

(No Model.)

W. H. TAYLOR.
PADLOCK.

No. 567,206.

Patented Sept. 8, 1896.

Fig 1

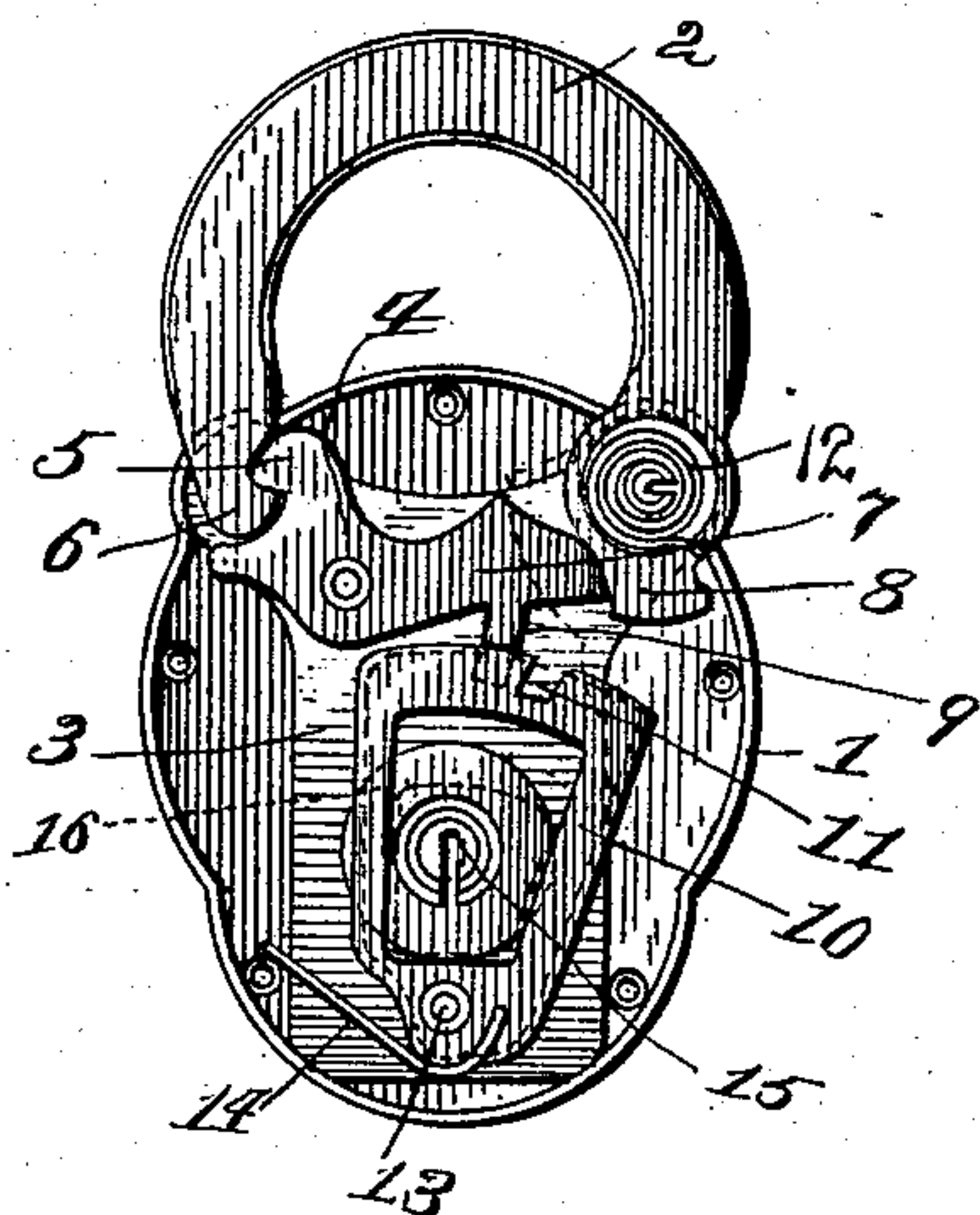


Fig. 2.

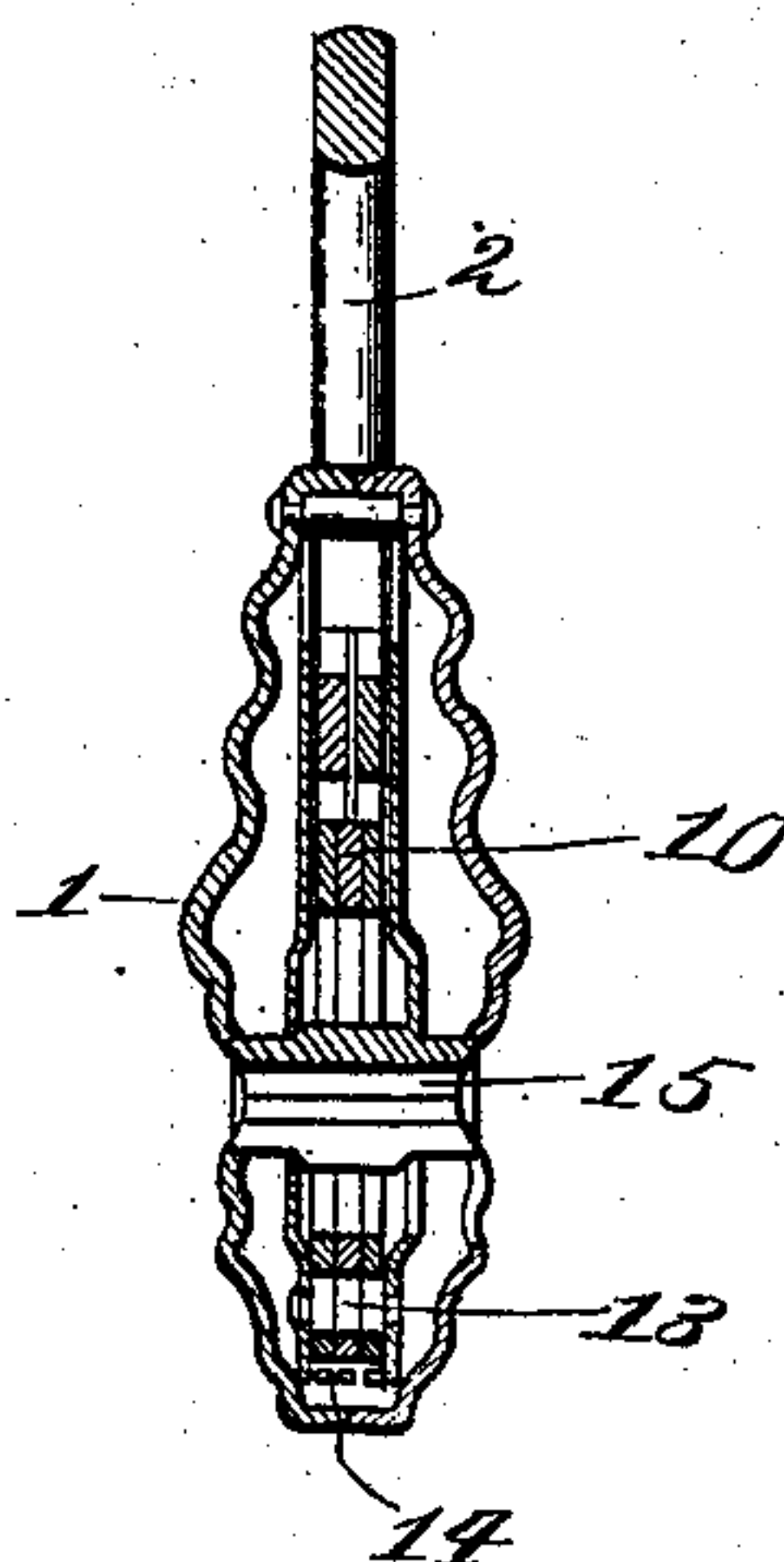


Fig. 3.

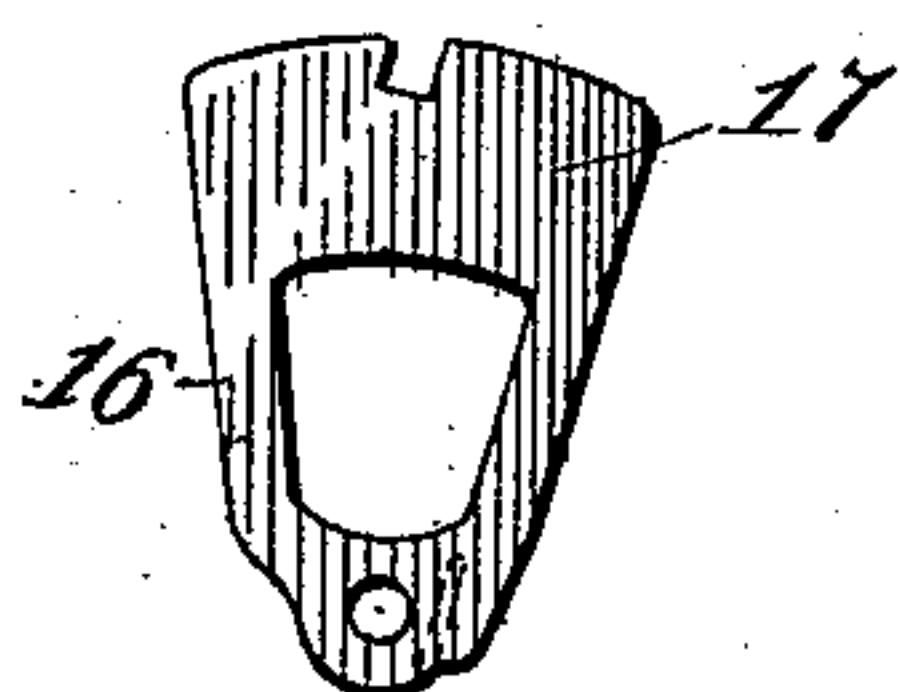
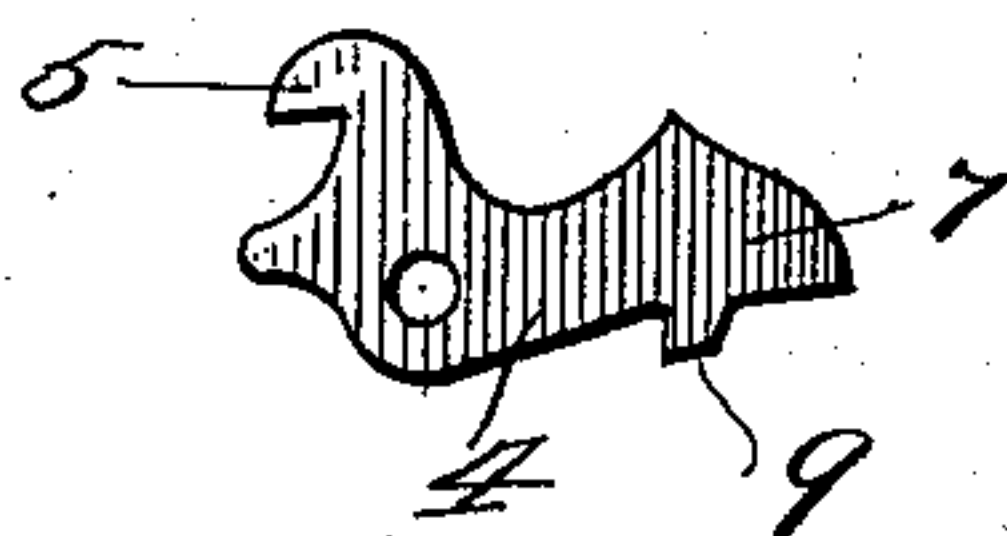


Fig. 4.



Witnesses:

Herbert Bradley

Geo. E. Crane

Inventor.

Warren H. Taylor

By Knight Bros.

Attorneys.

UNITED STATES PATENT OFFICE.

WARREN H. TAYLOR, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE
YALE & TOWNE MANUFACTURING COMPANY, OF SAME PLACE.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 567,206, dated September 8, 1896.

Application filed December 7, 1895. Serial No. 571,421. (No model.)

To all whom it may concern:

Be it known that I, WARREN H. TAYLOR, 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 Lock Mechanism, of which the following is a specification.

My present invention relates to means for preventing the unlocking of a lock by jarring, which method has been heretofore used by producing a pressure of the fence upon the tumblers, and then by jarring causing the tumblers to creep, so that the fence will finally fall into the gating of the tumblers and thus unlock the lock.

The explanation of the possibility for improperly opening a lock by jarring the tumblers in the manner referred to is that the inertia of the tumblers, when jarred, is sufficient to overcome their springs, which hold them normally in disconcerted positions, the friction of the dog holding them in the new position after each movement, so that a progressive or creeping movement results from continued jarring. I defeat the possibility of thus tampering with locks of this character by providing a safety-tumbler which is so constructed as to creep unequally with the locking-tumblers, and thus render it impossible to assemble, by jarring, all the gates at unlocking position. Obviously the rapidity of this creeping action in any one tumbler will be determined by the relation which exists between its inertia and the strength of the opposing spring. This inequality of creeping among the several tumblers is brought about by differentiating the relations which exist between the inertia of the respective tumblers and their opposing springs. As the springs are conveniently manufactured of equal strength, this differentiating may be conveniently effected by making the weight of the safety-tumbler different from that of the others.

I show my improved device in connection with a padlock, but its advantages are not confined to a padlock, but may be used with any locking mechanism where the fence bears or may bear against tumblers.

In order that my invention may be fully understood, I will proceed to describe the

same with reference to the accompanying drawings, in which—

Figure 1 is a side view of the lock with one side of the casing removed. Fig. 2 is a vertical section of the same. Fig. 3 is a view of the tumbler employed for keeping the lock securely locked against fraudulent opening, and Fig. 4 is a view of the combined dog and detent.

In the said drawings, 1 represents the casing of the lock, and 2 the shackle, which is pivoted to the frame 3, carrying the lock mechanism. 4 represents the combined dog and detent, which is pivoted to the frame 3. It is provided with the head 5, which engages with the end 6 of the shackle, and with the heel 7, which engages with the end 8 of the shackle when in its locked position. The dog is also provided with the fence 9, which when the tumblers 10 are assembled falls into the gates 11, and which movement withdraws the dog from engagement with the ends of the shackle and allows the coiled spring 12 to throw the shackle into unlocked position.

13 represents a pin on which the tumblers are pivoted.

14 represents the springs for disconcerting the tumblers, and 15 represents the key-plug.

16 represents a tumbler which is inserted at any convenient point in the nest of tumblers, and it is made, preferably, with the end 17 which is farthest away from the pivot somewhat heavier than the ends of the other tumblers. This tumbler is gated so that the gating always stands under the fence of the dog when the lock is in locked position. The key is so bitted that in unlocking the lock it will set the other tumblers, so that their gatings will coincide beneath the fence, but it will not act upon the tumbler 16, leaving the position of this tumbler undisturbed, so that when the other tumblers are set the fence will drop into the gatings of all the tumblers.

It will be understood that in locks which are constructed upon this general plan it is sometimes possible to open them by producing a pressure of the fence upon the tumblers in the lock, as, for instance, by exerting an upward pressure on the shackle of the padlock, then, by jarring, the tumblers will tend to creep along underneath the fence, which will

fall into them, and the lock will thus be opened; but in this construction, when such a method of opening is attempted, the first tumbler to creep, owing to its greater weight, 5 will be the tumbler 16, and when this occurs the gating in this tumbler will pass from under the fence, and the lock will thus be prevented from opening. This tumbler will act as a guard-tumbler also in case any key 10 but the proper one is inserted, so as to operate the tumblers, because in that case the moving of the tumbler will cause the gating to move away from the fence, thus also preventing the opening of the lock.

15 It is not necessary for the operation of this device that the gating of the guard-tumbler should be normally under the fence. It is merely necessary that it should be in different relation to the fence than the other gat- 20 ings, and that the rate of travel of the guard-tumbler should be so different from the rate of travel of the others that at the same time the regular tumblers had their gatings under the fence the gating of the guard-tumbler 25 would not be under the fence.

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

1. In a lock, the combination with one or more tumblers, of a supplementary guard- 30 tumbler, whose gating is normally opposite the fence, but when said guard-tumbler is moved by a false key or by jarring, said gating will pass away from the fence and thus prevent the unlocking of the lock. 35

2. In a lock, the combination of two or more tumblers having means for holding them normally in disconcerted positions relatively to the fence, one of said tumblers being ar- 40 ranged to travel at different rate from the others when moved by jarring the lock, as explained, so that it will be impossible to concert the gatings beneath the fence by this means.

3. In a lock the combination with one or 45 more tumblers, a weighted guard-tumbler having its gate normally under the fence of the bolt, and adapted to move and prevent the unlocking of the lock when any unauthor- 50 ized attempt is made to unlock the lock, substantially as described.

WARREN H. TAYLOR.

Witnesses:

SCHUYLER MERRITT,
GEO. E. WHITE.