No. 646,888.

Patented Apr. 3, 1900.

G. S. STUART.

CISTERN CUT-OFF.

(Application filed Nov. 22, 1899.)

(No Model.)

Fig. 2.

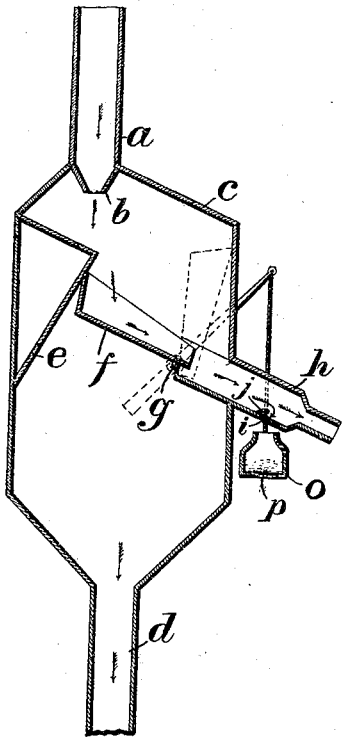
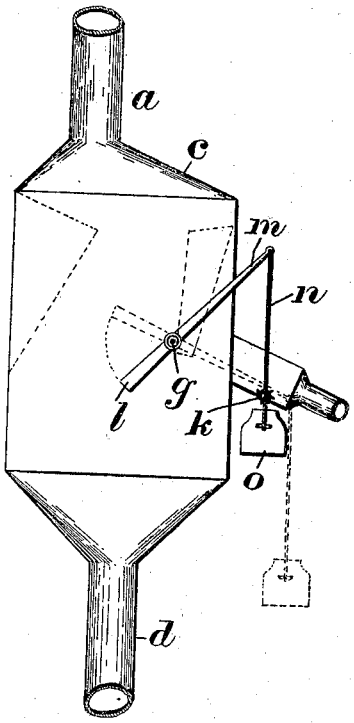


Fig. 1.



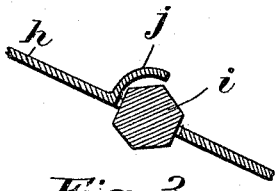


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE S. STUART, OF ALTOONA, PENNSYLVANIA.

CISTERN CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 646,888, dated April 3, 1900.

Application filed November 22, 1899. Serial No. 737,943. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. STUART, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Cistern Cut-Offs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in cistern cut-offs; and one object of my invention is to provide an apparatus which will automatically divert the first part of the water which falls during a rain upon the roof and which will after a time direct the rest of the water into the cistern.

A further object is to provide an apparatus which will automatically clean itself.

With these objects in view my invention consists in the constructions and combinations of parts, as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved apparatus. Fig. 2 is a vertical section of the same, and Fig. 3 is an enlarged sectional view showing a valve in detail.

a represents a pipe which is connected with a pipe leading from the roof. This pipe is preferably provided with a reduced portion *b* near the point where it enters the enlarged casing *c*, in which are mounted the automatic cut-off devices. The lower part of the casing *c* is reduced, forming a pipe *d*, which is connected to the pipe which leads to the cistern. The interior part of the casing is provided with a deflector *e* to direct the water into the pivoted trough *f*, which is mounted on a shaft *g*, pivoted in the casing *c*. The casing is provided on one side with a discharge pipe or spout *h*, which projects a little way into the casing on the inside and extends some little distance outside of and acts as a waste-pipe. In the bottom of this casing is pivoted transversely a valve *i* in the form of a prism, preferably a hexagon, as seen in Fig. 3, and this valve is provided with a handle *k*, preferably in the form of a wheel, such as is commonly used upon the stems of valves of the turning-plug type, for operating the same, which is connected to one end of said valve and is located conveniently outside of the spout *h*, as seen in Fig. 1. The bottom of this spout is curved upward, as at *j*, and partially covers the valve. This is for the purpose of causing the water, which at the beginning of the rain is always contaminated with dust and other foreign matter—such as leaves, &c.—to pass over the valve, so that the impurities may be carried out of the pipe *h*, while allowing a little of the comparatively-clear water to escape around the valve *i*.

On the shaft *g* at each side of the casing is pivoted a rod or lever *m*, the inner end of which is enlarged and serves as a counterbalancing-weight. To each of the rods *m* is attached a rope or wire *n*, and the lower end of each of these ropes is attached to a vessel or receptacle *o*, which is provided in its bottom with a small leak-hole *p*.

The operation is as follows: When during a storm the water commences to run down the pipe *a*, it strikes the deflector *e*, falls into the pivoted trough *f*, and then escapes through the pipe *h*. The position of these parts is such that the water can flow out freely, and at the same time some of the water escapes around the valve *i* and falls into the receptacle *o*. When this receptacle is nearly full, it falls into the position shown in dotted lines in Fig. 1 and carries the trough *f* out of the path of the descending water, as shown in the dotted lines in Fig. 2. When in this position, it prevents any more water from escaping from the pipe *h*, and the whole flow of water is turned into the cistern. The water in the receptacle *o* gradually leaks out through the hole *p*, so that after the rain is over the trough *f* automatically returns by means of its weight to the position shown in full lines in Fig. 2, ready for continued use.

I have shown the lower end of the pipe *h* as somewhat contracted. This is done for the purpose of causing the water to back up and leak around the valve *i*. This contraction, however, should not be so great as to prevent the free flow of water, and, indeed, is not strictly necessary. The valve *i* may be moved by the handle *k* so as to increase or decrease the flow of water into the receptacle *o*.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a cistern cut-off, the combination with a casing provided with an internal deflector and with inlet and outlet pipes, one of said outlet-pipes being provided with a leak-opening in its bottom, and a guard over said leak-opening, a trough pivoted in the interior of the casing, weighted levers attached to said trough, a water-receptacle connected to said weighted levers and suspended beneath said opening in the bottom of said outlet-pipe, said receptacle being provided with a leak-opening in its bottom, substantially as described.

2. In a cistern cut-off, the combination with a casing provided with an internal deflector and with inlet and outlet pipes, one of said outlet-pipes being provided with a contracted discharge-opening and having a leak-opening in its bottom and a guard extending over said leak-opening, an adjustable valve pivoted in said leak-opening, a trough pivoted in the interior of the casing, weighted levers attached to said trough, a water-receptacle provided with a leak-opening located beneath said valve, and connections between said levers and water-receptacle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE S. STUART.

Witnesses:
JOHN H. HOLT,
FRANK D. BLAKISTONE.