

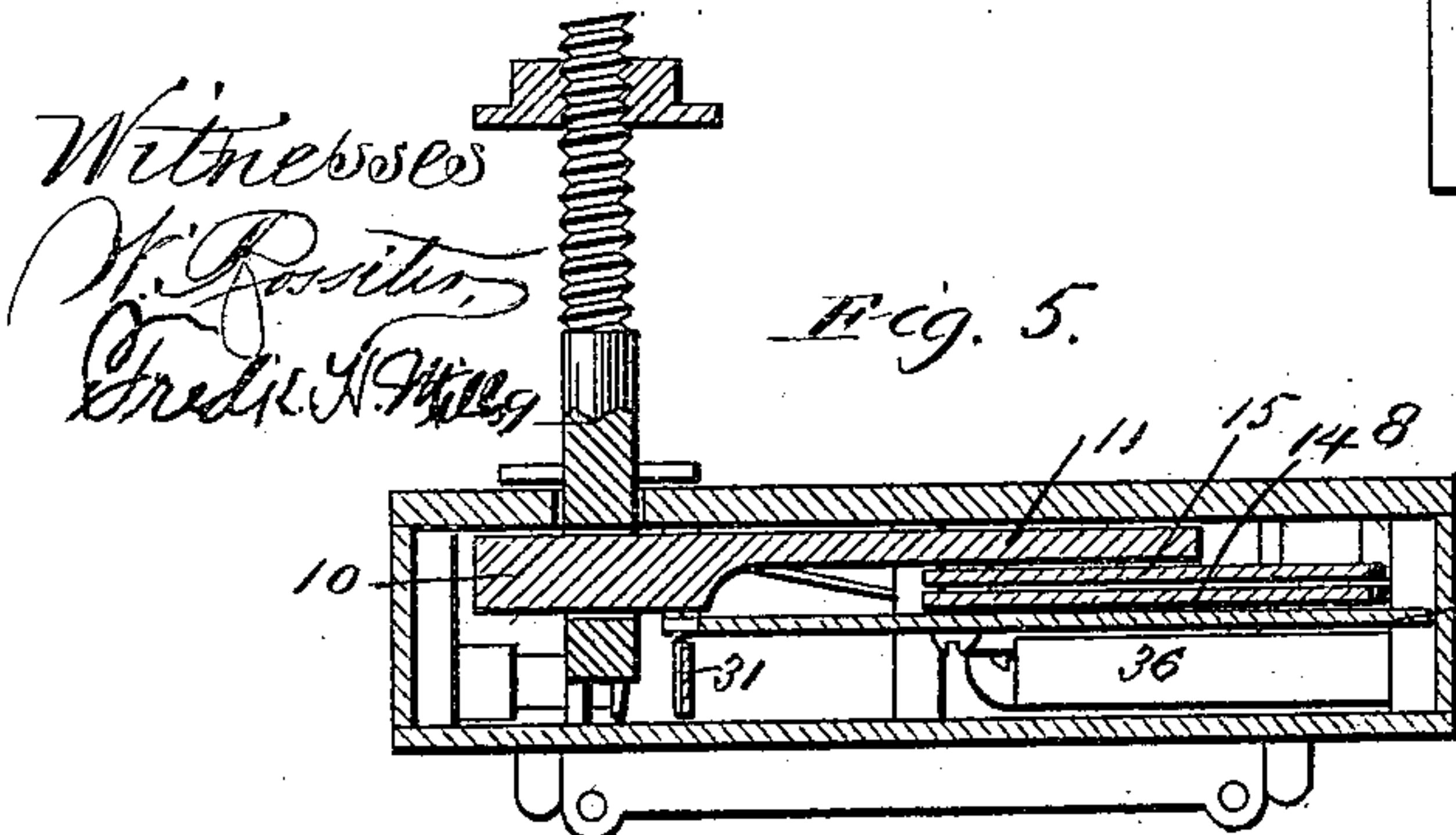
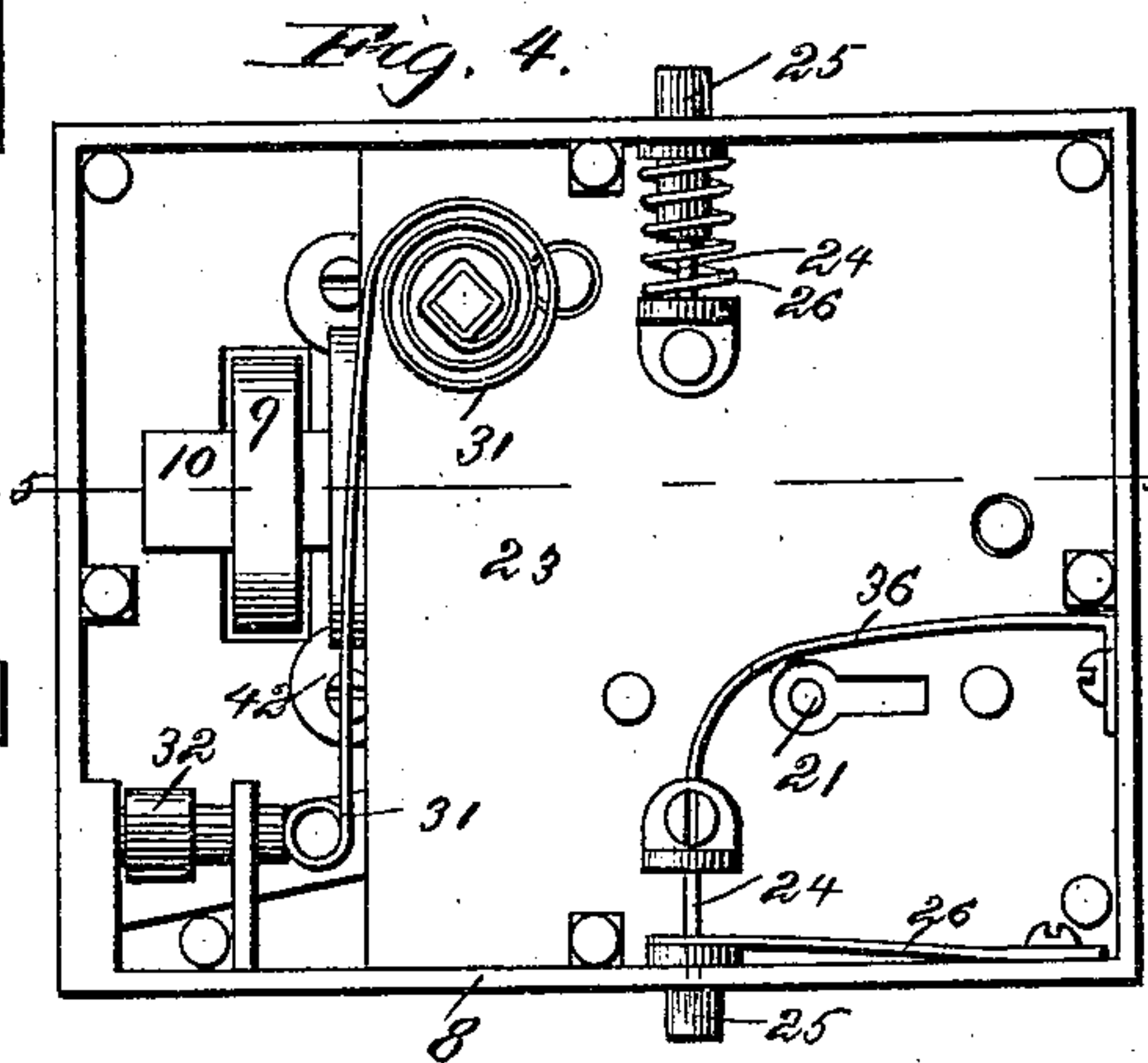
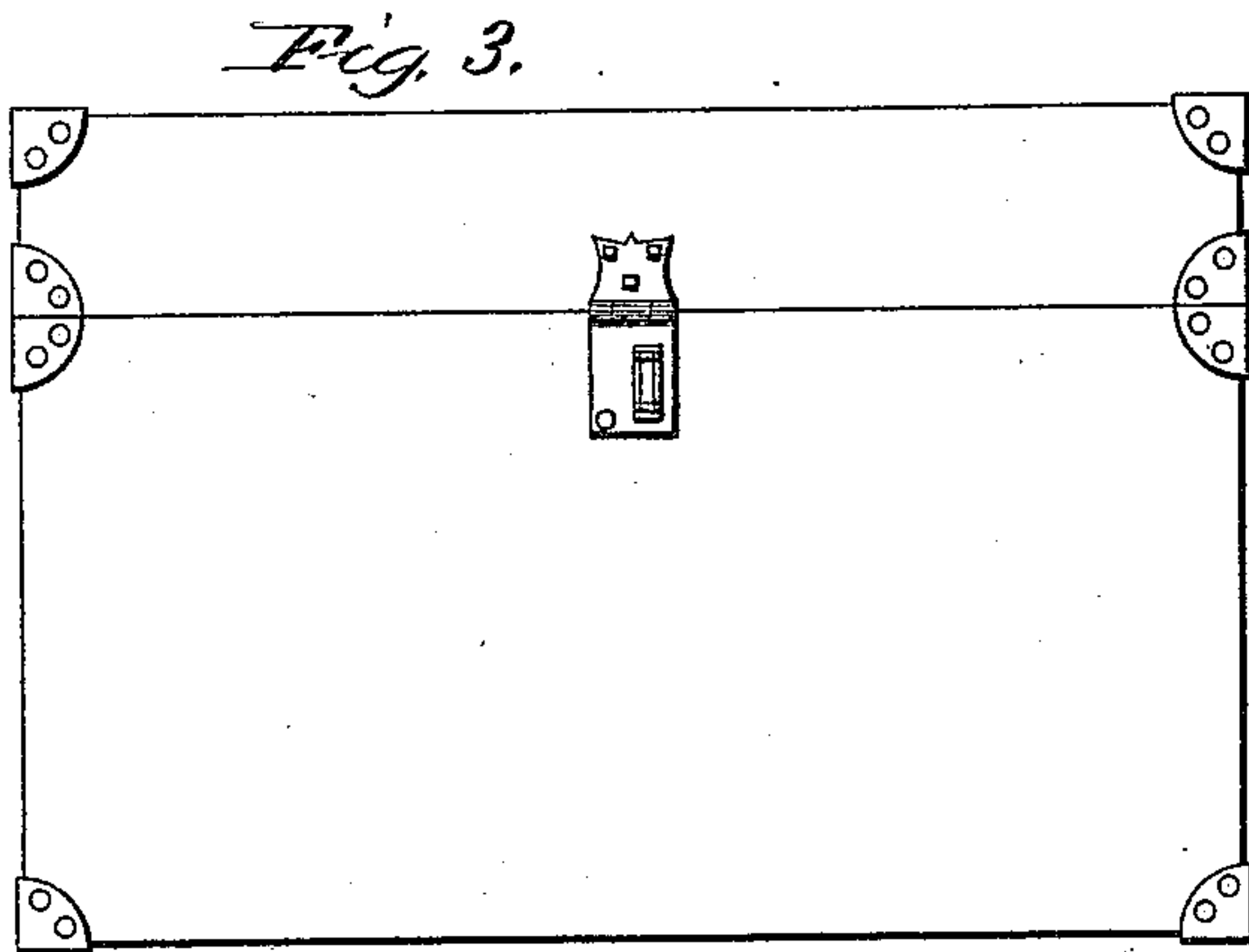
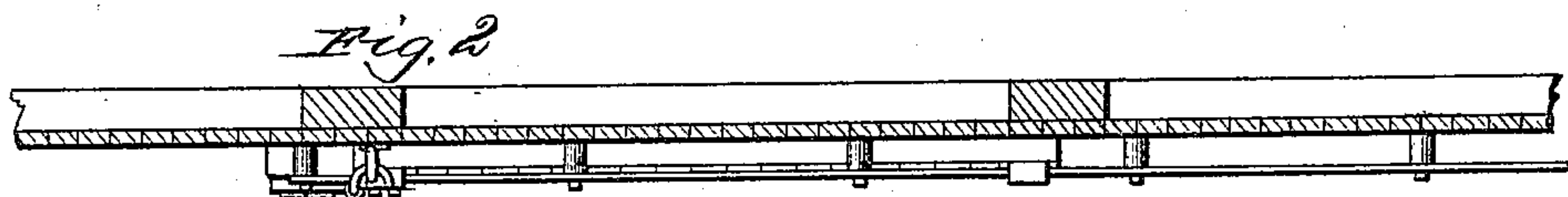
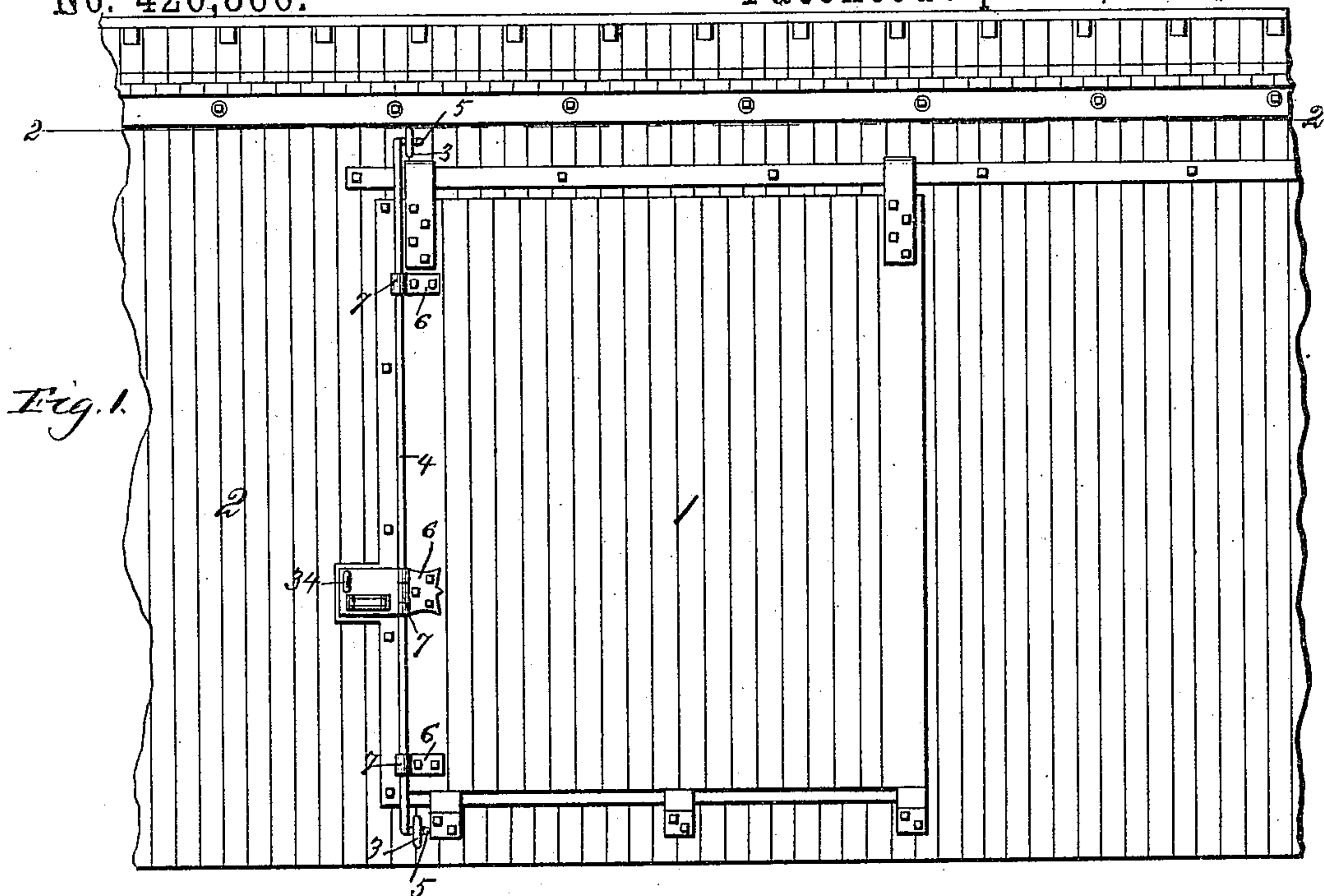
(Model.)

2 Sheets—Sheet 1.

O. SCHMIDT & C. LOEFFEL.
LOCK.

No. 426,866.

Patented Apr. 29, 1890.



Witnesses
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Ernst H. Hillig

Inventors
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(Model.)

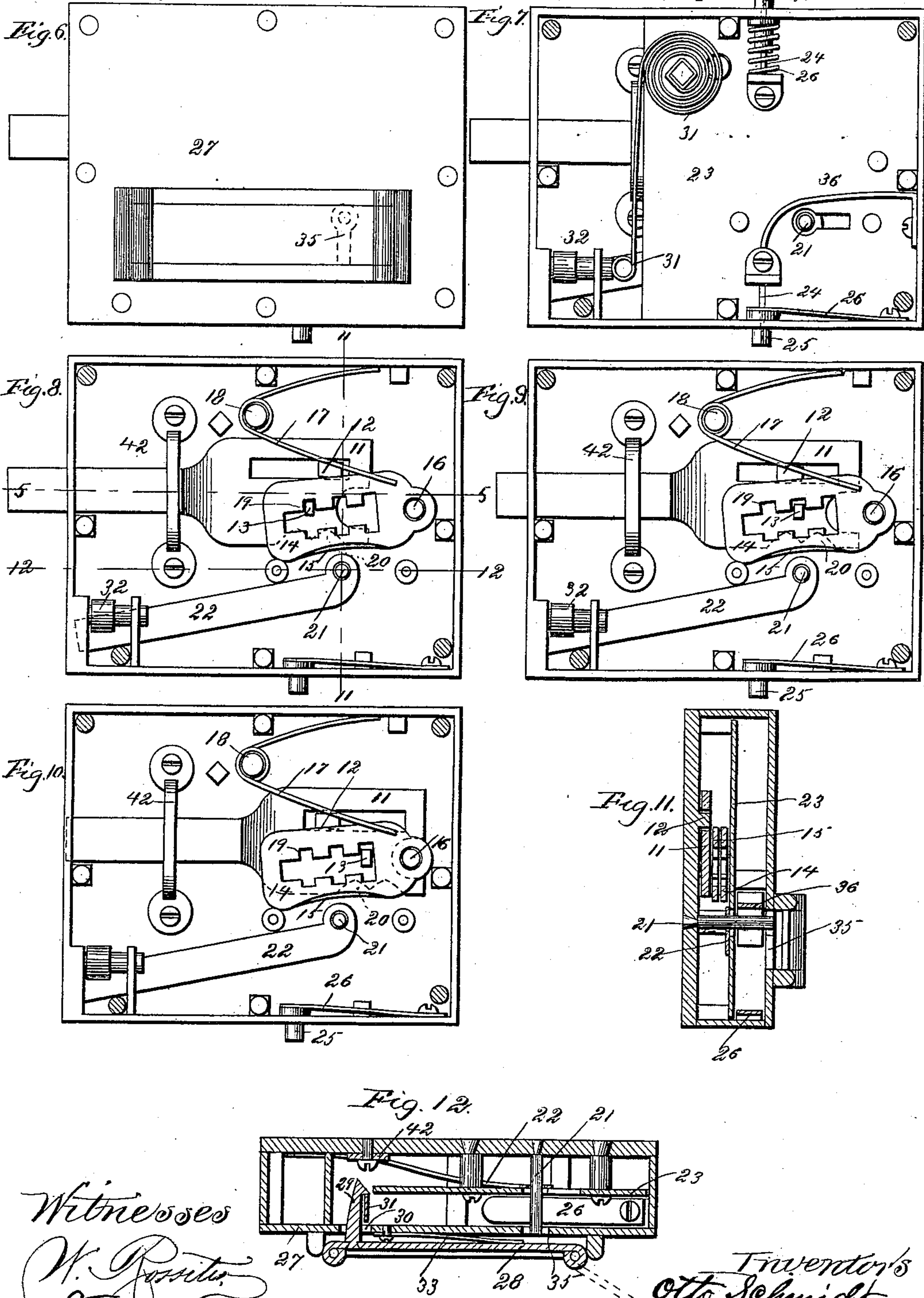
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

OTTO SCHMIDT AND CHRISTIAN LOEFFEL, OF CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 426,866, dated April 29, 1890.

Application filed September 19, 1889, Serial No. 324,450. (Model.)

To all whom it may concern:

Be it known that we, OTTO SCHMIDT and CHRISTIAN LOEFFEL, subjects of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates to new and useful improvements in locks which may be applied to almost any kind of a door, but is especially adapted and designed to be used on freight-car doors and for locking trunks; and it consists in certain peculiarities of the construction and arrangements of the different parts of the same, as will be hereinafter more fully set forth and specifically claimed.

In order to enable others skilled in the art to which our invention pertains to make and use the same, we will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a fragmental side elevation of a freight-car, showing the lock attached to the door thereof. Fig. 2 is a cross-section of the same, taken on line 2 2. Fig. 3 is a side elevation of a trunk, showing the lock in place. Fig. 4 is a face view of the lock with the covering-plate removed, showing it as used on a car-door or trunk. Fig. 5 is a horizontal cross-section taken on line 5 5 of Fig. 4. Fig. 6 is a face of the lock with the bolt projected as used for an ordinary door. Fig. 7 is a face view of the same with the covering-plate removed. Fig. 8 is a similar view with the inner plate removed and showing the interior of the lock. Fig. 9 is a view showing the bolt partially projected; Fig. 10, a view showing the bolt retracted. Fig. 11 is a vertical cross-sectional view, and Fig. 12 is a horizontal cross-section of the lock.

In the several figures of the drawings, 1 is an ordinary sliding door of a car.

2 is a portion of the body of the car.

3 3 are eyebolts, which are screwed into the car-body, one above and the other beneath the door, as shown in Fig. 1.

4 is a rod having at each end a hook to engage in the eyebolts.

5 5 are the hooks on the ends of the rods.

6 6 are straps for securing the rod to the door, each of which has on its free end a col-

lar 7, through which the rod passes and is free to turn.

8 is the casing of the lock.

9 is the socket secured to the jamb of a door or the body of the trunk or car with which the bolt engages.

10 is the bolt. 11 is a yoke constituting a portion of the bolt.

12 is a lug on the case and fits in the yoke or slot to retain the bolt in position, so that it can be projected or retracted by turning the key.

13 is a lug on the upper surface of the yoke for engagement with the tumblers.

14 and 15 are tumblers pivoted at one end, as at 16, and held against the lug 13 by means of the spring 17, which spring is secured to a pin 18 on the casing of the lock. The tumblers are preferably made of about the same size and formed with a longitudinal slot having on one or both sides of the slot recesses 19 for the engagement of the lug 13, as is shown in Figs. 8, 9, and 10, and will be clearly understood. The lower portion of the yoke is formed with a number of recesses, as shown at 20 by the dotted lines.

21 is a shank or pin, over which the key for operating the bolt fits.

22 is a spring secured at one end to the casing and having a hole at its other end, through which pin 21 projects.

42 is a guide-piece secured to the casing, and fits loosely over the bolt to retain it in place, yet to allow it to slide freely backward and forward.

33 is an interior plate, secured within the casing so as to rest above the parts just described and to hold them in place, as well as to protect them from dust, &c. To the upper surface of plate 23 are secured two pins 24, which project slightly through each side of the casing and have their outer ends pointed, as shown by dotted lines in Fig. 7. Around each of these pins and projecting a little farther through the sides of casing is placed a collar 25, which is held in place by a suitable spring 26, which may be of either form shown in Fig. 7.

By reference to the drawings it will be seen and understood that by pressing on the collars they will readily yield inwardly and

leave the pins exposed, so as to prick the hand of any one tampering with the lock.

On the outside of the covering-plate 27, and over the key-hole therein, is hinged a lid 28, which has on its free end a catch 29, which, when pressed down, enters a hole 30 in plate 27 and engages a spring 31, which spring is secured at one end to a pin 32 on the interior plate 23 and having its other end projecting past and pressing against a pin 32, which is loosely secured in the end of the casing and projects through till flush with the outside thereof. As will be seen in Fig. 7, this pin is provided with a shoulder to prevent it being displaced or pressed out too far. It is also clear that by pressing against the outer end of the pin it will release the catch on the hinged lid and the spring 33 thereunder will throw the lid in the position shown by dotted lines in Fig. 12, when the key may be inserted and the door unlocked. The object of this lid is to prevent dust and other particles collecting in the casing of the lock, and, when the lock is used on cars, to prevent water getting in the casing and forming into ice.

In Fig. 5 is shown the socket 9 or hasp for the bolt, and it will be seen that in this figure it passes through the casing, which is provided with a suitable hole for this purpose, and that the other end of the socket-bolt is provided with screw-threads and nut, so that it may be secured to the body of the car or trunk. In the figures showing the lock when designed to be used on a house-door the ordinary socket in common use may be applied to the jamb of the door for engagement with the bolt, which in this case extends entirely through the casing, as shown.

By reference to Fig. 1 of the drawings it will be seen that the door is locked in three places—that is, at the top and bottom—by means of hooks on the rod, which is a part of the lock, and at the middle by the lock itself. In this construction the rod is rigidly secured to the casing of the lock, but movably retained on the door by means of the straps 6, having the collars 7, which fit around the rod, as is obvious.

By taking the lock by the handle 34 on the face-plate of the casing and drawing the lock back till at about a right angle with the door the hooks on the ends of the rod will be disengaged and the door unlocked. To lock the door, it is only necessary to reverse this operation.

The operation of the lock when used without the rod is as follows: The pin 32 is pressed inward, thereby releasing the catch 29 from the spring 31, when the lid 28 is thrown outward by the spring 33 and the key-hole 35 exposed. The key is then inserted in the hole and over the shank 21, when it will rest on the spring 22, which spring presses upward against the key-hole in the interior plate and will stop the key at this point unless more pressure is used, when the spring will yield and allow the bits on the key to engage with the tumblers and recesses in the yoke of the bolt. By turning the key once around the position of the bolt shown in Fig. 9 will be attained and that shown in Fig. 8 by again turning it. To retract the bolt, the reverse of this operation is employed. To prevent the lock being unlocked by one unfamiliar with it or being "picked" is the main object of the spring 22, which presses up against the under side of the interior plate and stops the key-hole therein. It will therefore be understood that one not familiar with the lock would insert the key till it stopped by reason of the resistance of the spring, and would turn it on the top of the interior plate without effect or resistance, except that of the spring 36, which is secured to the casing, as shown, for the purpose of deceiving the person tampering with the lock.

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

1. In a lock, the combination of the casing having the lug 12 and guide-piece 42, with the bolt 10, having the yoke 11 and recesses 20, the tumblers 14 and 15, having the recessed slots, as at 19, the springs 17 and 22, the shank 21, and socket 9, all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

2. In a lock, the combination of a casing containing a lock mechanism with the pins 24, collars 25, and springs 26, substantially as and for the purpose set forth.

In witness whereof we have hereunto set our hands and affixed our seals this 14th day of September, 1889.

OTTO SCHMIDT. [L. S.]
CHRISTIAN LOEFFEL. [L. S.]

In presence of—

CHAS. C. TILLMAN,
D. A. RAY.