

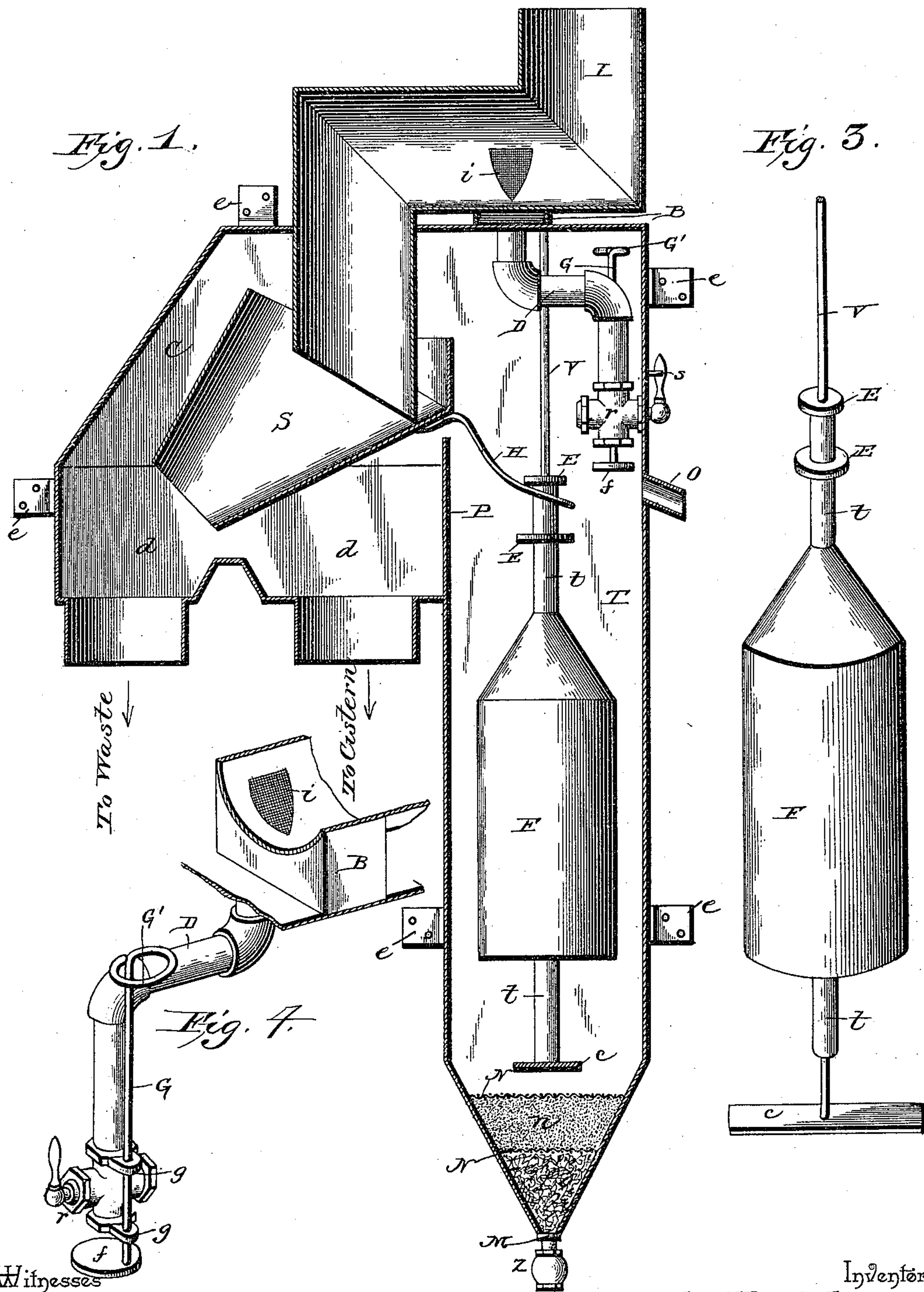
(No Model.)

2 Sheets—Sheet 1.

C. W. BLAKE.
CUT-OFF.

No. 441,739.

Patented Dec. 2, 1890.



Witnesses
F. L. Ourand

N. J. Hollander.

By his Attorneys,

Cañon Viejo.

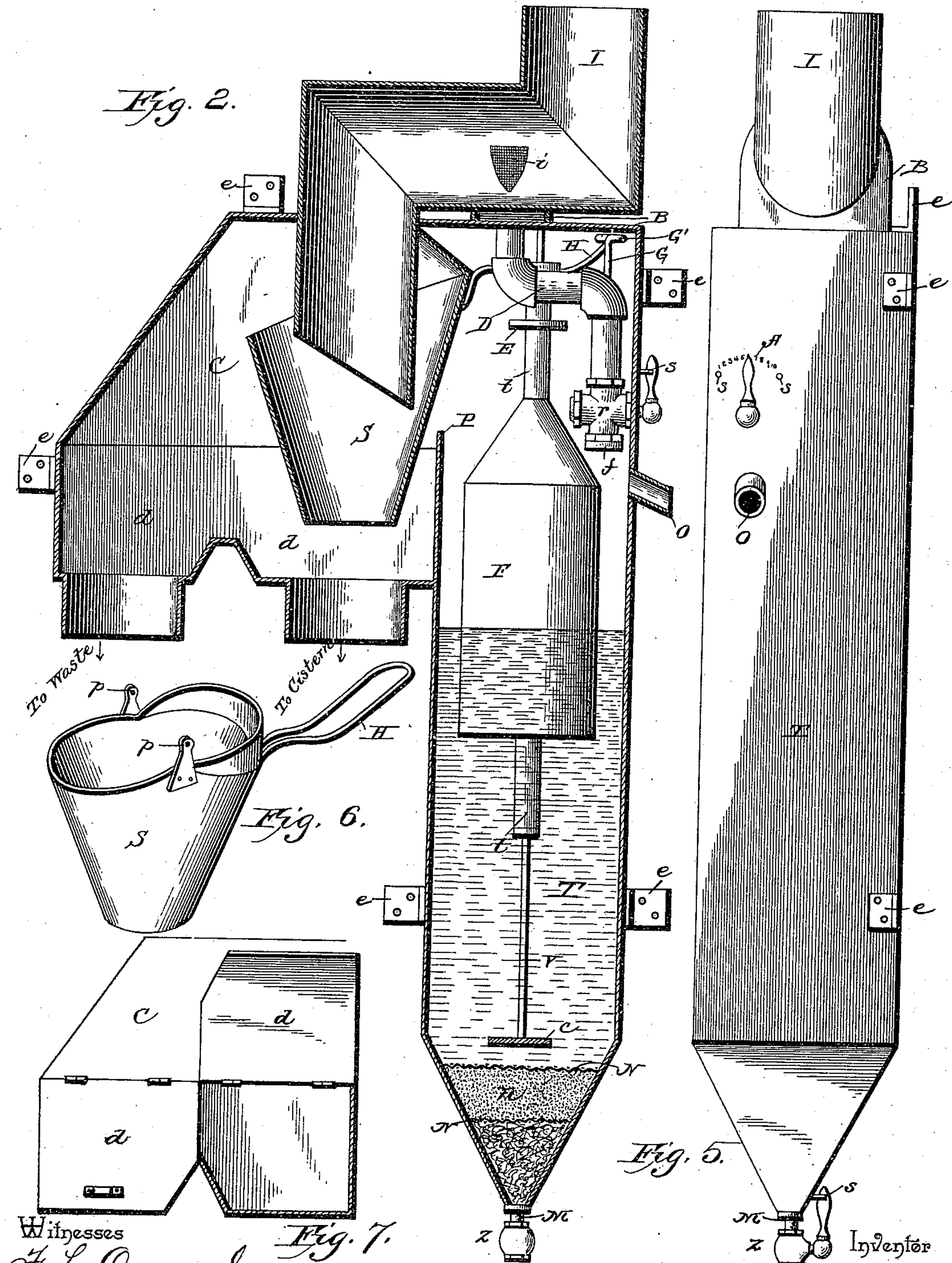
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Witnesses
J. L. Curand.

N. L. Gollamer

By his Attorneys,

Charles W. Blake.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES WILLIAM BLAKE, OF CHARLESTON, SOUTH CAROLINA, ASSIGNOR
OF ONE-HALF TO SAMUEL WEISKOPF, OF SAME PLACE.

CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 441,739, dated December 2, 1890.

Application filed August 4, 1890. Serial No. 360,974. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILLIAM BLAKE, a citizen of the United States, residing at Charleston, in the county of Charleston and State of South Carolina, have invented a new and useful Cut-Off, of which the following is a specification.

This invention relates to water-distribution, and more especially to the cut-offs and spouts employed therein; and the object of the same is to provide improvements in devices of this character. This object I accomplish by the mechanism hereinafter more fully described, and the points of novelty whereof are particularly pointed out in the claims.

In the drawings, Figure 1 is a section through this device with the parts thereof in their normal position. Fig. 2 is a similar section with the parts in the opposite position. Fig. 3 is a detail in perspective of the float and its guide. Fig. 4 is a detail in perspective of the float-tank-supplying device. Fig. 5 is an end elevation of this device. Fig. 6 is a perspective detail of the switch. Fig. 7 is a side elevation, partly in perspective, showing the manner in which access is had to the interior of this device.

Referring to the said drawings, the letter C designates a casing, adjacent to which is a float-tank T, separated from the casing by a high partition P, and provided with an overflow O, located at a point above the usual level of the water, as shown. Mounted upon the cover of the casing is an inlet-pipe I, which passes horizontally along above the casing, then down thereinto, and opens within a switch S, which is of funnel shape, pivoted at *p* between the sides of the casing. When this switch is in the position shown in Fig. 1 the water which may flow through the inlet-pipe I will be directed into the waste; but when the switch is turned to the position shown in Fig. 2 the water will be directed into the cistern. The following are the means employed for automatically moving the switch after the water has flowed for a sufficient time over the roof to cleanse the same, which

moving of the switch directs the water from the clean roof into the cistern.

Within the tank T is a vertical rod V, upon which slides a tube *t*, and on this tube is mounted a float F, preferably having a conical upper end, as shown. Near the upper end of the tube are two enlargements E, and extending from the switch S is a loop-shaped handle H, which embraces the tube between said enlargements. By this means when water is admitted to the tank T and the float rises, the handle H will be raised and will cause the switch S to move in a manner which will be clearly understood. As the water falls within the tank T the switch will be returned to its normal position, and the lower end of the tube will finally reach and rest upon the supporting cross-piece *c* at the lower end of the guide-rod V, whereby the float will be sustained above the level of whatever water may remain in the tank and will be thereby prevented from rusting. Following is a description of the devices which I employ for filling the tank to raise said float.

Arranged below the inlet-pipe I is a box B, as best seen in Fig. 4, and at opposite sides of this box are inlet-openings *i*, preferably covered with wire-cloth, and so arranged that a light flow of water might pass through the pipe I, along the bottom thereof, without flowing into the openings; but as soon as a good-sized stream passes through the inlet-pipe a certain portion will enter the box through the openings *i*. In this way what water may run from the roof as the result of a heavy dew or of a very light precipitation would pass between the openings *i* without getting into the box B. When, however, an ordinary rain occurs and the water flows from the eaves into and through the pipe I, it will be directed for a considerable time into the waste, and meanwhile a small quantity will be passing through the openings *i* into the box B, down the pipe D, through the regulating-valve *r* into the tank, and will rise in the latter until the float is operated and the switch is moved, as above described. Said

regulating-valve *r* is an ordinary stop-cock, whose handle moves between stops *s*, (see Fig 5,) whereby it cannot be completely closed, and a scale *A* is preferably marked
5 upon the end of the tank, in order that the cock may be set as desired.

In order that the flow of water through the inlet-openings *i* and into the tank may cease after the float has been raised, whereby all
10 the water then flowing through the pipe *I* will be directed into the cistern, the following devices are provided: *G* is a rod having a flat plate *f* at its lower end adapted to close the lower end of the stop-cock *r*, and from
15 this plate the rod *G* extends upwardly through guiding-eyes *g* on the cock and has a bent upper end *G'*, which stands in the path of the handle *H* of the switch. As the float rises and carries said handle with it, the latter
20 strikes the end *G'*, raises the rod *G*, and brings the flat plate *f* against the lower end of the cock *r*, and thus cutoff all flow of water into the tank. As soon as any of the water in the tank is withdrawn and the float *F* descends
25 a trifle the plate *f* opens communication between the openings *i* and the interior of the tank, and if water be still flowing through the pipe *I* it will be directed into the tank.

After the rain is over it is desirable that
30 the switch *S* be returned to the position shown in Fig. 1, and some means must be provided for emptying the tank *T*. Across the lower end of the latter *I* put two screens *N*, between which is a filling of pebbles or gravel
35 *n*, and to the lower end of the tank is attached first a filter *M*, containing asbestos or other suitable material, and then an outlet-cock *Z*, moving between stops *s* and over a scale, the same as the handle of the regulating-cock *r*. By this means the water in the
40 tank is first cleansed from sediment and impurities, then passed through the filter *M*, and finally drawn off through the cock *Z*, whence it may be directed into the cistern, if
45 desired.

The sides of the casing *C* are preferably provided with hinged doors *d*, whereby access may be had thereto, as for cleaning and repair. The entire casing may be supported
50 by ears *e*, through which nails or screws are passed into the wall of a building or other suitable support. Various other changes in the details of construction may be made without departing from the spirit of my in-
55 vention or disadvantageously affecting the fundamental principles thereof.

What is claimed as new is—

1. In a cut-off, the combination, with the switch *S*, supported upon pivots *p* and having
60 a loop-shaped handle *H*, of the vertically-moving float *F*, having a stem *t* passing loosely through said handle, and enlargements *E* upon said stem above and below the handle, as set forth.

65 2. In a cut-off, the combination, with the tank *T*, having a vertical guide-rod *V* therein,

inlet and exhaust pipes connected with said tank, a switch *S*, and a handle *H* thereon, of the float *F*, having a tubular stem *t* sliding upon said vertical rod and passing loosely
70 through said handle, and enlargements *E* upon said stem above and below the handle, as set forth.

3. In a cut-off, the combination, with the casing *C*, having cistern and waste outlet
75 pipes opening therefrom, the inlet-pipe *I*, leading to said casing, and the switch *S*, pivoted over the discharge end of said inlet-pipe and having a loop-shaped handle *h*, of the tank *T*, a pipe *D*, connecting the inlet-pipe with said
80 tank, the float *F* in said tank connected with and operating the handle of said switch, and a valve at the inner end of said pipe *D*, adapted to be closed by said handle when the float rises, as set forth.

4. In a cut-off, the combination, with the casing *C*, having cistern and waste outlet
pipes opening therefrom, the inlet-pipe *I*, leading to said casing, and the switch *S*, mounted over the discharge end of said inlet-pipe, of
90 the tank *T*, a pipe *D*, connecting the inlet-pipe with said tank and having guides *g* thereon, a rod *G*, moving through said guides and carrying a plate *f*, adapted to close the lower end of the pipe *D*, the upper end *G'* of
95 said rod being bent inwardly, the float *F* in said tank, and connections between said float and switch, which connections strike said bent end *G'* when the float rises, as and for the purpose set forth.

5. In a cut-off, the combination, with the casing *C*, having cistern and waste outlet
pipes opening therefrom, the inlet-pipe *I*, leading to said casing, and the switch *S*, mounted over the discharge end of said inlet-pipe, of
105 the tank *T*, a box *B* thereon communicating through small inlet-openings *i* with said inlet-pipe, a pipe *D*, connecting said box with the tank, a regulating-valve *r* in said pipe, a
110 discharge-pipe *Z* at the bottom of said tank, provided with a cock, and the float *F* in said tank connected with the switch, as set forth.

6. In a cut-off, the combination, with the casing *C*, having cistern and waste outlet-
115 pipes opening therefrom, the inlet-pipe *I*, leading to said casing, and the switch *S* at the discharge end of said inlet-pipe, of the tank *T*, communicating with small inlet-openings *i* in said inlet-pipe, a filter within said tank, a discharge-pipe *Z* at the bottom thereof, pro-
120 vided with a cock, and the float *F* in the tank connected with said switch, as set forth.

7. In a cut-off, the combination, with the tank *T*, the cross-piece *c* therein, and the ver-
125 tical rod *V* between said cross-piece and the top of the tank, of the float *F*, having a tubular stem *t* extending below its body and sliding loosely on said rod, as and for the purpose set forth.

8. In a cut-off, the combination, with the
130 tank *T*, the float *F* therein, and a switch *S*, connected with said float, of an inlet-pipe *D*

to said tank, a regulating-cock *r* therein, a
discharge-pipe Z at the bottom of said tank,
also provided with a cock, and stops *s* upon
said tank for limiting the movements of the
5 valve-handles in said cocks, substantially as
and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in
presence of two witnesses.

CHARLES WILLIAM BLAKE.

Witnesses:

S. WEISKOPF,

T. P. LIVINGSTON.