bottles **108** supported on a turntable or carousel **110**, which is rotated by a shaft **112** connected to a central support block **114** attached to the center of the carousel by the fastener **116**. The shaft **112** and central support block **114** are interconnected by a pair of oppositely disposed pins **113** on the shaft **112**, which are received in oppositely disposed slots **115** in the lower portion of the support block **114**. The shaft **112** and support block **114** are driven by a motor **118** through a worm gear **120** mounted in a centrally positioned frame **122**. The shaft **112** and central support block **114** are received in a central aperture **126** of a support member **124** to maintain the carousel in a substantially central position during operation. The frame **122** is connected to the support member **124** by suitable fasteners (not shown), and hence, the support member supports the frame **122**, motor **118** and carousel **110**. The support member **124** is mounted at opposite ends on outer support blocks **129** attached to opposite side walls **131** of the refrigerator.

A series of large sample bottles **106** is mounted circumferentially adjacent the outer periphery of the carousel in a circular rack **128** supported on the carousel by support pins **130**. The large bottles **106** are each positioned in circular holes **132** provided adjacent the outer periphery of the rack. In the embodiment shown, there are 20 such holes **132** for receiving 20 of the large bottles **106**, e.g., of 60 mls capacity each.

There are also provided in the rack **128** three concentric circles of smaller holes **134** for receiving the small bottles **108**, there being 20 of the small holes **134** in each of the three concentric circles of holes, for receiving 20 of the small bottles **108**, e.g., having a capacity of 8 ml each in the present embodiment.

It will accordingly be seen that at the sample bottle-filling station X, as shown in FIGS. **10** and **11**, there will be one large sample bottle **106** and three oppositely disposed small bottles **108**.

Referring to FIG. **12**, an overflow line **136** is connected to the discharge conduit **138** from the bottom of reservoir **104**, such overflow conduit discharging into an overflow bottle **140**. A vent **142** is provided at the top of the reservoir **104**. A liquid level sensor **144**, in the form of a photoelectric cell, is provided to monitor a predetermined volume of cloud water received in the reservoir **104**.

Now referring to FIGS. **10** and **11**, an auxiliary line **146** is connected to the discharge conduit **138**, a valve B being disposed in the discharge line **146**, for actuation to fill three of the small bottles **108**, simultaneously with actuation of valve A for filling one of the large bottles **106** at the filling station X. An air cylinder powered device **148** is arranged to actuate a sliding assembly **149** carrying three hypodermic needles **150** communicating with line **146**. Each of the needles **150** has a fluid inlet **151** communicating with the line **146** and a vent tube **153**. Each of such needles pierces a septum **152** which tops each of the small bottles **108** when the support assembly **149** is urqed downwardly. The air powered assembly is actuated by the opening of valve A, at which time valve B is also opened for filling the three small bottles **108** through the hypodermic needles.

Now referring also to FIG. **14**, showing a block diagram of the automated sampler **100**, it will be noted that a timer **154** is connected to valve B for introducing a predetermined amount of sample liquid from the reservoir **104** into each of the three small sample bottles **108**, simultaneously during the filling of the large bottle **106** via valve A at the filling station X.

The automated sampler **100**, when set up to collect cloud water samples in conjunction with the cloud water collector **20**, operates as follows:

A fog detector indicated at **155**, which is basically a miniature version of the cloud water collector **20**, is actuated, and when fog is present, such fog detector collects a sample amount of the fog water and deposits it onto a resistance grid, indicated at **156**. A circuit (not shown) senses the charge on the resistance grid **156**, due to the presence of the fog water, and trips a relay **158** which supplies power from power source **160** to the various components in the device, as noted below, including fan **30** of the cloud water collector **20**.

Fog water collected in the cloud water collector **20** is discharged via tube **76** into the reservoir **104**. According to one mode of operation, when the liquid sample collected in the reservoir **104** reaches a predetermined volume, as indicated by the level sensor **144**, the sensor actuates the valve A to open same to discharge the liquid sample into the bottle **106** at the fill station X. Simultaneously with the opening of valve A, a timer indicated at **154** opens valve B to discharge liquid from reservoir **104** via hypodermic needles **150** into each of the three small sample bottles **108** at station X. In one example of operation, valve B remains open for about 5 seconds to discharge a total of 15 ml of sample liquid (5 ml per bottle) in the three small 8 ml bottles **108**. During this same period of time, sample liquid flows from reservoir **104** into the large 60 ml sample bottle **106**. The timer **154** then closes valve B. However, valve A remains open to discharge the remainder of the liquid in reservoir into the large bottle **108**. If the pre-set volume of liquid collected in reservoir **104** is 60 ml, then 45 ml of liquid is collected in a total period of 20 seconds in the large 60 ml sample bottle **106**. When the reservoir **104** is emptied, valve A closes to permit the reservoir **104** to again fill with cloud water. When valve A closes, the air powered cylinder is actuated to withdraw the hypodermic needles **150** from the small bottles to the position shown in FIG. **11**.

According to a second mode of operation, a timer **157** is employed in conjunction with valve A, instead of level sensor **144**. In this mode of operation, the timer **157** times the interval for filling the reservoir **104**, say, one hour. This is the "off" interval of the timer **157**. At the end of such time, the timer actuates the valve A, while at the same time, the timer **154** actuates the valve B, to fill the large bottle **106** and the small bottles **108** simultaneously. During this filling operation of about 20 seconds, the timer **157** is in the "on" interval. The timer **157** then switches to the "off" interval again, closing valve A, while timer **154** closes valve B, to permit reservoir **104** to again be filled with sample liquid.

In a third mode of operation employing both the level sensor **144** and the timer **157**, for actuating valve A, if either the time has elapsed as set by timer **157**, for filling the reservoir **104** to a predetermined volume, or the collected volume of liquid as indicated by the level sensor **144** has been achieved, whichever occurs first, valve A will be opened by either the level sensor or the timer **157**, to permit discharge of liquid into the large bottle **106**, while at the same time simultaneously the timer **154** opens valve B to permit discharge of liquid sample into the small bottles **108**, after which valves A and B are closed, as noted above, to permit repeated filling of the reservoir **104**. This third mode of operation is preferred.