No. 725,093. PATENTED APR. 14, 1903

W. H. KILER.

IRRIGATING WATER GATE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.

Fig. I

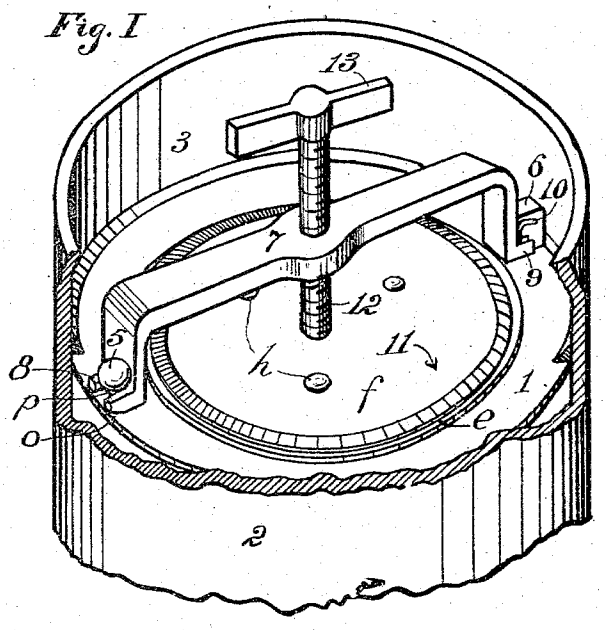


Fig. II

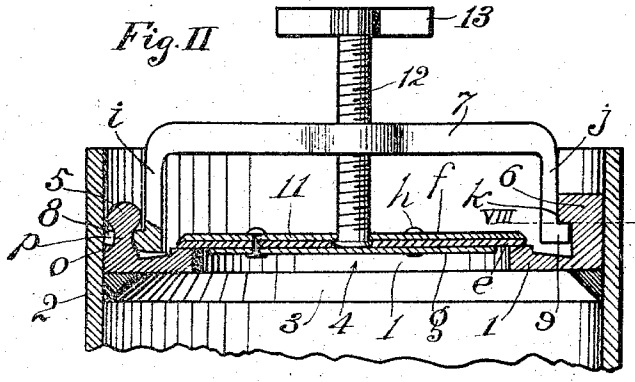


Fig. VIII

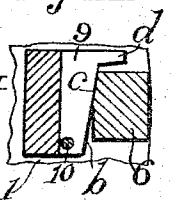


Fig. III

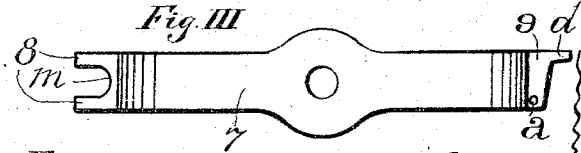


Fig. IX

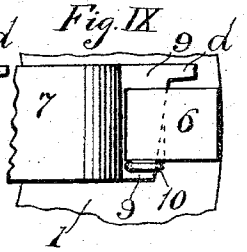


Fig. IV

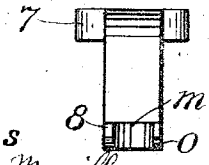


Fig. V



Fig. VI

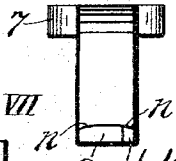
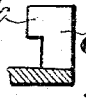


Fig. VII



Witnesses
Albert H. Merrill
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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. 725,093, dated April 14, 1903.

Application filed June 12, 1902. Serial No. 111,233. (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.

An object of this invention is to provide an irrigating water-gate which is adapted to be mounted in an open-topped pipe, and which can be readily cleaned from moss, algæ, or other foreign substances that may be carried to the gate by the water, and which will be simple in construction and cheap to manufacture, and in which the valve can be readily removed and replaced without loss of time and without the use of tools.

Another object is to so construct the water-gate that its parts may be packed in as small space as possible for storage and transportation.

Another object is to provide an extremely cheap water-gate in which the valve seats adjustably upon the valve-seat. In this connection I provide an inverted rocking U-shaped member which carries the valve, with its valve-stem, and allows the same to seat adjustably on the seat.

A further object is to provide the valve with fastening attachments and a movable connection, eliminating liability to rust out at the joints or to become rust-tight. I accomplish this by providing upright fastening members, one adapted to act as a pivot, rigidly fixed to the valve-seat, and my invention is therefore especially adapted for use where a wetting of the parts is unavoidable.

It is an object of this invention to mount the valve above the valve-seat by means of a detached bar which can be instantly removed and replaced.

This appliance is intended to be made at low cost and without any machine-work or close fitting of parts, except the fitting of the valve upon its valve-seat.

The accompanying drawings illustrate the invention.

Figure I is a fragmental perspective view of an irrigating water-gate embodying my invention. Fig. II is a fragmental sectional detail. Fig. III is a plan of the detached valve-carrying bar. Fig. IV is an elevation of one end of said bar. Fig. V shows an elevation of the shouldered lug with which said end of the bar engages. Fig. VI is an elevation of the other end of said bar. Fig. VII shows an elevation of the shouldered lug with which said other end engages. Fig. VIII is a sectional plan on line VIII VIII, Fig. II. Fig. IX is a plan viewed from above said line VIII VIII.

1 designates a valve-seat in the form of a metal ring; 2, a stand-pipe in which the same is cemented by cement 3.

4 is the orifice of the valve-seat. 5 is a headed lug at one side of said orifice. 6 is a headed lug at the other side of the orifice.

7 is a bent valve-carrying member in the form of a bar. 8 designates arms at one end of said bar to engage the headed lug 5. 9 is a lug at the other end of the bar to engage the headed lug 6 at the other side of the orifice.

10 is a pin in a hole *a* in the bar 7 to engage the lug 6 and constituting movable means for fastening the bar in place.

11 is the valve, 12 the screw-threaded valve-stem, and 13 the handle for the valve-stem.

The bar is preferably arranged to rock or tilt on the valve-seat plate 1, and the valve is also desirably arranged to tip or tilt on the valve-stem. The bar is pivotally mounted on the valve-plate by means of the arms 8 at one end of the bar, which embrace the headed lug 5, and the lug or shoulder 9 at the other end of the bar may be beveled or slanting, or the shoulder of the headed lug 6 may be beveled or slanting, or both shoulder and lug may be beveled or slanting, so that when the bar is swung around into place it will wedge against the headed lug. In the drawings I have shown the headed lug 6 and the lug 9 at the end of the bar both beveled.

b designates the beveled end of the bar, and *c* the beveled face of the headed lug.

d is a guard-arm which may project from the bar 7 to engage the headed lug 6 to prevent it from swinging too far in case the bar may be too short for the beveled faces *b* and *c* to engage.

The face of the valve may be formed of rub-

ber, leather, or other yielding material, as the piece *e*, held in place under the top plate or backing *f* by a plate *g*, secured thereto by rivets *h*. In practice the valve is readily placed in position on the valve-seat by first turning the valve-stem to bring the valve above the bottom of the extension 8 and 9 of the bent bar 7. Then the valve and bar will be inserted into the stand-pipe 2 and brought into position above the valve-seat 1, with the arms 8 embracing the pin 5. Then the bar will be swung to bring the lug 9 underneath the head of the lug 6 and when wedged in place may be secured by the pin 10, whereupon the valve will be ready for use. It can be removed by a reversal of the operation just described.

The headed or shouldered lugs 5 and 6 project up from the top of the valve-seat ring 1 and may be practically equal in height to the width of the member 7, and the space between said lugs may be sufficient to span the uprights *i j* of said member when it is laid upon the valve-seat, so that when disassembled the gate can be packed in small space, the member 7 being held between said lugs. In case the valve-stem is in the member 7 and the valve in place on the stem, the valve may be inserted edgewise in the orifice at the middle thereof and the member 7 brought between the lugs 5 and 6, as above stated, thus bringing the parts into smaller compass than when the same are assembled for use. The lug 5 is desirably circular in cross-section to form a headed pivot-pin having a contracted neck which is embraced by the arms 8, and the other lug, 6, is desirably angular, having a head or shoulder *k*, under which the lug 9 is brought when the member 7 is in place. The heads of the two lugs hold the member down against the pressure of the water and against the pressure exerted by the screw-stem 12 in forcing the valve closed.

The U member 7 may have two movements—viz., a swinging movement on the pivot-pin 5 and a rocking movement on its seat formed by the two pins or lugs 5 and 6. The rocking movement allows the valve to seat firmly on its seat when the screw is turned.

The gate is readily put together without machine-finishing.

The recessed portion *m*, by which the arms 8 are formed, may be constructed and arranged to fit loosely on the neck of the pivot-pin 5, and when the wedging portion 9 of the member 7 engages the stop 6 the member 7 may be held by the shouldered pin and stop against any upward movement, but may rock to allow the valve to seat properly on the valve-seat. The contacting faces may be rounded, as indicated at *n*, to allow the member 7 to rock to adjust the valve to its seat. The recessed portion *m* is desirably beveled, as indicated at *o*, so that it may be readily inserted into place on the neck *p* by tilting the member 7 up to bring the arms 8 under the head of the pivot-pin 5.

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

1. A water-gate comprising in combination a valve-seat furnished with upwardly-projecting shouldered lugs on the opposite sides of its orifice, respectively, one of said lugs being a headed pivot-pin; and a member carrying a valve and provided at one end with arms to engage said pivot-pin, and at the other end with a stop to engage the other shouldered lug.

2. A water-gate comprising in combination a valve-seat furnished with upwardly-projecting shouldered lugs on the opposite sides of its orifice, respectively, one of said lugs being a headed pivot-pin; a member carrying a valve and provided at one end with arms to engage said pivot-pin, and at the other end with a lug to engage the other shouldered lug; and movable means for holding the member in place.

3. In a valve, in combination, a valve-seat, a valve-carrying member, means on one side of the valve-seat adapted to be pivotally engaged by said member, a lug on the other side of the valve-seat to stop and fasten the free end of said member, said lug furnished with a projection extending toward the valve-seat, the free end of the valve-carrying member being adapted to swing under the projection from one side thereof only, and means on the other side of the projection for retaining in place said free end of the valve-carrying member.

4. A water-gate comprising, in combination, a valve-seat furnished at one side of its orifice with a lug having a neck circular in cross-section; a U-shaped valve-carrying member having at one end arms for pivotally engaging said neck, and means for fastening the other end of said U-shaped member to the valve-seat at the opposite side of said orifice.

5. A water-gate comprising a valve-seat furnished at opposite sides of its orifice with lugs, one of which is a pivot-pin having a head, and the other is a stop and has a projecting shoulder; and a U-shaped valve-carrying member having arms at one end to engage the pivot-pin and having at the other end a lug to engage the said stop.

6. A water-gate comprising a valve-seat furnished at opposite sides of its orifice with shouldered lugs, one of which is a pivot-pin and the other a stop, a U-shaped valve-carrying member having at one end arms to engage the pivot-pin and having at the other end a projection to engage the stop, said projection and stop being adapted and arranged to wedge together.

7. A valve-seat furnished with lugs, one of which is constructed to form a pivot-pin and the other to form a stop, and a U-shaped valve-carrying member having at one end a

recessed portion to engage the pivot-pin and at the other end a projection to engage the stop, said projection being furnished with a guard *d*.

8. A valve-seat furnished with two shouldered lugs, one of which is a pivot and the other a stop, a valve-carrying member having a recessed portion to engage the pivot, and a wedging portion to engage the stop.

9. A valve-seat furnished with two shouldered lugs, one of which is a pivot and the other a stop, a valve-carrying member having a recessed portion to engage the pivot, and a wedging portion to engage the stop; and a pin in said member to engage the stop to hold said member in place.

10. A water-gate comprising in combination a valve-seat furnished with a headed pivot-pin on one side, a member carrying a valve and provided at one end with means adapted to be moved into operative engagement with said pin, a combined stop and fastening device on the side of the valve-seat opposite the pivot-pin, and means at the free end of the valve-carrying member adapted to be swung into engagement with the aforementioned device and thereby stopped and fastened.

11. A water-gate comprising a valve-seat furnished with a headed pivot-pin on one side, a member carrying a valve and provided at one end with a recessed portion adapted to be moved into operative engagement with said pin, a combined stop and fastening device on the side of the valve-seat opposite the pivot-pin, and means at the free end of the valve-carrying member adapted to be swung into engagement with the aforementioned device.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, California, this 5th day of June, 1902.

WILLIAM H. KILER.

Witnesses:
JAMES R. TOWNSEND,
F. M. TOWNSEND.