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CARRIER FOR TRANSFERRING TISSUES

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Fig. 1.

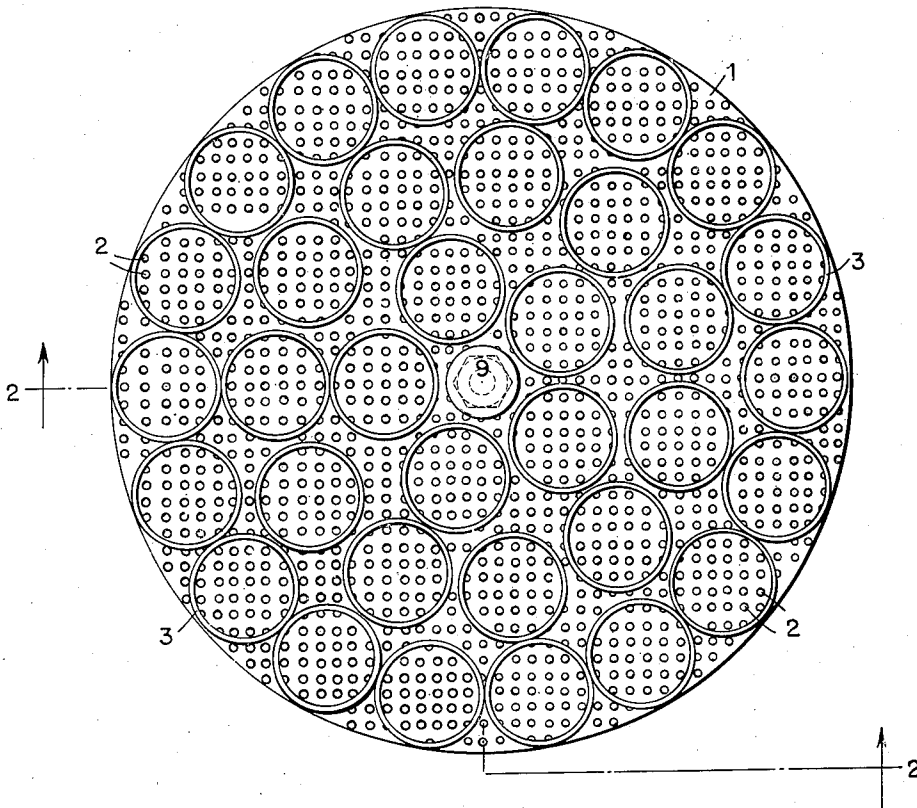
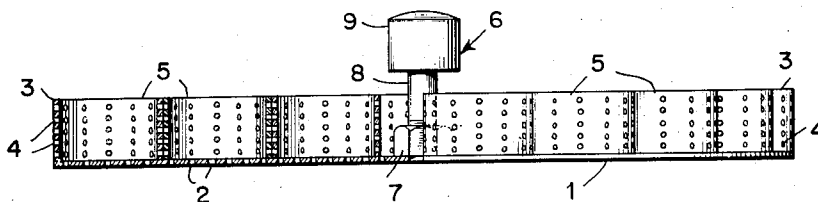


Fig. 2.



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CARRIER FOR TRANSFERRING TISSUES

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1 Claim. (Cl. 21—99)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This application is made under the act of March 3, 1883, as amended by the act of April 30, 1928, and the invention herein described, if patented, may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment to me of any royalty thereon.

This invention relates to the art of histology and more particularly to a device for use in carrying fragile tissues and transferring them from one reagent to another.

The tissues of the majority of organisms are too thick and opaque to be studied as such under a high powered microscope. They must therefore be cut into thin and translucent sections before clear views of the minute individual structures can be obtained.

It is highly desirable that the cellular structure of a tissue be in as near its natural condition as possible when examined. In order to prevent structural changes from occurring, the tissues are usually treated with a series of chemical reagents before sectioning. Some of these reagents will kill, fix and harden the tissues; others act as dehydrating and clearing agents; and others infiltrate into the tissues and act as supporting structures while the tissues are being sectioned.

It is common practice among histologists, while preparing tissues for sectioning, to transfer them from one reagent to another by means of a small forceps or spatula. Other workers follow the practice of placing the tissues, which are being prepared for sectioning, into small dishes or vials. The various reagents used are then added, removed, or replaced by other solutions, with the aid of a pipette. These methods can only be used safely when the tissue being studied is of such nature that it will not be injured by these operations. However, when the tissue is of a fragile nature extreme care must be exercised if the above methods be employed to prevent damage.

An object of this invention is to provide means whereby fragile tissues may be carried and transferred from one reagent to another without damage thereof. A further object is to provide a simple method of constructing such a means.

The invention is set forth in the following detailed description and attached drawing wherein like characters refer to like parts throughout the views and in which,

Figure 1 is a plan view of the top of the carrier, and

Figure 2 is a cross section of line 2—2 in Figure 1.

The carrier has a metal base plate 1 having a plurality of perforations 2 therein, thus forming a screen. A plurality of flat metal strips 3, having perforations 4, are each bent into annular shape and are each secured at the edge to the base plate by soldering or in any other desirable manner. These together with the base plates, form a plurality of perforated individual cup-shaped tissue-holding compartments 5. The handle 6 is provided by a nut 7 centrally soldered or otherwise secured to the base plate, a bolt 8 threadedly received in the nut 7 and a knob 9 secured to the head end of the bolt. The base plate 1 and bands 3 are preferably made from Monel metal. If a corrodible metal be used, the carrier should be plated after its construction with a noncorrodible metal such as silver, chromium or cadmium.

In use, the tissues to be dehydrated, cleared and infiltrated, are placed separately in the perforated individual compartments 5. Once the tissues are placed in their respective compartments, they need not be handled again until the time of imbedding. The entire carrier is fitted into a petri dish which can be covered to prevent evaporation of the reagent being used. To transfer the tissues to another reagent the carrier is lifted from the first solution, drained and is then placed in a second petri dish containing the next reagent. This procedure greatly reduces the chances of damaging the tissues and makes it possible to quickly and easily transfer a large number of tissues with one operation from one reagent to the other.

Having thus described my invention, I claim:

A tissue carrier comprising a noncorrodible base plate perforated to form a screen, a plurality of noncorrodible flat perforated strips each bent into annular shape and secured at the edge to the base plate to form therewith a plurality of cup-shaped compartments for holding separate tissues, and a handle centrally attached on the base plate and extending above the cup-shaped compartments.

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