

time that the sample has finished its run the delay relay effects indexing of the distributor head to position the spigot arm outlet end over the next receiving chamber.

Each such pulse advances the impulse counter by one position. After whatever given number the stepping switch will accommodate, which corresponds to the number of receiving chambers and collection vessels, the stepping switch opens, thereby discontinuing further actuation of the relays and, thus, halting the sampling, until the stepping switch is reset. Of course, the tray of collection vessels containing samples should be replaced with an empty one before resetting or a new series of samples would be mixed in with the existing samples, possibly overflowing onto the refrigerator floor. As already mentioned, if a composite sample is desired, the mode of operation can be switched from discrete to composite, whereupon successive samples will flow through a single collection path into (preferably) a large container positioned below the (now empty) tray bracket in the refrigerator. Counting will continue, as will stepping of the stepping switch, whereupon the number of contributions to the composite sample is limited in like manner as the number of individual samples when operating in the discrete mode, as is desirable to prevent overflow of the composite collection vessel.

Although a preferred embodiment of this invention has been described and illustrated, modifications may be made therein, as by adding, combining, or subdividing parts or steps, or by substituting equivalents, while retaining advantages and benefits of the invention, some of which have been mentioned above and other of which also will accrue to those undertaking to practice it. The invention itself is defined in the following claims.

The claimed invention is:

1. In a liquid-sampling apparatus, structural provision for operating in a discrete sample mode and convertibly in a composite sample mode, comprising means for flowing liquid to be sampled past means for diverting samples of liquid therefrom, means for actuating the diverting means intermittently to effect diversion of liquid samples thereby, and means for distributing the diverted liquid samples to a multiplicity of collection locations in succession when operating in a discrete sample mode and to a single collection location when operating in a composite mode, the distributing means comprising a radial tube having an inlet at a central locus and having an outlet arcuately movable to a multiplicity of positions on the periphery of a circle about the central locus, and a multiplicity of conduits having their respective inlets arranged about the periphery of the circle underneath the positions of the outlet of the radial tube and having their respective outlets terminating above corresponding but rectilinearly arranged collection locations.

2. In liquid-sampling apparatus, wherein successive samples of liquid are diverted from a body thereof, the improvement in means for distributing and collecting

the samples individually comprising a multiplicity of conduits leading from successive locations on the periphery of a horizontal circle to corresponding but differently arranged collection locations therebelow, a radial tube located above the conduits and leading from a locus above the center of the circle to the periphery thereof and movable to position its peripheral end successively over the respective conduits, and removable means for supporting a multiplicity of collection vessels more closely spaced to one another than are the locations on such circle.

3. Liquid-sampling apparatus according to claim 2, including a refrigerating enclosure surrounding the removable supporting means and having an interior enough larger to accommodate spare supporting means and a multiplicity of collection vessels.

4. Liquid-sampling apparatus according to claim 2, including openable closure means for providing lateral access to the supporting means and enabling its removal with collection vessels therein.

5. Liquid-sampling apparatus according to claim 2, wherein the collection vessels are rank and file arrangement in the form of bottles having an access opening at the top, and the supporting means is in the form of a racklike tray.

6. In liquid-sampling apparatus for collecting successive samples of liquid diverted from a body thereof, the improvement in means for distributing and collecting the samples comprising means for diverting samples of liquid therefrom, means for actuating the diverting means intermittently to effect diversion of a succession of samples, means for distributing such succession of samples to a plurality of collection locations, in succession, the distributing means including a plurality of conduits having intake ends arranged circularly and outlet ends arranged rectilinearly in plan.

7. Liquid-sampling apparatus according to claim 1, wherein the collection locations are arranged in rank and file configuration.

8. Liquid-sampling apparatus according to claim 1, including a movable distribution arm having an intake end at a relatively fixed central location and a radially disposed outlet end adapted to move circularly into communication with successive intake ends of the distributing conduits.

9. Liquid-sampling apparatus according to claim 8, including a plurality of removable collection vessels having access openings for arrangement in communication with the outlet ends of the distributing conduits.

10. Liquid-sampling apparatus according to claim 8, wherein the outlet end of the distribution arm is above the intake ends of the distributing conduits, and the outlet ends of the distributing conduits are above the access openings of the collection vessels.

11. Liquid-sampling apparatus according to claim 10, wherein the diverting means has an outlet located above and in communication with the intake end of the distributing conduit.

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