

No. 897,394.

PATENTED SEPT. 1, 1908.

C. O. PETERS.
ELECTROMAGNETIC LOCKING DEVICE.

APPLICATION FILED MAR. 30, 1908.

Fig. 1.

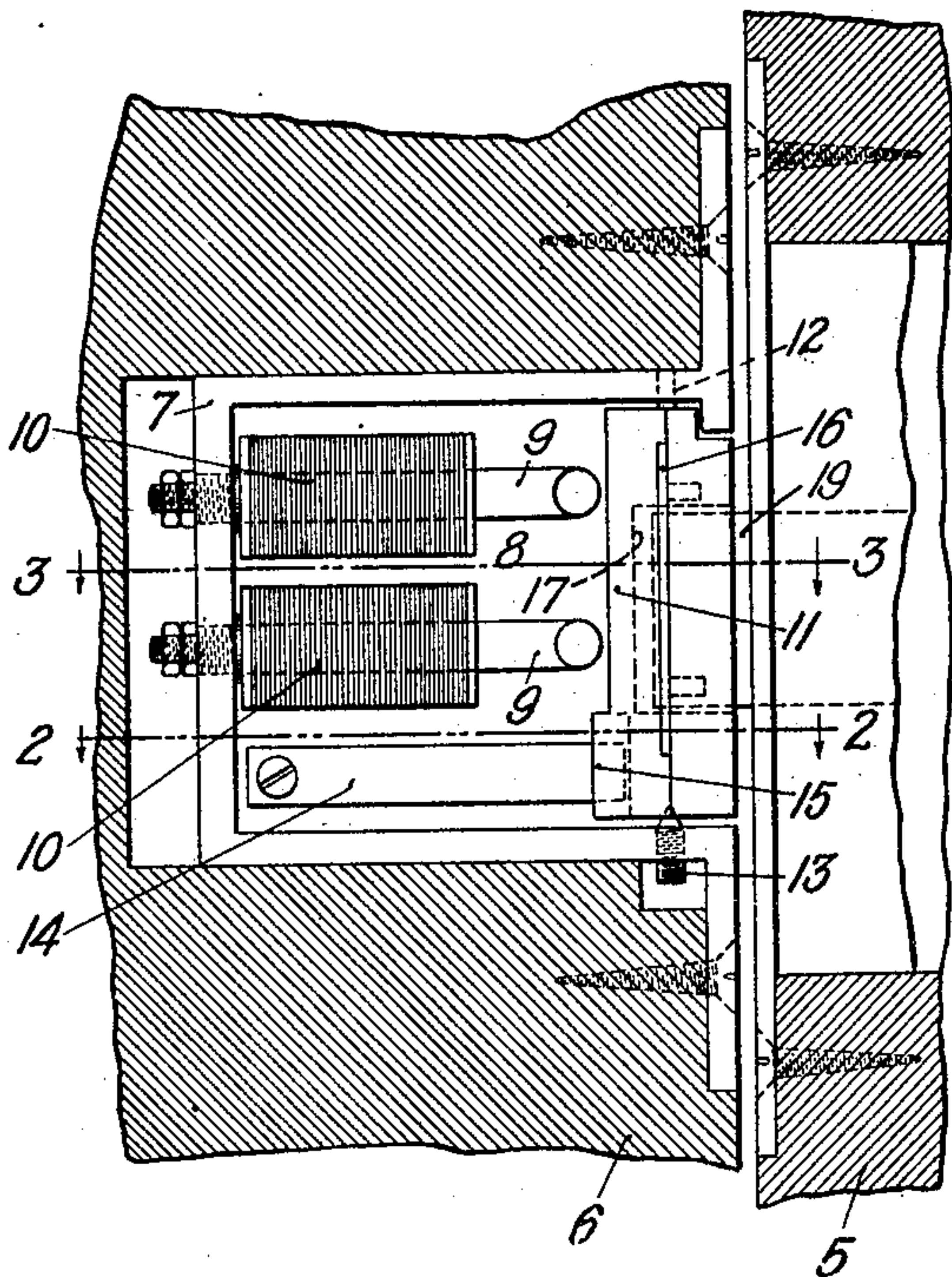
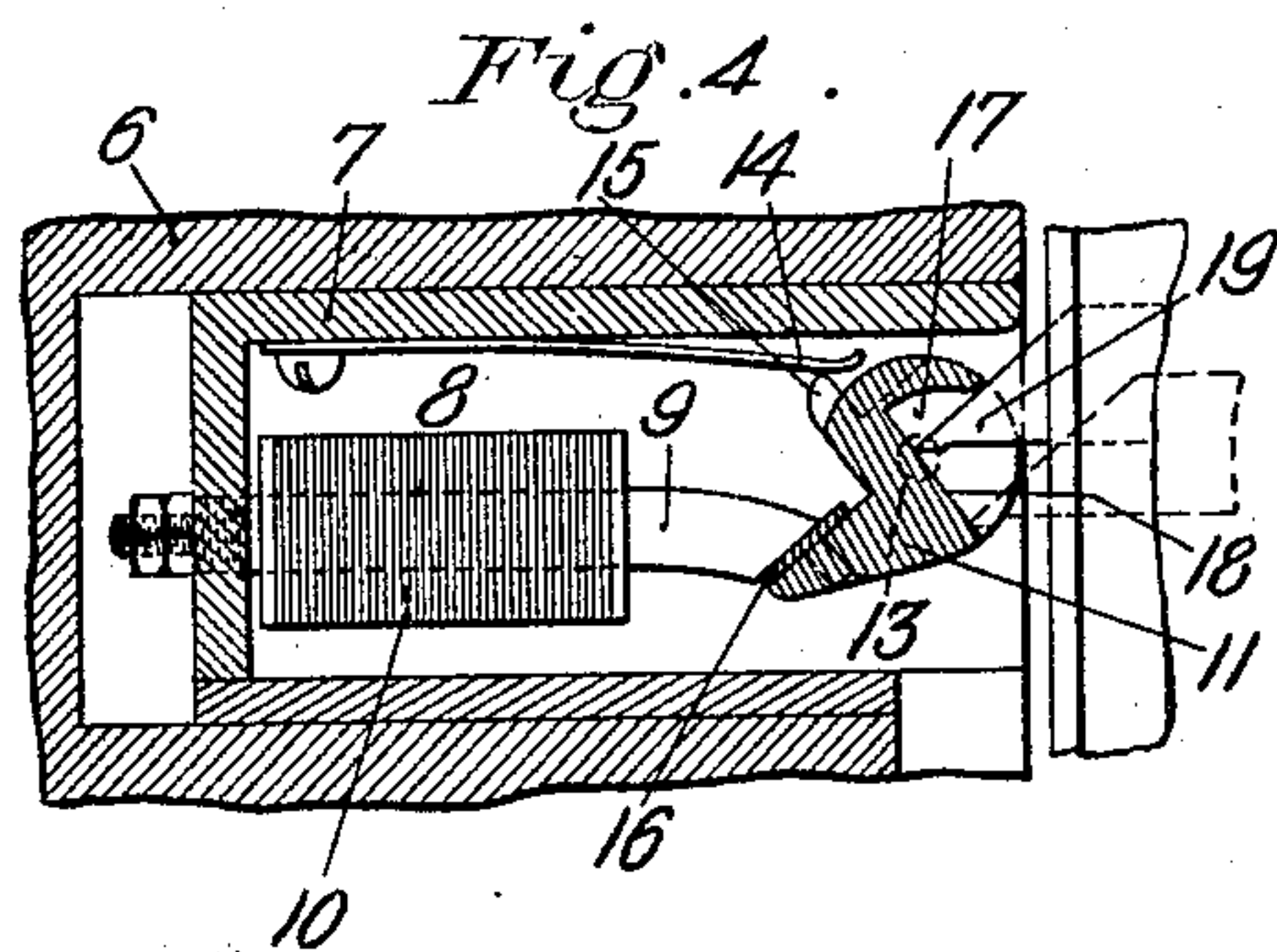
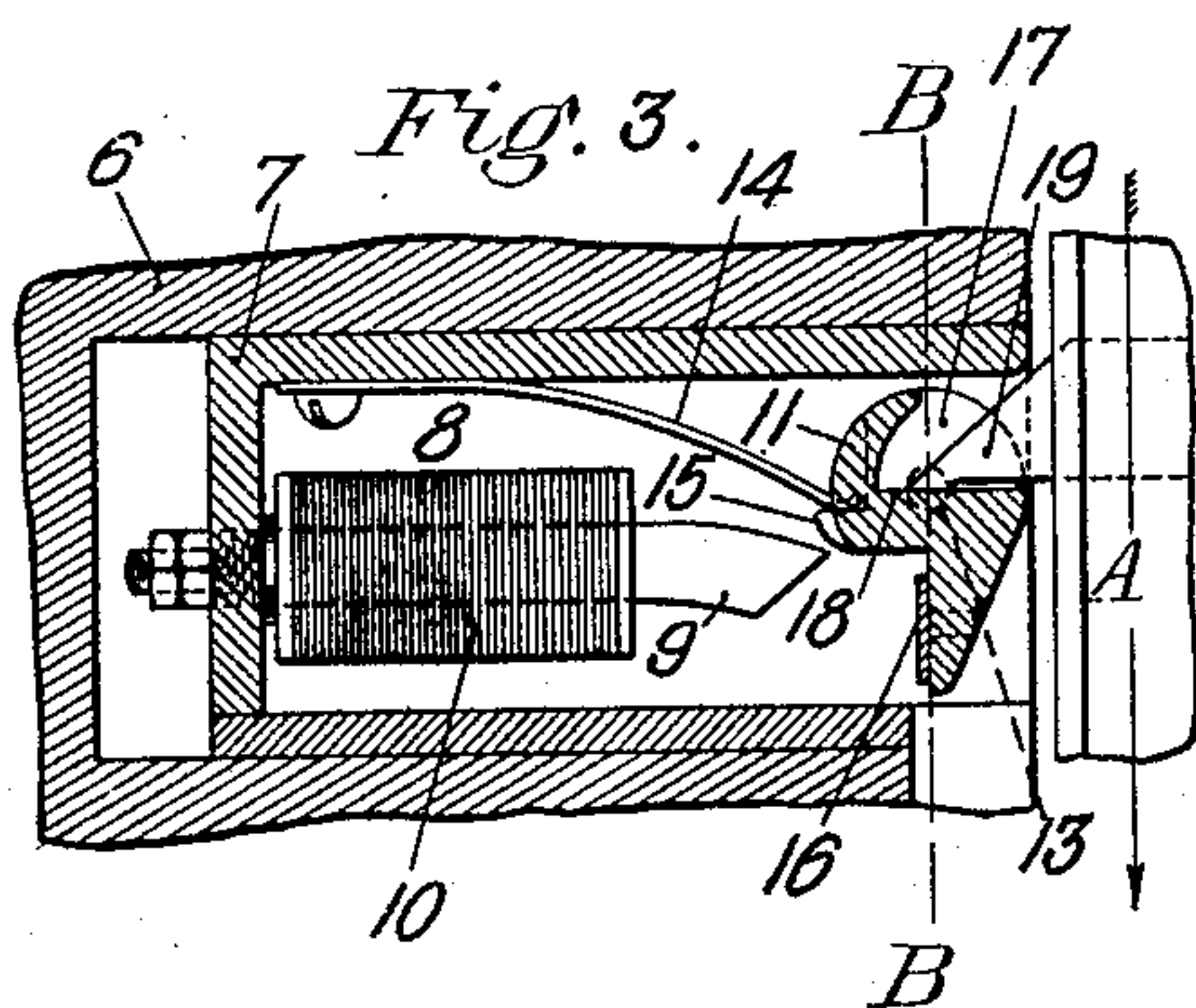
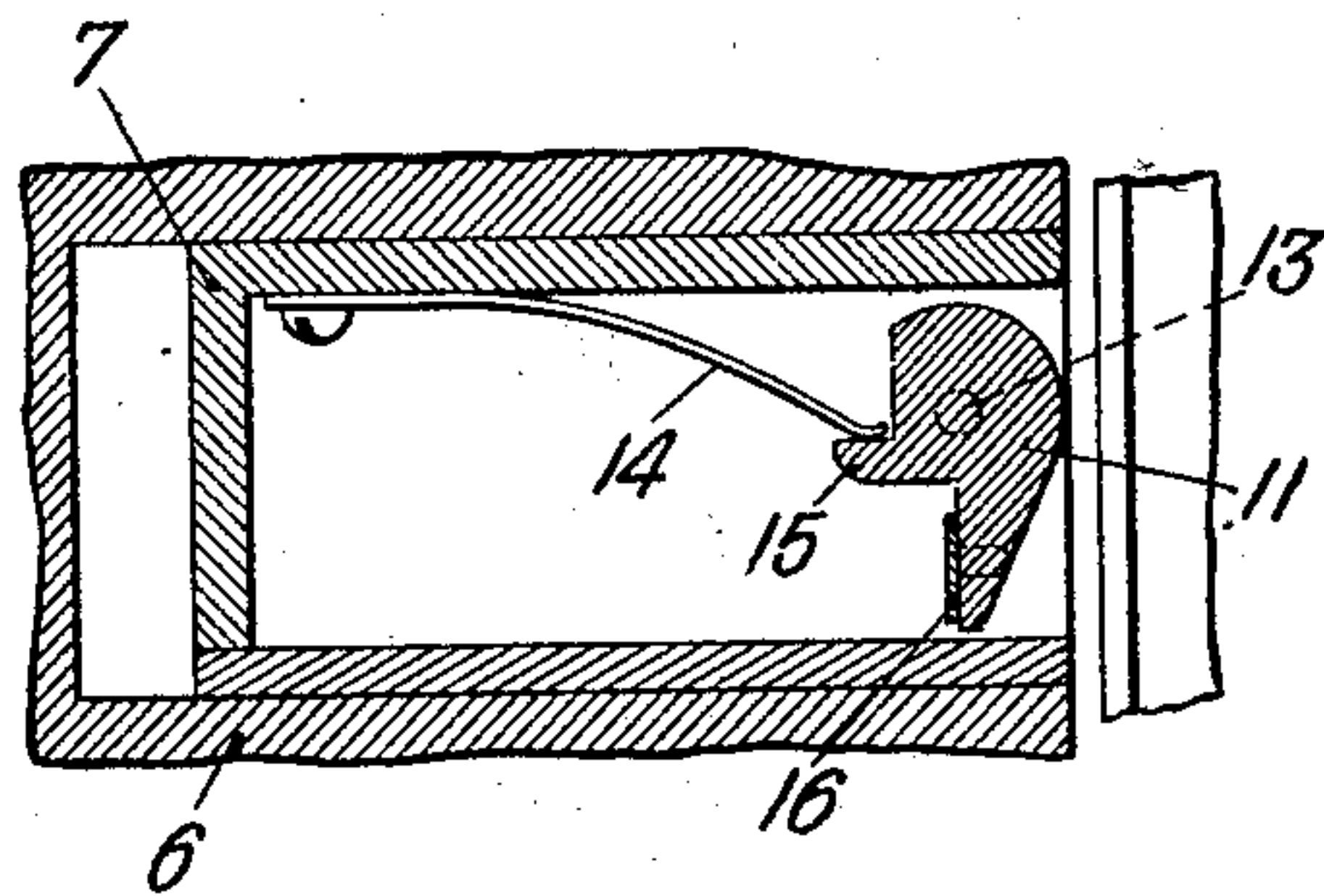


Fig. 2.



Witnesses:
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Inventor:
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By his attorney, Charles J. Gooding.

UNITED STATES PATENT OFFICE.

CHARLES O. PETERS, OF WINTHROP, MASSACHUSETTS.

ELECTROMAGNETIC LOCKING DEVICE.

No. 897,394.

Specification of Letters Patent.

Patented Sept. 1, 1908.

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To all whom it may concern:

Be it known that I, CHARLES O. PETERS, a citizen of the United States, residing at Winthrop, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Electromagnetic Locking Devices, of which the following is a specification.

This invention relates to improvements in electro-magnetic locks and while the embodiment herein shown is particularly adapted for use as a door lock the same may be employed as a part of a loom stop motion.

The object of my invention is to provide a lock of the character described which shall be simple in construction, certain in operation, and not likely to get out of order.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a vertical sectional elevation of a door and door casing with my improved locking device mounted thereon. Fig. 2 is a plan section taken on line 2—2 of Fig. 1. Fig. 3 is a plan section taken on line 3—3 of Fig. 1, showing the parts in the locked position. Fig. 4 is a section similar to Fig. 3, except that the parts are shown in their unlocked position.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a door and 6 is a door casing. In the door casing 6 is mounted a lock casing 7 in which is located an electro-magnet 8 comprising two pole pieces 9, 9 and their respective spools 10, 10 which may be connected in an electric circuit with a push button in the usual manner well known to those skilled in the art. In the casing 7 is located a locking member 11 which is pivotally connected to said casing by means of an upper pivotal pin 12 and a lower pivotal screw 13. The locking member 11 is normally held in position shown in Figs. 1, 2 and 3 by means of a spring 14 fast at one end to the casing 7 and bearing at its other end against a lug 15 formed on the member 11. The locking member 11 is formed of non-magnetic metal and has fast thereto an armature 16 formed of magnetic metal, said armature being adapted to cooperate with the electro-magnet 8 to rock said locking member on its pivot against the tension of the spring 14 from the position shown in Figs. 1, 2 and 3 to the position shown in Fig.

4. The locking member 11 is provided with a recess 17 having one face 18 which contains the pivotal axis of said member. The door 5 which in its opening movement moves in the direction of the arrow A, Fig. 3, has mounted thereon a latch 19 which engages the face 18, a part of said latch being located in a plane B, B containing the axis of the locking member 11 and extending parallel to the direction of movement of the door 5. While in the embodiment herein shown a portion of the latch 19 exactly coincides with the axis of the locking member 11, it will be understood that said latch may engage said member at any point in the plane B, B.

The general operation of the locking device hereinbefore specifically described is as follows: When the parts are in the position shown in Fig. 3, any attempt to open the door 5 by pushing the same in the direction of the arrow A will not succeed because the direction of the line of force is in the plane B, B and there is, therefore, no tendency to rock the locking member 17 on its pivot. When, however, the electro-magnet 8 is energized by completing a circuit to the same the armature 16 is adapted to cooperate therewith to rock the locking lever 11 on its pivot into the position shown in Fig. 4. When the locking member is in this position, the surface 18 is inclined at such an angle to the line of force that the latch 19 which is mounted to yield toward and away from the door casing as is customary with latches easily rides up the incline of said surface as illustrated in dotted lines, Fig. 4, and finally passes out of engagement with the member 11, thus permitting the door 5 to be entirely opened. When the circuit is broken, the spring 14 acts to return the locking member 11 to its normal position.

While I have illustrated the device of my invention as particularly adapted for use as a door locking device, the same may be used for a variety of purposes wherein it is desired to lock two parts against relative movement.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. A locking device comprising in its construction an electro-magnet, a pivoted locking member, an armature connected to said locking member and adapted to cooperate with said magnet to rock said locking member on its pivot, a door, and a latch mounted

on said door and normally engaging said locking member, a part of said latch normally lying in a plane containing the pivotal axis of said member and extending parallel to the direction of movement of said door.

2. A locking device comprising in its construction an electro-magnet, a pivoted locking member, an armature mounted on said locking member and adapted to cooperate with said magnet to rock said locking member on its pivot, a door, and a latch mounted on said door and normally engaging said locking member, a part of said latch coinciding with the axis of said member.

3. A locking device comprising in its construction an electro-magnet, a pivoted locking member, an armature mounted on said locking member and adapted to cooperate with said magnet to rock said locking member on said pivot, a spring adapted to normally hold said locking member in its locked position, a door, and a latch mounted on said door and normally engaging said locking member, a part of said latch coinciding with the axis of said member.

4. A locking device comprising in its construction an electro magnet, a pivoted locking member, an armature connected to said

locking member and adapted to cooperate with said magnet to rock said locking member on its pivot, a spring adapted to normally hold said locking member in its locked position, a door, and a latch mounted on said door and normally engaging said locking member, a part of said latch normally lying in a plane containing the pivotal axis of said member and parallel to the direction of movement of said door.

5. A locking device comprising in its construction an electro-magnet, a pivoted locking member provided with a surface containing the axis of said member, an armature connected to said locking member and adapted to cooperate with said magnet to rock said locking member on its pivot, a spring adapted to normally hold said locking member in its locked position, a door, and a latch mounted on said door and normally engaging said surface at said axis.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES O. PETERS.

Witnesses:

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SADIE V. MCCARTHY.