

UNITED STATES PATENT OFFICE.

LEOPOLD TOBACK, OF UNION HILL, NEW JERSEY, ASSIGNOR TO WATER
OVERFLOW PREVENTIVE COMPANY OF NEW YORK.

VALVE-LOCK.

SPECIFICATION forming part of Letters Patent No. 691,986, dated January 28, 1902

Application filed April 13, 1901. Serial No. 55,775. (No model.)

To all whom it may concern:

Be it known that I, LEOPOLD TOBACK, a citizen of the United States, residing at Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Valve-Locks, of which the following is a full, clear, and exact description.

This invention relates to valve-locks, and has special reference to that class of locks described in Patent No. 413,794, issued October 29, 1889, to Clarence M. Stiner. The invention of the said patent is intended to prevent water-overflows, gas-leaks, or the escape of other commodities supplied through conduits to a building while the building is unoccupied, as at night. This is accomplished under the patent referred to by a lock in which during the day the front-door key of the building is entrapped and cannot be released until the lock and key are conveyed to the valve controlling the supply of water or other commodity and there used to lock a valve in its "shut-off" position. Having thus manipulated the valve, the key can be removed from the lock and afterward used to lock the door of the building. The valve described in said patent was an ordinary cock or faucet controlled by a handle or lever which moved through an arc of ninety degrees in traveling from one limit to the other of its movement. With such a valve the holder or device in which the lock is deposited could be fixed stationarily adjacent to the end of the movement of the valve-handle, and the valve-handle in moving to the closed position would engage directly with the holder and the lock.

In order to apply the invention of the patent to a globe or other valve in which the stem is rotated by a hand-wheel without moving longitudinally, as is the case in some valves, the lock-holder and the device carried by the valve-handle must be so disposed and related as to permit the handle to make the number of rotations necessary to completely close the valve and at the end of such rotations to be in position to be locked to each other and to the lock. My invention provides for doing this by translating the rotary motion of the hand-wheel into a reciprocating motion of the keeper or device which engages

with the lock-holder, so that when the hand-wheel has completed its rotary motion to close the valve the said keeper has completed its reciprocating motion in one direction and is in position to be locked to the lock-holder.

The details of my invention will be described with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a valve fitted with my improved device, parts being shown in section. Fig. 2 is a plan of the same. Fig. 3 is a view of the lock with the key therein.

Referring to the drawings by letter, A represents a valve which is adapted to be opened and closed by the rotation of a stem *a*. The stem is adapted to partake merely of the said rotary motion without a longitudinal motion, as is sometimes the case. Such rotation is obtained by turning the hand-wheel *a'*. Fitted to the stem *a* is a disk or wheel *b*, having upon its face and near its edge two or three spiral flanges *b'*, forming a large screw. Adjacent to the valve and supported by a suitable bracket *c* is a lock-holder *d*, which in the form shown is merely a cylinder having an opening *d'* in its side for a purpose which will hereinafter appear, and the top being open to receive a cylindrical lock, (indicated in dotted lines *e*.) Beneath the lock-holder *d* is a rectangular guideway *f*, through which freely slides a rack-bar *g*, the teeth of which engage with the spiral *b'* on the disk *b*. The rack-bar carries what I herein term a "keeper" *g'*, which is merely a loop attached to a lug *g²*, fixed to the outer end of the rack-bar. The rack-bar occupies a radial position with respect to the disk *b*, and the keeper *g* is located in line with the opening *d'* in the side of the lock-holder *d*. It will now be seen that when the disk *b* is rotated the keeper will be carried toward and away from the lock-holder, depending upon the direction of rotation, and the construction is such that when the handle *a'* has been rotated sufficiently to entirely close the valve A the keeper *g'* has been carried through the opening *d'* and into a position inside of the lock-holder to be engaged by the lock.

The operation is as follows: The lock *e* is of the general character described in said Patent No. 413,794, being adapted to entrap the key

therein when said key is used to unlock the lock and to release the key when the bolt is thrown to the locked position. The lock is also of such construction that it must be inserted into the lock-holder so as to engage with a pin (indicated at *p*) or other similar device, which, in coöperation with the keeper *g'*, acts upon the lock to put it into such condition that its key can be turned or made operative. Under normal conditions or during the daytime the water or other commodity controlled by the valve *A* is allowed to flow, the valve being open and the parts are in the position shown in full lines in Fig. 1. The lock *e* is then supposed to be out of the holder and in some place of safety, with the key entrapped in it. The key, we will assume, is the front-door key of the building in which the valve is located. Before the key can be used to lock up the building at night it must be removed from the lock *e*, to accomplish which the person whose duty it is to lock up the building carries the key and the lock in which it is entrapped to the valve and inserts the lock in the lock-holder, whereupon the pin *p* engages with a device in the lock and partially releases the key. The key, however, cannot yet be turned or withdrawn from the lock; so the valve-wheel *a'* is turned until the rack carries the part *g'* into the lock-holder, where it engages with another device in the lock, which entirely frees the key, permitting it to be turned. The turning of the key throws the bolt of the lock into engagement with the loop of the keeper and at the same time brings the wing of the key into line with the key-holder. When the key is withdrawn, the keeper, the lock-holder, and the lock are all locked together and held firmly by the bracket *c*. Hence the valve-handle *a'* cannot be rotated to open the valve during the night. The next morning when the building is opened the first duty, of necessity, is to turn on the water. The key is carried to the valve, inserted in the lock, and the bolt thrown back, whereupon the valve-

handle can be rotated to turn the water on. At the same time the key becomes entrapped in the lock, and for safety the key and lock are removed from the holder and deposited in a safe place during the day.

It is not considered necessary to describe the details of the lock, as the same is already fully described in the said patent referred to, as also in the patent issued to me February 1, 1898, No. 598,211.

Having described my invention, I claim—

1. The combination of a valve and its rotary stem, of a stationary lock-holder mounted adjacent thereto, a lock adapted to be deposited in or upon said holder, and a reciprocating keeper adapted to be brought into engagement with the holder and the lock automatically, by the rotary movement of the stem.

2. The combination of a valve and its controlling rotary stem, of a stationary lock-holder mounted adjacent thereto, a lock adapted to be deposited in or upon said holder, a keeper having a radial motion with respect to the stem, which is imparted thereto when the stem rotates, said keeper being adapted to engage with the holder and the lock when at the end of one of its movements.

3. The combination of a valve and its controlling rotary stem, of a stationary lock-holder mounted adjacent thereto, a lock adapted to be deposited in or upon said holder, a screw rotated by said stem, a rack in engagement with said screw and adapted to be reciprocated thereby, and a keeper carried by said rack and adapted to be brought into engagement with the holder and the lock when the valve has been brought to its closed position.

In witness whereof I subscribe my signature in presence of two witnesses.

LEOPOLD TOBACK.

Witnesses:

WALDO M. CHAPIN,
FRANK S. OBER.