

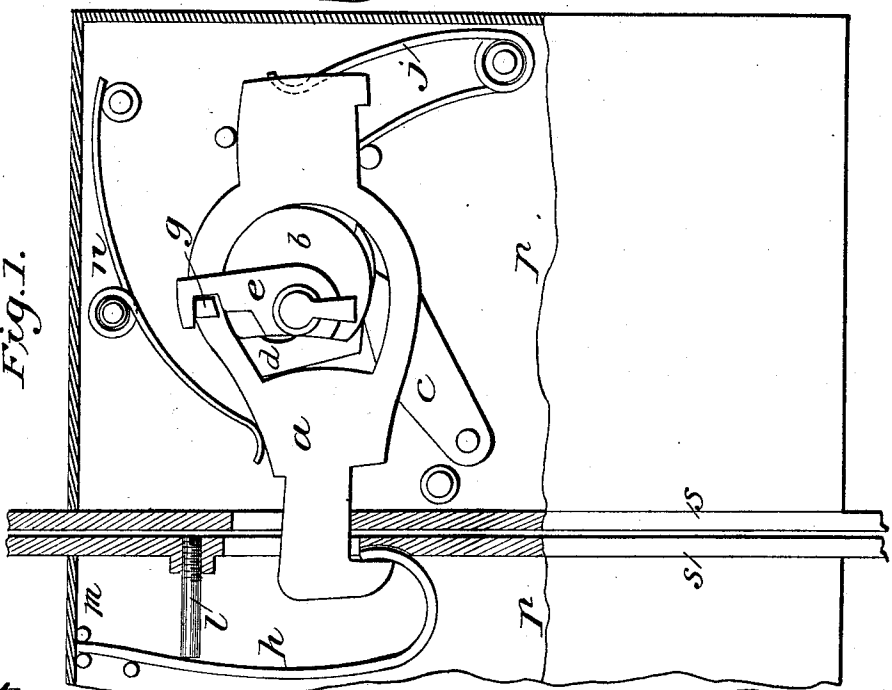
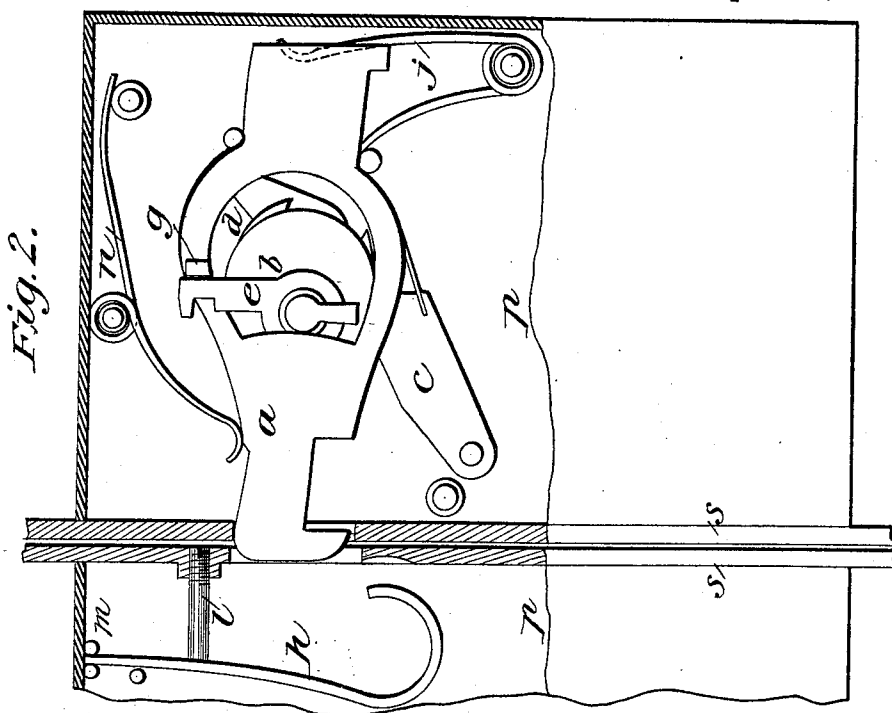
(No Model.)

2 Sheets—Sheet 1.

A. F. LEWIS.
SLIDING DOOR LOCK.

No. 581,511.

Patented Apr. 27, 1897.



Witnesses.

Alex. Scott
Minum Long

Inventor.

Albert F. Lewis
By *Samuel E. Allen*
Atty.

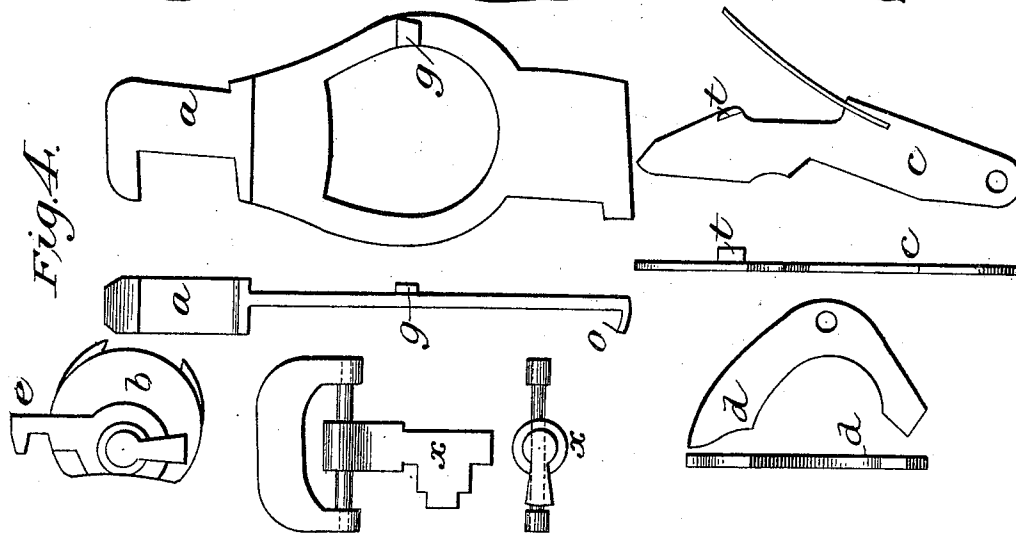
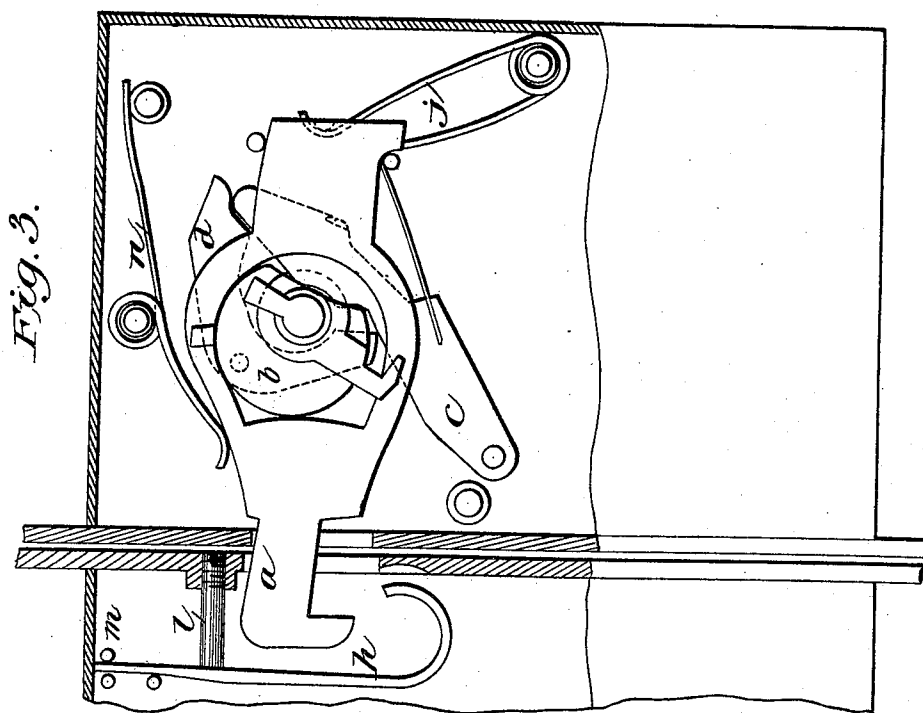
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Witnesses.
Alfred Scott
Alvin M. Long

Inventor.
Albert F. Lewis
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UNITED STATES PATENT OFFICE.

ALBERT F. LEWIS, OF CHICAGO, ILLINOIS.

SLIDING-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 581,511, dated April 27, 1897.

Application filed November 4, 1895. Serial No. 567,889. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. LEWIS, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Sliding-Door Locks, of which the following is a specification.

My invention has for its object the providing of a novel and efficient lock mechanism for the class of doors generally designated as sliding doors; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure I is a side elevation of my lock with the face-plates removed and representing the parts in a locked position; Fig. II, a similar view representing the lock in an unlocked position; Fig. III, a similar view showing the same in the act of throwing out the latch, and Fig. IV a view showing the various parts of the lock mechanism in detail.

The latch-bolt *a* is acted upon by an eccentric cylinder *b*, into which the key is inserted to lock and unlock the bolt. A pivoted tumbler *c* is provided to hold the cylinder in place and also to keep it from being turned except by the proper key. When the lock is being unlocked, the plate *d* throws back the tumbler. The eccentric cylinder has a finger-piece *e*, provided with a hook-shaped end adapted to engage over a stud or projection *g* upon the latch-bolt when locked. In this position it is apparent that the latch-bolt cannot be raised to release it from engagement, as hereinafter specified.

A catch device comprising a suitable heavy spring *h* or a strip of any suitable flexible material is secured, preferably, at one end in a recess or keeper *m* in the edge of that door adjacent to the one containing the lock mechanism when applied to double doors, or in the door-casing when applied to a single door. This spring is curved at its end and adapted to be engaged by the end of the latch-bolt, which is suitably hook-shaped or otherwise adapted to catch over the spring or catch device. In order to regulate the position of the catch device with respect to the latch-bolt or to regulate the pressure of the latch in case the lock should be let in too deep, a set-screw *l* is employed to move such catch device in or out, as desired. If the doors should not

draw together perfectly tight, the set-screw may be turned in slightly.

The part *m* may be called the "keeper," and is of the same size as the lock, for it may have in it a pull for drawing out the door, the same as the lock. For a single door, however, the keeper may consist simply of the face-plate *s* and hook *h*.

A suitable light spring *n* is provided for the latch-bolt with sufficient pressure or tension to keep the same from rattling. A wire spring *j* of the ordinary strength, as used in common door-locks, is employed to keep the latch-bolt tight against the cylinder. This spring catches over a hook *o*, as shown in the drawings. The part *t* is a hook to the pivoted tumbler and serves to keep the cylinder in place. The letter *p* shows where the parts are cut away in order to show the working portions of my lock.

In the actuation of the lock the same is operated by a key *x* from either side of the door. The tumblers for the different locks may be of a different shape, so that a separate key is required for each lock. In the act of locking the eccentric cylinder is turned by the key and the latch thereby moved. In locking, the cylinder causes the latch to move outwardly and horizontally, then downwardly into the catch device, and finally backwardly. At this time the hook of the latch-bolt has engaged the lip of the catch and a close engagement between the parts is obtained. It is obvious that it is not necessary that the doors should be perfectly tight together to permit the latch to engage or catch over the hook *h*. Consequently with my lock any door which may not be accurately made or become imperfect in fit may nevertheless be locked. When the latch-bolt is thus engaged by the catch, the finger-piece *e* has engaged the projection *g*, whereby the latch-bolt is prevented from being raised. The cylinder holds the latch in engagement and acts thereon in such a manner that the power increases as the bolt is drawn back—that is, in the manner of a cam—so that when locked the pressure on the latch is about, say, forty times that on the key. With such device it is thereby possible to draw the doors tight together in case of application to double doors or the door closely to the casing when applied to a

single door. It is preferably designed that the cylinder should act on the latch as a lever with increasing force as the latch is locked.

Although I have described more or less precise forms and details of construction, I do not intend to be understood as limiting myself thereto, as I contemplate changes in form, proportion of parts, and the substitution of equivalents, as circumstances may suggest or render expedient, without departing from the spirit and scope of my invention.

I claim—

1. In a lock, the combination of a latch-bolt, means for giving the bolt an outward, downward and backward movement and a flexible catch device engaged by the bolt upon its backward movement.

2. In a lock, the combination of a latch-bolt, an eccentric actuating the bolt and adapted to give the same an outward, downward and backward movement and a flexible catch device comprising a resilient strip having a hook into which the bolt enters in its outward and downward movement and by which it is engaged in its backward movement.

3. In a lock, the combination of a latch-bolt, hook-shaped at its outer end, an eccentric actuating the bolt and adapted to give the same an outward, downward and backward movement and a catch device having an upwardly-opening hook into which the hook-shaped end of the bolt enters in its outward and downward movement and against which such hook-shaped end engages in its backward movement, the hook portion of the catch device being adjustable toward and away from the bolt.

4. In a lock, the combination of a cam, a

latch-bolt actuated thereby, a flexible and adjustable catch device adapted to be engaged by the latch-bolt, and locking mechanism for holding the latch-bolt locked in position, such locking mechanism comprising a lug *g* upon the bolt and a finger-piece *e* engaging the lug *g* when the cam is turned to cause engagement of the bolt and catch device.

5. In a lock, the combination of a latch-bolt, a catch device adapted to engage the bolt, a key-actuated cam or eccentric for operating the bolt, a lug or projection upon the bolt, a locking-finger located upon the cam and adapted to engage the lug and hold the bolt and catch device in engagement.

6. In a lock, the combination of a latch-bolt, a flexible catch device adapted to be engaged thereby and comprising a strip of suitable flexible material curved at one end, key-actuated tumblers, and a cam or eccentric controlled by the key and tumblers and adapted to operate the bolt.

7. In a lock, the combination of a latch-bolt, a cam device *B* for actuating the same, a spring or flexible plate *h* upwardly curved at its lower end and adapted to be engaged at such curved end by the end of the bolt, a finger-piece *e* upon the cam device, a lug or projection *g* located upon the bolt and adapted to be engaged by the piece *e* to hold the end of the bolt and the spring *h* in engagement, and tumblers *C* and *D* for controlling the movement of the cam device.

ALBERT F. LEWIS.

Witnesses:

GENEVIEVE LEWIS,
EMMA LEWIS.