

(No Model.)

2 Sheets—Sheet 1.

F. W. MIX.
GUARD LOCK.

No. 551,685.

Patented Dec. 17, 1895.

Fig. 1.

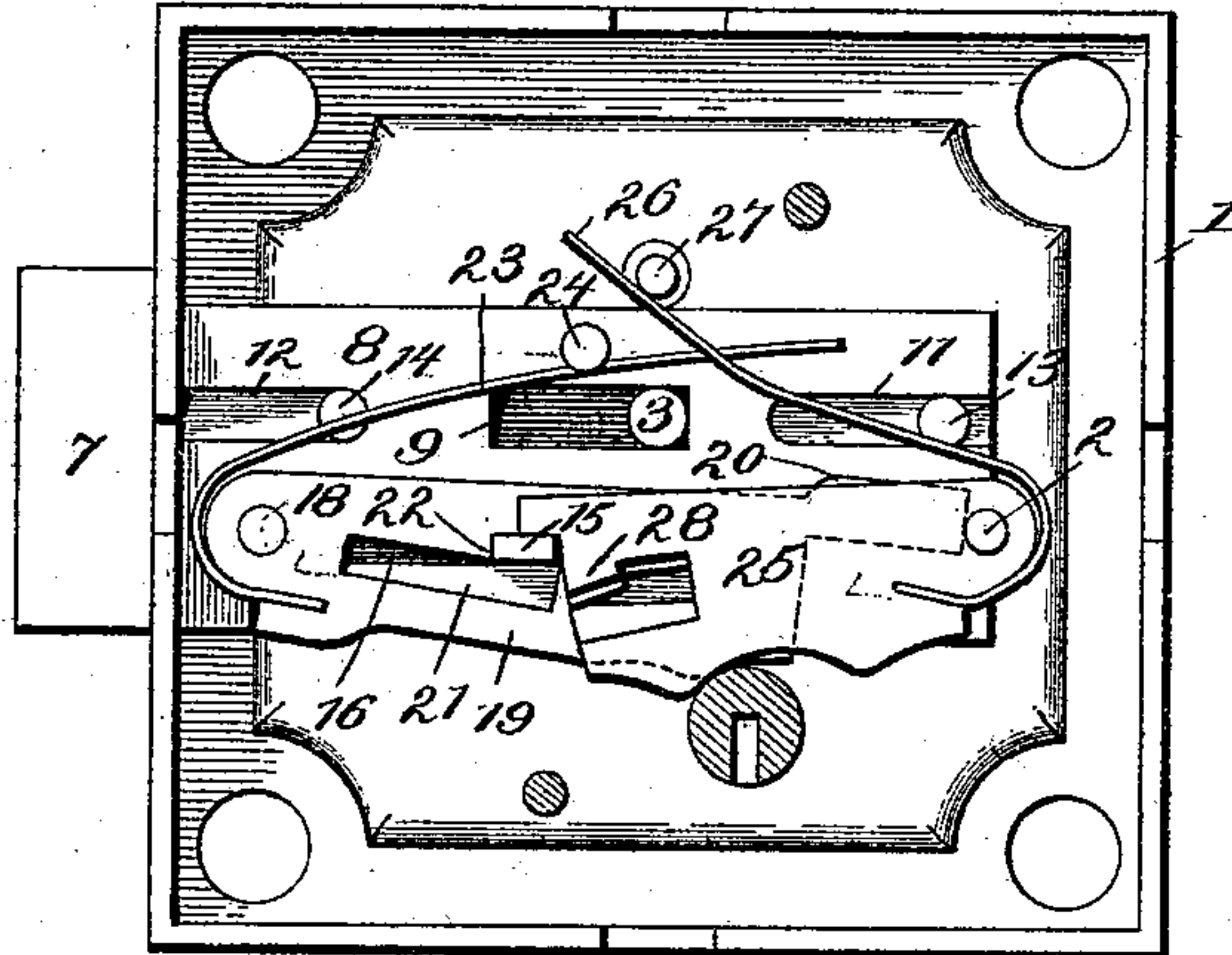
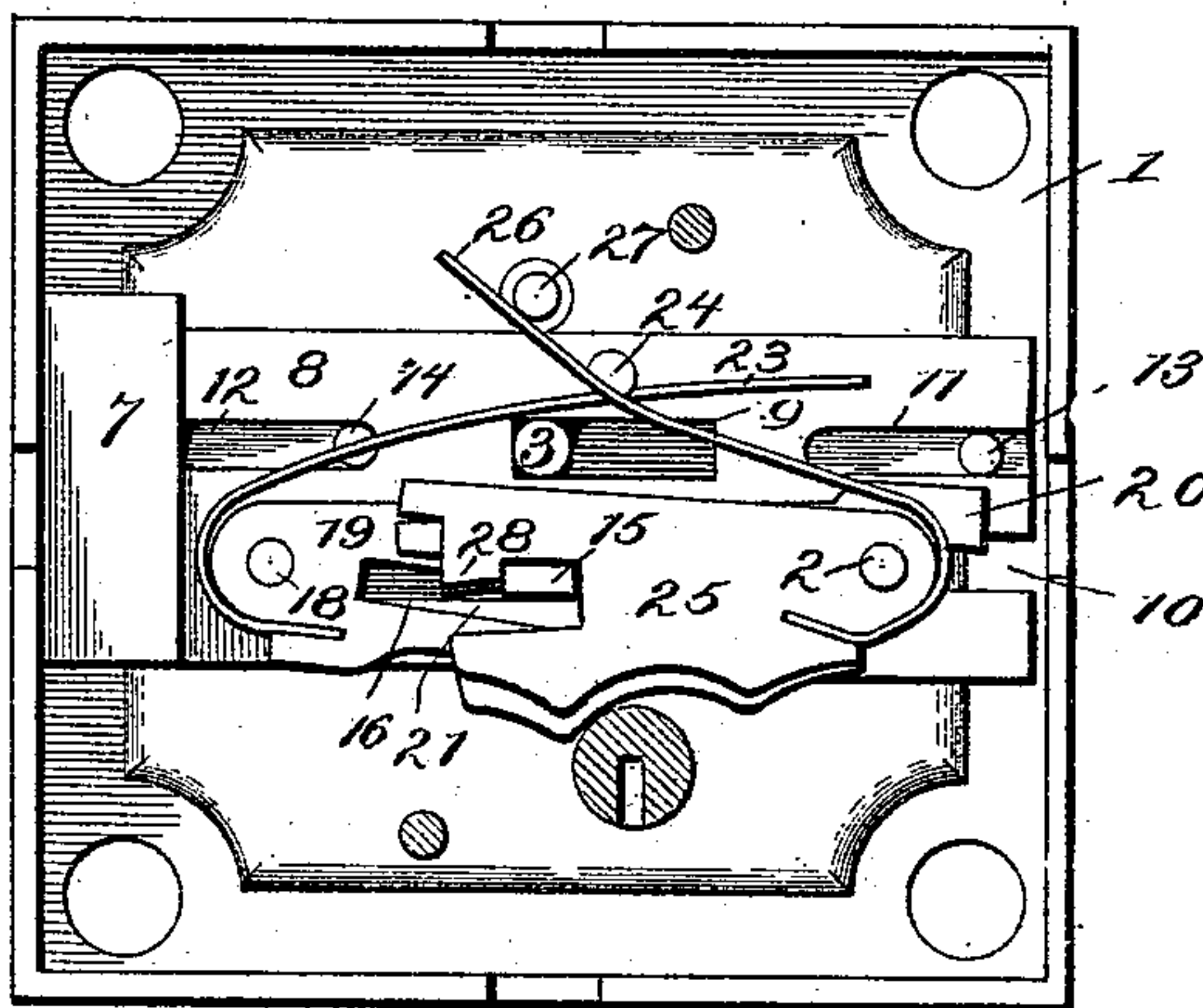


Fig. 2.



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Inventor:
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by
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Attys.

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Fig. 3.

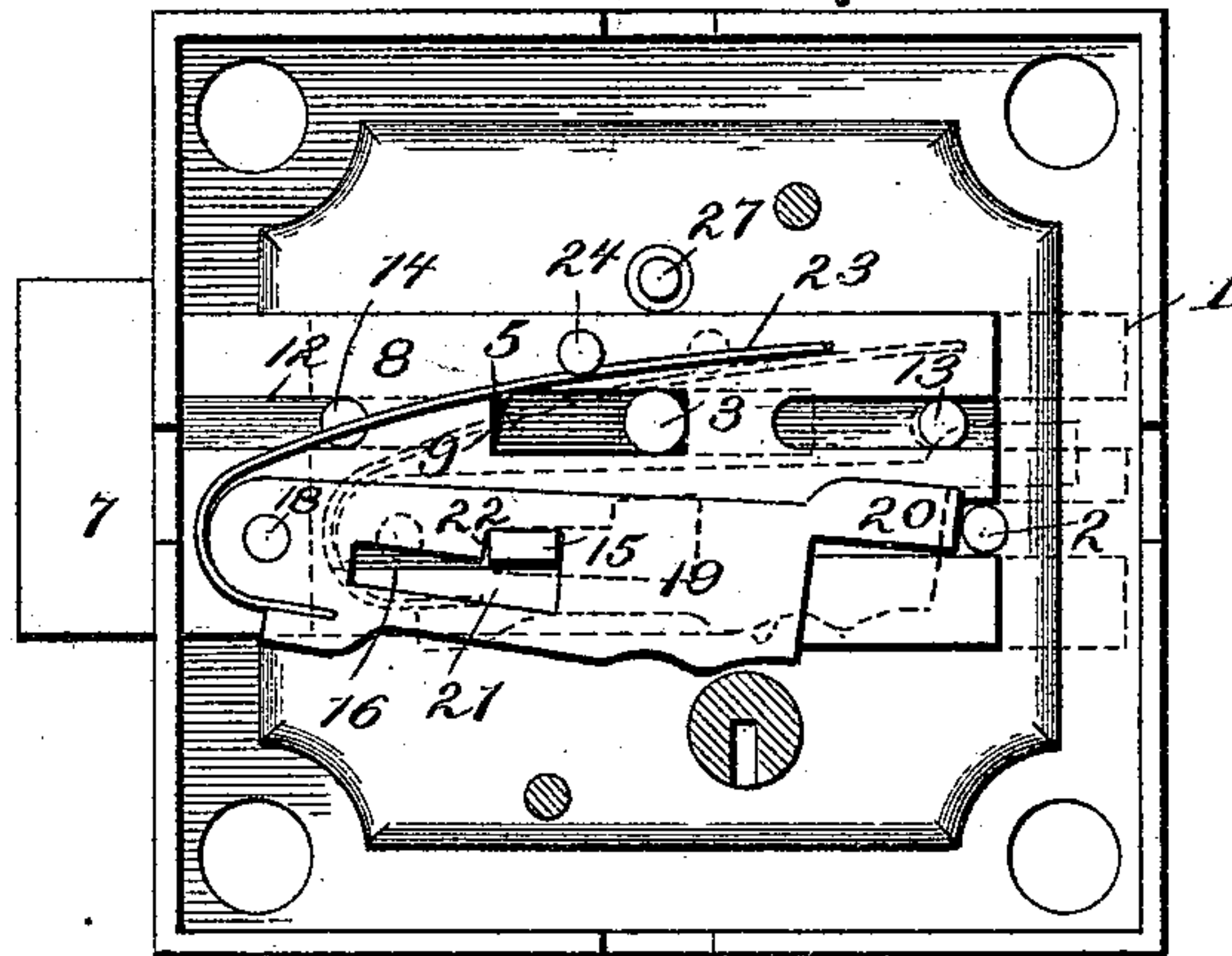


Fig. 4.

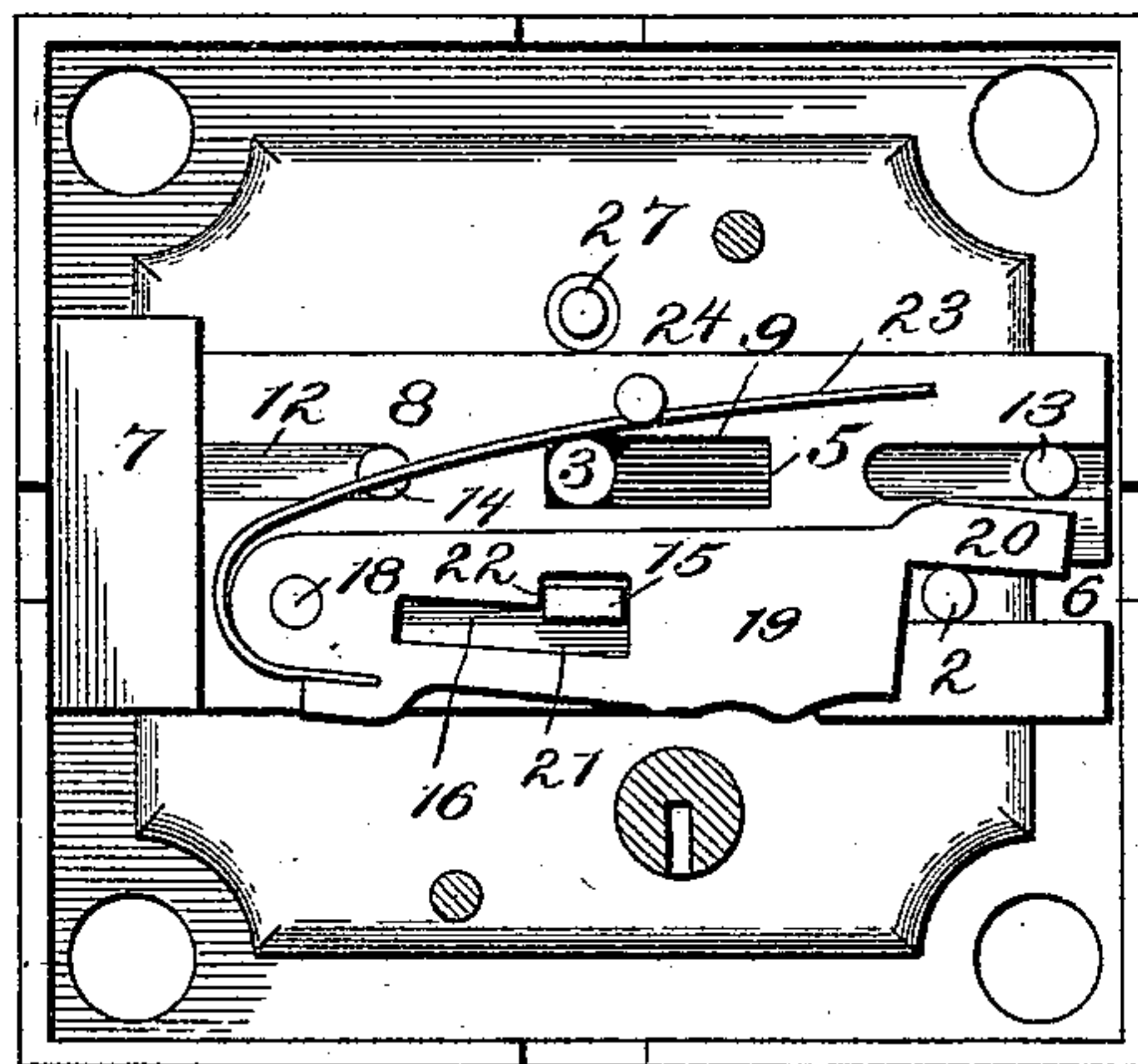
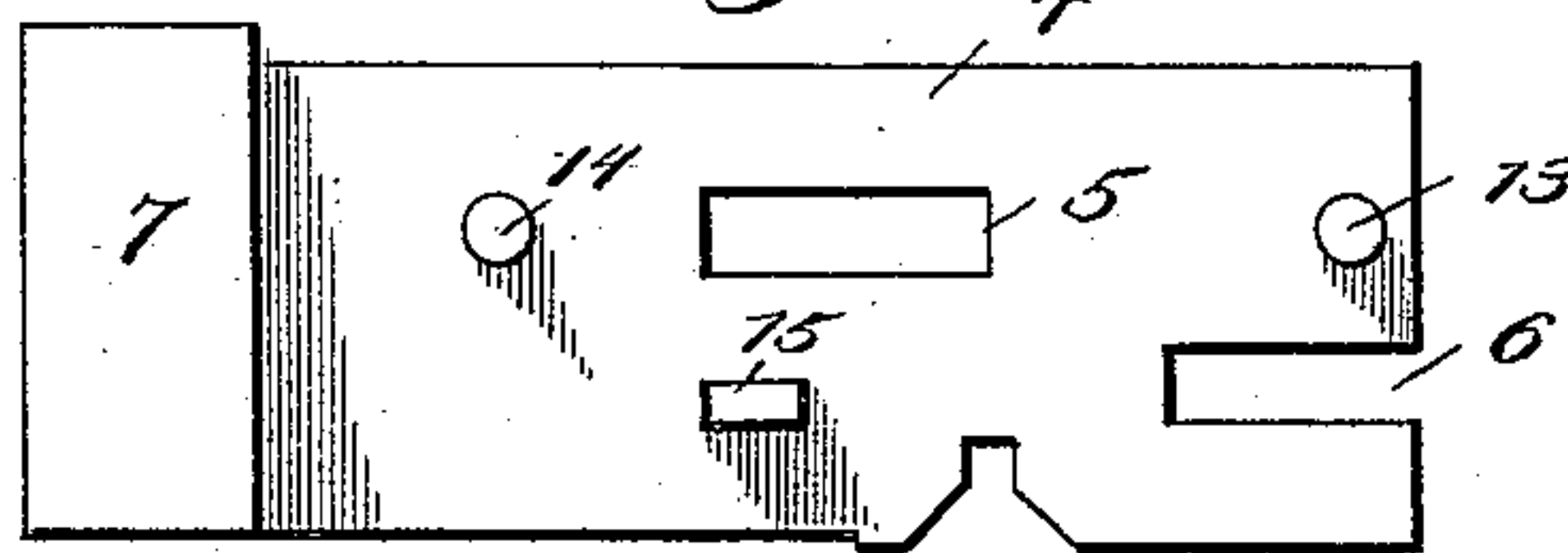
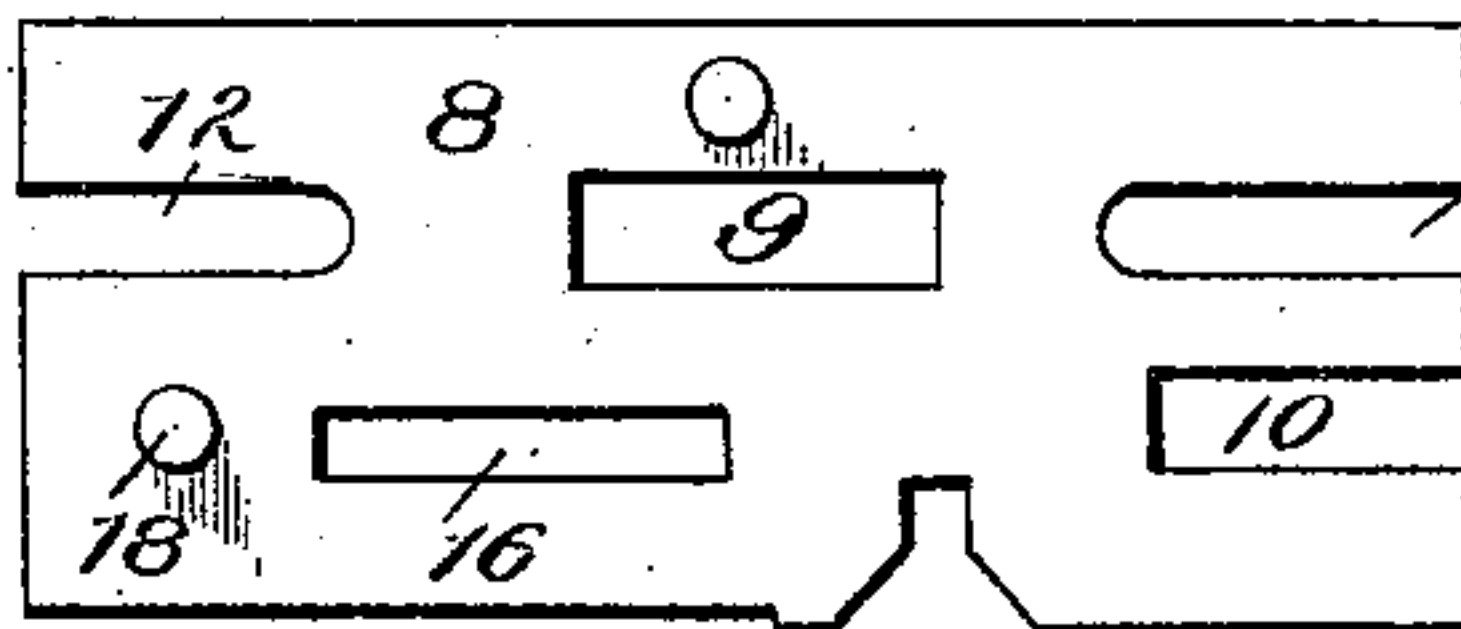


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF SAME PLACE.

GUARD-LOCK.

SPECIFICATION forming part of Letters Patent No. 551,685, dated December 17, 1895.

Application filed May 21, 1894. Serial No. 511,993. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Guard - Locks, of which the following specification, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in what are known as "guard-locks," which, in addition to the regular tumbler mechanism for securing the bolt, have a guard mechanism which must be released before the key fitting the ordinary tumblers can unlock the lock. These locks are generally used by safe-deposit companies, the object of the construction being to render it necessary for the custodian to first throw off the guard mechanism before the box-renter can unlock his box.

The object of my invention is to simplify and perfect the structure of this class of locks and thereby remedy some defects which are present in the locks now used.

In carrying out my invention, I provide a supplemental sliding bolt, which may be called the "guard-bolt," which is slidably attached to the lock-bolt either above or below it, suitable tumblers for dogging the lock-bolt, and suitable independent tumblers for dogging the guard-bolt. When the lock-bolt is shot forward, the guard-bolt travels with it, and the tumbler or tumblers which dog the guard-bolt are forced into engagement with their stump, and also into engagement with the stump of the lock-bolt tumblers for preventing the guard-bolt from sliding on the lock-bolt. The lock-bolt tumblers are pivoted upon the stump which dogs the guard-bolt tumblers, or upon another one, and are forced into engagement with the stump on the lock-bolt when the bolt is shot forward. It is evident therefore that when the bolt is shot forward it cannot be retracted until the engagement between the guard-tumblers and the stump at their rear is broken, and the engagement between the lock-bolt tumblers and the lock-bolt stump is broken. When the guard-key is inserted and turned in the direction for unlocking, the guard-tumblers are disengaged from their stump and also turned out of engagement with the lock-bolt stump, and

the guard-bolt and its attached tumblers are moved back on the lock-bolt. Then it will be seen that the lock-bolt is still held in locked position by the ordinary locking-tumblers, which must be disengaged from the stump on the lock-bolt by the other key which also retracts the lock-bolt in the usual way. When the lock is in unlocked position it does not require the presence of the custodian to lock it, for when the lock-bolt is retracted the guard-tumblers fall into engagement with the stump of the lock-bolt, so that when the lock-bolt is thrown forward in the direction for locking, the guard-bolt is carried with it and the guard-tumblers automatically engage with their stump, so that the lock-bolt is dogged both by its own tumbler mechanism and by the guard mechanism.

In order that my invention may be fully understood I will now proceed to describe the same with reference to the accompanying drawings, and will afterward point out the novel features in the annexed claims.

In said drawings, Figure 1 is a plan view of my improved lock with the top plate removed and showing the bolt held in locked position by the ordinary lock-tumblers and the guard mechanism. Fig. 2 is a similar view showing the parts in unlocked position. Fig. 3 is a view similar to Fig. 1 with the ordinary locking-tumblers omitted. Fig. 4 is a view similar to Fig. 2 with the ordinary locking-tumblers omitted. Fig. 5 represents in detail plan the locking-bolt and the guard-bolt separated from each other.

1 is the lock-case provided with the integral stump 2 and pin 3 projecting out from the back plate, and 4 is the lock-bolt formed with the slots 5 and 6 in which the stump 2 and pin 3 engage for guiding the bolt. The head 7 of the bolt projects through an opening in one end of the lock-case as usual.

8 is the guard bolt or slide formed with the slots 9 and 10, which embrace the stump 2 and pin 3, and the slots 11 and 12 which fit over the lugs 13 and 14 projecting from the upper face of the lock-bolt.

15 is the stump projecting from the lock-bolt for dogging the ordinary locking-tumblers.

16 is another slot in the guard-bolt which fits over the stump 15.

It will be observed that the several slots in

the lock-bolt and guard-bolt allow them to slide independently and at the same time guide them in their longitudinal movement.

Pivotaly supported upon the pin 18 of the guard-bolt 8 is a guard-tumbler 19 which is formed with a projecting dog or nose 20 which dogs with the stump 2 when the lock is in locked position and rests upon said stump when the lock is in unlocked position, the tumbler being cut away sufficiently to allow it to have free movement.

21 is a slot in the tumbler 19 in which the stump 15 of the lock-bolt slides. The slot 21 is formed with a shoulder 22 which engages with the stump 15 when both the lock-bolt and guard-bolt are in either locked or unlocked position, in order that the guard mechanism will hold the bolt in locked position, and that the slide-bolt will be carried with the lock-bolt from unlocked into locked position.

23 is a spring projecting from the tumbler 19 and engaging the lug 24 of the guard-bolt for actuating the tumbler.

I have shown but one tumbler 19, but it is obvious that any number of similarly-constructed tumblers can be employed.

25 are ordinary locking-tumblers pivoted upon the stump 2 and provided with actuating-springs 26 which engage with the pin 27 projecting up from the case. These tumblers 25 are formed with shoulders 28 which are adapted to engage with the stump 15 on either side for holding the bolt in unlocked or locked position. The tumblers 25 and 19 are formed with the customary cam-faces adapted to be operated upon by the key-bits.

The guard-key which operates the tumbler 19 and guard-bolt 8, as well as the depositor's key, operate in the same keyhole.

The operation of my device will be clear from the above description.

The advantage in having the independent guard-bolt and tumblers is that the guard-bolt and tumblers can be locked and unlocked independently of the ordinary tumbler mechanism. This is not usually the case in locks of this class, it usually being necessary, in order to set the guard mechanism after it has once been thrown off, to lock and unlock the lock again by means of the depositor's key. This is a great objection because the custodian of the safe-deposit vault sometimes throws off the guard of the wrong box by mistake, and then if the box-renter of that particular box does not happen to be present the guard of his lock is permanently thrown off until he

shall appear and operate the lock. With my improved construction such a mistake cannot occur, as the guard mechanism can be thrown off and on again without the presence of the box-renter.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a guard lock, the combination of the locking bolt and suitable controlling mechanism, a stump or projection on the locking bolt, a stump or projection on the lock case, and an independent guard bolt and tumbler mechanism adapted to engage the stump on the lock bolt and the stump on the lock case, substantially as and for the purpose set forth.

2. The combination of a primary locking bolt and an auxiliary guard bolt employed to dog the primary bolt, said guard bolt being capable of being retracted and relocked independently while the primary bolt is in locked position and being thrown into locked position automatically by the locking of the primary bolt, substantially as explained.

3. The combination of a main locking bolt, an auxiliary guard bolt mounted to slide longitudinally on the main bolt for dogging the same and capable of being retracted and relocked independently of the main bolt when the latter is in locked position, and separate tumblers for dogging the main bolt and the auxiliary guard bolt independently and adapted to be operated by separate keys substantially as explained.

4. In a guard lock, the combination of the locking bolt, tumbler mechanism for locking said bolt in position, a stump or projection on said locking bolt, a sliding guard bolt, a stump projecting from the lock case, an independent tumbler mechanism carried by the guard bolt and adapted to engage the stump projecting from the lock case when the lock is in locked position, and also adapted to engage the stump on the locking bolt when in both locked and unlocked positions, whereby the retraction of the lock bolt after the guard bolt has been retracted, causes the guard tumbler mechanism to re-engage with the stump on the lock bolt, and the subsequent locking of the lock bolt will cause it to be automatically dogged by both its own tumbler mechanism and the guard tumbler mechanism, substantially as described.

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Witnesses:

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GEO. E. WHITE.