No. 606,883. Patented July 5, 1898.

H. VINCENT.

LOCK.

(Application filed Nov 12, 1897.)

(No Model.)

Fig. 1.

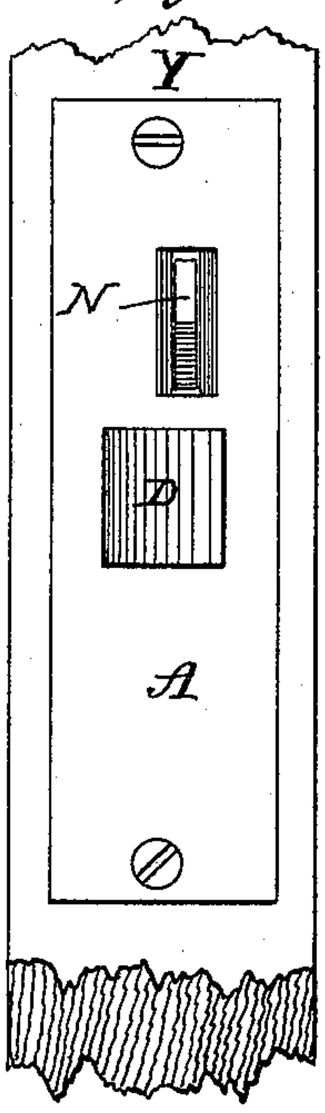


Fig. 2.

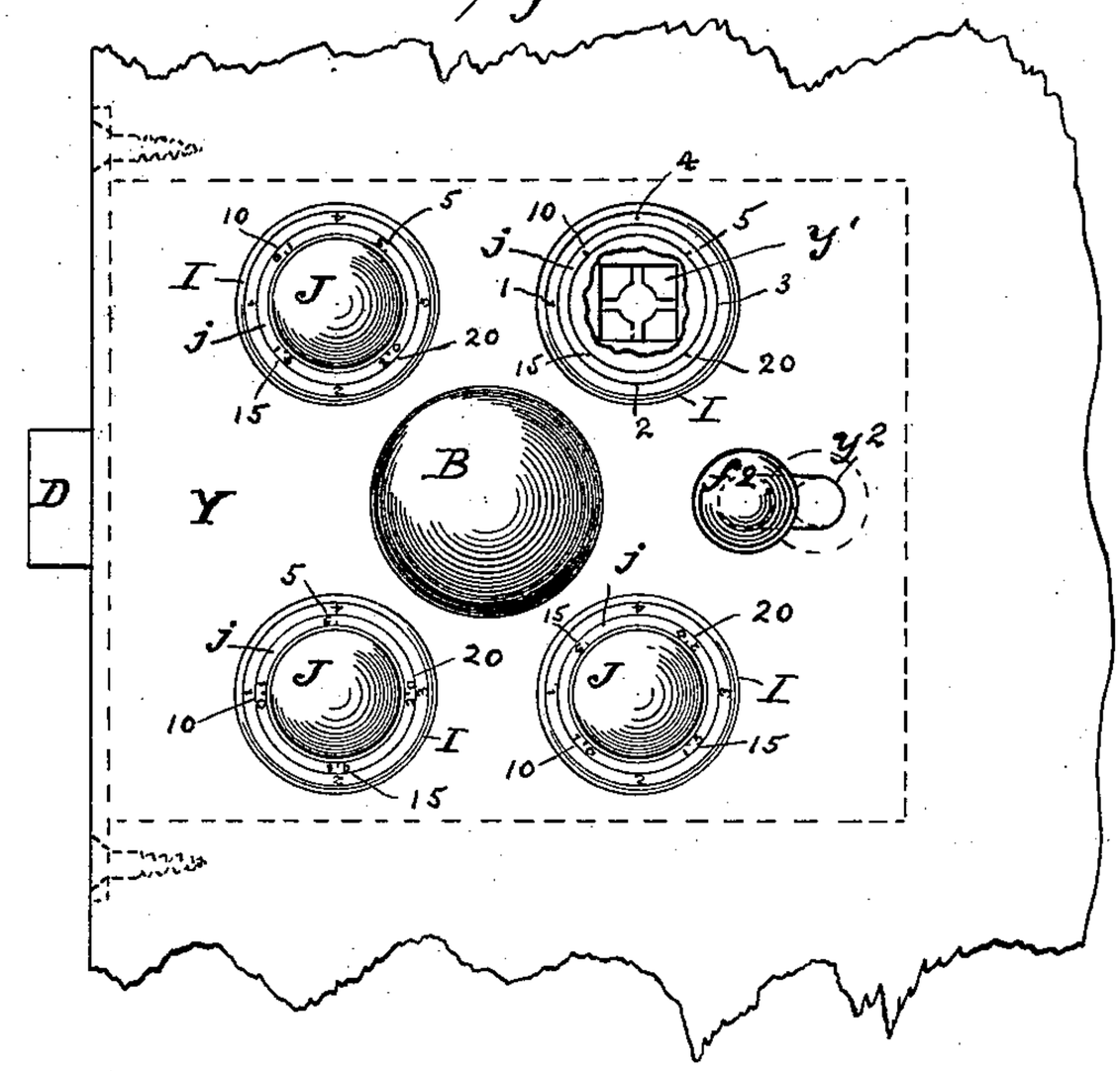


Fig. 3.

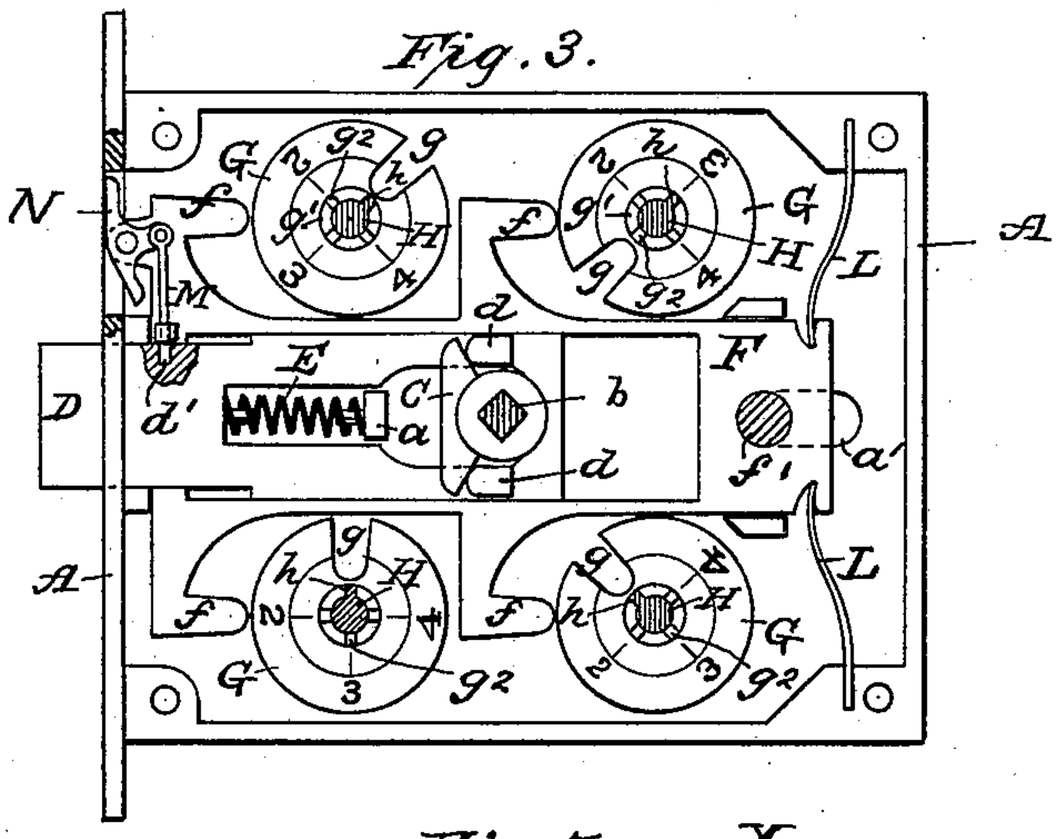


Fig. 4.

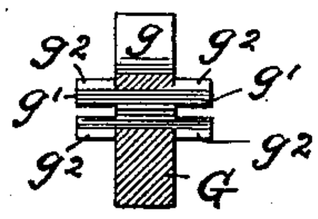
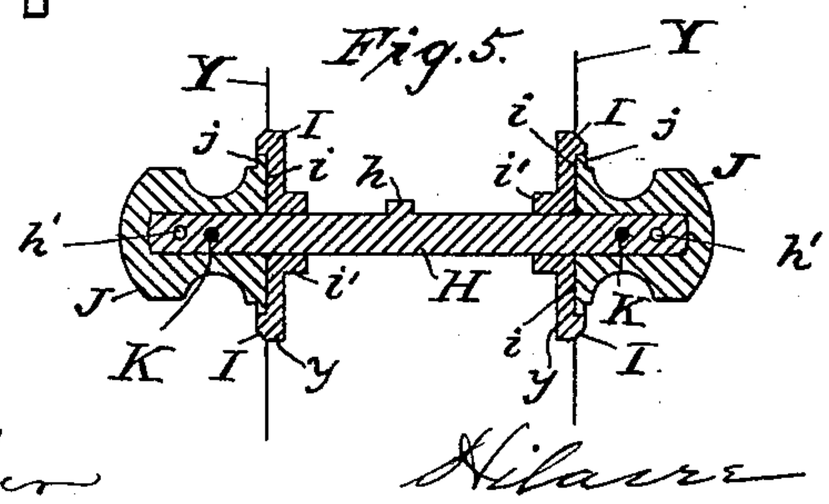


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

HILAIRE VINCENT, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF TO NAPOLEON DAIGLE, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 606,883, dated July 5, 1898.

Application filed November 12, 1897. Serial No. 658,355. (No model.)

To all whom it may concern:

Be it known that I, HILAIRE VINCENT, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, 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.

This invention relates to combination-locks which may be readily adapted to doors of dwellings and the like.

The invention will be fully set forth in the following specification and clearly illustrated in the accompanying drawings, forming a part of the same, of which—

Figure 1 shows a broken edge view of a door having my improved mortise combination-lock attached, Fig. 2 being a broken side view of the same. Fig. 3 is a detached elevation of my improved lock having side removed to display the working parts. Fig. 4 is a detached cross-section of one of the interior rotary disks or wheels, Fig. 5 being a sectional view showing one of the spindles which pass through the disks shown in Fig. 4, with its knobs by which it is rotated and the graduated disks in which said knobs fit and which in practice may be set upon a door.

Similar reference-letters designate corresponding parts in all the views.

In the drawings I have shown my improvements operating in connection with an ordinary snap-lock, A representing the case, B the door-knob, *b* the knob-spindle, C the cam, D the snap-lock or bolt, having the lugs *d*, which engage with the cam, and E a spring adapted to hold the bolt D normally in the position shown, one end of said spring resting against said latch and the other against a lug *a*, provided for this purpose in the case A, as seen in Fig. 3.

My improvements consist of a frame F, which may be conveniently fitted to the latch D in a manner to operate independently thereof, and a series of wheels G, having in their periphery a slot *g*, adapted to receive arms *f*, projecting from the frame F, and a device for fastening the latch D to said frame F, so that said latch cannot then be moved by the door-knob B, as hereinafter explained.

The wheels G are provided with hubs *g'*, the faces of which may be provided with a series of slots g^2, placed equidistant from each other and numbered. In order not to unnecessarily complicate the drawings, but four of these slots are shown in each, and the spindle H is provided with a spline or key *h*, which may set in either slot g^2 for varying the combination.

If cost of construction is not to be considered, a plate may be secured on each side of a door Y and perforated for the reception of the spindles H and the knob-spindle and be provided with graduated circles around the perforations through which the spindles H pass, or each spindle H may be provided with a small graduated plate I, recessed, as at *i*, and these may be depressed in recesses *y* in the side of a door Y, as in Figs. 2 and 5. These plates may have a square hub *i'* on their under side, fitting a recess *y'* in said door, and thus prevent their turning. The spindles H are then fitted on their outer ends with knobs J, having circular graduated plates *j*, which fit the recess *i* in said plates I, said knobs being attached to the spindles H by screws K, which enter either of the perforations *h'*, as may be required for various thicknesses of doors.

The lock-case is provided with an elongated opening *a'*, and the door also has a similar opening y^2, registering therewith, for the reception of a stud or spindle *f'*, which is secured to the frame F and provided on its outer end with a knob f^2, by which said frame may be moved so as to disengage its arms *f* from the slots of the wheels G, as shown in Fig. 3, the normal position of said arms being within said slots in the wheels, where they are retained by suitable springs L.

The latch D is perforated, as at *d'*, and a suitable stud M is movably connected to one of the arms *f* of the frame F and adapted to be pushed into or withdrawn from said perforation *d'* by a rocker N, which is pivotally attached to said arm *f* and said stud M, and when the frame F is moved so as to disengage the arms from the wheels G, as in Fig. 3, said stud may be dropped into the slot *d'* of the

latch D, making the movement of the frame F and said latch identical; but this prevents the movement of said latch by the knob-spindle *b* in the ordinary manner. Thus when the frame F is in the position shown in Fig. 3 a door may be opened and closed by turning the door-knob B, and in order to set it to be opened only by the combination attachment the upper end of the rocker N must first be pressed inward, causing the stud M to drop into the slot *d'* of the latch D, and then the knobs J must be rotated so as to bring the slots *g* of the wheels G opposite the arms *f* of the frame F, when the springs L will draw the arms of said frame into the slots of the wheels, and with them the latch also will be drawn in. The door can then be closed, and by pushing the knob f^2 to the position shown by full lines in Fig. 2 and by slightly turning one or all the knobs J the door will be locked and no one not knowing the combination on which the several wheels G and knobs J are set will be able to open the door.

In the drawings four figures only are used on the wheels G, the graduated plates I, and the graduated portions *j* of the knobs J, the two former having graduations "1," "2," "3," "4" and the latter "5," "10," "15," "20." In three of the wheels G the key *h* of the spindle H is set opposite the slot *g*, which represents figure "1" or zero, and the knob J on each of those three wheels is placed so that its figure "5" is in line with the slot *g* of the wheel and the key *h* of the spindle; but in the other wheel G the key *h* is set at figure "3," which brings figure "15" on the knob J in line with the slot *g* of the wheel. Thus it will be seen that by rotating three of the knobs J so that their figure "5" comes opposite figure "1" of the plates I and the other knob rotated so that its figure "15" comes opposite figure "1" of the plate I the latch D will be drawn in by the springs L and the door may be opened.

It is obvious that numerous combinations may be obtained by increasing the number of slots g^2 in the hub of the wheels G and increasing the graduations upon the plates I and knobs J, which latter may be provided on both sides of a door, and the knobs of one end of a spindle H may be set at a different figure than is that at the opposite end.

Having described my invention, what I claim is—

1. In a lock, the combination with the casing, of a bolt, a knob-spindle in operative relation thereto, a spring-actuated frame movable independently of the bolt, a series of independent tumblers or wheels, mechanism carried by the frame designed to coöperate with the tumblers, means for locking the bolt to the frame, and mechanism independent of the knob-spindle for actuating the frame from the exterior of the casing, substantially as specified.

2. The combination with the casing and bolt therein, of an independently-movable frame, a series of independent tumblers or wheels designed to coöperate with the frame, mechanism for securing the bolt to the frame, mechanism independent of the tumblers for actuating the bolt and frame in unison, and independent mechanism for actuating the frame from the exterior of the casing, substantially as specified.

3. In a lock, the combination with the casing and independently-movable spring-actuated bolt and frame, of means for actuating the frame, a knob-spindle operatively connected with the bolt, a rocker carried by the frame, locking mechanism connected to the rocker and designed to engage the bolt, a series of independent slotted tumblers designed to coöperate with arms upon the frame, spindles upon which said tumblers are mounted, and means for adjusting the relations of the spindles to their tumblers, substantially as specified.

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

HILAIRE VINCENT.

Witnesses:
J. B. THURSTON,
ALEXIS F. BISSON.