

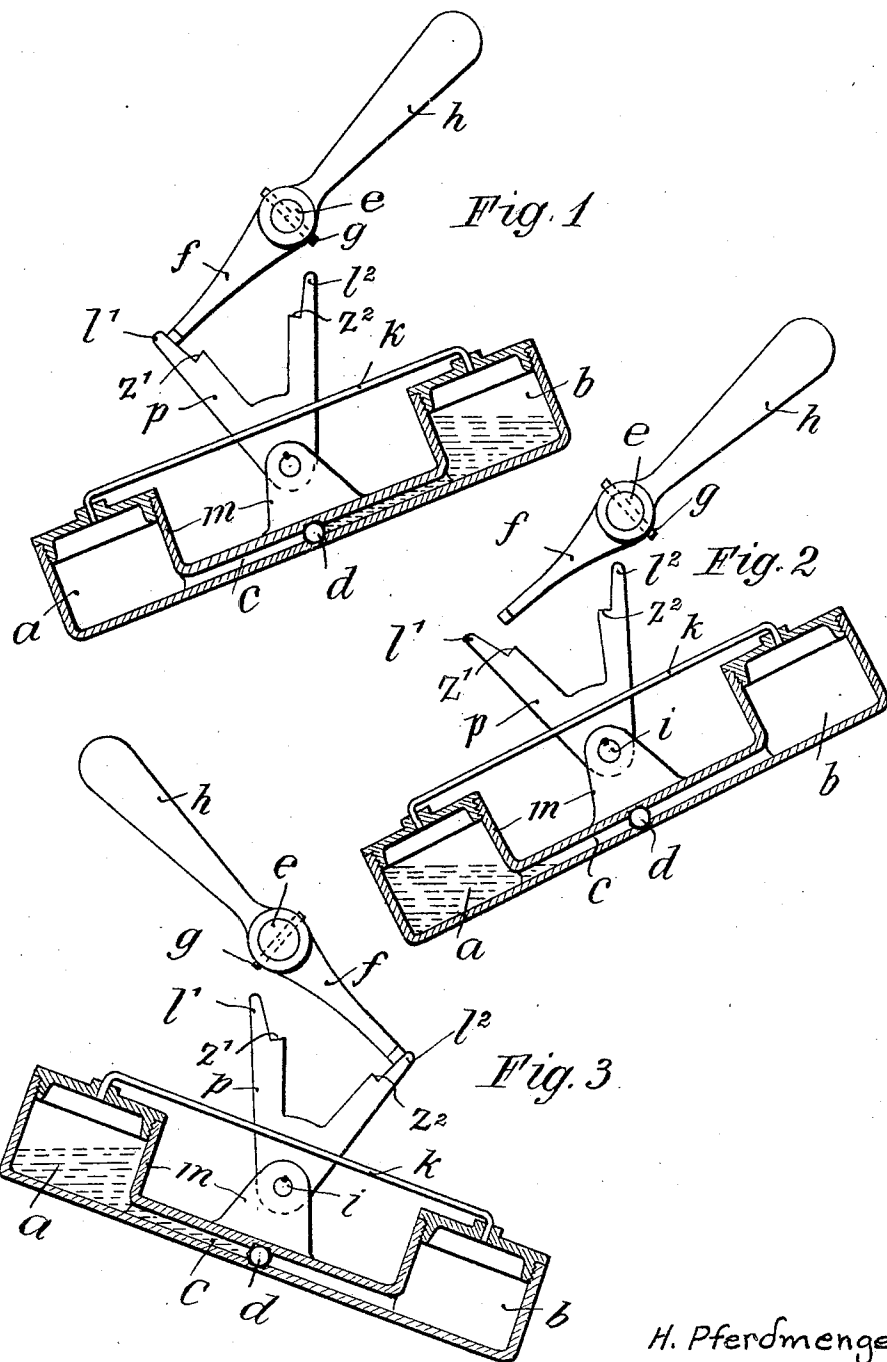
May 15, 1928.

1,670,002

H. PFERDMENGES

TEMPORARY LOCK FOR VALVE HANDLES

Filed May 26, 1927



H. Pferdmenges  
INVENTOR

By: Marks & Clerk  
Attys.

## UNITED STATES PATENT OFFICE.

HEINRICH PFERDMENGES, OF GIESENKIRCHEN, NEAR RHEYDT, GERMANY, ASSIGNOR  
TO MASCHINEN- UND APPARATEBAU-ANSTALT G. M. B. H., OF RHEYDT, GERMANY.

## TEMPORARY LOCK FOR VALVE HANDLES.

Application filed May 26, 1927, Serial No. 194,481, and in Germany March 15, 1926.

My invention pertains to devices for temporarily locking a water-cock or the like and more particularly to a device of the kind in which a fluid balance or rocker which is known in itself, is employed for the locking purpose.

In water-taps or cocks such as employed in connection with apparatus for moistening yarns and the like in a manner that each layer of yarn will receive an exactly predetermined or measured quantity of water for the moistening purpose, it is desirable to automatically lock the water-cock for a time subsequently to the opening of the water-outlet of the measuring chamber from which the water is to be discharged. It will be seen, that if a moistening apparatus is not provided with a locking mechanism for the purpose above stated, the operator who usually is paid or receives his wages in accordance with the number of the reversing movements he has given to the controlling lever of the cock during a working time, will be free to reverse the lever at any shorter intervals of time irrespective of whether the layer of yarn under treatment has been sufficiently moistened or not.

The object of my invention is to remedy this defect and with this object in view I provide an automatic locking device which will prevent the operator from unduly stopping the moistening operation. To this end I provide a locking means in connection with a two-chambered fluid rocker or balance, adapted to lock the controlling lever of the water-cock automatically for a predetermined length of time depending upon the adjustable or predetermined speed at which the fluid of the rocker or balance flows from the one chamber to the other chamber thereof, upon tilting.

The locking means preferably consists, according to my invention, of two notches or dwells in an operating member provided on the rocker and adapted to be actuated by the cock-lever for the rocking purpose, the arrangement of the said notches or dwells being such that the lever will engage, at the termination of its actuation or stroke, the one notch or dwell so as to be locked thereby and prevented from reversal until the rocker or balance has reached the end of its rocking movement, whereby the lever will be released and free to be turned in opposite direction in order to tilt the rocker

over accordingly in opposite direction for the next moistening operation. When this occurs the lever will again be locked due to its engagement with the other notch or dwell, and so on as long as work is continued.

If desired the passage or tube provided for communication between the two fluid chambers of the rocker may be equipped with a throttling means such as a valve or screw for the purpose of adjusting the cross-sectional area of the passage, controlling accordingly the length of time required for the fluid to flow over from the one chamber to the other chamber, and consequently regulating thereby the locking duration.

With the above recited object in view, reference is had to the following specification and drawings in which there is exhibited one example or embodiment of the invention which is in no way intended as a limitation upon the scope of the appended claims as it is to be clearly understood that variations and modifications which fairly fall within the true scope of said claims, may be resorted to when found expedient.

In the accompanying drawings forming a part of this specification, and showing for purposes of exemplification, a preferred form and manner in which the invention may be embodied and practised, but without limiting the claimed invention to such illustrative instance:

Figure 1 is a sectional view of the device with the water cock-lever just turned to the right-hand side and the fluid rocker or balance tilted over accordingly to the left-hand side; Figure 2 is a similar view showing the parts in the position when the fluid has subsequently flowed from the upper chamber into the lower chamber of the rocker or balance; and Figure 3 is a view similar to Figure 1, but with the lever and the rocker turned in opposite direction.

Proceeding to a detailed description, the fluid balance or rocker comprises a vessel having two chambers *a* and *b* interconnected for communication by a suitable tubular conduit or passage *c* at the bottom, and a tubular connection *k* at the top. The fluid, usually water, flows down from the upper chamber to the lower chamber through the passage or channel *c* while air is forced by the intruding water to flow from the lower chamber to the upper chamber through the tube *k* so that the pressure in the two cham-

bers will be equalized. A throttling valve or screw  $d$  in the conduit  $c$  serves the purpose of adjusting the passage or time required for the water to flow from the upper chamber, see Figure 1, to the lower chamber, see Figure 2.

Keyed to the rocking arbor  $i$  of the fluid balance or rocker is a bifurcated lever or arm  $p$  having its two shanks  $l^1$  and  $l^2$  recessed or notched to form dwells  $z^1$  and  $z^2$ , respectively for the lever  $f$  to engage therewith. The lever  $f$  is firmly attached to the stem  $e$  of the water cock by means of a cross-pin  $g$ , and shaped to form a handle  $h$  for manipulation. It will be seen, that when the lever  $f$  and the fluid rocker are in the positions shown in Figure 2, where all water is in the lower chamber, and when the operator now moves the lever  $f, h$  from the position illustrated in Figure 2 to the position shown in Figure 3, the lever will strike the shank  $l^2$  and cause the rocker to tilt over to the position illustrated in Figure 3, and vice versa.

Figure 1 illustrates the device with the water cock lever in the one locked position. The chamber  $b$  filled with water has just been raised to the position shown, by the movement of the lever  $f, h$  from the position illustrated in Figure 3 to that shown in Figure 1, and the water commences to flow from the chamber  $b$  into the chamber  $a$ . It will be apparent that the lever must remain in its locked position, that is, in contact with the locking notch or dwell  $z^1$ , until all the water has flowed from the chamber  $b$  into the chamber  $a$ , and the weight of the water in the latter will cause the rocker to further descend from the position, shown in Figure 1 to that illustrated in Figure 2, and the notch or dwell  $z^1$  to recede accordingly and release the lever, as shown, so that the operator now can reverse the lever  $f, h$ . When this occurs the chamber  $a$  filled with water will occupy the upper position, as shown in Figure 3 and the lever will be locked by the dwell  $z^2$  and again remain in its locked position, until the water has flowed out from the chamber  $a$  into the chamber  $b$  and the rocker has adopted a position as illustrated

in Figure 2 but with the parts in the reverse order.

The balance or rocker with its arms or shanks can be contained in a sealed box with the arm  $f$  of the hand lever projecting into the box through a slot therein. By this means manual operation of the balance will be prevented and as access thereto is prohibited the lever operating the spigot can be moved only when the balance has been moved by its changing the center of gravity to a position that permits such movement of the spigot lever.

It will be evident that my invention, while still being adhered to in its main essentials may be varied and modified in many ways, as herein before intimated, and I wish it to be understood that I aim in the appended claims to embrace all modifications falling fairly within the scope of my invention.

What I claim is:—

1. A device for temporarily locking a water-cock and the like, comprising a balancing fluid rocker, an operating member connected with the said fluid rocker, and a lever connected with the water-cock and adapted to actuate, when moved, the said rocker by means of the said operating member, in one direction and, after a predetermined space of time, in the other direction.

2. A device for temporarily locking a water-cock and the like as claimed in claim 1, wherein the fluid rocker or balance is provided with two shanks adapted to be engaged by the water-cock lever, for tilting the rocker or balance over in the one and the other direction, a dwell or notch, being provided in either shank for the lever to engage therewith in order to be locked and prevented from being reversed until the rocker or balance has reached its lowermost position.

3. The fluid rocker or balance having two chambers, with connecting passages, at the top and at the bottom, and a shanked member, with notches or dwells, in the shanks, substantially as described.

In testimony whereof I affix my signature.

HEINRICH PFERDMENGES.