AN APPARATUS FOR TUBING SEMI-SOLID MEDIA

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We have had considerable difficulty in finding a satisfactory method for tubing semi-solid media, such as those containing egg, meat or brain. Upon inquiry of other workers, we find they experience the same difficulties. Methods commonly in use are cumbersome, mussy, and require the use of large tubes. The method presented here enables us to tube egg and meat medium almost as readily as one can tube bouillon. Spilling, and soiling of the mouth of the culture tube, so annoying in other methods, is reduced to a minimum, and even medium sized culture tubes (16 to 17 mm. bore) can be filled very rapidly and neatly. A description and diagram of our apparatus is herewith appended in the hope of assisting others whose work requires the use of large amounts of such media.

Essentially this apparatus consists of a reservoir, which is a 3-liter, wide-mouthed (65 mm. diameter) glass bottle, a three way stopcock, an inlet and outlet tube for air pressure and a ring stand. It may be operated either by vacuum or by air pressure. To operate by air pressure, tube A, figure 1, is connected to a compressed air line. Tube B allows a slow stream of air to enter the reservoir F at the bottom which keeps the contents well mixed and enables the operator to get equal proportions of liquid and solid in each tube. Tube C is connected to the stopcock for the purpose of removing any solid matter which may become lodged in the stopcock and also for agitation. Tube E is the air outlet.

To fill a tube, when using air pressure, the stopcock is opened by raising lever G until it points vertically upwards. This cuts off the flow of air through C, and allows a free passage of the well
mixed medium into the culture tube. The stopcock is then closed by lowering the lever to a horizontal position pointing away from the operator which reestablishes a flow of air through $C$. Solid medium is thus dislodged from the upper half of stopcock and again set in agitation. If any solid material should become lodged in the lower half of the stopcock, it may readily be discharged by turning the cock so that the lever is pointing horizontally toward the operator. This enables the air coming through tube $C$ to pass through the lower half of the stopcock and out at the nozzle $D$.

The photograph, figure 2, shows the appearance of the apparatus when operated by vacuum.
To operate with vacuum, tubes A, B and C, figure 1, are removed entirely. The hole where tube B enters the reservoir is stoppered by inserting a glass rod. Tube E is connected to a vacuum line. The air enters through tube C keeping the stopcock clear and keeping the contents of the reservoir F well mixed. The stopcock is manipulated the same as when tubing by air pressure.