

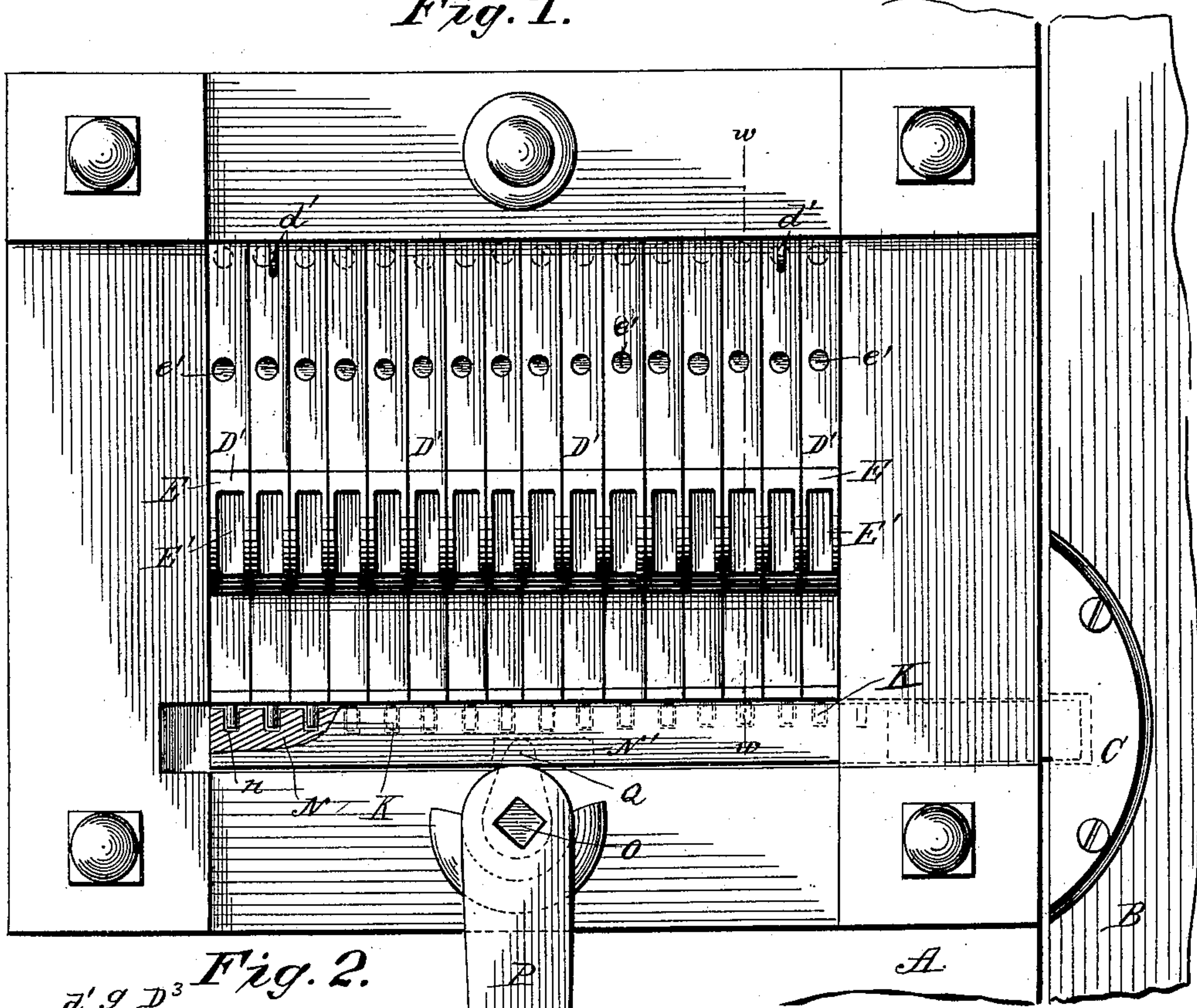
(Model.)

G. NEUBRAND.  
LOCK.

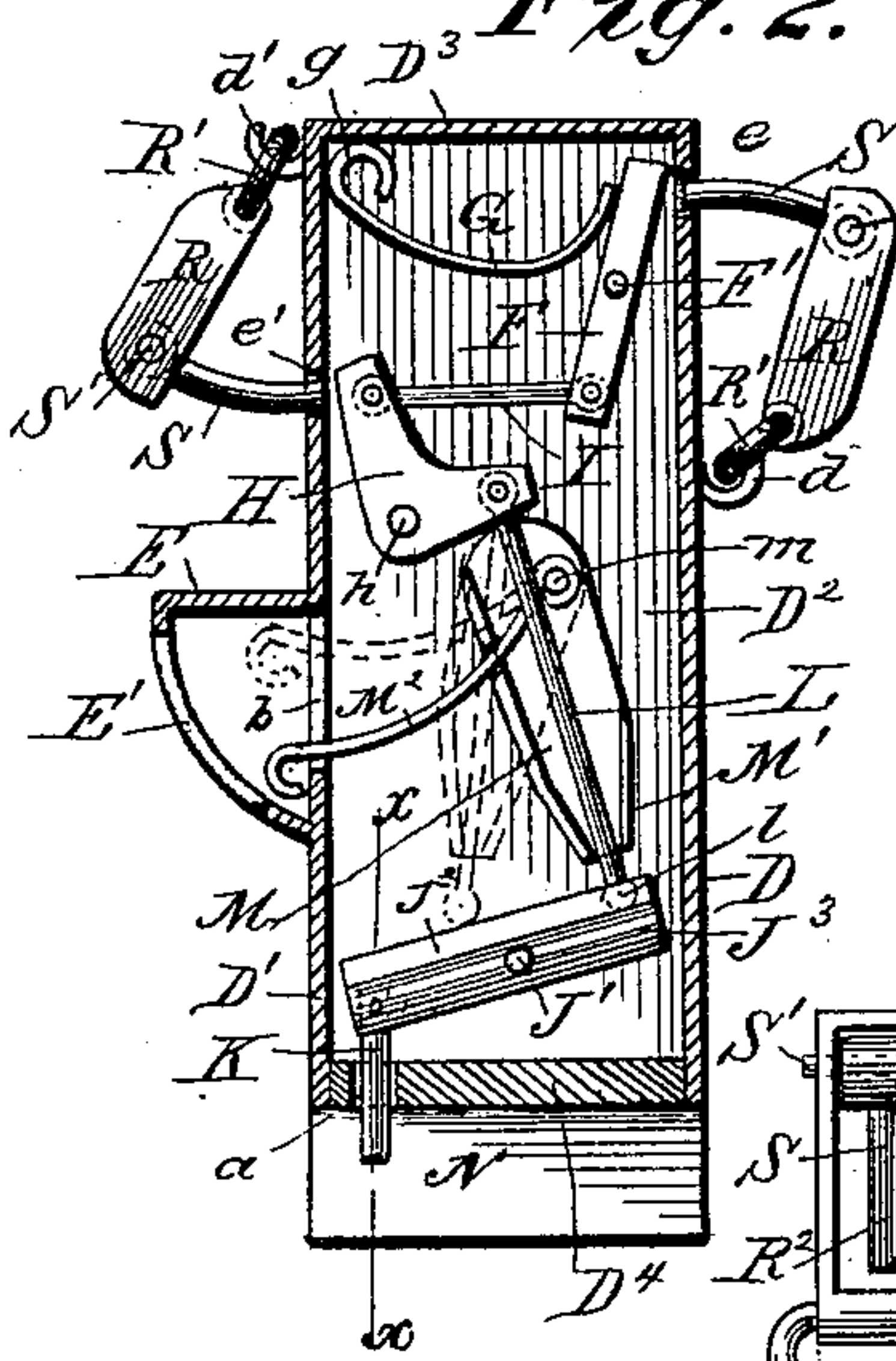
No. 407,547.

Patented July 23, 1889.

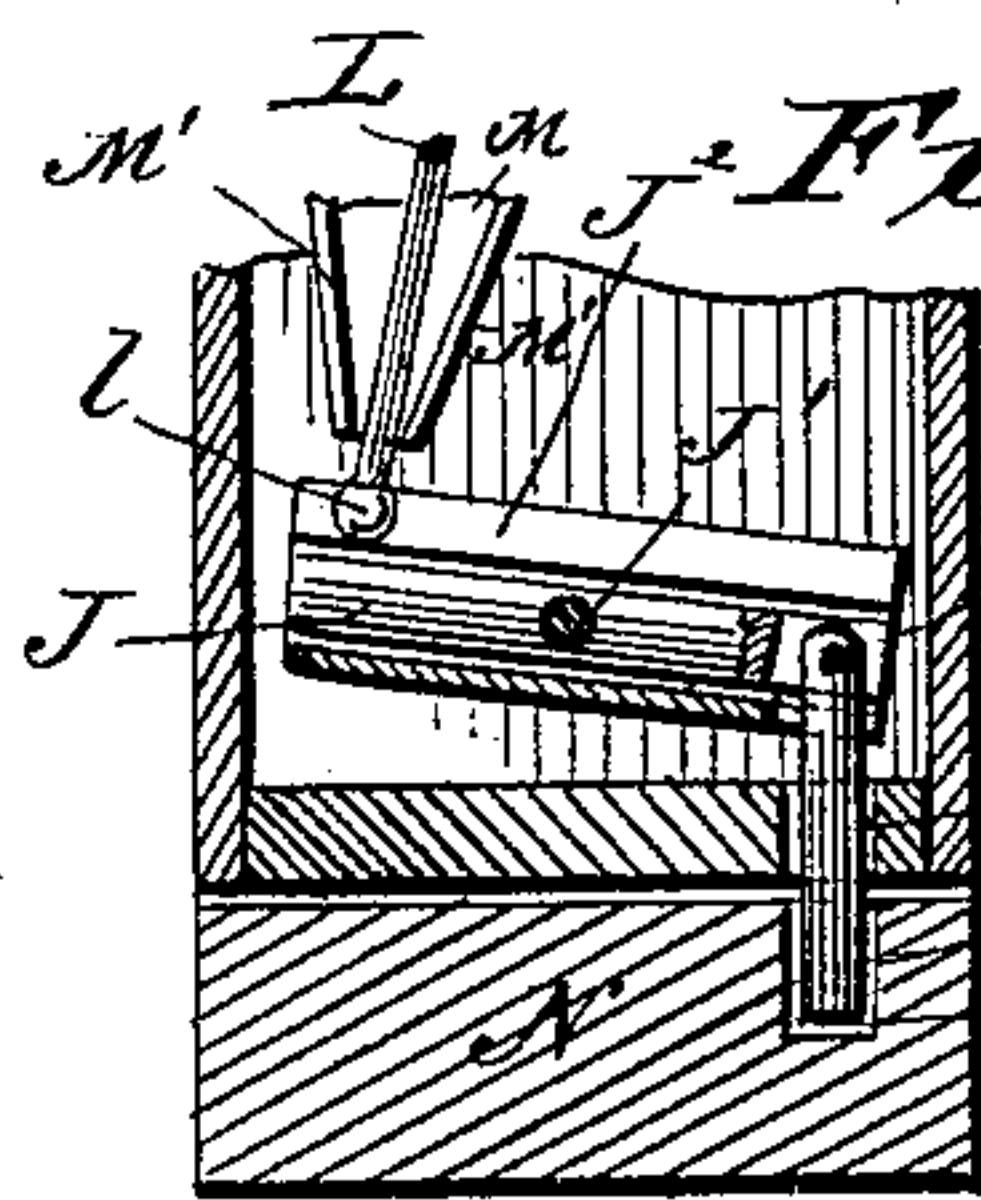
*Fig. 1.*



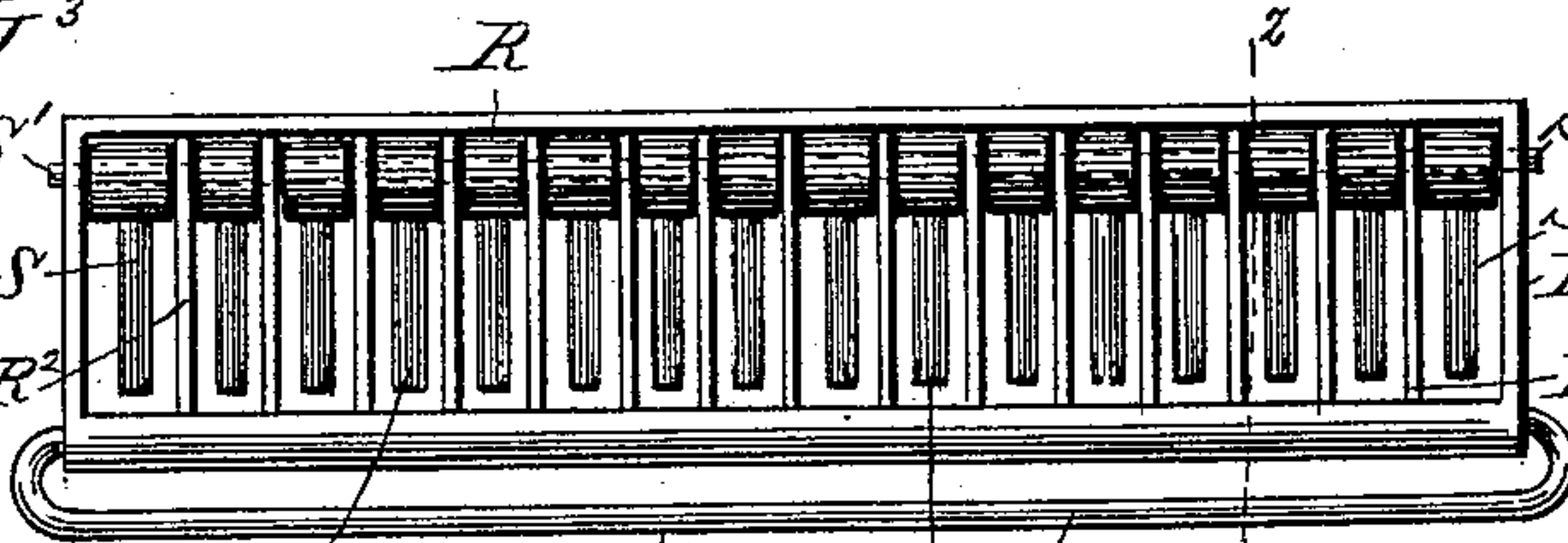
*Fig. 2.*



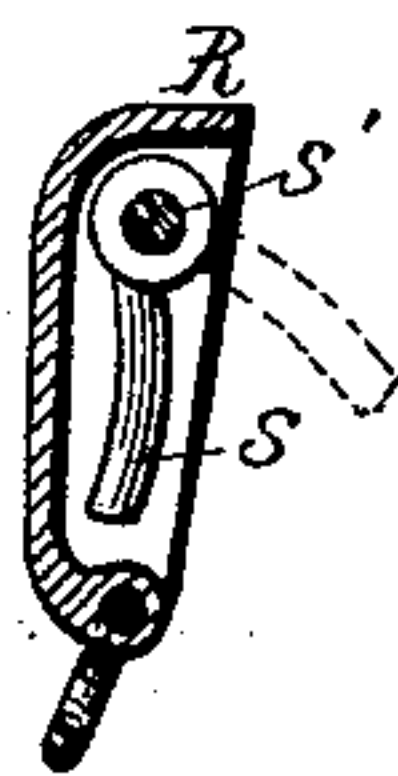
*Fig. 5.*



*Fig. 3.*



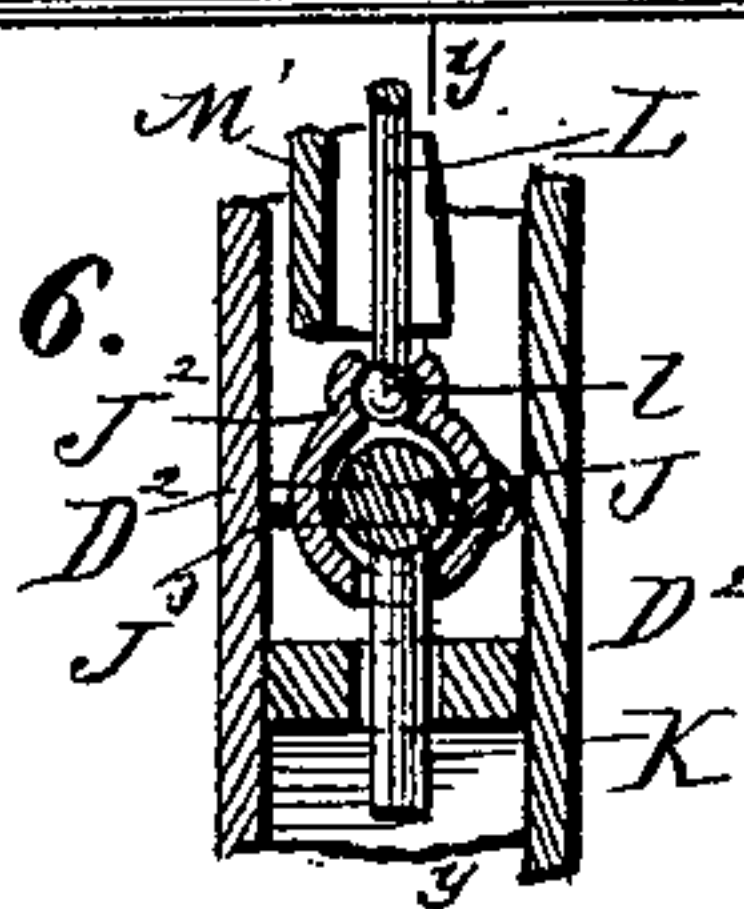
*Fig. 4.*



WITNESSES:

*Phil C. Direrich.*  
*C. Sedgwick*

*Fig. 6.*



INVENTOR:

*G. Neubrand*  
*Munn & Co*

BY

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GABRIEL NEUBRAND, OF ST. LOUIS, MISSOURI.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 407,547, dated July 23, 1889.

Application filed August 13, 1888. Serial No. 282,485. (Model.)

*To all whom it may concern:*

Be it known that I, GABRIEL NEUBRAND, of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Locks and Keys Therefor, of which the following is a full, clear, and exact description.

The object of my invention is to provide a lock having a series of pins for engaging and locking the bolt, the arrangement being such that all the pins may be moved in unison by means of the key, or one or more of the pins may be caused to engage with and lock the bolt, so as to render the key and knob inoperative; and the invention consists in the parts which will be hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents an inside view of a part of a door and jamb provided with my improved lock, parts being broken away, disclosing several of the locking-pins in engagement with the bolt, a part of said bolt being in section. Fig. 2 is a section on the line *ww* of Fig. 1, with the exception that in Fig. 2 two keys are shown, one on each side of the lock. Fig. 3 is a plan view of the key. Fig. 4 is a section on the line *zz* of Fig. 3. Figs. 5 and 6 are detail sectional views, Fig. 5 being a section on the line *yy* of Fig. 6, the latter (Fig. 6) being a section on the line *xx* of Fig. 2.

A represents the door, and B the jamb, the latter being provided with a keeper C.

D indicates the outer, and D' the inner, side of the casing of the lock. The sides of the casing are indicated by D<sup>2</sup>, the top D<sup>3</sup>, and the bottom D<sup>4</sup>. The outer side of the casing is provided with two hooks *d*, and the inner side of said casing is provided with two hooks *d'*.

The construction herein shown consists of sixteen independent cases or compartments each provided with like mechanism. The outer side of each case is provided with a key-hole *e*, the inner side thereof having a key-hole *e'*. The bottom of the casing is provided with an opening *a*, the inner side of said casing being provided with a slot *b*.

E is a housing on the inner side of the cas-

ing around the slot *b*, said housing being provided with a slot or opening E'. A bar F is pivotally mounted at F' to the inner side of the lock-casing. G is a spring secured at one end *g* within the casing. The loose end of said spring rests against the upperside of the bar aforesaid.

H is a bell-crank lever fulcrumed at *h*.

I is a rod having one end jointed to the upper end of the lever H, the other end of said rod being jointed to the lower end of the bar F.

J is a bar pivoted at J' near the lower part of the casing, and K is a bolt-locking pin having its inner end jointed to one end of the bar J. Said bar is provided with a casing J<sup>3</sup>, having a longitudinal or socket groove J<sup>2</sup> on its upper side.

L is a rod provided on its lower end with a ball *l*, engaged in the groove J<sup>2</sup>, the upper end of the rod L being jointed to an arm of the bell-crank aforesaid.

M is a plate pivoted at *m* to the inner side of the casing, the loose end of said plate having its sides M' turned up and contracted, spout-like. The rod L lies loosely between the said sides.

M<sup>2</sup> is a rod having one end fixed to the plate M at its pivotal point, said rod passing through a notch in one of its sides M', the other end of said rod extending outward through the slot *b* on the inner side of the casing.

A bolt N is provided on its upper side with a series of openings or recesses *n* for engaging the locking-pins K. A bar O extends through the door and is mounted transversely under the bolt N. Each end of said bar is provided with a hanger-arm P, having a knob P'. An upwardly-extending projection Q is fixed to the bar O immediately under the bolt, and the under side of said bolt is provided with a recess N' for the reception of the projection Q aforesaid.

R is a rectangular frame, to a side of which is pivotally engaged an elongated link R'. Said frame is provided with a series of cross-bars R<sup>2</sup> and a series of finger pieces or keys S, said finger pieces or keys being pivotally secured to a rod S', whose ends are fixed in the respective ends of the frame. Each finger piece or key is independently movable. By



attaching the link R' to the hooks *d* or *d'* the key may be held in a horizontal plane, so as to more easily insert the series of finger pieces or keys in the horizontal series of key-holes.

5 The operation is as follows: When the parts are in their normal position, as shown in Fig. 2, the spring G is exerted on the bar F and connected parts so as to retain the locking-pin K in an opening *n* in the bolt. By inserting a finger piece or key S from the outer side of a lock (see right-hand key, Fig. 2) the bar F is turned, and the connected parts—bell-crank H, rod L, and bar J—moved, so as to withdraw the pin K from the recess or bolt-opening *n*. A like result is produced when the finger piece or key is inserted from the inner side of the lock. The point of the finger piece or key, however, in the latter case acts directly on the bell-crank lever H. The pins may be all simultaneously withdrawn by simultaneously inserting all the finger pieces or keys from either side. When the pins are raised or withdrawn, the bolt may be moved by swinging the knob in the direction of the arrow, Fig. 1. By thus actuating the knob the pin Q is caused to move the bolt.

When it is desired to lock the bolt by one or more pins, so as to render a finger piece or key inoperative, the plate M and its arm M<sup>2</sup> are moved to the position shown in dotted lines, Fig. 2. When in that position, the inner end of the bar J is held down by the rod L, so as to hold the pin K in engagement with the bolt. The arm M<sup>2</sup> may be actuated by hand from the inner side. When the plate M is moved, the ball on the end of the rod L moves freely in the groove formed in the casing of the bar J.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a lock, the combination, with a bolt having a series of recesses or openings, of a series of independent and apertured cases, a locking-pin in each case, and a pin projecting and retracting mechanism carried by the case, substantially as herein shown and described.

2. In a lock, the combination, with a bolt

having a series of recesses or openings, of a series of independent and apertured cases, a locking-pin in each case, a pin-actuating mechanism for each pin, and a frame having a series of finger-pieces adapted to be projected into the case to operate the pin-actuating mechanism, substantially as described.

3. A lock consisting of two pivoted bars or levers F J, bell-crank H, jointed connecting-arms I L, a locking-pin K, connected to the lever J, and a spring G, in combination with a bolt provided with a recess or opening for the reception of the locking-pin aforesaid, substantially as shown and described.

4. A lock consisting of two pivoted bars or levers F J, the latter being provided with a groove, a bell-crank H, jointed connecting-arms I L, the latter arm being provided on one end with a ball seated in the groove aforesaid, and a pin K, connected to the bar J, in combination with a pivoted plate M, having an arm M<sup>2</sup>, and a casing for the lock provided with a slot *b*, substantially as shown and described.

5. A lock consisting of two pivoted bars or levers F J, the latter being provided with a groove, a bell-crank H, jointed connecting-arms I L, the latter arm being provided on one end with a ball seated in the groove aforesaid, and a pin K, connected to the bar J, in combination with the pivoted plate M, having an arm M<sup>2</sup>, and a casing for the lock provided with a slot *b*, and a housing E, substantially as shown and described.

6. The combination, with a frame, of a series of finger pieces or keys pivoted in the said frame, substantially as described.

7. A rectangular frame having an elongated link or bar pivotally secured thereto, and also provided with a series of cross-bars R<sup>2</sup>, and a series of finger pieces or keys, said finger pieces or keys being pivotally secured to a rod whose ends are secured in the respective ends of the frame aforesaid, substantially as shown and described.

GABRIEL NEUBRAND.

Witnesses:

I. C. SCHULTE,  
L. NITZSCHMANN.