using a loop or cotton swab. Transverse to compartment **20***a* there are compartments **20***b*, **20***c* 20*d* and **20***e* containing any desired combination of selective or differential

media such as gram-positive and gram-negative growth and inhibiting medias, blood agar, etc.

A sterile loop L is then actuated by a mechanical drive D and is then driven along path P to spread the culture along the media in a diluted fashion.

The specific media employed is not part of this invention and is within the province of the bacteriologist.

One advantage of automatic inoculation is that it avoids differences in technique between technicians providing greater uniformity. Further, the technician may perform other duties during inoculation.

A conventional inoculating loop or a cotton swab may be employed for uniform inoculation of agar media and colony isolation and combinations of media may be employed in one tray to isolate or differentiate between bacterial types. Further, this technique permits visualization of the overall qualitative, and to some extent, the quantitative relationships of the various bacterial types in the sample tested with uniformity.

The media has a tendency to shrink after filling and to stabilize the media pins **24** are provided which are integrally molded. The pins capture the solidified gelled media and prevent shifting.

Instead of pins the stabilizing means may be ribs, cleats or otherwise shaped protruding element.

Having thus disclosed the best embodiment of the invention presently contemplated, it is to be understood that various changes and modifications may be made by those skilled in the art without departing from the spirit of the invention.

What I claim as new and desire to secure by Letters Patent is:

1. A media tray adapted for use with an automatic inoculating machine, said media tray comprising:

a. a plurality of adjacent compartments defined by a bottom wall and a series of ribs extending upwardly therefrom and forming an enclosure; and

b. bacteria growth supporting media contained within said compartments, at least a portion of the upper surface of said media extending above the uppermost portion of said ribs whereby automatically driven inoculating means may freely pass from the media in one compartment to the media in adjacent compartments; and

c. means extending from said bottom wall and partially extending into said media for immobilizing said media.

2. The tray of claim **1** including wall members surrounding the outer ones of said ribs, said wall members being higher than said ribs.

3. The tray of claim **2** including a removable cover adapted to fit over said wall members.

4. The tray of claim **1** including a plurality of first parallel compartments and a further compartment transverse to the said parallel compartments.

5. The tray of claim **1** wherein said means comprises pins integrally with said bottom wall.

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