To set the time of the first sample on the interval timer **102,** the timer set knob **110** is depressed and set to a position ahead of the position in which the permanent magnet **116** is aligned with the reed switch **118.** In one embodiment, the reed switch **118** and the permanent magnet **116** are arranged during assembly to be aligned with each other on the half hour and hour. In the embodiment, the timer clock **104** is set to the correct time and the timer switch **114** provides a signal to the pump motor control **120** on the half hour and hour.

In one embodiment the signal from the interval timer **102** actuates the pump motor control **120** to start the pump **70** each time that it is applied to the terminal **130.** In another embodiment, the signal from the interval timer **102** steps a stepping switch (not shown) within the pump motor control **120** and power is applied to the pump motor when certain selected contacts of the stepper switch are made, which contacts are selected to cause the pump to start at certain intervals that are multiples of half hours.

When the pump motor is started by the signal from the interval timer **102,** it draws fluid through the intake hose **16** into the funnel **72,** which guides it into the inlet of one of the plurality of distributor recesses **60** and **62.** The fluid flows from the inlet recess to the outlet recess and into one of the sample bottles **44** or **46** in the bottle compartment **42.**

As the pump motor rotates, it drives the pump drive switch **122** through reducing gears (not shown), until a camming surface on the reducing gear train depresses the actuating arm of a switch to apply a signal to the reverse terminal **132** of the pump motor control **120.** The reducing transmission and the camming surface are set so that the actuating arm is depressed when a predetermined amount of fluid has been pumped into the funnel **72.**

When this actuating arm is depressed, the pump motor is stopped and reversed. As the pump motor rotates in the reverse direction, it drives the pump drive switch **122** until a camming surface again depresses the actuating arm of a switch, which applies signals to the stop terminal **134** of the pump motor control **120** and to the on terminal **136** of the funnel motor control **124** to stop the pump motor and to actuate the funnel motor control **124.**

When the funnel motor control **124** is actuated, the funnel motor **126** is started and rotates the funnel **72.** When the downspout of the funnel **72** reaches the next inlet recess of the plurality of distributor recesses **60** and **62,** a camming surface on the funnel depresses the actuating arm of a switch in the funnel drive switch **128,** which applies a signal to the off terminal **138** of funnel motor control **124** to stop the funnel motor **126.**

Each time the interval timer generates a signal, this process is repeated until the funnel reaches a reset switch after the last bottle has been filled at which time the power to the interval timer is cut off.

From the above description, it can be understood that the sample collector of this invention has many advantages such as: (1) the sections of hose are short, connected directly to the pump, and are relatively straight and stationary during the operation of the sample collector so that clogging is reduced; (2) the hoses last longer and are easier to clear of fluid after a sample is drawn because they are not flexed; (3) one moving part, the funnel, distributes the samples in a circular direction and a stationary plastic part, the distributing plate, distributes the fluid radially through inlets, passageways and outlets that are molded into it, thus permitting the sample collector to be simple in construction, inexpensive and durable; and (4) the tolerances provided by the distributor plate and its ability to be accurately positioned, eliminates spillage of the fluid.

Although a preferred embodiment of the invention has been described with some particularity, many variations and modifications in the preferred embodiment are possible in the light of the above teachings. Accordingly, it is to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A liquid sampler for sampling liquids from within a sewerage system comprising:
- a substantially cylindrical casing of small enough size to fit through a sewerage manhole;
- said casing including at least a substantially cylindrical vertical outer wall and bottom wall defining a bottle holding compartment;
- means for drawing fluid containing sewage into said casing and depositing it into at least one bottle;
- a substantially cylindrical ice compartment centered within said bottle holding compartment;
- said casing including first, second and third sections;
- said means for drawing fluid including control programming means for automatically controlling the time said fluid is drawn in accordance with a predetermined program;
- said first section containing said bottle holding compartment and means for distributing said fluid to a plurality of different bottles;
- said second section being mounted on top of said first section and containing said control programming means; and
- said third section being an inverted cover fitting over said second section.

2. A liquid sampler according to claim **1** further including section fastening means for fastening said sections with a sufficiently close fit to permit immersion of said liquid sampler for short periods of time without leakage into the sampler.

3. A liquid sampler according to claim **2** in which said casing is made of a chemically resistant plastic.

4. A liquid sampler according to claim **2** further including:
- harness means for lowering said casing through a manhole;
- said harness means including at least one cable;
- said first section including harness fastening means for fastening said harness means to said liquid sampler;
- said third section including peripherally spaced notches into which the cable of said harness means fits, whereby said harness means supports said liquid sampler as it is lowered in a sewerage manhole.

5. A liquid sampler according to claim **4** in which:
- said harness means includes at least three cables;
- said fastening means includes three eyelets;
- said third section includes at least three of said peripherally spaced notches; and
- each of said cables is attached to a different one of said eyelets at one end and fits into a different one of said notches.

6. A liquid sampler according to claim **5** in which:
- at least two of said first, second and third sections include means for aligning said two sections;