

tion to thereby limit the invention to the details of such embodiments. On the contrary, the intention is to cover all modifications, alternatives, embodiments, usages and equivalents of the subject invention as fall within the spirit and scope of the invention, specification and the appended claims.

What is claimed is:

1. In a water sampler device including a holder, a plurality of water-collecting containers mounted to said holder, each of said water-collecting containers having a pair of opposed open portions, a pair of rotatable valves with one of said pair of rotatable valves being disposed in each of said open portions, means for interconnecting said rotatable valves so that rotation of one of said rotatable valves rotates the other said rotatable valve, triggering means for rotating said rotatable valves from an initially closed condition to an opened condition and then back to said closed condition to collect a sample of water, the improvement in said triggering means comprising:

rod means including a rotation-stopping portion having a first longitudinal axis and further having a first catch means and a second catch means formed therein with said second catch means being disposed a greater distance from one end of said rod means and a greater distance from said first longitudinal axis than said first catch means, said rod means further having a spiral rod portion with a second longitudinal axis;

a rotatable member having a rotational axis and being disposed in surrounding relationship to at least a part of said spiral rod portion with said second longitudinal axis of said spiral rod portion being substantially coincident with said rotational axis of said rotatable member, said rotatable member having traversing means for engaging said spiral rod portion to cause displacement of said spiral rod portion along said rotational axis when said rotatable member is rotated;

torsion means connected between said holder and said rotatable member for applying a torque to said rotatable member;

stop means mounted to said holder for engaging said first catch means in a first stop position to prevent longitudinal movement of said rod means along said first longitudinal axis and for engaging said second catch means in a second stop position to prevent longitudinal movement of said rod means; lateral movement means mounted to said holder for causing said rotation-stopping portion to move laterally with respect to said first longitudinal axis to disengage said stop means from said first catch means in said first stop position and to engage said stop means with said second catch means in said second stop position and thereafter to disengage said stop means from said second catch means so as to allow said rod means to move to a third stop position; and

coupling means for coupling said rotatable member to one of said rotatable valves so that rotation of said rotatable member permitted by longitudinal movement of said rod means between said first stop position and said second stop position allows for said rotatable member to rotate said rotatable valves from said closed condition to said open condition and rotation of said rotatable member permitted by longitudinal movement of said rod means between said second stop position to said

third stop position allows for said rotatable member to rotate said rotatable valves from said opened condition to said closed condition.

2. The water sampler device according to claim 1, wherein said first catch means comprises a first ledge formed in said rotation-stopping portion and substantially disposed in a first plane perpendicular to said longitudinal axis and said second catch means comprises a second ledge formed in said rotational-stopping portion and substantially disposed in a second plane perpendicular to said longitudinal axis.

3. The water sampler device according to claim 2, wherein said lateral movement means includes a solenoid having a plunger, said plunger when activated being disposed to engage said rotation-stopping portion at an angle to said first longitudinal axis and to cause movement of said rotation-stopping portion in a direction away from said stopping means, said lateral movement means further includes a biasing means to bias said rotation-stopping means in a direction opposite to said movement caused by said plunger and to limit said movement to a predetermined distance, whereby said movement of said rotation stopping portion by said predetermined distance causes said stop means to be disengaged from said first ledge and to engage in stopping relationship said second ledge and thereafter to disengage from said second ledge.

4. The water sampler device according to claim 3, wherein said stopping means comprises a protrusion mounted to said holder adjacent to said plunger, said protrusion defining a third ledge, said third ledge being disposed to engage said first and second ledges.

5. The water sampler device according to claim 1, wherein said spiral rod portion comprises a lead screw.

6. The water sampler device according to claim 1, further including a center portion disposed between said rotation stopping portion and said spiral rod portion, said center portion including joint means for allowing said first longitudinal axis to be angled with respect to said second longitudinal axis.

7. The water sampler device according to claim 1, wherein said rotatable member comprises a cylinder with a cavity formed therein, said cavity containing said at least a part of said spiral rod portion, and said traversing means comprising a pair of spaced-apart parallel pins secured to said cylinder and disposed in traversing relationship through said cavity to engage opposed sides of said spiral rod portion.

8. The water sampler device according to claim 1, wherein said torsion means comprises a spring.

9. The water sampler device according to claim 1, wherein said lateral movement means includes a solenoid having a plunger, said plunger when activated being disposed to engage said rotation-stopping portion at an angle to said first longitudinal axis and to cause movement of said rotation-stopping portion in a direction away from said stopping means, said lateral movement means further includes a biasing means to bias said rotation-stopping means in a direction opposite to said movement caused by said plunger and to limit said movement to a predetermined distance.

10. The water sample device according to claim 1, wherein said rotatable valve has a valve axis of rotation, said coupling means comprising a key with a key longitudinal axis, said key at one end to said rotatable member and being disposed to removably engage said rotatable valve at the other end.