A. W. CRAM.

Locks for Sliding Doors.

No. 139,118. Patented May 20, 1873.

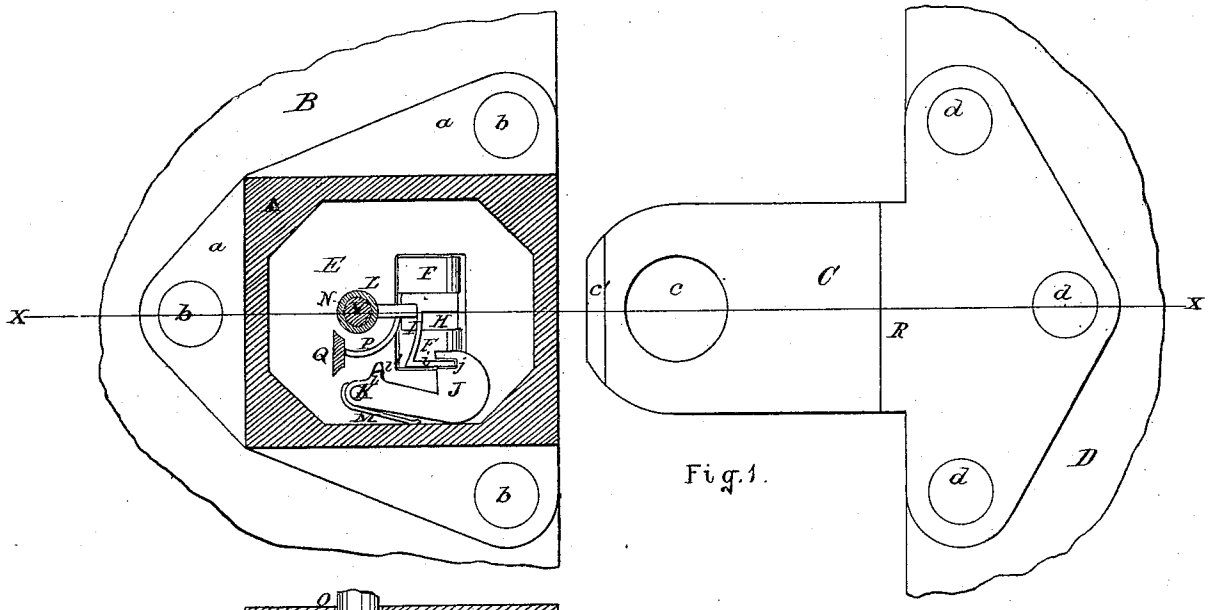

Fig. 1.

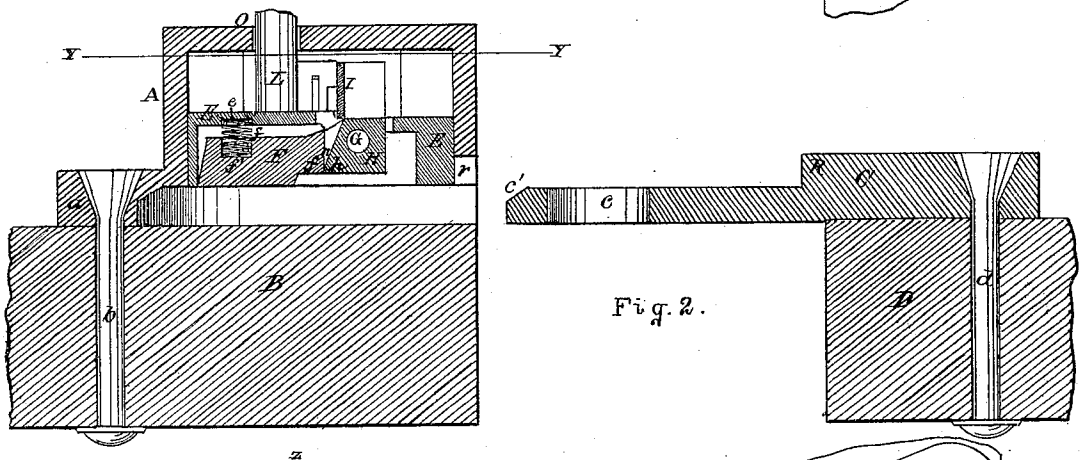

Fig. 2.

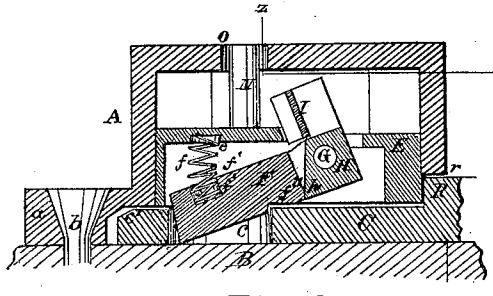

Fig. 3.

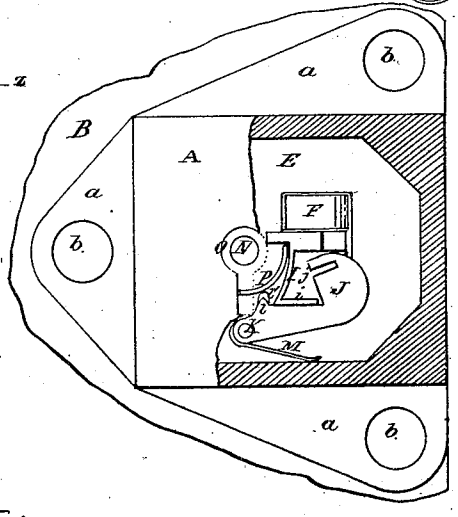

Fig. 4.

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ALONZO W. CRAM, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN LOCKS FOR SLIDING DOORS.

Specification forming part of Letters Patent No. **139,118**, dated May 20, 1873; application filed February 3, 1871.

To all whom it may concern:

Be it known that I, ALONZO W. CRAM, of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Locks for Sliding Doors, of which the following is a specification:

Nature and Object of the Invention.

My invention relates to a self-locking device that possesses great security against "picking" and yet is easily operated, cheap, and durable. The spring-catch is hinged to a block, which ordinarily allows the catch to be raised by the entering hasp, or to be forced outward by the spring, but when the block is turned backward by the key it draws up the catch from the "hasp-way" and releases the hasp. Extending from one side of the pivoted block is a flange or plate upon which the key acts to retract the catch by turning back the block; one edge of the key-plate enters—when the catch is being retracted—slots in the spring-tumblers, by which an improper key is prevented from acting on the catch.

Description of the Drawing.

Figure 1 is a plan of the lock, a portion being in section at the line Y Y, Fig. 2, the hasp being shown withdrawn. Fig. 2 is a longitudinal section at the line X X, Fig. 1. Fig. 3 is a section at the line X X, Fig. 1, the bolt being engaged and the key removed. Fig. 4 is a section at the line Z Z, Fig. 3.

General Description.

A is the case of the lock attached to the door B by ears *a* and rivets *b*, represented as countersunk in the ears and passing through the door. C is the hasp, attached to the door D by rivets *d*. The hasp has a perforation *e* to receive the end of the catch when slid into the hasp-way of the lock. The hasp is beveled at its end *c'* to enable it to push aside the catch more readily in entering. Within the outer case A is an inner case, E, giving support to the operating parts of the lock. F is the spring-catch, pivoted upon a pin, G. The catch has a cavity, *f'*, that receives one end of a spring, *f*, whose other end rests in a similar cavity, *e*, in the case E. The spring acts to force the catch into the position shown in Fig. 3, so as to engage the hasp by its end entering the hole *c*. Pivoted upon the same pin, G, as the catch, is a block, H, having a corner, *h*, which comes in contact with a corner, *f''*, of the catch, when the block is turned by the key, and acts to raise or retract the catch into the position shown in Fig. 2. Projecting from the key-block H is a plate, I, against which the key acts as it is turned one-fourth around to turn the block H sufficiently to retract the catch. The key-plate I has a flange, *i*, whose edge enters the slots in the tumblers as the key is being turned. J is one of a number of tumblers, pivoted on a pin, K. The tumblers have toes *l l'*, by which they are acted on by the key to put them into position for the slots *j* to receive the flange *i*, the toes on the tumblers being of various lengths and the key made to suit, so that none but the proper key will turn in the lock, as, if the tumblers are thrown out too much or too little, the flange *i* and slots *j* do not coincide, and the catch cannot be retracted. M are springs, tending to force the tumblers into the position shown in Fig. 4, in which position the flange *i* rests in a cavity of the tumblers and prevents the key-block being turned to retract the catch. L is the key, N the key-pin, O the key-hole, P a ward, and Q is a stud to prevent the turning of the key in the wrong direction. The hasp C has a shoulder, R, which enters a recess, *r*, in the lock-case and prevents the introduction of any thin instrument to raise the catch. (See Fig. 3.)

I claim as my invention—

1. The spring-catch F *f f''*, in combination with the key-block H *h* I *i* and pivot G, common to both, all substantially as described.

2. The tumblers J *j l* M, in combination with the key-plate I *i*, block H, and catch F *f f''*, substantially as described.

In testimony of which invention I have hereunto set my hand.

ALONZO W. CRAM.

Witnesses:

SAM. KNIGHT,

JAMES T. METZLER.