

W. KELLONIEMI.  
BARN DOOR LOCK.  
APPLICATION FILED APR. 17, 1917.

1,238,152.

Patented Aug. 28, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

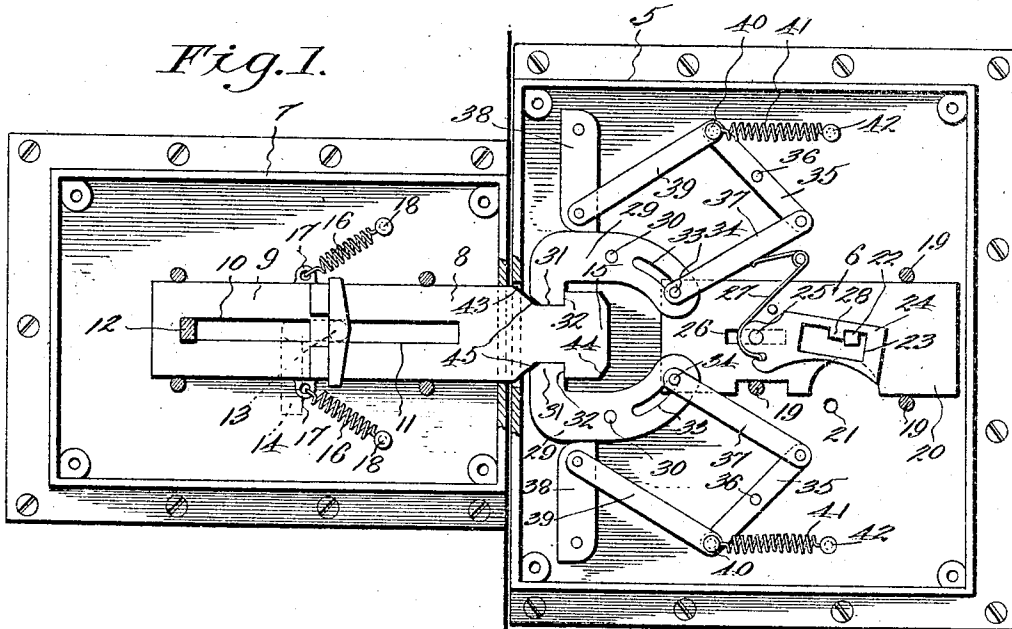
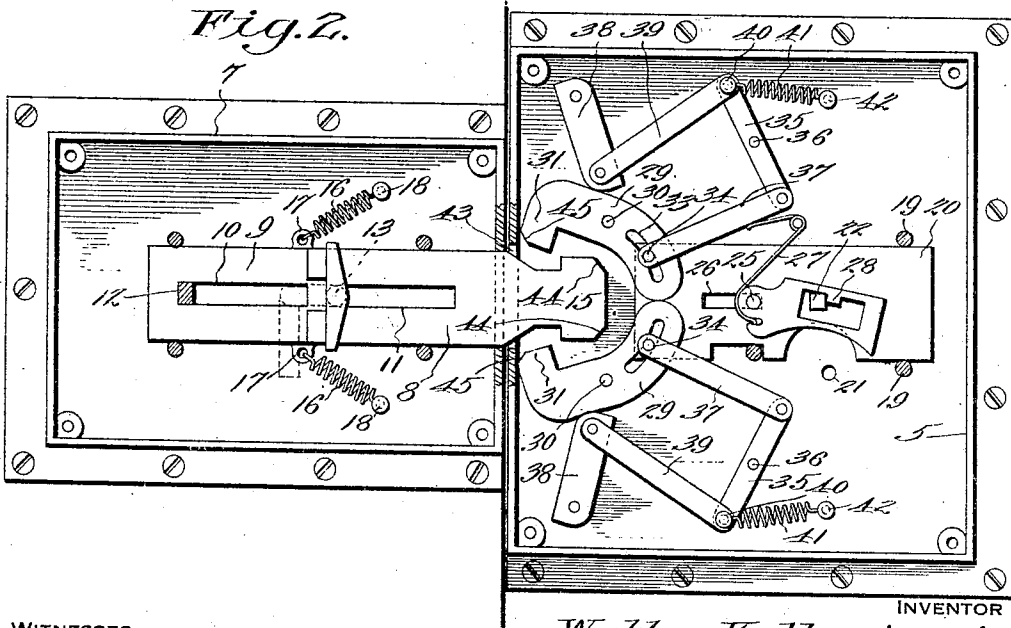


Fig. 2.



WITNESSES

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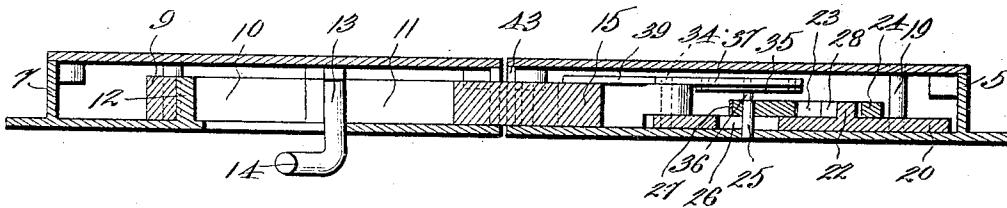
ATTORNEY

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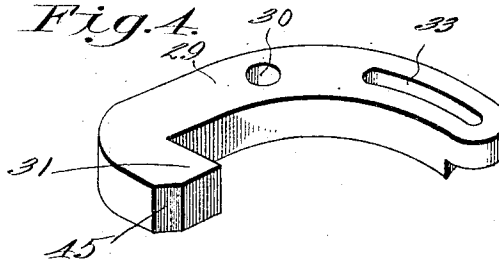
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2 SHEETS—SHEET 2.

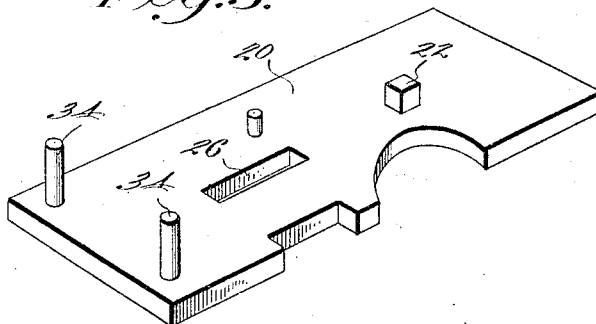
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

WALTER KELLONIEMI, OF LEAD, SOUTH DAKOTA.

## BARN-DOOR LOCK.

1,238,152.

Specification of Letters Patent.

Patented Aug. 28, 1917.

Application filed April 17, 1917. Serial No. 162,785.

*To all whom it may concern:*

Be it known that I, WALTER KELLONIEMI, a citizen of the United States, residing at Lead, in the county of Lawrence and State of South Dakota, have invented new and useful Improvements in Barn-Door Locks, of which the following is a specification.

The present invention relates generally to locks, and more particularly to sliding door locks primarily adapted for use on barn doors or the like for holding the same closed.

The principal object of the invention is directed to a novel construction of latch capable of being operated automatically to a locked position and to a released or open position through the instrumentality of a key, and further one which is not only simple in construction, durable and efficient in use, but will perform an effective locking action of the door.

Furthermore, I contemplate in the production of a latch capable of assuring of a positive locking action with the lock bolt through the employment of a pair of dogs so associated with the jaws of the latch to prevent the opening thereof by any unauthorized person and involving the necessity of the use of a key.

With the above and other objects in view, the invention consists in the novel features, details of construction and combination of parts which will hereinafter be more fully set forth, illustrated in the accompanying drawing and pointed out in the appended claims.

Figure 1 is a view illustrating the application of the lock with the casing removed and showing the door in locked position;

Fig. 2 is a view similar to Fig. 1 illustrating the lock in a released or unlocked position;

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

Fig. 4 is a perspective view of one of the jaws of the latch; and

Fig. 5 is a perspective view of the plate for operating the jaws of the latch.

Referring more particularly to the accompanying drawings, in which like characters of reference refer to corresponding parts in the several views, 5 denotes a housing or casing adapted for connection with the exterior portion of the door frame and contained therein is a suitable latch mechanism indicated generally by the character 6. 7 designates a second casing fixedly secured to the exterior facing of a sliding door and has

slidably mounted therein a spring pressed locking bolt 8.

The locking bolt in this particular instance is shown as of substantially rectangular form comprising a body 9 medially provided with a pair of spaced longitudinally aligned slots 10 and 11 respectively and is guided in its movement through the employment of a stud 12 projecting laterally of the casing and passing through the slot 10 of said locking bolt. The opposite slot 11 has rotatably mounted therein the stem 13 of a hand operated lever 14. The locking bolt is automatically projected to dispose the head 15 thereof normally beyond the confronting end of the casing 7 through the action of a pair of coiled springs 16, one terminal of which is connected with the lug 17 of the locking bolt and the opposite end is fastened to the casing as at 18. The springs when so connected diverge to opposite sides of the locking bar and readily accomplish the object sought.

The casing 5 has formed therein a suitable guide passage 19 in which is mounted for sliding movement an operating bar 20. Provided on the operating bar at a point directly above the key opening 21 is a laterally projecting pin 22 projecting through an elongated slot 23 formed in the pivotally mounted tumbler 24, and serving as a means for locking the tumbler to either an obstructing or non-obstructing position with respect to the key slot 23. In other words, the pin 25 serves as a fulcrum point for the tumbler and projects through an elongated slot 26 formed longitudinally of the operating bar 20 and a leaf spring 27 serves to tension the tumbler in order to readily throw the lug 28 thereof to opposite sides of the pin 22 for consequently controlling the respective locked or unlocked positions of the pair of pivotally connected jaws 29. The character 30 denotes the point of pivotal connection of the jaws with the casing 5 and the active ends of said jaws are formed with hooked ends 31 adapted, upon the jaws assuming a locked position with the head 15, to engage with the pair of vertically aligned shoulders 32 formed at the point of connection of the head with the body portion 9 of the locking bolt. The inner ends of each of the jaws 29 are formed with a slot 33 through which protrudes one of the spaced pair of stems 34 located on the forward end of the operating bar 20 for operatively connecting the jaws with the operating bar, as

is manifest. A pair of levers 35 are eccentrically mounted in the casing 5 at the point 36 and disposed to opposite sides of the operating bar 20 and connected to the confronting ends of each of said levers is an arm 37. The opposite ends of each of the arms 37 are loosely connected with the stems 34. I aim in providing a latch of the character above stated, which will positively hold the jaws 29 in locked engagement with the head 15 of the locking bolt, and to this end, use is made of a pair of eccentrically connected dogs 38 so connected with the casing as to permit of a longitudinal swinging movement thereof. The invention to this end provides a novel means for controlling the operation of the dogs 38 to either an active or inactive position, simultaneously with the operation of the jaws 29 by the connection of the dogs with one extremity of the levers 35 through the medium of the link 39. A tail 40 is formed on the outer end of each of the levers 35, with which one end of a pair of retractile springs 41 is connected, while the opposite ends of such springs have connection with the casing as at 42.

In briefly describing the operation of the invention, it is to be assumed that the door is in a locked position as illustrated in Fig. 1 of the drawing, and in order to accomplish the unlocking action of the bolt from the latch a suitable key is inserted into the key opening 21 of the operating bar 20 to release the tumbler from engagement with the pin 22 which in turn, through the employment of the springs 41, will automatically rock the levers 35 and simultaneously throw the dogs 38 in a substantially longitudinal plane with respect to the casing 5 and move the jaws 29 in released position from the head 15, thereby permitting of the door to be opened. In the closing operation of the door, the same is slid to slightly project the head 15 within the opening 43 of the latch casing and the beveled surfaces 44 of the head press against the beveled shoulders 45 formed on the hooked ends 31 of the jaws. This action is caused through the tension of the springs 16. After this operation, the party possessing the key will throw the tumbler to its released position, and through the action of the springs 41 will automatically throw the jaws 29 in locking engagement with the head 15 of the locking bolt and in turn move the dogs 38 at right angles with respect to the jaws 29.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of construction and the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I have described

the principles of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

What is claimed as new, is:—

1. In a door lock, the combination of a bolt, a latch operatively connected with said bolt comprising a pair of pivotally mounted jaws, a pair of pivotally connected dogs for positively holding the jaws in locked engagement with said bolt, and means operatively connected at one extremity of each of said dogs for operatively connecting the dogs with said jaws for effecting a simultaneous operation of the dogs upon the operation of such jaws.

2. In a sliding door lock, the combination of a locking bolt provided with a head, a latch for operatively engaging the head of said bolt, said latch embodying a pair of pivoted jaws each formed in one end thereof with a slot, an operating bar having connection with the slotted ends of said jaws, a pair of pivotally connected members for positively holding the jaws in clamping engagement with said head, and means having connection with said operating bar and with the latter mentioned members for causing a simultaneous rocking movement of the latter upon the movement of said jaws.

3. In a sliding door lock, the combination of a locking bolt provided with a head, a latch for operatively engaging the head of said bolt, said latch embodying a pair of pivoted jaws each formed in one end thereof with a slot, an operating bar having connection with the slotted ends of said jaws, a pair of pivotally connected dogs for positively holding the jaws in clamping engagement with said head, tensioned means having connection with said operating bar and with the dogs for causing a simultaneous movement of the latter upon the movement of said jaws, and means for automatically throwing the bolt between the jaws.

4. In a door lock, the combination of a locking bolt, a latch engaging said bolt, said latch embodying an operating bar, stems carried by said operating bar, a pair of slotted jaws, the stems of the locking bar protruding through the slots of the jaws for operatively connecting the jaws with said bar, a pair of tensioned levers having connection with said stems, and means having connection with each of the tensioned levers for holding the jaws in positive locked engagement with said locking bolt.

In testimony whereof I affix my signature.

WALTER KELLONIEMI.