

(No Model.)

D. W. ROLAND.
RAIN WATER CUT-OFF.

No. 395,998.

Patented Jan. 8, 1889.

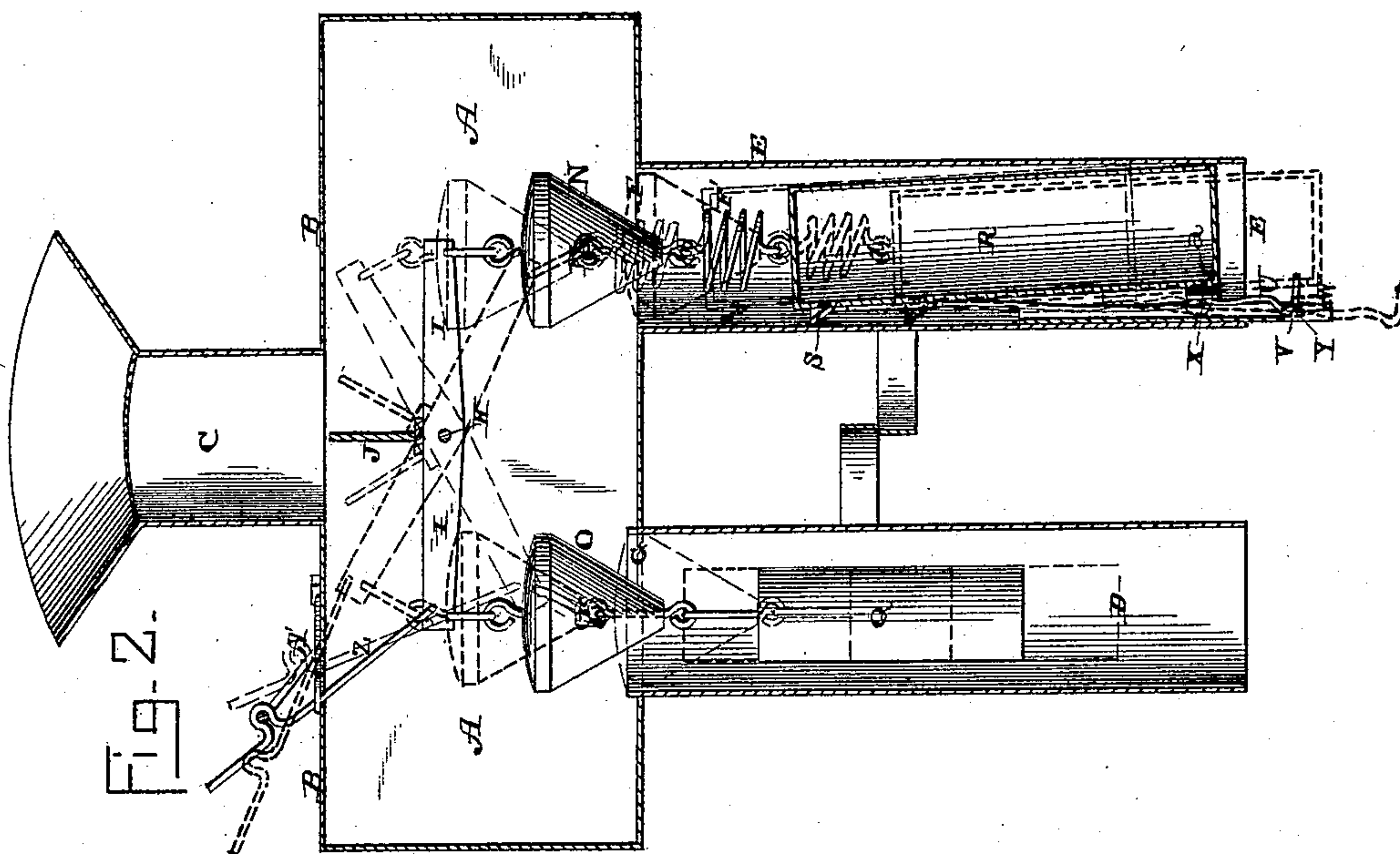


Fig. 2.

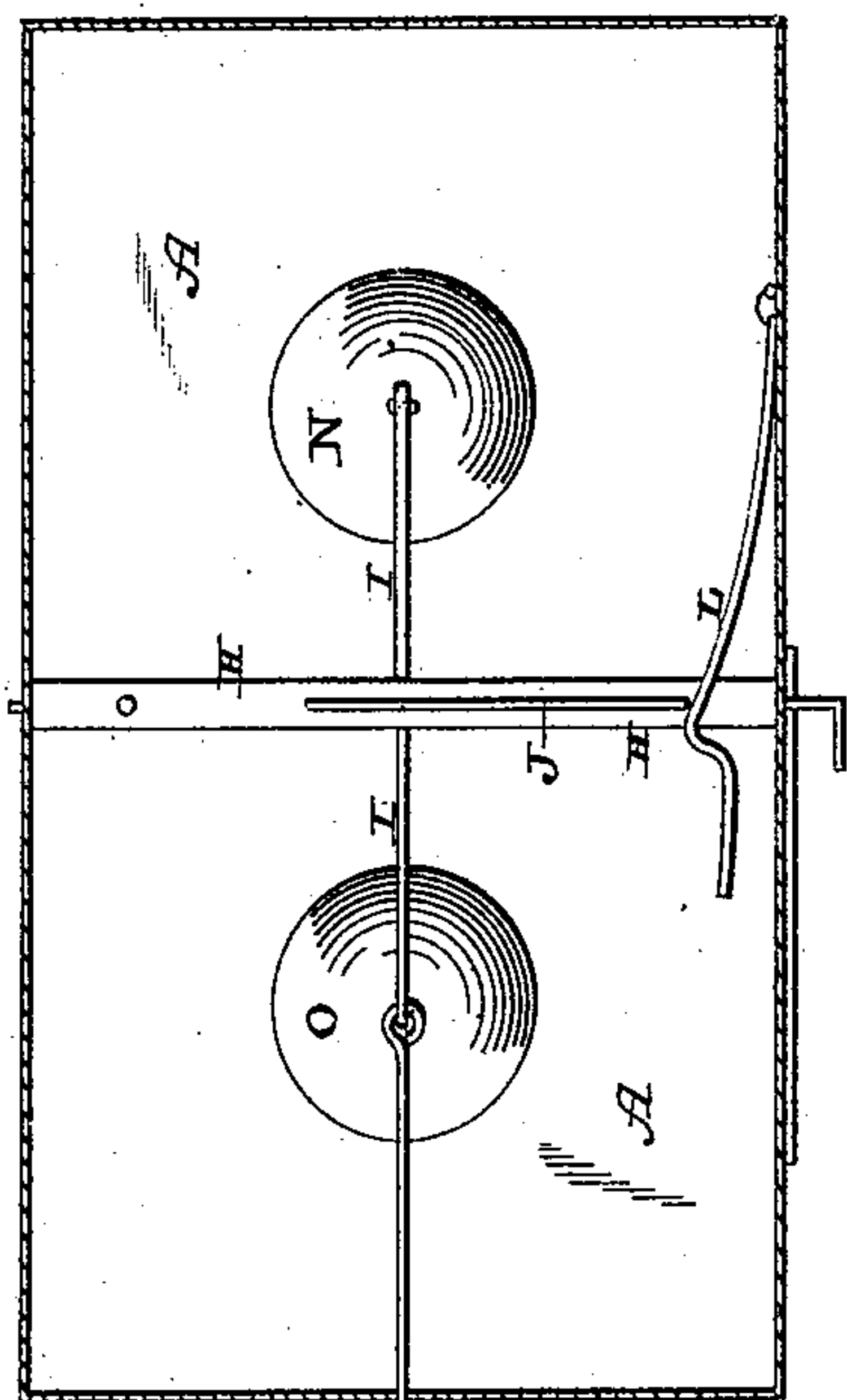
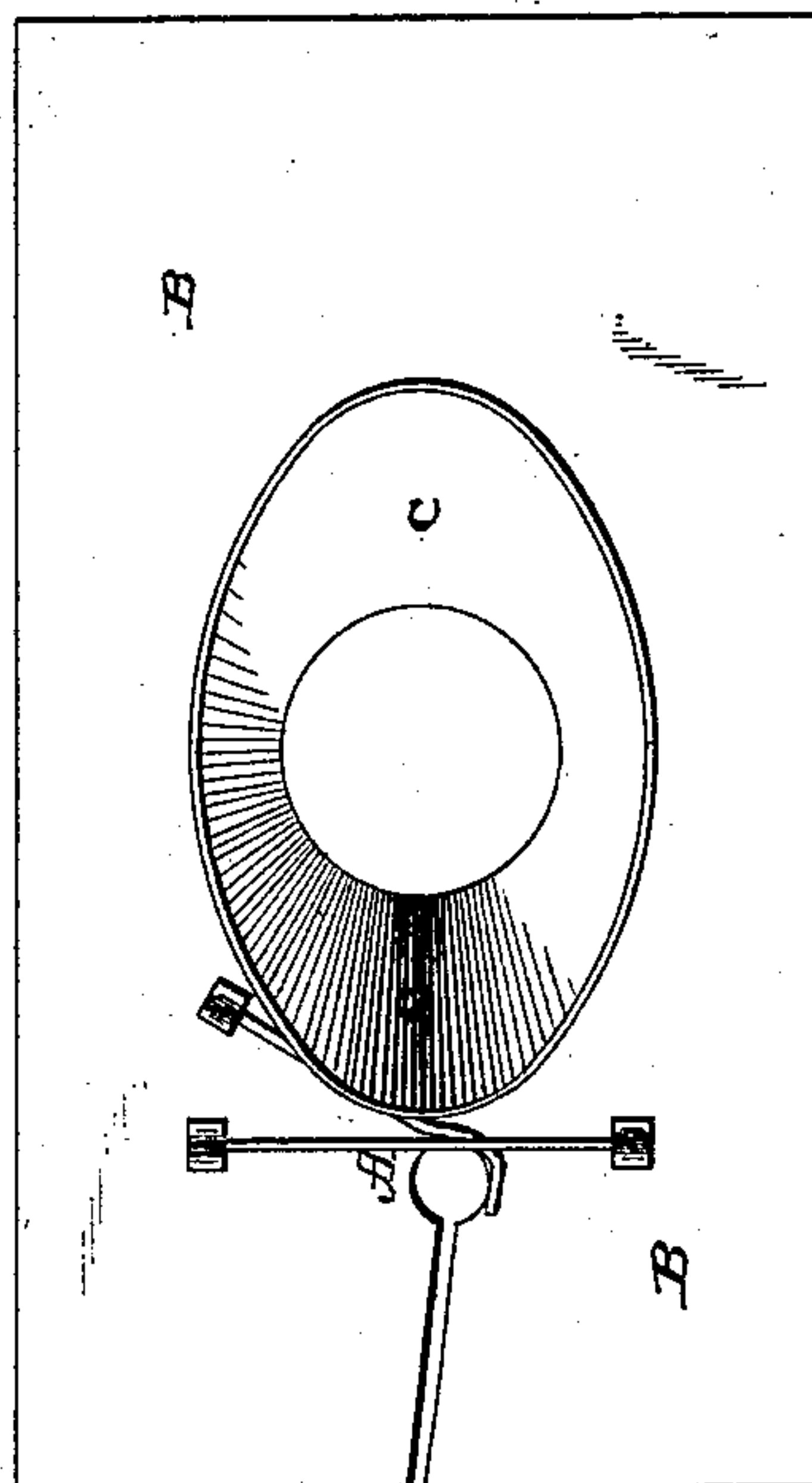


Fig. 1.



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UNITED STATES PATENT OFFICE.

DANIEL W. ROLAND, OF AKRON, OHIO.

RAIN-WATER CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 395,998, dated January 8, 1889.

Application filed October 23, 1888. Serial No. 288,928. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. ROLAND, of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Rain-Water 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in rain-water cut-offs; and it consists in a box provided with a lid, to which the inlet-pipe is attached, and having a waste-pipe and an outlet-pipe extending from its bottom, a rocking lever pivoted in the box, valves connected to the opposite end of the lever to alternately close the waste and outlet pipes, a weight connected to the underside of the valve which closes the waste-pipe, and a bucket provided with an automatically-operating valve connected to the under side of the valve which closes the outlet-pipe, all of which will be more fully described hereinafter.

The object of my invention is to provide a cut-off which can be made to pass off all of the water through the waste-pipe or through the outlet-pipe into the cistern, and in which waste-pipe a bucket with an automatically-acting valve is placed for the purpose of automatically changing the flow from the waste to the outlet pipe.

Figure 1 represents a plan view of a box and its attachment, with the lid removed. Fig. 2 is a vertical section taken through the center of the box. Fig. 3 is a plan view of the cover of the box alone.

A represents the box or body of the cut-off, which is provided with a tightly-fitting lid or cover, B, to which the inlet-pipe C, provided with a removable strainer, is secured. Any number of waste-pipes may discharge into the inlet-pipe, and from this inlet-pipe C the water passes directly into the box A. From the bottom of the box A extends the outlet-pipe D and the waste-pipe E. Through the bottom of the box A is made the opening F, through which the water passes to the

waste-pipe, and the edge of this opening is flush with the bottom. The opening G through the bottom of the box A, and through which the water passes to the outlet-pipe D, has a raised edge or flange around it, so that the valve which controls the flow of water through this outlet-pipe D will fit snugly therein and prevent any possible leakage.

Pivoted inside of the box A is a journal or bearing, H, to which the lever I and the deflector J are secured. The deflector consists of a flat plate of any suitable width, which is turned toward either end of the box, according as to whether it is desired to deflect the water passing through the pipe C toward the waste or outlet pipe. This deflector being rigidly secured to the pivoted support or bearing H, it is only moved when the deflector is turned so as to close one of the openings and open the other. In order to hold this deflector in the position into which it has been adjusted, there is secured to the inner side of the box a spring, L, which is preferably shaped as shown, and which bears against the end of the deflector for the purpose of preventing it from being too readily moved. When the valve of the outlet-pipe is closed, the end of the deflector catches behind the shoulder on the spring; but when the valve which closes the waste-pipe is closed the spring merely exerts a frictional contact against the end of the deflector.

To each end of the rocking lever I are secured a suitable number of links, and to the lower end of the links are secured the valves N O, which are preferably made conical and of any suitable material that may be preferred. These valves are made conical, so that they will not be so liable to stick or to freeze during cold weather. The valve N is made slightly smaller than the opening through which it is to pass, so that the water can leak past it; but the valve O closes the opening G tightly so that there can be no possible leakage. To the under side of the valve O is loosely secured a weight, Q, so as to draw the valve down upon its seat with sufficient force to stop any leakage. To the under side of valve N is loosely secured a can or bucket, R, provided with a cover, and a lip or flange, S,

which projects toward the inner side of the pipe E. The opening into the can or bucket is just sufficient to allow a small quantity of water to run into it, and thus fill the can or bucket slowly, so that the first of the rain-water will have a chance to pass off through the waste-pipe, and thus carry away the dirt that had accumulated upon the roof and in the waste-pipes. This can or bucket when filled with water is sufficient to overcome the weight Q, secured to the valve O, and thus cause the valve O to open and the one N to close. This can or bucket R is secured to the under side of the valve N by means of a spring, F', so that the weight of the bucket will cause it to drop downward in the waste-pipe farther than it otherwise would do, and thus allow the bent wire U to drop below the notch V in the grooved extension W, which projects down from the lower end of the waste-pipe upon one side.

Through the inner side of the bucket at its bottom is made a small leak-hole, a, for the escape of the water in the bucket or can, and secured to the bent wire U is a small valve, X, for the purpose of closing this opening when the bucket or can is raised upward in the pipe E by tilting of the lever I. The wire U is shaped as shown, so that when the bucket or can R is raised into the pipe the shoulder Y upon the wire will be forced inwardly toward the bucket by the side of the waste-pipe or extension W, and thus force the valve X against the leak-hole, so as to stop all further leakage of the water. When the bucket R is depressed in the pipe E, the shoulder Y upon the wire U sinks below the notch V in the extension W, and then the valve X springs outward with the wire from against the side of the bucket. While in this depressed position the leak-hole is open, and the water which has run or is running into the bucket can leak out. As the valve N does not close the opening to the waste-pipe tightly, sufficient water can always leak around past the valve so as to keep the bucket R full. The weight of the water in the bucket serves to counterbalance the valve O and the weight Q, secured to it, and thus the opening to the waste-pipe will be practically closed, while the opening G to the outlet-pipe D will be opened.

When it is desired that all of the water flowing into the box A shall pass off through the closed pipe, the end of the lever I, having the valve O secured to it, is depressed by the rod Z, which extends up through a slot in the cover and is provided with a bend or crook, in which a rod or wire, A', is made to catch for the purpose of locking the lever I in position, and thus prevent the weight of the water in the bucket R from opening the valve O.

The extension W is made U-shaped, so that the wire U will catch therein, and thus prevent the bucket or can from turning around.

The spring L may be made to bear against an upwardly-extending lug secured to the rocking bearing, instead of against the deflector itself, for holding the valves in proper position by frictional contact. The sides of the grooved extension W extend slightly below the lower end of the groove, as shown, to form a guide for the wire U, so as to always guide the wire into the groove.

Having thus described my invention, I claim—

1. The combination of the box with the rocking lever placed therein, the valves attached to opposite ends, a weight attached to one of the valves, a can or bucket attached to the other valve, an automatically-acting valve, which is closed by the side of the pipe E as the can is raised, connected to the bucket or can, and the outlet and discharge pipes, substantially as shown.

2. The combination of the box provided with the inlet-pipe and the outlet and discharge pipes, the rocking lever having a valve attached to each end, a weight attached to one of the valves, a bucket or can attached to the other end, a spring, F', for supporting the bucket or can, and an automatically-operating valve connected to the bucket, substantially as described.

3. The combination of the rocking lever, the valve for closing the waste-pipe, a spring connected to the valve, a bucket or can connected to the lower end of the spring, a spring having a valve connected thereto for closing the leak-hole in the can or bucket, and the notched extension secured to the waste-pipe for operating the valve, substantially as described.

4. The combination of the bucket provided with a flange, S, at its top, and a leak-hole, with the outlet-pipe, the U-shaped extension V, provided with the notch W, and the wire U, provided with a valve, X, substantially as shown.

5. The combination of the rocking lever provided with a valve at each end for closing the outlet and waste pipes, a rod connected to one end of the lever and extending to the top of the box, and a catch or locking device for engaging with the rod, substantially as described.

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

DANIEL W. ROLAND.

Witnesses:

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