

moved, it is sufficient to remove them as they are. They have a remarkably handy construction. Furthermore, although the sampling containers 15 on the market are used in this preferred embodiment, sampling containers having cut ends on both sides and sampling containers with an expanded mouth so as to smoothly sample from one to the following one, as disclosed in the preferred embodiments which will be mentioned later, also can be used.

The weight 16 for balancing between the sampled rainfall and the disks 12, 12 is in the form of a cylinder and fixedly screwed onto an outer side of one disk 12 by means of a bolt 24 (refer to FIG. 4) and it is engaged with one side of the support plate 11 to be balanced under the first stage condition before the rainfall is sampled, as shown by a broken line in FIG. 1 and a full line in FIG. 4, and, at this time, the first sampling container 15 (1) corresponds to a position immediately below the outlet port 7 of the funnel 5. When the weight 16 is revolved in the direction separating from one side of the support plate 11 to be engaged with the other side of the support plate 11, the disks 12, 12 are stopped, and, at this time, the eighth sampling container 15 (8) corresponds to the position immediately below the outlet port 7 to complete the sampling operation (refer to FIG. 6). In short, the weight 16 functions as a stop and not only variably forms a balanced condition between it and the rainfall sampled by changing its position by a revolution of the disks 12, 12 to automatically achieve the sampling operation but also sets a first stage position and a final position of the sampling container 15. In addition, as above described, also a stop for setting the first stage position of the sampling container 15 and a stop for setting the final position of the sampling container 15 may be provided separately from the weight 16.

This process of variable forming the balanced condition by the weight 16 will be explained below with reference to FIGS. 5, 6. At first, under the first stage condition, the weight 16 is engaged with one side surface of the support plate 11 under the condition that the disks 12, 12 are energized clockwise by a weight of the weight 16.

As the rainfall is poured drop by drop into the first sampling container 15 (1) from the funnel 5 to be sampled, the disks 12, 12 are revolved counterclockwise little by little to be balanced with the weight 16, of which horizontal torque arm from the support shaft 14 has been increased in length, whereby the second sampling container 15 (2) corresponds to the position immediately below the outlet port 7 of the funnel 5. Subsequently, the horizontal arm for the support shaft 14 of the weight 16 is similarly increased in length for the sampled rainfall to form the balanced condition until a time when the rainfall is sampled in the third sampling container is (3).

When the rainfall begins to pour into a fourth sampling container 15 (4), the first container 15 (1) is positioned on the right side of the support shaft 14, so that the rainfall within the first sampling container 15 (1) and the weight 16 are balanced by the rainfall in the three sampling containers 15 (4), (3), (2).

In a stage of sampling the rainfall in a fifth sampling container 15 (5), the weight 16 is positioned on the left side of the support shaft 14, so that the weight 16 and the rainfall in the three sampling containers 15 (5), (4), (2) are balanced by the rainfall in the two sampling containers 15 (1), (2). Subsequently, the balanced

condition is similarly formed variably between the weight 16 and the sampled rainfall on the right and left sides of the support shaft 14 until the eighth sampling container 15 (3) (refer to FIG. 6) to automatically continue the sampling operation.

If the present sampler was used to sample the rainfall, 3.4, 3.3, 3.5, 3.3, 3.5, 3.5 and 3.3 ml of rainfall could be sampled in the first to seventh sampling container 15, respectively.

In addition, a quantity (ml) of rainfall to be sampled as the rainfall fraction of 1 mm is determined by a diameter of the funnel 5 and a quantity of rainfall to be sampled is determined by the weight of the weight member 16, so that the first stage rainfall is more finely sampled in the case where the diameter of the funnel 5 is larger but the weight of the weight 16 is smaller as compared with the case where the diameter of the funnel 5 is smaller but the weight of the weight 16 is larger. In addition, in order to increase the quantity of rainfall to be sampled at the same sampling widths, it is sufficient to increase the diameter of the funnel 5 and the weight of the weight 16.

FIGS. 7, 8 show another preferred embodiment in which the sampler is still more simplified in construction and a cover for preventing dry segments and the like from sticking to the funnel can be automatically opened without requiring a motive power. The tumbler 13 hanging down the respective sampling containers 15 therefrom is made from a piece of disk 12, support shafts 31 being fixed at regular intervals on the same circumference of the disk 12, the respective support shafts 31 being inserted into shaft holes formed in an upper part of the sampling container 15 (Refer to FIG. 7). A cover 33, which is opened by a weight 32, is provided in an upper part of a housing 2, and the cover 33 is placed on a funnel 5 by a tension of a tissue paper 34 such as of the type used as toilet paper so that the tissue paper 34 may be broken when it rains to permit the cover 33 to fall down and thus open an upper part of the funnel 5 (refer to FIG. 8). In addition, two pieces of weight 16 are mounted on the disk 12 so that the respective weights 16 may separately serve also as a stop for setting the first stage position and a stop for setting the final position.

The above described cover 33 comprises a flat plate 35 and a funnel-shaped raindrop-collector 36 mounted on the flat plate 35, the flat plate 35 being provided with a support member 37 extending outward and fixedly mounted in a lower part of one end thereof. The support member 37 is provided with the weight 32 mounted on a pointed end thereof, and the support member 37 is pivoted on an upper end of a L letter-shaped support member 38 bent from one upper end of the housing 2 and extended upward from a base thereof. A support member 39 extending outward is mounted on the other upper end of the housing 2 so that the cover 33 may close the funnel 5, as shown by a full line, by the tension of the tissue paper 34 extended over a clip 40 fixedly mounted on the support member 39 and a clip 41 fixedly mounted on one end of the flat plate 35. The tissue paper 34 is extended immediately below the raindrop-collector 36 on the flat paper 35, so that, when it rains, the tissue paper 34 is broken soon, whereby the cover 33 immediately falls down due to the weight of the weight member 32 at a position shown by a two-dot chain line to open the funnel 5.

In addition, in this preferred embodiment, the pipe 18 and the exhaust pipe 23 shown in FIG. 1 are not used and the rainfall overflowing from the eighth sampling