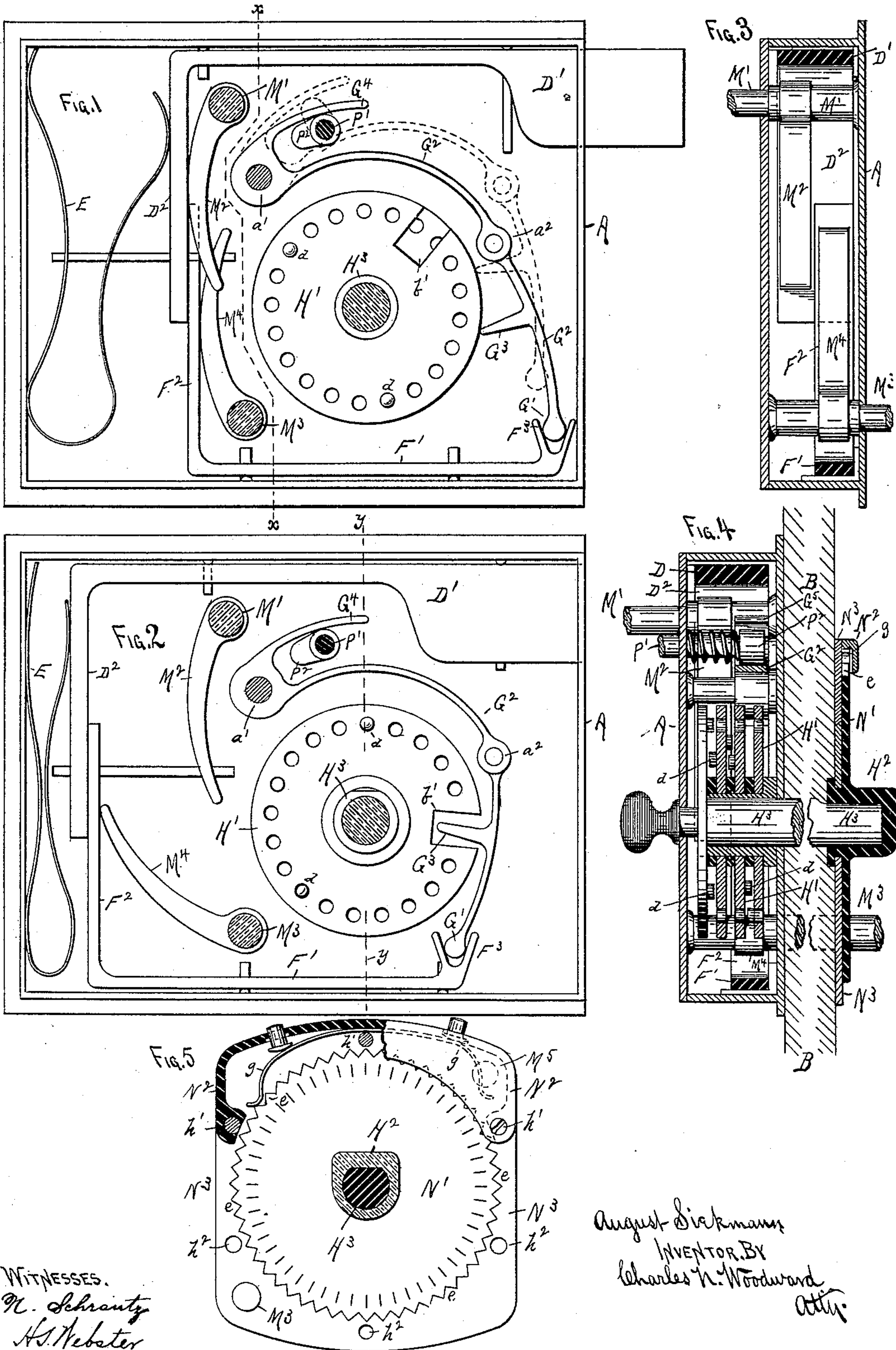


(No Model.)

A. SIEKMANN.  
COMBINATION LOCK.

No. 427,922.

Patented May 13, 1890.



WITNESSES.  
N. Schrantz  
H. Webster

August Siekmann  
INVENTOR BY  
Charles N. Woodward  
Atty.



# UNITED STATES PATENT OFFICE.

AUGUST SIEKMANN, OF RICE LAKE, WISCONSIN.

## COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 427,922, dated May 13, 1890.

Application filed August 27, 1888. Serial No. 283,890. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST SIEKMANN, a citizen of the United States, residing at Rice Lake, in the county of Barron and State of Wisconsin, have invented certain new and useful Improvements in Combination Lock and Latch, of which the following is a specification.

This invention relates to locks, and it consists in the construction and arrangement whereby a lock is produced combining all the advantages of the ordinary lock and latch with those of a "combination" or keyless lock, as hereinafter shown and described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation with the cover removed and the latch-bolt open or extended. Fig. 2 is a similar view with the latch-bolt closed or withdrawn. Fig. 3 is a cross-sectional view on the line X X of Fig. 1. Fig. 4 is a cross-sectional view on the line Y Y of Fig. 1. Fig. 5 is a view, partially in section, of the mechanism on the outside of the door.

A is the casing of the lock, connected to the door B by screws or in any other suitable manner. In the upper part of the casing A a latch-bolt D' is adapted to slide, with its inner end turned at right angles at D<sup>2</sup> and held outward by a spring E, as shown.

F' represents another bolt lying along the bottom of the casing A, and with one end turned upward at F<sup>2</sup> and partially overlapping the end D<sup>2</sup> of the bolt D', while the other end F<sup>3</sup> is formed fork-shaped and adapted to receive the lower end G' of a jointed lever G<sup>2</sup>, as shown. This lever G<sup>2</sup> is pivoted at a' to the casing A and jointed at a<sup>2</sup>, and provided with an arm G<sup>3</sup>, adapted to enter the notches b' of a series of tumblers H', constructed and adapted to be operated by a knob H<sup>2</sup> from the outside of the door in the ordinary manner of a combination-lock. The tumblers H' are each provided with one or more pins d, projecting toward each other and at equal distances from the center of the shaft or stud H<sup>3</sup>, on which the tumblers are mounted, so that the tumblers may be turned to bring the notches b' into opposite relations to permit the arm G<sup>3</sup> to enter them, as in Fig. 2.

M' represents the shank of a knob pivoted on the inner face of the casing, so that the knob may be actuated from the interior of the room, and with a curved arm M<sup>2</sup> on the shank inside the casing and adapted to rest against the inside of the projecting end D<sup>2</sup> of the latch-bolt D'. The bolt F' F<sup>2</sup> is narrower than the bolt D' D<sup>2</sup>, and its end F<sup>2</sup> and the arm M<sup>2</sup> are adapted to act only on the end D<sup>2</sup> above the end F<sup>2</sup> of the bolt F', so that the bolt D' may be thrown back by turning the knob from the inside of the room without affecting the combination features of the mechanism. By this means the door may be opened from the inside of the room without operating the combination mechanism.

M<sup>3</sup> is another shank or bolt journaled through the lower part of the casing and projecting outward through the door B, and which will be provided with a knob (not shown) by which it may be turned. This shank has a curved arm M<sup>4</sup>, similar to the curved arm M<sup>2</sup> on the shank M', and which is adapted to act only upon the part F<sup>2</sup> of the bolt F', the difference in width of the two parts D<sup>2</sup> F<sup>2</sup> enabling the two arms M<sup>2</sup> M<sup>4</sup> to operate independently, as indicated in Fig. 2.

When it is desired to open the door from the inside, it is only necessary to turn the knob (not shown) on the shank M', when the arm M<sup>2</sup> will move the latch-bolt D' backward, leaving the combination mechanism unaffected.

If an attempt is made to open the door from the outside without "setting" the combination, the arm G<sup>3</sup> on the lever G<sup>2</sup>, resting against the edges of the tumbler-disks H', prevents the lever G<sup>2</sup> from being moved inward toward the center of the tumblers, while the end G' of the lever, resting in the forked end F<sup>3</sup> of the bolt F', holds the latter intact and prevents the shank M<sup>3</sup> from turning; but, as before stated, when the tumblers are set so as to bring the notches b' all in line, as in Fig. 2, the arm G<sup>3</sup> is free to enter them and permit the bolt F' to be thrown back when the shank M<sup>3</sup> is turned, as in Fig. 2, this movement of the bolt F' also operating the bolt D' by reason of the part F<sup>2</sup> overlapping the part D<sup>2</sup> and pushing the two bolts backward together, as shown in Fig. 2.



The arrangement of the tumblers  $H'$  does not differ materially from the ordinary method of construction, and as I have shown, described, and claimed the method of operating the tumblers in another application filed August 27, 1888, Serial No. 283,891, I do not wish to further describe it here, except so far as may be necessary to illustrate certain novel features therein contained.

10 In the present construction, as in my application above referred to, the outer end of the shaft  $H^3$  of the tumblers is provided with a graduated disk  $N'$ , revolving beneath a "hood"  $N^2$ , partially covering its upper side, and with  
15 notches  $e$  in its rim, in which springs  $g$  beneath the hood  $N^2$  "click" when the disk is turned, to enable the combination to be operated in the dark.

In the construction shown the disk  $N'$  rests  
20 upon a plate  $N^3$ , which in turn is secured to the face of the door and forms the "escutcheon" on which the disk turns. This hood  $N^2$  is made reversible on the plate  $N^3$ , being adapted to be placed on either end by screws  
25  $h'$ , extra holes  $h^2$  being formed in the plate  $N^3$  for that purpose, so that when the lock is reversed to adapt it to a right or left hand door the hood is removed and the knob-shank  $M'$  placed in a hole  $M^5$  (shown only in dotted  
30 lines in Fig. 5) and the hood replaced on the lower edge of the plate  $N^3$ . Thus the lock may be easily changed from right to left hand without affecting any of its parts or changing their mode of operation.

35 The lever  $G^2$  is formed with an arm  $G^4$ , between which and the main part  $G^2$  of the lever a shaft  $P'$  is mounted and projecting out through the door  $B$  and lock-casing  $A$  into the interior of the room. This shaft is pro-  
40 vided with a cam  $P^2$ , adapted to act upon the arm  $G^4$  when the shaft  $P'$  is turned to throw the lever  $G^2$  out of action by raising it upward, as indicated by dotted lines in Fig. 1, and removing the end  $G'$  from its socket  $F^3$   
45 in the bolt  $F'$ , so that, if so desired, the lock may be left free to be operated from the outside without "setting" the combination.

It will be often found desirable to arrange the door so as to be opened from either side  
50 without using the combination mechanism,

and this simple device enables me to do this very readily.

Having thus described my invention, what I claim as new is—

1. In a combined combination lock and 55 latch, a casing  $A$ , attached to a door and having bolt  $D'$ , tumblers  $H'$ , having notches  $b$  and adapted to be operated from outside the door to bring said notches in opposite relations, secondary bolt  $F'$ , having forked end  $F^3$  and 60 adapted to operate said bolt  $D'$  when moved laterally, jointed lever  $G^2$ , pivoted within said casing and with arm  $G^3$ , and engaging with said tumblers and with said forked bolt, knob-shaft  $M'$ , having cam  $M^2$  and adapted to op- 65 erate said bolt  $D'$  from the inside of said door, and knob-shaft  $M^3$ , having cam  $M^4$  and adapted to operate said bolts  $F'$   $D'$  from the outside of said door, substantially as set forth.

2. In a combined combination lock and 70 latch, a casing  $A$ , attached to a door and having bolt  $D'$ , tumblers  $H'$ , having notches  $b$  and adapted to be operated from outside the door to bring said notches in opposite relations, secondary bolt  $F'$ , having forked end  $F^3$  and 75 adapted to operate said bolt  $D'$  when moved laterally, jointed lever  $G^2$ , pivoted within said casing and with arm  $G^3$ , and engaging with said tumblers and with said forked bolt, and shaft  $P'$ , having cam  $P^2$ , adapted to engage with 80 said jointed lever to throw it out of position when the tumblers are not to be employed, substantially as set forth.

3. In a combined combination lock and 85 latch, a casing  $A$ , having bolts  $D'$  and  $F'$  and tumblers  $H'$  within it, the latter mounted upon stud  $H^3$ , passing out through the door to which said casing is attached, escutcheon-plate  $N^3$ , having reversible hood  $N^2$ , and graduated disk  $N'$ , having notched rim adapted to 90 engage with springs  $g$  within said hood, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AUGUST SIEKMANN.

Witnesses:

WILLIAM EYNER,  
WILLIAM P. SWIFT.