

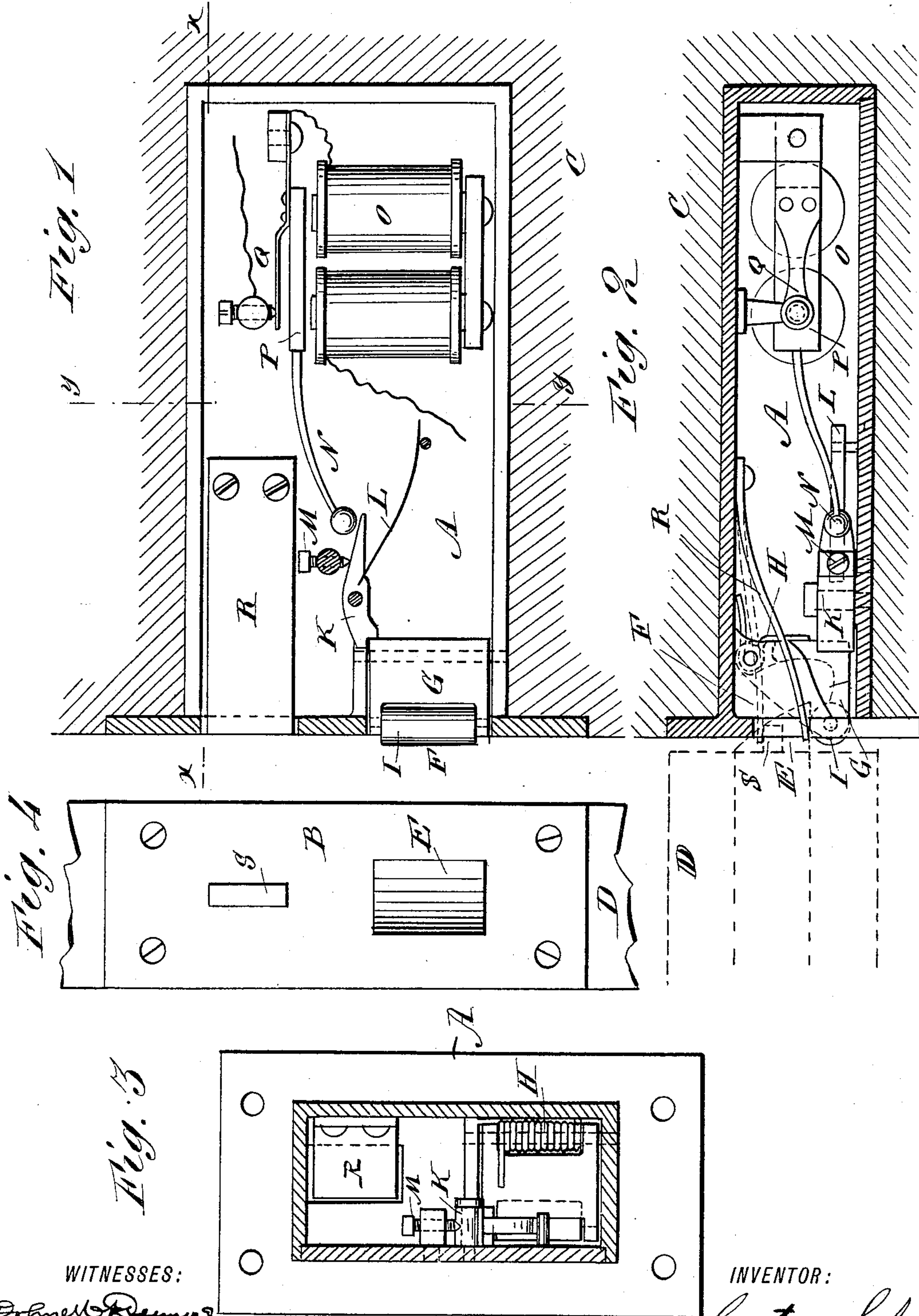
(No Model.)

G. S. NEU.

ELECTRICALLY OPERATIVE LOCK.

No. 390,795.

Patented Oct. 9, 1888.



WITNESSES:

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ELECTRICALLY-OPERATIVE LOCK.

SPECIFICATION forming part of Letters Patent No. 390,795, dated October 9, 1888.

Application filed June 25, 1888. Serial No. 278,182. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE S. NEU, of the city, county, and State of New York, have invented a new and useful Improvement in Electrically-Operative Locks, of which the following is a specification.

This invention relates more particularly to locks of the kind frequently used on the outside doors of apartment-houses and in kindred situations, to permit the unlocking of the door from a distant point within the house, in which the release of the bolt is effected by means of an electric current acting through an electromagnetic tripping device to release the bolt-restraining catch. The tripping of the restraining-catch has heretofore generally been sought to be accomplished by the direct attractive action of the electro-magnet; but this necessitated a most delicate adjustment of the catch, in order that it might not fail to work when any considerable pressure was upon the bolt.

In my improvement the tripping of the restraining-catch is accomplished by the striking action of a vibratory hammer, which is operated by means of an electro-magnet and an intermittent circuit-breaker, so that the release of the catch will be assured by the repetition of the blows of the hammer.

In order that my invention may be fully understood, I will first give a detailed description of the at present preferred mode of carrying the same into effect, and then point out the essential features of the invention in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation of the stationary part of an electrically-operative lock embodying my improvement applied to a door-jamb. Fig. 2 is a sectional plan view of the same on the line *x x*, Fig. 1, showing also, in dotted lines, the movable part of the said lock on the door. Fig. 3 is a cross-sectional elevation of the same, taken on the line *y y*, Fig. 1. Fig. 4 is a face view of the movable part of the lock on the door.

Like letters of reference denote corresponding parts in the different figures of the drawings.

The lock is formed of two parts, A and B,

of which in applying as a door-lock, as here shown, the part A is fixed in the door-jamb C and the part B to the meeting edge of the door D. Part B is provided with a bolt, E, which may be, as here shown, of the common beveled-latch form, held normally projected, by means of a spring, from the edge of the door D, and adapted, when the door is closed, to automatically engage a bolt-socket, F, on the jamb part A of the lock, and thus secure the door.

The bolt E may be arranged to be released, and the opening of the door D from the outside thus permitted, by providing the bolt-socket F with a yielding front wall, G, having a spring, H, to hold it normally in forward or bolt-restraining position, and an anti-friction roller, I, in its outer edge, to facilitate the retraction of the beveled bolt E when the door is closed, and to cause the said front wall, G, to yield readily to permit the bolt E to pass and the door E to open when pressure is applied to the outside of the door.

A catch, K, is arranged to restrain the bolt E, and thus lock the door, in this instance by pivoting it to the jamb part A of the lock, and providing it with an actuating-spring, L, in such a manner that it will automatically engage and lock the movable wall G of the bolt-socket F when in its forward position, an adjustable limit-point, M, being by preference provided to regulate the degree of engagement of the catch K, as shown.

To trip the catch K, release the socket-wall G, and thus the bolt E, a vibratory hammer, N, is arranged on the part A, so as to, when operated, strike the catch K, and an electro-magnet, O, vibratory armature P, and intermittent circuit-closer, Q, to, when the electro-magnet is energized by means of the electric current, rapidly vibrate the hammer N, thus with certainty insuring the tripping of the catch, if not at the first blow, by the rapid succession of blows, however great may be the pressure on the bolt E, and thus on the catch K. A tension device is also by preference provided to keep the bolt E, and hence the catch K, under constant strain, and thus prevent the return of the catch K after the movement thereof caused by each blow of the hammer N, and may be formed, as shown, of a spring, R, arranged on the jamb part A of the

lock, and a bearer, S, on the door part B, to put the spring under tension when the door is closed, the reaction of the spring R naturally tending to press the bolt E against the socket-wall G. This tension device will also cause the door to open a short distance automatically when released by the action of the electric current transmitted through the circuit in which the electro-magnetic tripping device is included.

I claim as new and desire to secure by Letters Patent—

1. In a lock, the combination of a bolt, a restraining-catch, and an electrically-operative vibratory tripping-hammer, substantially as described.

2. The combination of a bolt, a restraining-catch, a bolt-tension device, and an electrically-operative tripping-hammer, substantially as described.

3. In a lock of the character described, the combination, with the yielding bolt-restraining wall or stop, of a locking-catch and an electrically-operative tripping-hammer, substantially as described.

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Witnesses:

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