

LOCKING DEVICE FOR REGISTERING MECHANISMS.
APPLIOATION FILED AUG. 12, 1905. RENEWED JAN. 5, 1912.

Patented Mar. 5, 1912.

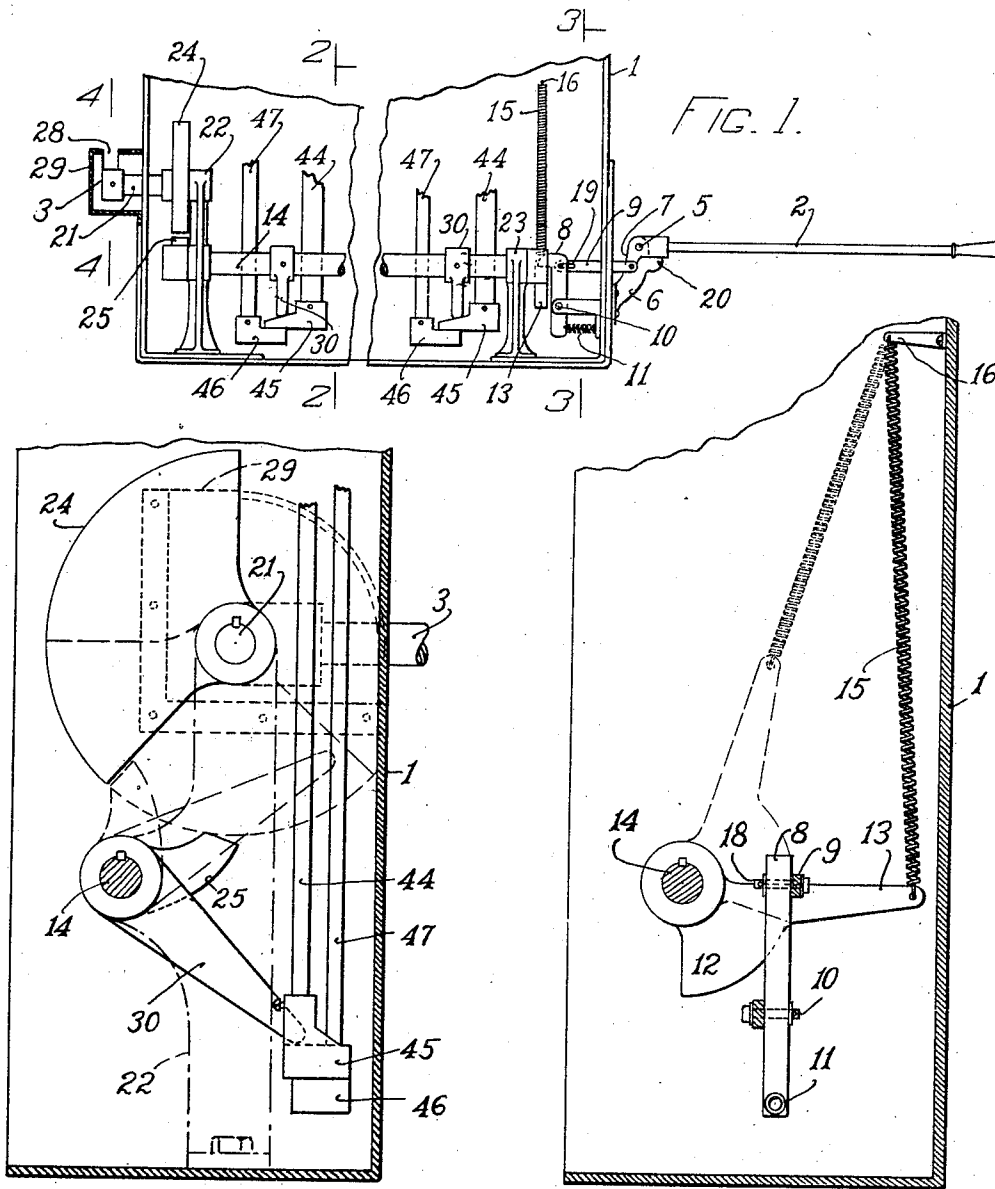
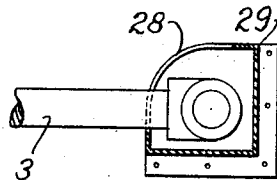


FIG. 2.

FIG. 3.



WITNESSES
A. T. Palmer
E. F. Umiac.

INVENTOR
Gustaf Johnson
By Francis J. V. Dakin
his atty.

Gustaf Johnson
By Francis J. V. Dakin
his atty.

By Francis J. V. Dakin
his atty.

his atty.

UNITED STATES PATENT OFFICE.

GUSTAF JOHNSON, OF PIGEON COVE, MASSACHUSETTS, ASSIGNOR TO CARL E. HJARNE, OF BEVERLY, MASSACHUSETTS.

LOCKING DEVICE FOR REGISTERING MECHANISMS.

1,019,476.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed August 12, 1905, Serial No. 273,913. Renewed January 5, 1912. Serial No. 669,721.

To all whom it may concern:

Be it known that I, GUSTAF JOHNSON, a citizen of the United States, and a resident of Pigeon Cove, in the county of Essex and State of Massachusetts, have invented a new and useful Locking Device for Registering Mechanisms, of which the following is a full, clear, and exact description, reference being made therein to the accompanying drawings.

My invention relates to that class of devices designed to control the movement of registering, and indicating, and similar mechanisms, by alternately locking and unlocking the same.

The object of my invention is to provide externally operated means for locking and unlocking the operative parts of a registering or indicating device, whereby the same can be rendered operative or inoperative at will, without exposing the mechanism to the danger of illegitimate interference. The means provided are so simple in operation that little intelligence is necessary to use them.

In the drawings which illustrate my device applied to a voting machine:—Figure 1 is a partial rear elevation of the lower portion of a voting machine; Fig. 2 is a section, enlarged, on line 2—2 in Fig. 1; Fig. 3 is a section, enlarged, on line 3—3 in Fig. 1; and Fig. 4 is a section, enlarged, on line 4—4 in Fig. 1.

Similar numbers refer to similar parts throughout the several views.

To accomplish the objects above set forth, I provide a shaft having means to engage the operative parts in such a manner, that when the shaft is locked, the operative parts cannot be moved. The said shaft is provided with means to lock it, with means to turn it automatically to release the operative parts when it is unlocked, and with means to return the shaft to a locked position.

Referring to the drawings, 1 represents the casing of a voting machine, in which is mounted a series of vertical slides 44 and 47, which are provided respectively with feet 45 and 46 so arranged as to be engaged by arms 30 on a horizontal shaft 14 mounted in bearings 22, 23, in said casing 1. So long as slides 44 and 47 are in the locked position shown in Fig. 1, it is impossible to operate the voting mechanism, but if shaft 14 is rotated through an arc of ap-

proximately 90 degrees, the arms 30, being thereby turned upwardly, then the slides 44 and 47 are free to rise and the mechanism controlled by them may be operated.

In order to lock and to unlock the shaft 14 and to turn it when unlocked to release the operative parts of the voting machine, I provide the following means: On one end of shaft 14 is fixedly mounted a cam finger 13, connected by a spring 15 to casing 1 at 16. The upper edge of finger 13 is adapted to be engaged, when shaft 14 is in a locked position, by a catch or hook 8 pivotally mounted on casing 1 at 10, and provided with a spring 11 to hold hook 8 in engagement with the upper edge of finger 13 when possible. Hook 8 has a pin 18 which engages a slot 19 in a link 9. On the outside of casing 1, is a bearing 6 in which is pivotally mounted at 5 the unlocking lever 2, which has at its pivoted end a downwardly projecting lug 7, to which link 9 is pivotally attached. 20 is a rest for lever 2. In Fig. 3 the dash lines show the position of cam finger 13 and spring 15 when in an unlocked position.

For the purpose of returning the shaft 14 from an unlocked to a locked position, a finger 25 is fixedly mounted upon the other end of shaft 14, said finger being adapted to be engaged by a cam-lever 24, mounted on an auxiliary shaft 21. Outside of casing 1 is a locking-lever 3, mounted on the auxiliary shaft 21 and having its pivoted end inclosed in a casing 29, slotted at 28 to limit the movement of lever 3. The dash lines in Fig. 2 show the position of these parts when the shaft 14 is unlocked, and the dot-dash lines indicate the bearing 22.

The operation is as follows: As before stated, the drawings show the machine locked. To unlock it, the lever 2 is raised and lug 7 operates to cause link 9 to withdraw hook 8 from the upper edge of arm 13. Spring 15, being under tension, immediately causes arm 13 to rise to the dotted position and holds it there, as any motion either way from this dotted position is against the action of spring 15. In this way, all shock to the parts is eliminated. When arm 13 is up, the lower portion 12 serves to hold hook 8 in this withdrawn position, and slot 19 permits movement of lever 2 back to its starting point. Arms 30 and finger 25 are moved with shaft 14 to

the dash position in Fig. 2, and finger 25 is ready to be engaged by cam lever 24. To return the machine to locked position, lever 3 is raised, causing cam lever 24 to depress finger 25, and with it shaft 14 and its dependencies. As a result, arms 30 engage feet 45 and depress slides 44 and 47, and arm 13 is depressed against the action of spring 15, until spring 11 can act to cause hook 8 to again engage the upper edge of arm 13.

I prefer to so shape cam lever 24, that it will hold finger 25 during the whole period of operation of lever 3, and in this way prevent premature raising of lever 2.

Arms 30 and slides 44 and 47 may be replaced by a continuously advancing mechanism controlled by a ratchet and pawl, or any suitable device may be mounted on shaft 14, which depends for its operation upon an intermittent locking and unlocking of shaft 14, as that constitutes the basic principle of my invention.

What I claim is:—

1. In a locking device, the combination of a shaft provided with means to engage and prevent any movement of the operative parts of a registering or similar machine, when said shaft is in a locked position, a transverse cam-finger on said shaft, a hook adapted to engage said cam-finger and lock said shaft, means to rotate said shaft to release said operative parts, and means to return said shaft to a locked position.

2. In a locking device for mechanisms, the combination of a shaft provided with means to engage and to lock the operative parts of a given mechanism, a transverse cam-finger on said shaft, a hook, adapted to engage said cam-finger and lock said shaft, operating means connected to said hook, a spring attached to said cam-finger, a finger mounted on said shaft, a cam-lever adapted to engage said finger to return said shaft to a locked position and a locking-lever operatively connected to said cam-lever.

3. In a locking device, the combination of a shaft provided with a plurality of transverse members adapted to engage the operating parts of a machine, means to lock said shaft in a position where the said operating parts will be locked, means to unlock said shaft, means to rotate said shaft to release said operative parts, a finger mounted on said shaft, a cam-lever adapted to engage said finger to return said shaft to a locked position and a locking-lever operatively connected to said cam-lever.

4. In a locking device for registering and similar machines, the combination of a shaft provided with a plurality of transverse members adapted to engage and lock the operative parts of the machine, means to unlock said shaft, means to rotate said shaft when unlocked to release said operative parts, a finger mounted on said shaft, a

cam-lever adapted to engage said finger to return said shaft to a locked position and means to operate said cam-lever.

5. In a locking device, the combination of a shaft provided with a plurality of transverse members adapted to engage and to lock the operative parts of a given mechanism, means to lock said shaft when it is in a position to lock said operative parts, means to unlock said shaft, a lever to control said unlocking means, means to operate said shaft when unlocked to release said operative parts, means to return said shaft to a locked position and a lever to operate said returning means.

6. In a locking device, the combination of a shaft provided with a plurality of transverse arms adapted to control the movement of the mechanism in a registering or similar machine, a transverse cam-finger on said shaft, a hook adapted to engage said cam-finger and lock said shaft in a position where said transverse arms will prevent any movement of said mechanism, means to unlock said shaft, means to rotate said shaft to release said mechanism, and means to return said shaft to a locked position.

7. In a locking device, the combination of a shaft provided with a plurality of transverse members adapted to engage and prevent any movement of the operative parts of a registering or similar machine, when said shaft is in a locked position, a transverse cam-finger on said shaft, a hook adapted to engage said cam-finger and lock said shaft, a lever connected to said hook to unlock said shaft, means to rotate said shaft to release said operative parts, and means to return said shaft to a locked position.

8. In a locking device for registering and similar machines, the combination of a shaft provided with a plurality of transverse members adapted to engage and lock the operative parts of the machine, a transverse cam-finger on said shaft, a hook adapted to engage said cam-finger and lock said shaft and said operative parts, a lever connected to said hook to withdraw it from said cam-finger and thereby unlock said shaft, a spring attached to said cam-finger to rotate said shaft when unlocked, and means to return said shaft to a locked position.

9. In a locking device, the combination of a shaft provided with a plurality of transverse members adapted to engage and lock the operative parts of the machine, a transverse cam-finger on said shaft, a hook engaging said cam-finger and locking said shaft, a lever connected to said hook to unlock said shaft, a spring attached to said cam-finger, a finger mounted on said shaft, a cam-lever and a locking lever.

10. In a locking device for registering and similar machines, the combination of a

shaft provided with a plurality of transverse members adapted to engage and lock the operative parts of the machine, a transverse cam-finger on said shaft, a hook, a lever connected to said hook, a spring attached to said cam-finger, a finger mounted on said shaft, a cam-lever, and a locking lever.

11. In a locking device for voting machines and the like, the combination of a shaft mounted in suitable bearings and provided with a plurality of transverse arms adapted to engage and lock the operative parts of the machine, a transverse cam-finger mounted on said shaft, a hook adapted to engage and lock said cam-finger, a

lever connected to said hook to operate it, a tension spring connected to said cam-finger to rotate said shaft when unlocked to release the operative parts of the machine, a finger mounted on said shaft, a cam-lever adapted to engage said finger to return said shaft to a locked position and a locking lever operatively connected to said cam-lever.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses, this the 26th day of July, 1905.

GUSTAF JOHNSON.

Witnesses:

ROBERT ROGERSON,
E. F. NINAC.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."