

No. 641,382.

Patented Jan. 16, 1900.

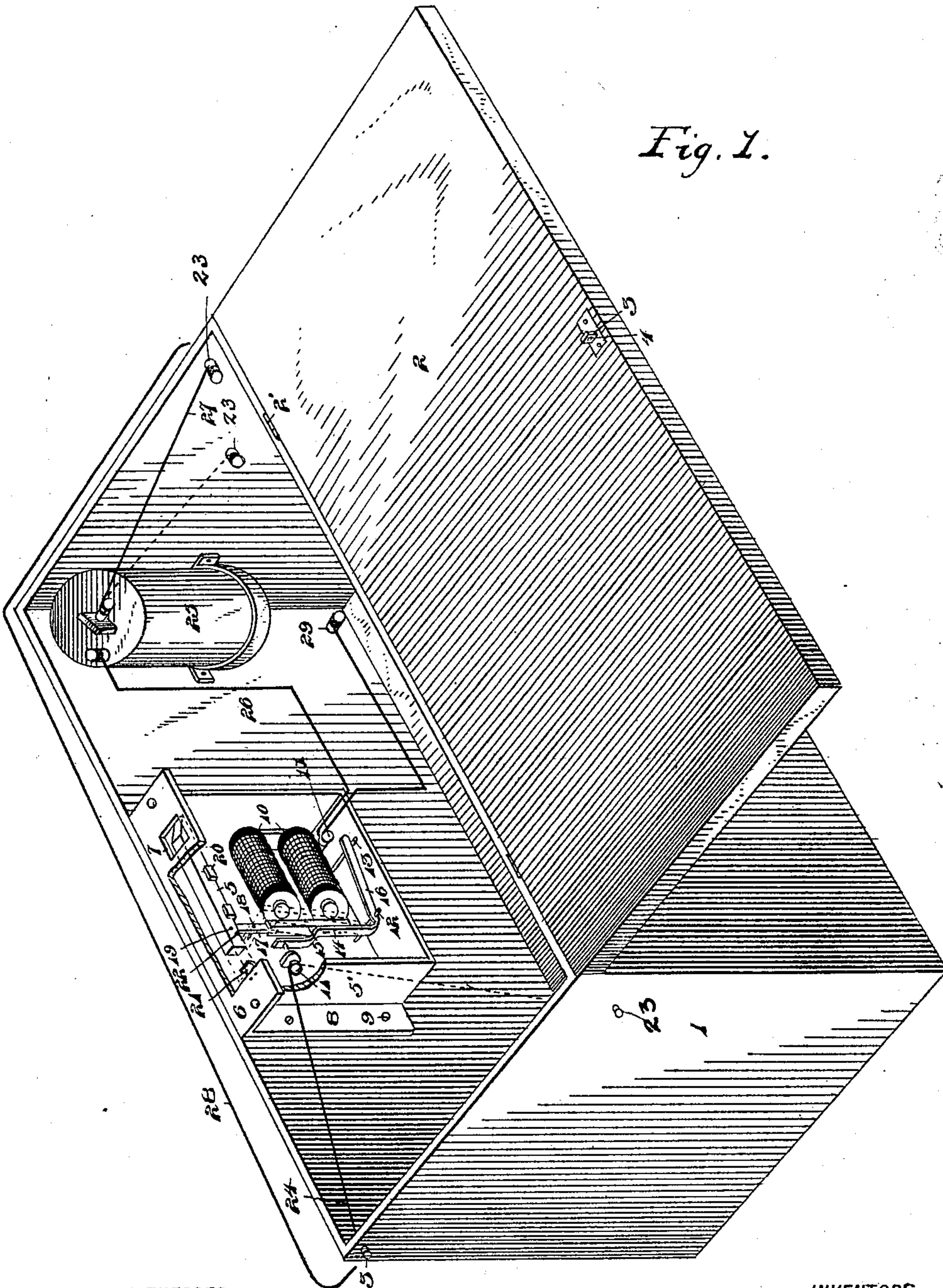
L. GOUGHENOUR & C. B. McCABE.
ELECTRIC LOCK.

(Application filed Feb. 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES:

J. P. Appleman.
A. L. Bogan

INVENTORS

Levi Goughenour.
Charles B. McCabe.

BY

W. B. Evert & Co.

ATTORNEYS.

No. 641,382.

Patented Jan. 16, 1900.

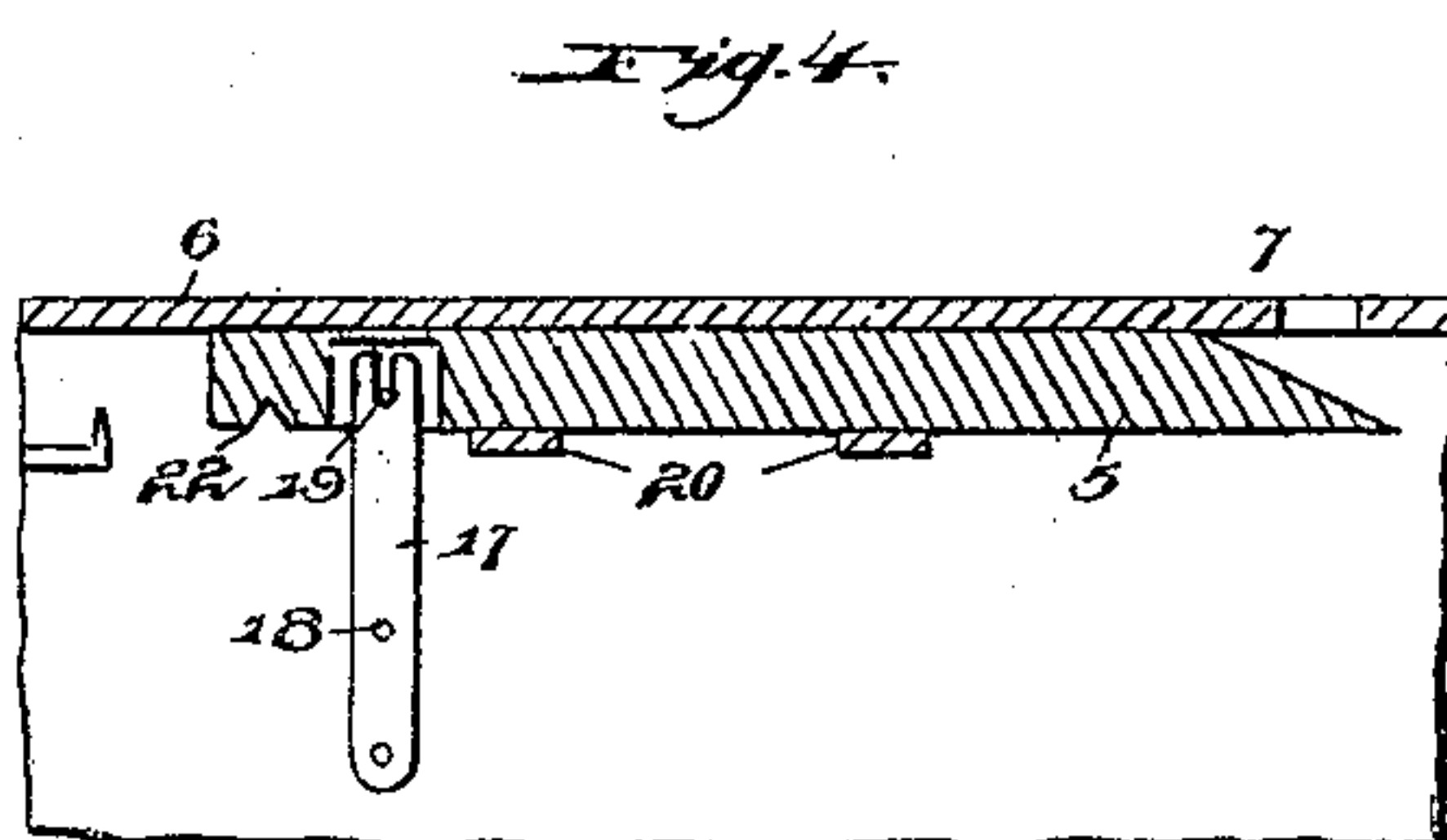
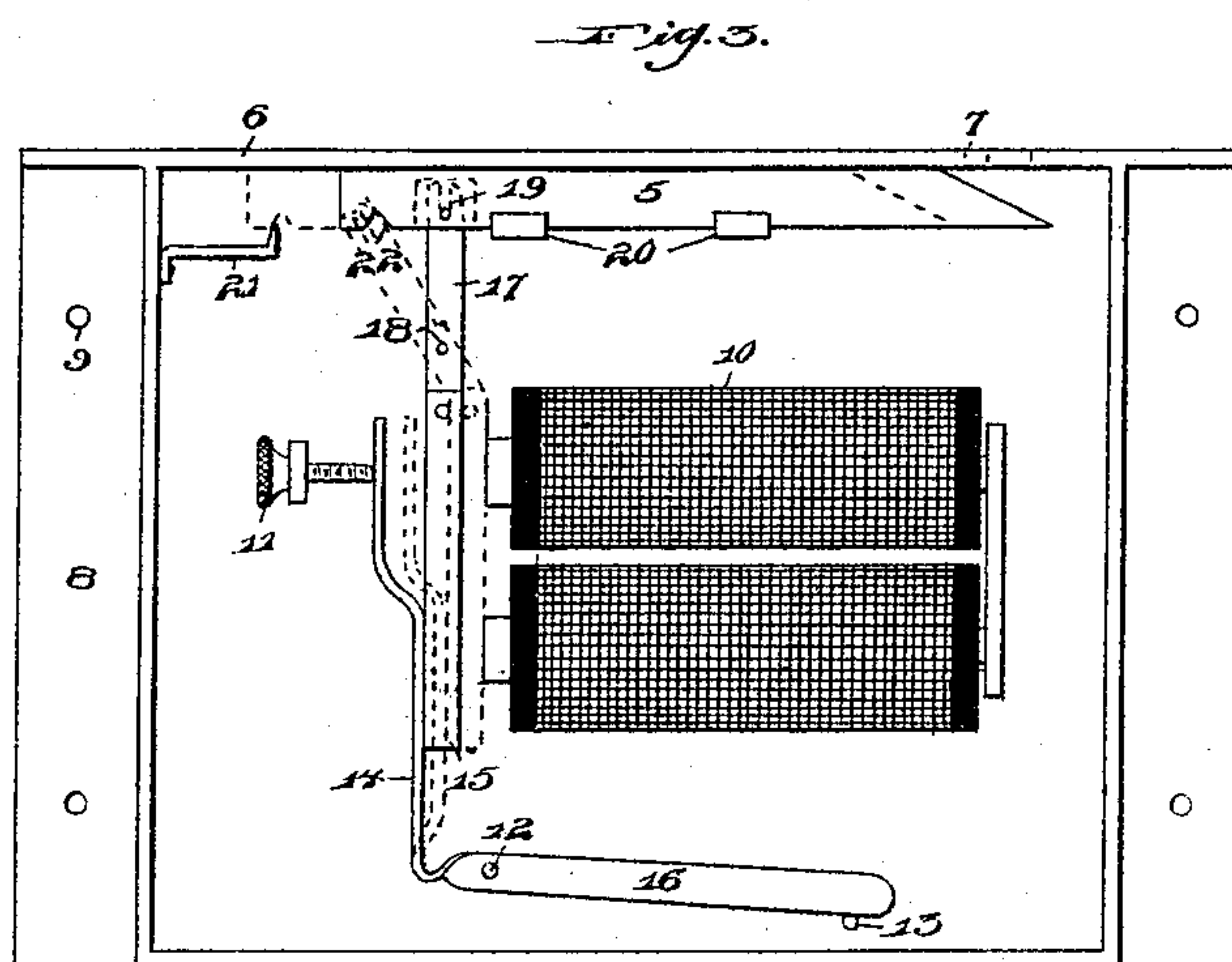
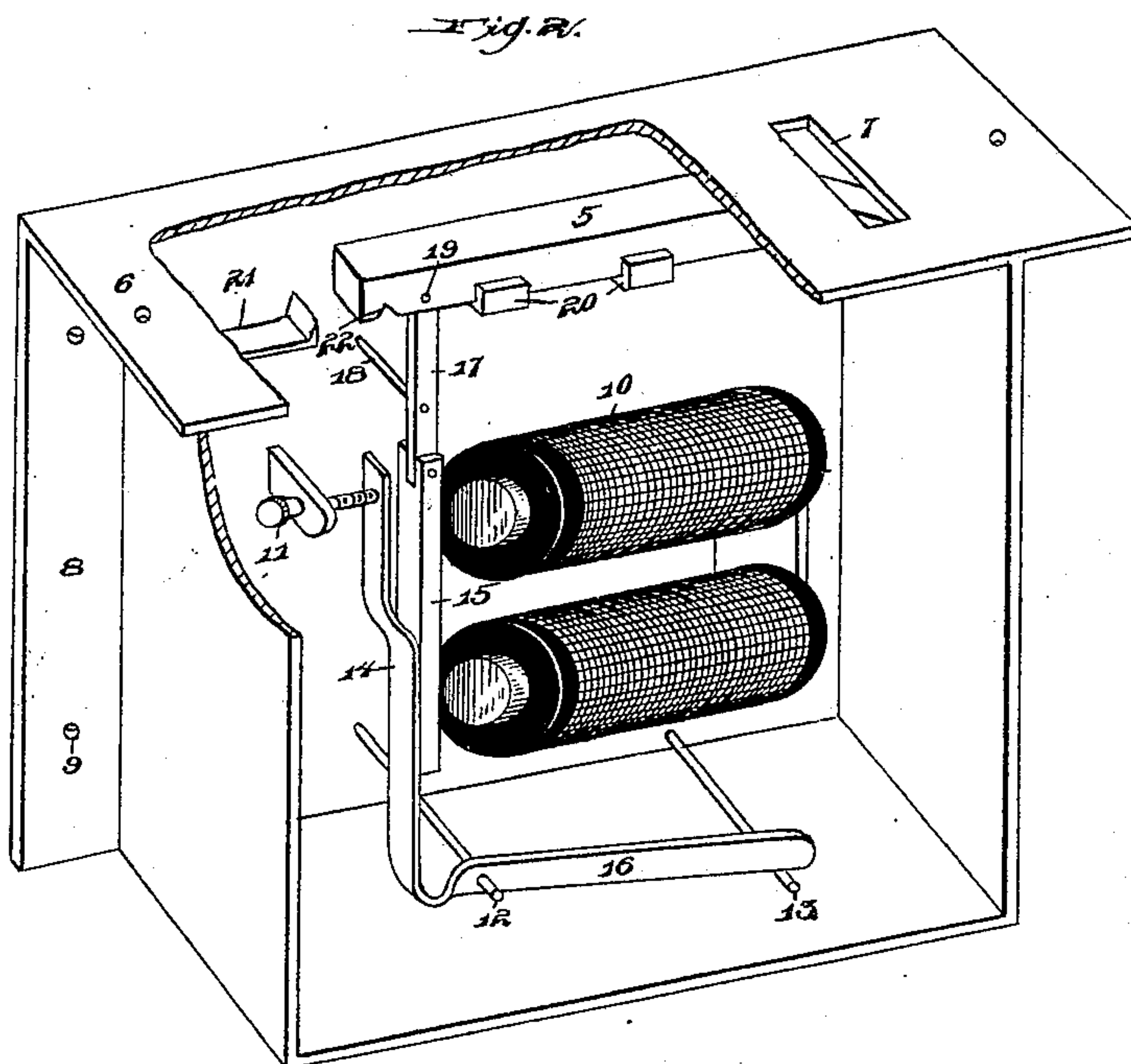
L. GOUGHENOUR & C. B. McCABE.

ELECTRIC LOCK.

(Application filed Feb. 7, 1899.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

J. P. Appleman.
B. Haymaker.

INVENTORS

Levi Goughenour
Charles B. McCabe.

BY

H. C. Evert M₂

ATTORNEYS

UNITED STATES PATENT OFFICE.

LEVI GOUGHENOUR AND CHARLES B. McCABE, OF BRADDOCK,
PENNSYLVANIA.

ELECTRIC LOCK.

SPECIFICATION forming part of Letters Patent No. 641,382, dated January 16, 1900.

Application filed February 7, 1899. Serial No. 704,783. (No model.)

To all whom it may concern:

Be it known that we, LEVI GOUGHENOUR and CHARLES B. McCABE, citizens of the United States of America, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to certain new and useful improvements in magnetic locks.

The object of our invention is to construct a magnetic lock of this character whereby the operation of the same is obtained by the formation of an electrical circuit.

A further object of our invention is to construct a magnetic lock of this character whereby the operation of the same is obtained by different points of contact only known to the operator.

A further object of our invention is to construct a magnetic lock of this character where a source of electrical supply for operating the same may be arranged within the trunk or case, &c., to which the lock is attached or by a source of electrical supply arranged outside the trunk or case, &c., to which the lock is attached.

A further object of our invention is to construct a magnetic lock of this character whereby the point of contact for the operation of the same may be changed, or, in other words, forming a series of contacts, the proper contact for the operation of the lock being known only to the operator.

A further object of our invention is to construct a magnetic lock of this character which is adapted to be connected to the interior of the trunk, box, case, &c., the same being invisible until the trunk, &c., is opened by means of the forming of an electrical circuit.

Our invention finally consists in the novel combination and arrangement of parts hereinafter more fully described, and particularly pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corre-

sponding parts throughout the several views thereof, and in which—

Figure 1 is a perspective view of a box with the lid thrown open, showing our improved lock in position and a series of contacts, as well as the operating-wire for forming the circuit. Fig. 2 is a perspective view of our improved lock, a portion of the top thereof broken away. Fig. 3 is a side view thereof, showing in dotted lines the position of the various parts when the lock is operated. Fig. 4 is a longitudinal sectional view of the locking-bar, showing the operating-lever pivotally connected thereto.

Referring to the drawings by reference-numerals, 1 indicates a box or receptacle provided with a cover 2, which is secured to one side thereof by means of the hinges 2'. The cover 2 has secured near one edge, on its underneath face, a downwardly-extending lug 3, having an opening 4 arranged therein. This lug 3 is adapted to receive the one end of the locking-bar 5 of the lock by means of the same operating through the opening arranged in the lug 3. The locking-bar is formed of an oblong strip of suitable material, having a beveled end, as shown.

5' indicates the sides of the lock-frame, and 6 the top plate, which is provided with an opening 7 to allow of the lug 3 to pass therethrough and be engaged by the locking-bar. The sides 5' of the frame have formed therewith the outwardly-extending flange 8, which receives a suitable fastening means 9 for securing the lock in position.

Arranged within the lock-frame and suitably secured thereto is a pair of electromagnets 10, which are suitably connected to the binding-posts 11, which are adapted to be connected by means of the wire 26 to the source of electrical supply 25.

Mounted within the lock-frame is an outwardly-extending pin 12, which has pivotally secured thereto the flat metal spring-bar 16, having formed integral with one end thereof the upwardly-extending connecting-bar 14, which is also constructed of spring metal. This bar 14 has suitably secured to one side thereof the armature 15, which is adapted to be engaged by the core of the

electromagnets, as shown in Fig. 3, and operate the locking-bar 5. The lock-frame is further provided with a pin 13 in the lower part thereof, acting as a bearing and stop for the spring-metal bar 16. The upper end of the armature 15 is bifurcated, as shown, and has pivotally secured therein the lever 17, which is fulcrumed, as at 18, and its upper end bifurcated (see Fig. 4) to allow of pivotally securing the locking-bar 5 thereto by means of the pin 19. The underneath face of the locking-bar is provided with a recess, the bifurcated end of the lever 17. The lock-frame is further provided near its upper end with the guides or supports 20 for the locking-bar and the retaining-spring 21, which is adapted to engage in the V-shaped groove 22, formed in the underneath face of the locking-bar to assist in retaining the locking-bar in a released position, as well as supporting the end thereof. This spring 21 is secured to the inner face of one of the sides 5'.

The box or receptacle to which the lock is secured is provided with a series of contact-points 23, any one of which is connected by the wire 24 to one of the binding-posts 11, these binding-posts being suitably connected in the ordinary manner to the electromagnets, so that when the circuit is formed the magnets are energized, any one of the contact-points being connected to the electrical supply by the wire connection 27.

28 indicates the operating-wire for forming the electrical circuit, and 29 indicates a contact-point for connecting the magnets to a source of electrical supply outside of the box or receptacle when the electrical supply inside the box or receptacle has lost its strength, or if the lock is desired to be opened by a pocket-battery or other supply.

Our improved device is operated as follows: Assuming that the lock and its connections are as shown in Fig. 1, one end of the wire 28 is brought into engagement with one of the contact-points 23 on one side of the box, and the opposite end of the wire is brought into engagement with the contact-point 23 in the opposite side of the box, or the two contact-points may be arranged at any position de-

sired, forming thereby a circuit and energizing the magnets. At the same time the core of the magnets will draw the armatures thereto, operating the lever 17, and drawing the locking-bar 5 from out of engagement with the lug 3. In Fig. 3 of the drawings the position of the various parts when the circuit is formed and the magnets energized is shown in dotted lines, also the retaining-spring engaging the groove 22 in the locking-bar 5. When the circuit is broken and the magnets deenergized, the action of the spring-metal bars 16 and 14 will cause the armature, lever 17, and locking-bar to resume the position shown in full lines in the drawings.

The contact-points may be formed by the nails, hinges, or other various arrangements, so that the circuit can only be formed by one who is familiar with the arrangement of the contact.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of our invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In an electrical lock, the combination of a lock-frame having suitably arranged therein a pair of electromagnets connected to a source of electrical supply, a series of contact-points adapted to be connected to the said magnets, an armature operated by the said magnets, a lever connected to the said armature, a locking-bar connected to the said lever, a metal spring-bar connected to the said armature for keeping the locking-bar in a locked position, and means adapted to engage a pair of the said contact-points to form an electrical circuit for energizing the magnets operating the armature and releasing the locking-bar, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

LEVI GOUGHENOUR.
CHARLES B. MCCABE.

Witnesses:

JOHN G. RICHARDS,
W. E. MOORE.