NOTES

A NEW DESIGN FOR AN AUTOMATIC MULTIPLE DISPENSER

A MULTIPLE DISPENSER is a laboratory appliance used for measuring separately, but delivering simultaneously, liquids such as solutions of acids, alkalis, or salts. It is extensively used in soil testing laboratories for addition of measured quantities of extractants to a batch of soil samples. The chief advantage in using the appliance is a considerable saving in time, which is so essential for a rapid outturn of a large number of soil samples. When done manually, simple operations like filling a pipette, adjusting the volume, and delivering the measured quantity, take some time. When a large number of such additions are to be made, these few minutes required for each of such small operations add up to hours in a day. The multiple dispenser used at present in the soil testing laboratories comprises 11 automatic pipettes ganged together. They are filled by gravity from a common reservoir, and delivered simultaneously with a mechanically operated pinchcock. The principal difficulty experienced with this multiple dispenser is with this combined pinchcock which is made to operate both filling in and the pipettes. A faulty action of the pinchcock unequal closure of different pipettes, leads on either end and a delayed delivery. The design of the new multiple dispenser, this has been eliminated by totally dispensing water. Other operations have also been simplified.

Figure 1 shows details of construction of a multiple dispenser. The rigid P.V.C. pipe used is 14.8 cm. in external diameter and 4.0 cm. in internal diameter. Eleven automatic pipettes of a special design are fixed in series on this conduit. They are filled by gravity from a common reservoir, and delivered simultaneously with a mechanically operated pinchcock. The principal difficulty experienced with this multiple dispenser is with this combined pinchcock which:

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