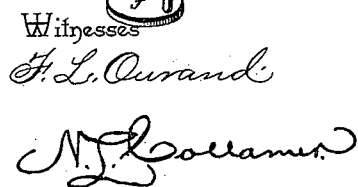


C. W. BLAKE.
CUT-OFF.

No. 441,739.

Patented Dec. 2, 1890.



By his Attorneys,

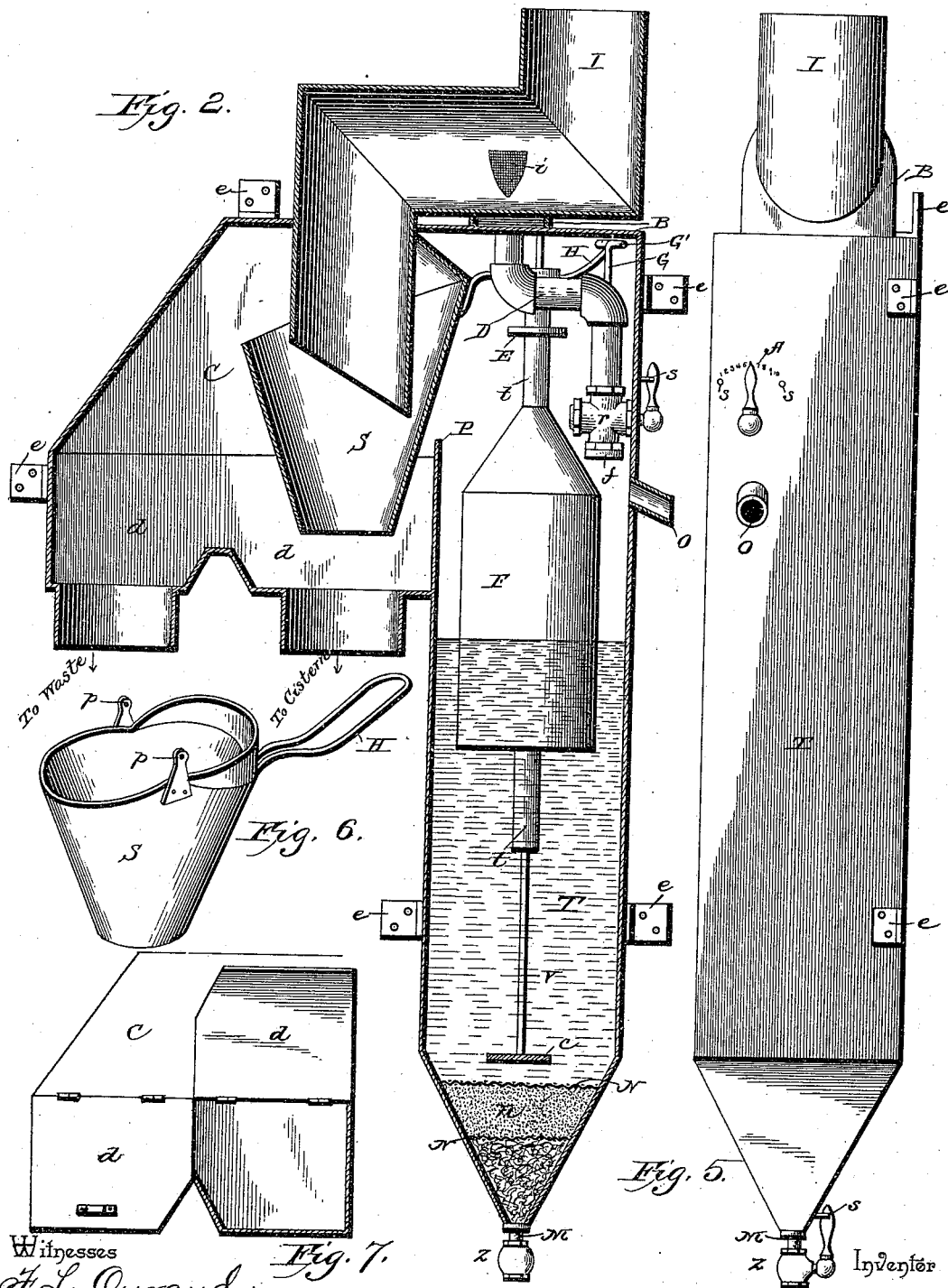
Inventor
Charles W. Blake.

Cañonville.

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CUT-OFF.

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Witnesses
H. L. Curand.

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Fig. 7.

By his Attorneys,

C. A. Snow & Co.

Charles W. Blake.

Inventor

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 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 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 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 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 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 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 *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 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 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 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 invention 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 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.

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 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 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 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 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 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 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 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-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, provided 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 vertical 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 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.