

APPARATUS TO REMOVE AGAR FROM PETRI PLATES¹

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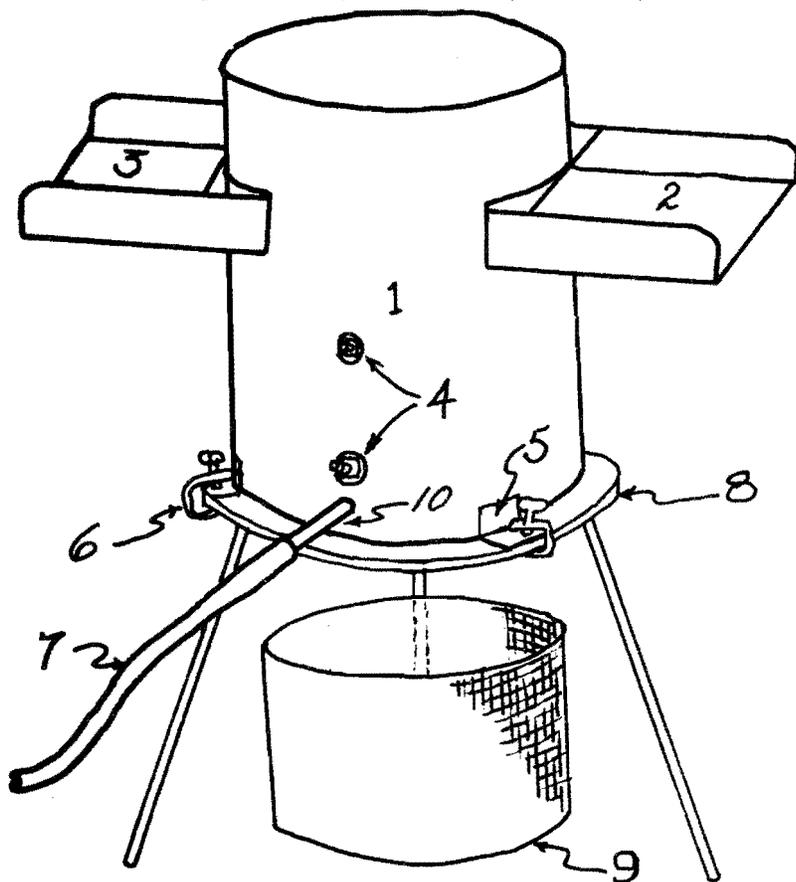


FIGURE 1

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| 1. Water jet chamber | 6. Clamp |
| 2. Plate carrier (entrance) | 7. Rubber tubing to water line |
| 3. Plate carrier (exit) | 8. Ring stand |
| 4. Eye bolts (to hold jet tube) | 9. Wire basket (about $\frac{3}{8}$ " mesh) |
| 5. Angle support (for clamping on ringstand) | 10. Metal tubing $\frac{1}{4}$ " (water jet) |

TO SPEED UP THE PROCESS of removing used agar from petri plates, and also to achieve a tidier operation than usually is accomplished by hand, the apparatus shown in the illustrations was devised. A rather rough model has been in use for about two years and has been employed effectively by laboratory helpers. It is efficient, and removes agar from petri plates as rapidly as the plates can be fed through. The average rate is about 15 to 20 plates per minute.

The apparatus consists primarily of a water jet and a petri plate carrier to hold the plate in position over the jet. The carrier and

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jet are supported in a housing which also serves to control water

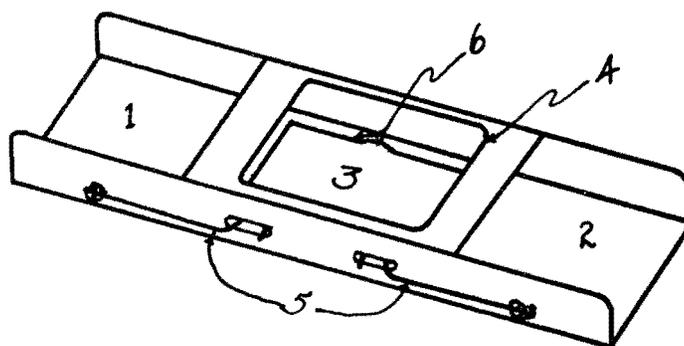


FIGURE 4. PETRI DISH CARRIER

- | | |
|----------------------|--|
| 1. Entrance section | 4. Upper opening (to reduce splash) |
| 2. Exit section | 5. Spring wire (to position plate) |
| 3. Water jet section | 6. Lower opening (from water jet and agar removal) |



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splash. The apparatus is clamped on a large ring-stand and placed in a sink or tray provided with drainage facilities. The inverted petri plate bottoms are continuously fed into one side with one hand. Each plate inserted pushes forward those ahead, which are caught with the other hand as they come off the exit side of the carrier. The water jet (connected to a water faucet

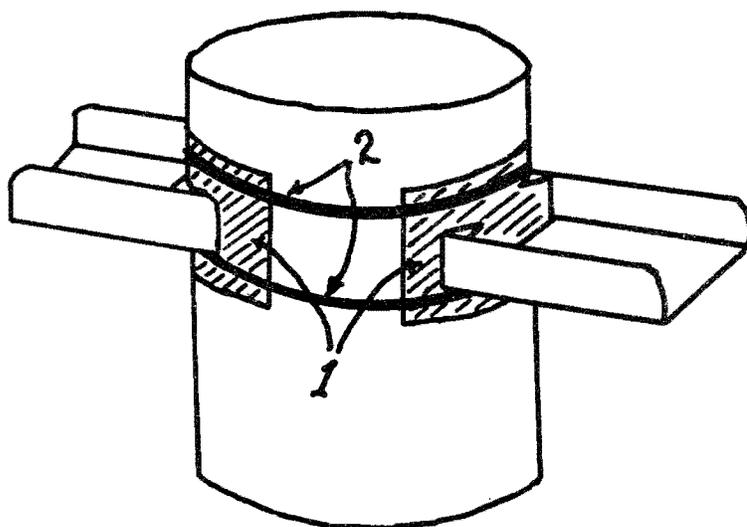


FIGURE 2

1. Canvas splash curtains
2. Spring steel clip bands

*Water Jet Chamber
Vertical Section*

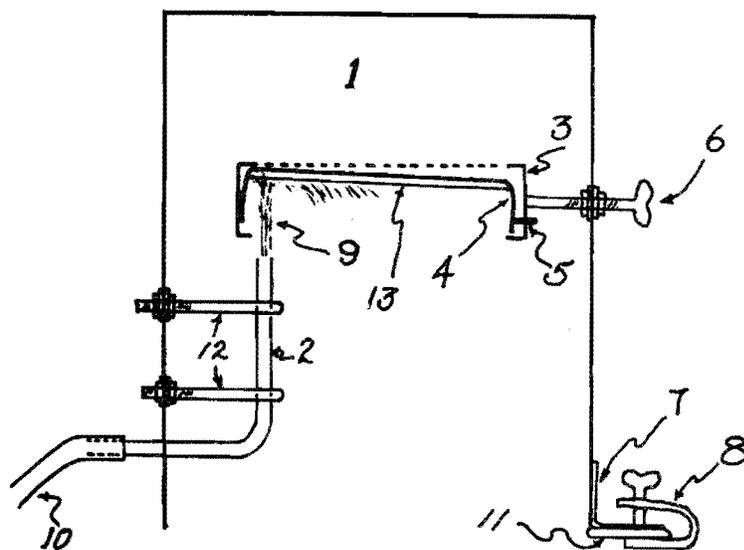


FIGURE 3

- | | |
|---|-------------------------------------|
| 1. Water jet chamber | 8. Clamp |
| 2. Metal tubing $\frac{1}{8}$ " (water jet) | 9. Water jet |
| 3. Petri plate carrier | 10. Rubber tubing (to water faucet) |
| 4. Petri plate | 11. Ringstand |
| 5. Spring wire | 12. Eye bolts |
| 6. Wing bolt (holds plate carrier) | 13. Agar layer |
| 7. Angle support | |

and adapter with rubber tubing) loosens and forces out the agar layer from the plate and the agar falls into the wire basket below. Water splash is controlled by canvas curtains held in place with spring clips.

The petri plate carrier frame, presented in more detail in figure 4, is the key part of the agar ejector. It helps to seat the plate and hold it while the water jet removes the agar.

With the exception of the petri plate carrier, the exact dimensions are not particularly important but should be in approximate proportion to those in the illustrations. The carrier should be of such size that an inverted petri plate bottom can be readily pushed through, with little play above or at the sides. The plate should fit into place with a gentle snap between the spring wires in the water jet section. The carrier is removable and is held in place by a wing bolt. Carriers of different sizes, to accommodate different size plates, can be interchanged in the same housing. The housing or body is of sufficient size to accommodate the carrier and jet. Two opposing, slot-like openings in the housing permit the carrier to be placed in position with the entrance and exit sections protruding. The jet is located so that the water stream strikes the outer edge of the agar in the plate. The material for the carrier and housing should be heavy enough to resist bending or twisting from ordinary use.

The model in use was made from a one-gallon can with a galvanized sheet iron carrier and copper jet tube. Various other materials could be employed. Since cold water is commonly used for the jet, some types of plastic likely would be suitable for construction of the apparatus. Certain modifications could be made to streamline the device if it were made commercially.

The petri plate agar ejector is surprisingly effective and accomplishes rapid and complete removal of the agar, even after considerable drying has occurred.