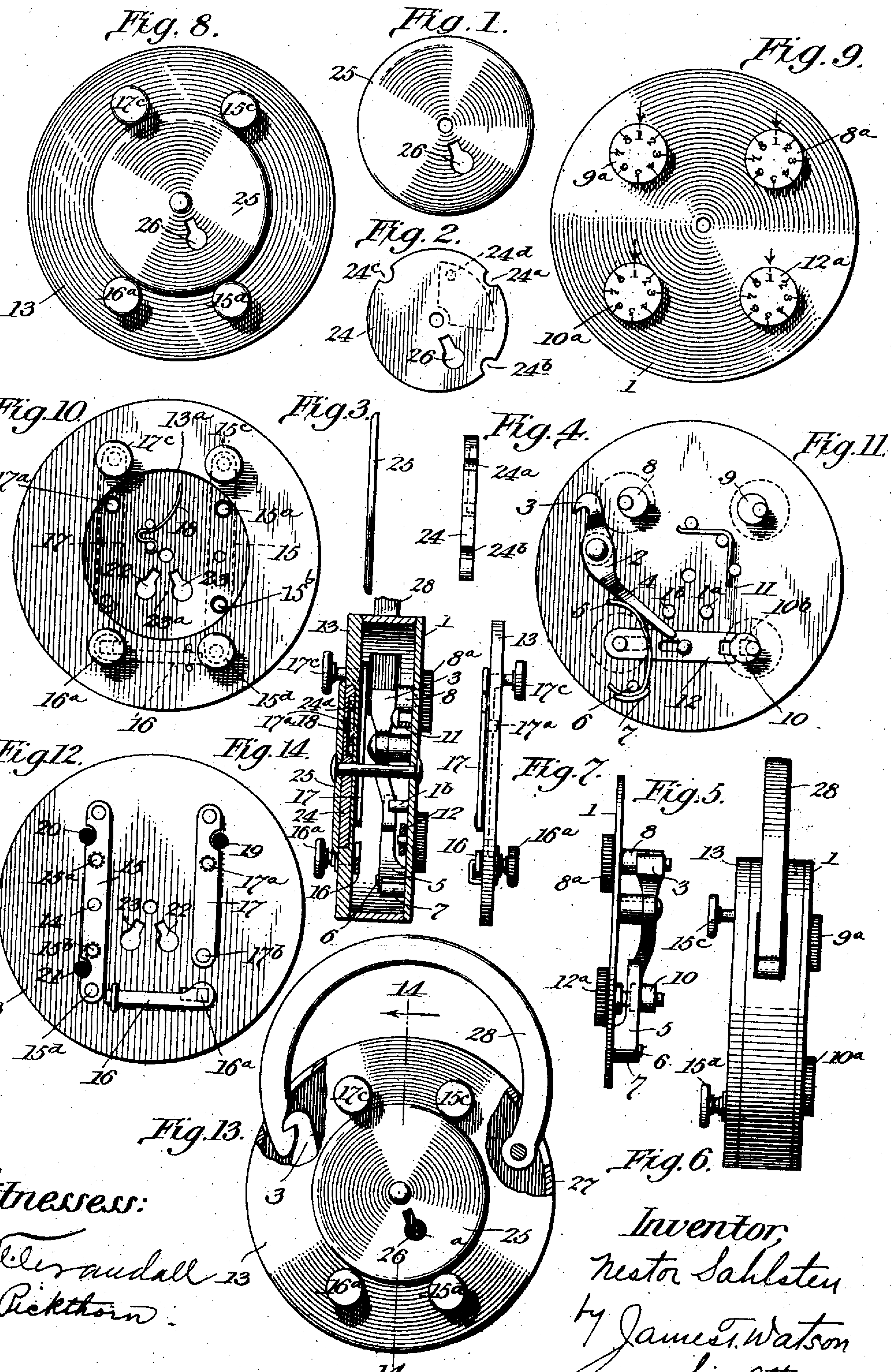
No. 883,571. PATENTED MAR. 31, 1908.

N. SAHLSTEN.

LOCK.

APPLICATION FILED AUG. 5, 1907.



Witnesses:
C. C. Crandall
A. Pickthorn.

Inventor,
Nestor Sahlsten
by James T. Watson
his Attorney

UNITED STATES PATENT OFFICE.

NESTOR SAHLSTEN, OF DULUTH, MINNESOTA.

LOCK.

No. 883,571. Specification of Letters Patent. Patented March 31, 1908.

Application filed August 5, 1907. Serial No. 387,075.

To all whom it may concern:

Be it known that I, NESTOR SAHLSTEN, a citizen of the Grand Duchy of Finland, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to locks and has for its object the provision of a lock which is adapted to be opened by a key, but which is provided with mechanism whereby the operation of the key by persons who are not familiar with the concealed portions of the lock, may be prevented.

It consists of the constructions, combinations and arrangements of parts hereinafter described and claimed.

In the drawings, Figure 1, is a front elevation of the cover plate forming part of my invention. Fig. 2, is a front elevation of the oscillating plate, upon the outer face of which the cover plate is to be rigidly secured. Fig. 3, is a side elevation of the cover plate. Fig. 4, is a side elevation of the oscillating plate. Fig. 5, is a side elevation of the rear plate and attached mechanism. Fig. 6, is a side elevation of the peripheral rim or ring, located between the front and rear plates. Fig. 7, is a side elevation of the main front plate, upon which the oscillating plate is to be pivotally secured. Fig. 8, is a front elevation of the front plate with the oscillating plate and cover plate attached. Fig. 9 is a rear elevation of the rear plate. Fig. 10, is a front elevation of the front plate with the cover plate and oscillating plate removed. Fig. 11, is a front elevation of the rear plate with the front plate removed. Fig. 12, is a rear elevation of the front plate with rear plate removed. Figs. 11 and 12 are with relation to each other shown in the drawings approximately as the open pages of a book. Fig. 13, is a reduced front elevation of my invention partly broken away. Fig. 14, is a central vertical transverse section of said invention, on the line 14—14 of Fig. 13.

In the drawings, 1 is a rear plate upon which is pivotally secured a latch 2, having the bill 3 and the heel 4, a spring 5 presses at one end against the heel of said latch and at the opposite end is secured in any suitable manner as by the studs 6 and 7. Rotatably mounted in said plate are the eccentric fingers 8, 9 and 10, upon the outer ends of which fingers are the thumb wheels 8^a, 9^a and 10^a, for rotating the same. A spring 11 is also mounted in any siutable manner on said plate for the purpose hereinafter described. A sliding bolt 12 is also positioned against the inner face of said plate 1 and is adapted to be operated by a finger-hold 12^a extending through a suitable slot in said plate. Said bolt is preferably forked at its free end, said forked end being adapted in operatoin to engage a squared portion 10^b of the finger 10.

1^a and 1^b are studs or pins either of which is adapted to extend into the recessed end of a suitable key. If however, the end of the key be not recessed, said studs may be omitted and recesses formed in their places.

Upon the front plate 13, is secured as at 14 a spring 15, carrying near its opposite ends pins 15^a and 15^b, respectively extending through a recessed portion of the plate from rear to front. Said spring carries at its opposite ends the push pins and buttons 15^c and 15^d, respectively, exending beyond the front face of said plate. Upon the plate 13 is also mounted the sliding bolt 16 adapted to be operated by the finger hold 16^a said finger hold extending through a slot and beyond the outer face of said plate; said bolt is adapted in operation to impinge upon the adjoining end of the spring 15 to prevent the depression of said spring at that end. Upon said plate 13 is also secured as at 17^b a spring 17 which carries near its opposite end the pin 17^a extending through the recessed portion of the plate. Said spring 17 carries at its free end the push pin or button 17^c extending beyond the outer face of said plate. Upon the front face of the recessed portion of the plate 13 is mounted the spring 18 for the purpose hereinafter described. 19, 20 and 21 (Fig. 12) are recesses for the reception of the extreme inner ends or arbors of the fingers 8, 9 and 10, respectively. In said plate 13 are formed key holes 22 and 23, but if desired the intervening web 23^a between said key holes may be cut away. The plate 13 is recessed in its outer face as at 13^a to receive the oscillating plate 24 which is secured thereto by a suitable central pivot pin.

In the edge of the oscillating plate 24 are formed apertures or recesses or notches 24^a, 24^b, and 24^c for the reception of the pins 15^a, 15^b and 17^a respectively. A segment of the

rear face of said plate 24 is preferably recessed as shown by the broken lines in Fig. 2, to receive, and permit the operation of the spring 18 carried by plate 13, and within said recessed segment is formed or positioned the pin 24^d against which the spring 18 operates to oscillate said plate 24 in one direction. The cover plate 25, is rigidly secured to the outer face of the plate 24, by suitably placed rivets and is for the purpose of concealing the apertures or notches 24^a, 24^b and 24^c and the pins 15^a, 15^b and 17^a. The plates 24 and 25 are provided with key holes 26 in registration with each other, and these key holes will, at one position of said plates, register with the key hole 22 and at another position register with the keyhole 23. A rim 27 is adapted to extend between said plates 1 and 13, and upon said ring is hinged a shackle 28 adapted to extend at its opposite end through an aperture in said rim and engage the bill 3 of the latch 2. Said plates 1 and 13 are secured to said ring by any suitable means as by rivets or pins.

The outer faces of the thumb wheels 8^a, 9^a and 10^a are preferably provided with dials adapted to be read with relation to arrows scored upon the outer faces of the plate to determine the position of the spring engaging eccentric fingers between the plates 1 and 13. The outer face of the finger hold 12^a is also preferably provided with a dial to mislead unauthorized persons as to the purpose and operation of said finger hold.

Various modifications and minor alterations may however be made in the construction and the positions of certain parts or their equivalents may be transposed within the spirit of my invention and within the scope of certain of my claims.

Assuming said lock to be unlocked and the springs 15 and 17 to be free from engagement by the fingers 8, 9 and 10 and free from engagement by the bolts 12 and 16 and assuming the pins 15^a and 15^b and 17^a to be free from engagement by the recesses 24^a, 24^b and 24^c, and assuming the plate 24 to be in such position as that its key hole will register with the keyhole 22 (Fig. 10), and assuming the shackle to be free of the bill of the latch, to operate the lock, the shackle is first depressed until the bill of the latch engages a notch in its free end. The oscillating plate is, by engagement of the thumb nail of the operator with the keyhole, swung around until said keyhole registers with the key hole 23, whereupon the pins 15^a, 15^b and 17^a will spring into the apertures or notches 24^a, 24^b and 24^c and hold said plate in such position against the tension of the spring 18. Now to prevent the depression of the springs 15 and 17 which would be necessary to withdraw the pins 15^a, 15^b and 17^a collectively, the projecting lip of the finger 9 may be turned over the adjoining end of the spring 15; the projecting lip of the finger 10 may be turned over the opposite end of said spring 15; the projecting lip of the finger 8 may be turned over the free end of the spring 17, or the free ends of any or all of said springs may be stopped as respectively described. In order to prevent the turning of the stop-finger 10 so as to free the end of the spring stopped thereby, the bolt 12 may be shot into operative position; and as an additional or alternative means for preventing the depression of the same end of said spring, the bolt 16 may be shot into operative position. Upon turning the key in the lock under such circumstances the bit of the key will strike upon the spring 11 and the responsive "click" will tend to deceive unauthorized persons as to the character of the construction. It will be readily seen however that persons to whom the construction of the lock is known as hereinbefore described, will know how to proceed to release the springs 15 and 17 from their stops by retracting the bolt 12 by means of the sliding finger-hold 12^a, then retracting the bolt 16 by means of the sliding finger-hold 16^a, then by turning the finger-holds 8^a, 9^a and 10^a (preferably having regard to the known relation of the respective figures on the dials to the arrows on the outer face of plate 1, Fig. 9) so that the eccentric fingers governed by said finger holds respectively will disengage from said springs 15 and 17, and that thereafter the springs 15 and 17 should be depressed to withdraw the pins 15^a, 15^b and 17^a, whereupon the spring 18 will oscillate the plate 24 into such position as that the key hole 26 registers with the key hole 22, in which position the key may be used with effect.

In instructing transients how to use the lock, information may be withheld as to part of it, as, for example, regarding the bolt 12. In such event were it to become necessary to deprive the transient of the use of the lock without taking it away from him, the permanent owner could operate the bolt 12. The dials on the thumb wheels facilitate the operation by one acquainted with the construction and with the relation of the dials to it, but tend to confuse an uninformed person as to the construction and the method of operating it.

What I claim is.

1. In a lock, the combination of a first plate, a latch pivotally secured to said plate, a spring adapted to yieldingly hold said latch in operative position, a second plate secured to the said first plate and spaced apart therefrom and containing a keyhole, a third plate secured to, and adapted to oscillate upon said second plate, said third plate containing a keyhole adapted in operative position to register with the keyhole in said second plate, said third plate containing notches or equivalent passages adapted to

receive reciprocatable pins or bolts, reciprocatable pins or bolts, adapted in operation to extend into the notches in said third plate to hold said plate in retracted position, pin-supporting springs secured to one of said plates for supporting said pins and for shooting them into operative position, means for retracting said springs, respectively, to withdraw said pins from said notches, rotatable eccentric fingers provided with thumb wheels or finger holds, said fingers being adapted in operative position to impinge upon said pin-supporting springs to prevent their retraction, a bolt adapted in operative position to engage the shank of one of said fingers to prevent the rotation of said finger and to prevent its disengagement from the spring held by said finger in operative position, a second bolt adapted in operative position to impinge upon the latter said spring to prevent the retraction of such spring when such spring is released by the one of said fingers which is adapted to hold said spring in operative position, means adapted when said pins are withdrawn from the notches in the third said plate, to swing said plate into operative position, a rim or frame to which the said first and second plates are secured, and a cover plate secured to the outer side of the said third plate and adapted to oscillate therewith and provided with a keyhole in registration with the keyhole in said third plate.

2. In a lock, the combination of a plate, a latch pivotally secured to said plate, a second plate secured to the said first plate and spaced apart therefrom and containing a key hole, a third plate secured to the said second plate and adapted to oscillate thereon, said third plate containing a key hole adapted in operative position to register with the key hole in the said second plate, said third plate containing notches or equivalent passages adapted to receive reciprocatable pins or bolts, reciprocatable pins or bolts adapted in operation to extend into the notches in said third plate to hold said plate in retracted position, pin supporting springs for supporting said pins and for shooting them into operative position and for retracting said pins, means for retracting said springs respectively to withdraw said pins from said notches, rotatable eccentric fingers provided with finger holds, said fingers being adapted in operative position to impinge upon said pin supporting springs to prevent their retraction, means adapted when said pins are withdrawn from said notches in the said third plate to swing said plate into operative position, a rim or frame extending from the said first plate to the said second plate.

In testimony whereof I hereunto affix my signature, in presence of two witnesses.

NESTOR SAHLSTEN.

Witnesses:
JAMES T. DATSON,
C. T. CRANDALL.