L. B. MADRIN.

GATE VALVE LOCK.

APPLICATION FILED APR. 28, 1919.

1,354,322. **Patented Sept. 28, 1920.**

FIG. 1.

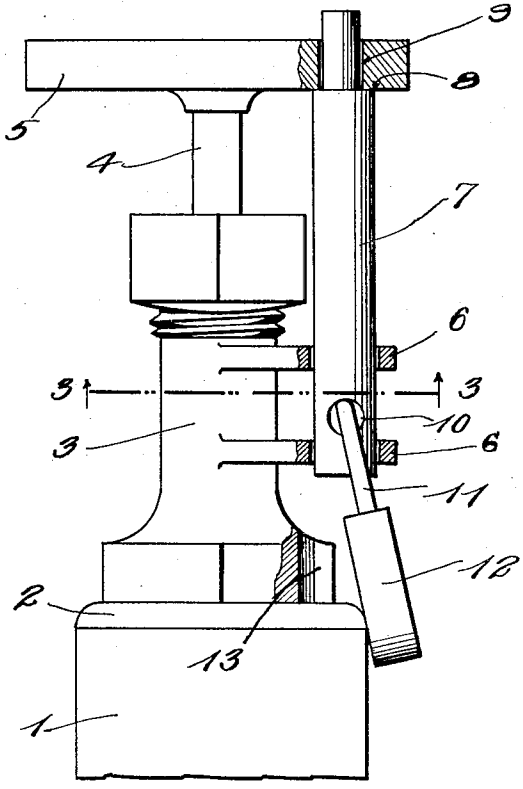


FIG. 2.

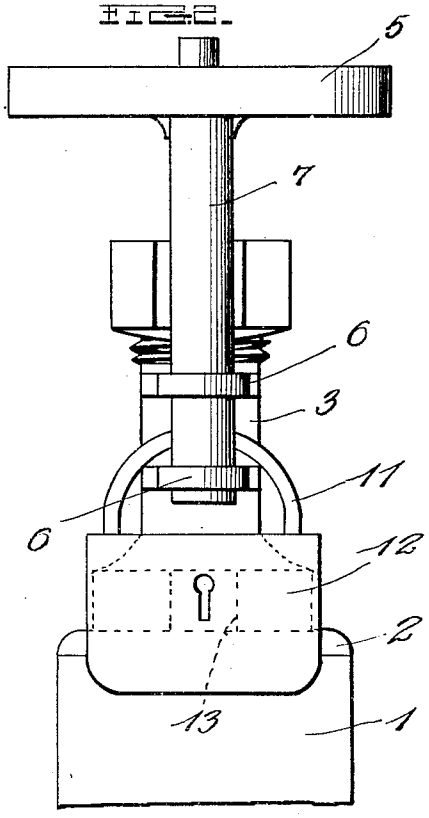
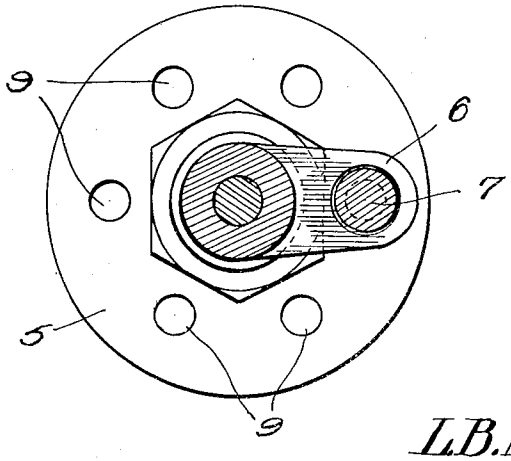


FIG. 3.



Witness

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UNITED STATES PATENT OFFICE.

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GATE-VALVE LOCK.

1,354,322. Specification of Letters Patent. Patented Sept. 28, 1920.

Application filed April 28, 1919. Serial No. 293,207.

To all whom it may concern:

Be it known that I, LEONARD B. MADRIN, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Gate-Valve Locks; and I do 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 appertains to make and use the same.

This invention relates to improvements in locks for gate valves and other valves having rotatable stems.

The object is to provide a simple and practical means for locking valves, said means including a bolt or pin slidable alongside the valve casing and adapted to lock the valve in either open or closed position.

With the above and other objects in view, the invention consists of certain novel features of construction and the combination and arrangement of parts as will be more fully described and claimed, the description being supplemented by the accompanying drawing in which:—

Figure 1 is a side elevation of a valve containing my improvements, parts being broken away and in section.

Fig. 2 is a front elevation thereof.

Fig. 3 is a section taken on the line 3—3 of Fig. 1.

The lock is applicable to the types of valves having rotatable stems but is illustrated applied to a gate valve including the usual casing 1, cap member 2 with a valve stem guide or neck 3 rising therefrom and carrying a stem 4 and hand wheel 5. Carried by the casing 1 or valve stem guide 3, is a guiding means comprising a pair of apertured lugs 6, in which is slidably mounted a locking bolt or pin 7, disposed parallel with the stem 4 and engageable with a keeper or its equivalent on the valve stem, said pin being retained in engagement with the keeper by a padlock or other means inoperable by unauthorized persons.

In the drawings the guiding means for the locking pin 7, is shown comprising a pair of laterally directed apertured lugs 6 on the valve stem guide, although it may be in the form of a single lug or ear disposed on the casing or stem guide. Adapted to slide through the guiding means is the pin 7 whose upper end is reduced in diameter to form a shoulder 8 to contact a portion of the keeper which, as illustrated, is also the operating wheel for the valve, and is provided with a plurality of spaced apertures 9 for the reception of the reduced end of said pin, said reduction being so made as to form a centrally disposed spindle for reception in one of the apertures and forming an annular shoulder to abut the under face of the wheel and limit the projection of the spindle into the aperture. This construction also prevents the removal of the pin from the lugs 6 and its possible loss. Although the ordinary operating wheel 5 may be apertured to serve as a keeper, a second wheel may be keyed to the stem below the operating wheel and similarly apertured to perform the same function.

The pin is provided adjacent its lower end with a transverse opening 10 adapted to be positioned between or on either side of the lugs forming the guiding means, or, if the guide is in the form of a lug, the opening will be above or below it, depending upon whether the valve is open or closed, said pin being retained in its operative position by a suitable locking means, preferably the shackle 11 of a padlock 12. Although the above is the preferred form, the pin may be provided at its upper end with a transverse opening for the reception of the shackle of a padlock, doing away with the other means and at the same time attaining similar results.

The cap member 4 is cut away at 13 to form a seat for one end of the pin 7 when it is in its lowermost position, said seat being provided to permit the bolt to be entirely withdrawn from engagement with the wheel 5, so that said wheel may be rotated to operate the valve.

In operation the valve being in closed position, the wheel 5 is disposed at its lowermost point, the opening in the pin must be positioned between the lugs as illustrated in Figs. 1 and 2, in order to be locked. When the valve is to be opened the padlock is removed from the pin, permitting the pin to be withdrawn from engagement with the wheel 5 after which the wheel may be rotated in the proper direction. The pin is then raised so that the reduced end projects into one of the openings in the wheel 5, and the opening for the padlock shackle is above or below the ear or lug adacent said

wheel. After this operation the padlock is attached to the bolt.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the claimed invention.

I claim:—

1. The combination with a valve including a rotary stem and a guide through which the stem passes; of a hand wheel on said stem, said wheel having a plurality of spaced apertures therein, a pair of laterally directed vertically spaced apertured lugs on said guide, and a locking pin slidable through said lugs, said pin being decreased in diameter at one end for reception in one of said apertures, said pin having a transverse opening adjacent its lower end and capable of being positioned above or below the uppermost lug to receive the shackle of a padlock to lock the pin in operative position.

2. The combination with a valve including a casing, a cap member, a rotary stem and a guide through which the stem passes; of a flat disk hand wheel having a plurality of annularly spaced apertures, a pair of vertically spaced, laterally directed apertured lugs on said guide, and a circular pin slidable through said lugs and having one end reduced to form a centrally positioned spindle for reception in one of said apertures and to form an annular shoulder to abut the wheel and limit the projection of the spindle into the aperture, said pin having a transverse opening adjacent the lower end and capable of being positioned above or below the uppermost lug to receive the shackle of a padlock to lock the pin in operative position and said cap member having a seat to receive the lower end of said pin to permit rotation of the valve stem operating wheel.

In testimony whereof I have hereunto set my hand.

LEONARD B. MADRIN.