(No Model.)

J. S. HEATON.

CUT-OFF FOR CISTERNS.

No. 312,120. Patented Feb. 10, 1885.

Fig. 1

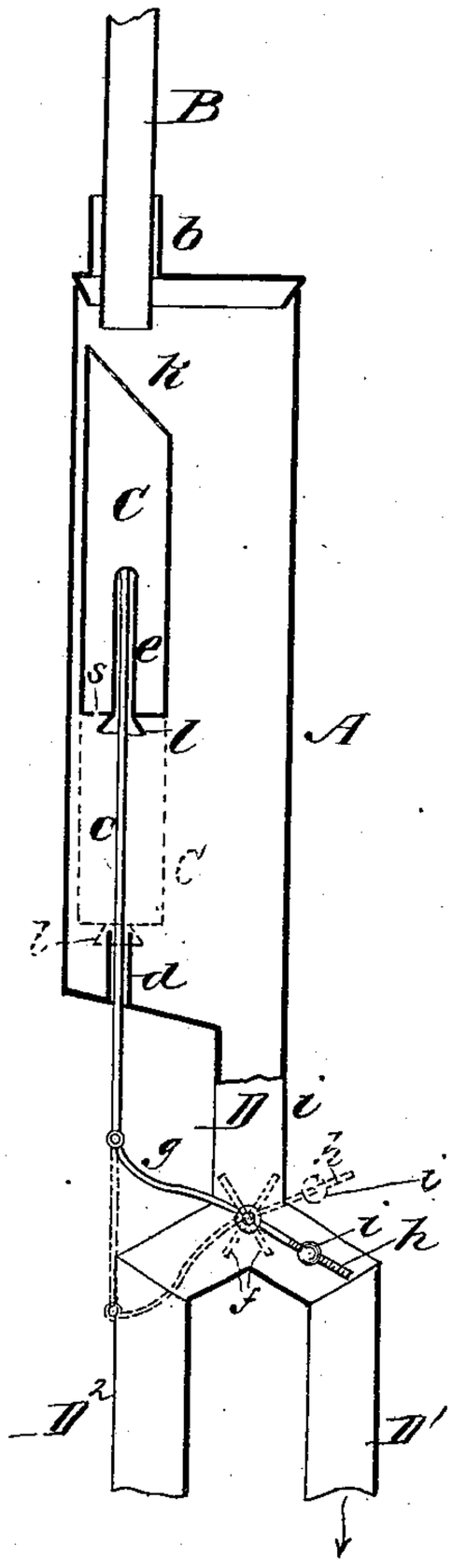
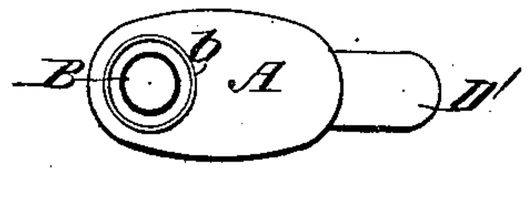


Fig 2.



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CUT-OFF FOR CISTERNS.

SPECIFICATION forming part of Letters Patent No. 312,120, dated February 10, 1885.

Application filed August 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. HEATON, of Shelbyville, in the county of Shelby and State of Kentucky, have invented certain new and useful Improvements in Devices for Supplying Cisterns with Water from the Roofs of Buildings, of which the following is a full, clear, and exact description.

This invention consists in certain novel constructions and combinations of parts in devices for supplying cisterns with water from the roofs of buildings, whereby provision is made for automatically first using any desired amount of the rain or falling water to wash off the roof, and to carry off any dirt or impurities therefrom, and afterward to run the clean or pure water, in an unobstructed manner and without having resort to straining, into the cistern, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 represents a partly sectional elevation of an apparatus or device embodying my invention, and Fig. 2 a plan of the same.

A is the body of the device, here shown of oval shape, and which may be double the capacity of the down pipe or spout B, entered through a neck, *b*, on the top of said body at one side thereof, to conduct the water from the roof down into the apparatus.

C is an upright cup or receptacle arranged within the body A on the same side thereof as the conducting-pipe B, and directly under said pipe. This cup is carried by a rod, *c*, which passes up through an interior sleeve, *d*, on the bottom of the body A, and enters at its upper end an elongated guide and socket, *e*, projecting from the bottom of the cup up within it and closed at its top.

D is the outlet-pipe for the water from the body A, of greater area than the inlet-pipe B, and arranged to project downward from the bottom of said body on the opposite side of the body to that on which the inlet-pipe B and cup C are arranged. This outlet-pipe D connects below by diverging branches with a waste-pipe, D′, and cistern-pipe D^2, the passage of the water to either one of which is controlled by any suitable automatic cut-off or valve, *f*, which is connected by an arm, *g*, with the rod *c* of the cup, and has attached to it a rod, *h*, fitted with an adjustable weight, *i*, for governing the action of the apparatus. The cup C has its open top made sloping toward the outlet side of the case or body A, and is covered by a wire cloth or strainer, *k*. The bottom of the case A is also made sloping in a like direction. The weight *i* should be sufficient to more than counterbalance the cup C when empty, or when only partially filled, and to keep the cup raised and the valve *f* closed against passage of water to the cistern-pipe D^2, as shown for its left-hand position on Fig. 1, and so that it will leave a free open passage to the waste-pipe D′. When, however, the cup C is charged with a sufficient quantity of water to cause it to drop and to reverse the valve *f* to the position shown for it at the right hand of Fig. 1, then the waste-pipe D′ will be wholly closed and the cistern-pipe D^2 fully open, the rod *h* carrying the weight *i* then being in its raised position shown by dotted lines in the same figure. By adjusting the weight *i* on its rod *h*, the opening and closing of the valve *f* may be regulated to vary the amount of discharge through the waste-pipe before diverting the current into the cistern-pipe, according to the amount of washing the roof requires, size of the roof, &c. The water, when it first enters the apparatus, strikes on the inclined screen-top of the cup C, and mainly passes off it down through the body A, to and through the outlet D and waste-pipe D′, said water carrying with it all leaves or other foreign matter, which are prevented from entering and choking the cup by the screen *k*, and which have free egress by the waste-pipe without interfering with the valve *f*. When a certain quantity of water, however, has entered the cup C, which is after the roof has been thoroughly washed, as regulated by the adjustment of the weight *i* on the rod *h*, then the weight of the cup and its contents will cause the cup to fall, as shown by dotted lines, Fig. 1, and to reverse the position of the valve *f*, raising the weight *i*, and closing the waste-pipe D′, but fully opening the cistern-pipe D^2, so as to pass the pure or clean water into the cistern. When the cup is fully down, a funnel, *l*, on the bottom of it or lower end of the socket *e* covers the sleeve *d*, through which the rod *c* freely works, so

that water cannot pass out by said sleeve. The cup C has a small aperture, *s*, in its bottom, so that as water ceases to enter the apparatus the cup will be gradually drained of its contents and be raised again by the action of the weight *i*, and the valve *f* be automatically adjusted to close the outlet to the cistern-pipe D^2, and to open the outlet to the waste-pipe D′, and so put the apparatus in its normal working position, ready for a repetition of its action. Sloping the bottom of the case A toward the outlet D prevents any lodgment of water within the case.

This apparatus essentially differs from others working as mere filters with automatic devices to pass off the sediment after the rain, as my apparatus only turns the water into the cistern after the dirt and sediment have passed off.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an apparatus for supplying cisterns with water from the roofs of buildings, the combination, with the case into which the water is run from the roof, and a rising and falling cup therein operated by the weight of the incoming water, and provided with an inclined apertured top and an apertured bottom, of a valve actuated by said cup, and a waste-pipe and a cistern-pipe connected with said case and automatically controlled or alternately opened and closed by said valve, substantially as and for the purposes herein set forth.

2. In an apparatus for supplying cisterns with water from the roofs of buildings, the combination, with the case A and its inlet aperture or pipe B, arranged to connect with said case at or near its top on one side thereof, of the rising and falling valve-operating cup C, arranged within said case in line with or beneath said pipe, and provided with an inclined apertured top and an apertured bottom, and the outlet D at the bottom of said case on the opposite side thereof to that occupied by the cup C, essentially as specified.

3. In an apparatus for supplying cisterns with water from the roofs of buildings, the combination, with the case A and its upper one-sided inlet aperture or pipe, B, and opposite-sided lower outlet aperture or pipe, D, of the rising and falling valve-operating cup C, provided with an upper inclined screen-top, *k*, and an aperture, *s*, in or near its bottom, substantially as described.

4. In an apparatus for supplying cisterns with water from the roofs of buildings, the combination of the case A, its upper one-sided inlet aperture or pipe, B, and lower opposite-sided outlet aperture or pipe, D, the rising and falling cup C, provided with an inclined screen-top, *k*, and leak-aperture *s*, the rod *c*, the valve *f*, connected with said rod and controlled by an adjustable weight, *i*, and the waste and cistern pipes or branches D′ D^2, controlled by said valve, essentially as and for the purposes herein set forth.

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Witnesses:
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