No. 656,581. Patented Aug. 21, 1900.

W. H. KILER.

IRRIGATING WATER GATE.

(Application filed June 4, 1900.)

(No Model.)

Fig. I.

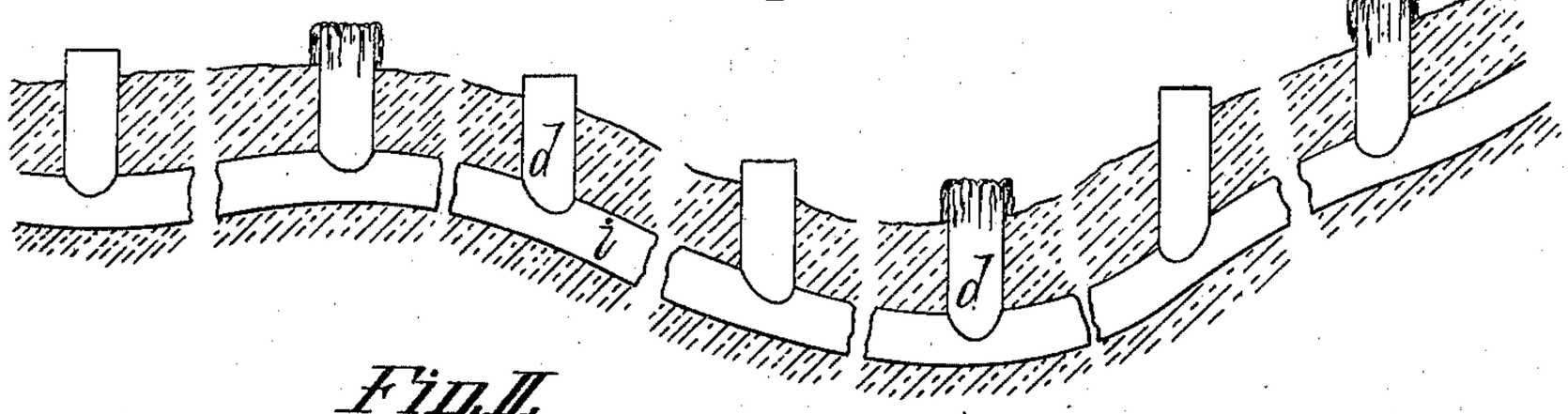


Fig. II.

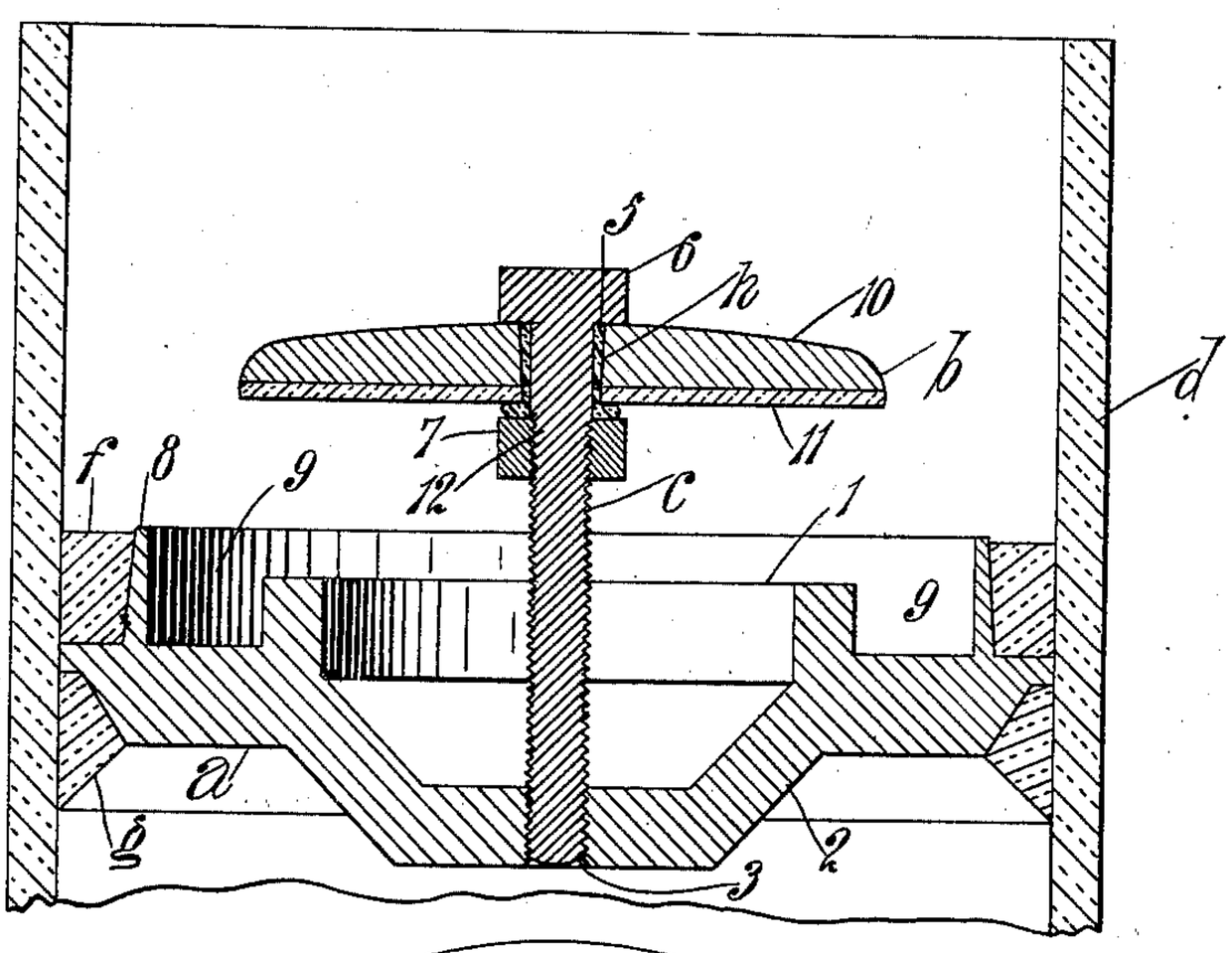
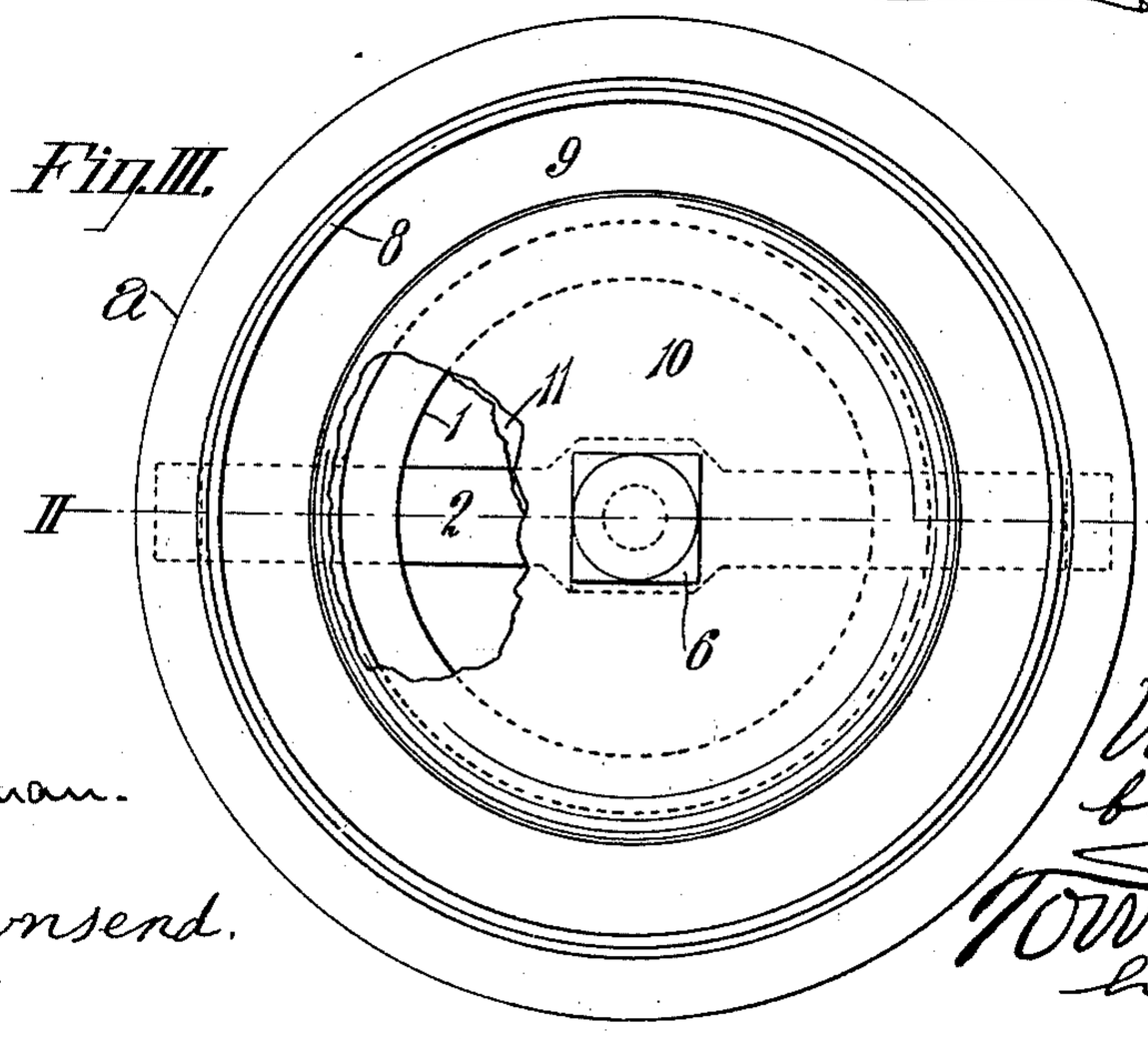


Fig. III.



Witnesses
Benj. Thurman.
J. Townsend.

Inventor
W. H. Kiler
by
Townsend Bros
his attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. KILER, OF POMONA, CALIFORNIA.

IRRIGATING WATER-GATE.

SPECIFICATION forming part of Letters Patent No. 656,581, dated August 21, 1900.

Application filed June 4, 1900. Serial No. 19,073. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. KILER, a citizen of the United States, residing at Pomona, in the county of Los Angeles and State of California, have invented a new and useful Irrigating Water-Gate, of which the following is a specification.

The object of my invention is to provide superior means for distributing water from a pipe-line the outlets of which are at different levels.

By my invention I am enabled to distribute the water evenly from the pipe at different levels without pressure—that is to say, by my invention I can use an irrigating pipe-line which follows the contour of the uneven ground, running down into hollows and up onto hills, and am able to discharge the water from said pipe at any and every desired outlet and in any quantity desired without reference to the outlets at other points along the pipe.

The accompanying drawings illustrate my invention.

Figure I is a view of a pipe-line provided with my invention as the same would appear in operation. Portions between the outlets are broken away to contract the view. Fig. II is a vertical mid-section showing my invention in detail. Fig. III is a plan of the valve appliance before it is placed inside the stand-pipe for carrying out my invention. Parts are broken to expose parts.

a indicates a valve-ring furnished with a valve-seat 1 on its upper face and furnished with a valve-supporting bar 2, extending across the opening of the ring below the plane of the valve-seat and provided with a screw-threaded hole 3 to receive a threaded bolt.

b indicates a valve-plate furnished with a perforation 5 for a bolt.

c indicates a valve-carrying bolt furnished on its upper end with a head 6 for turning the bolt and inserted through the opening 5 in the valve-plate and furnished with a shoulder 7 to support the valve-plate, said bolt being screw-threaded at its lower portion and screwed into the screw-threaded hole 3 of the valve-supporting bar.

8 indicates a collar around the valve-seat, leaving a space 9 between the collar and the valve-seat to form a sand-box between the valve-seat and collar. The valve-supporting bar is preferably in the form of a hanger, which extends considerably below the bottom of the ring in order to allow the water to pass freely into the opening through the ring and up around the valve-plate when the gate is open. The shoulder 7 is preferably a nut screwed onto the screw-threaded portion of the bolt, said bolt being screw-threaded from its lower end nearly to the valve-plate, thus leaving a space between the head and the shoulder to receive the valve-plate. The valve-plate is preferably formed of an iron casting 10, with a rubber, leather, or any other suitable packing-washer 11 on the under face of the cast-iron portion. The hole through said plate preferably flares at the top, so that the valve-plate may tilt to adjust itself to fit snugly upon the valve-seat when the bolt is screwed down into place.

d indicates a section of water-pipe in which the valve-ring will be cemented securely to the pipe *d* by rings *f g*, of cement, applied above and below the valve-ring after the same has been fitted into the pipe-section.

In ordinary construction the section of pipe may be, say, two feet in length and of any suitable diameter, depending upon the amount of water to flow through the gate. Pipe of a diameter of from six to sixteen inches, more or less, may be used satisfactorily.

To construct the water-gate, a joint of pipe *d* will be placed on end and lugs of a suitable length—say eight inches—be placed inside the pipe to sustain the ring, and the ring will then be inserted in the pipe and a ring *f*, of cement, applied around the collar inside of and against the wall of the pipe and upon the ring. This cement is allowed to set firmly, and then the pipe is turned over end for end and a like ring of cement *g* is applied on the side of ring which is to be underneath when in use. Then packing *h* will be wrapped around the bolt between the head 6 and the thread 12, and the bolt will be passed through the opening in casting 10 of the valve-plate and the washer 11 and the nut 7 screwed into place to support the valve-plate, after which the bolt will be screwed into the hole in the valve-supporting bar, and the gate will be ready for use. The packing, which is pref-

erably wrapped around the bolt close to the bolt-head before the bolt is passed through the opening in the valve-plate, is pressed up by the nut 12 to close the opening. The bolt will then be screwed into the screw-hole therefor in the valve-supporting bar and can be screwed down to seat the valve or up to open it.

In practical operation the valve is opened or closed by turning the bolt by means of a wrench (not shown) applied to the head for that purpose.

By setting the valve-plate at any given height the amount of water which will pass through the gate is accurately gaged and the water rising above the plate will flow out of the pipe without pressure.

i indicates the pipe-main to supply water to the water-gate pipes *d*.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A water-gate comprising a ring furnished with a valve-seat on its upper face and furnished with a valve-supporting bar extending across the opening of the ring below the plane of the valve-seat and provided with a screw-threaded hole to receive a threaded bolt; a valve-plate furnished with a perforation for a bolt; a valve-carrying bolt furnished on its upper end with a head for turning the bolt and inserted through the opening in the valve-plate and furnished with a shoulder to support the valve-plate; said bolt being screw-threaded at its lower portion and screwed into the screw-threaded hole of the valve-supporting bar.

2. A water-gate comprising a ring furnished with a valve-seat on its upper face and with a collar around the valve-seat, thus to form a sand-box between the valve-seat and the collar; said ring being furnished with a valve-supporting hanger-bar extending below the valve-seat and provided with a screw-threaded hole to receive a threaded bolt; a valve-plate furnished with an upwardly-flaring perforation for a bolt; a valve-carrying bolt furnished upon its upper end with a head for turning the bolt and inserted through the opening in the valve-plate and furnished with a shoulder to support the valve-plate; said bolt being screw-threaded at its lower portion and screwed into the screw-threaded hole of the valve-supporting bar; and a packing around the bolt at the said perforation.

3. In a water-gate, the combination of a ring furnished with a valve-seat on its upper face, and furnished with a valve-supporting bar extending across the opening of the ring; a valve-plate furnished with a perforation for a bolt; a valve-carrying bolt furnished on its upper end with a head and inserted through said opening and screw-threaded below said valve-plate; and a nut screwed onto the screw-threaded portion of said bolt to support the valve-plate; said bolt being screwed into the screw-threaded hole in the valve-supporting bar.

4. The combination of an open-ended pipe; a ring fitted in said pipe and provided on one face with a valve-seat and with a collar around the valve-seat to form a sand-box between the valve-seat and the collar, and said ring being provided on the opposite side with a valve-supporting bar having a screw-threaded hole for the bolt; cement on the opposite sides of said ring to secure said valve-ring to the pipe; a valve-plate; a screw-threaded bolt passing through the valve-plate and screwed into the bolt-hole in the bar; and provided with means for holding the valve-plate substantially as set forth.

5. In a water-gate, the combination of a plate furnished with an upwardly-flaring hole for a bolt; a valve-ring furnished with a valve-seat on one side and a cross-bar on the other side extending across the opening of the ring and furnished with a screw-threaded hole; a bolt having a head on one end and being screw-threaded at the other end and inserted through the flaring hole and screwed into the screw-threaded hole; packing around the bolt in the flaring hole; and a nut screwed upon the bolt to hold the valve-plate and packing in place.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, California, this 29th day of May, 1900.

W. H. KILER.

Witnesses:

JAMES R. TOWNSEND,

J. L. KILER.