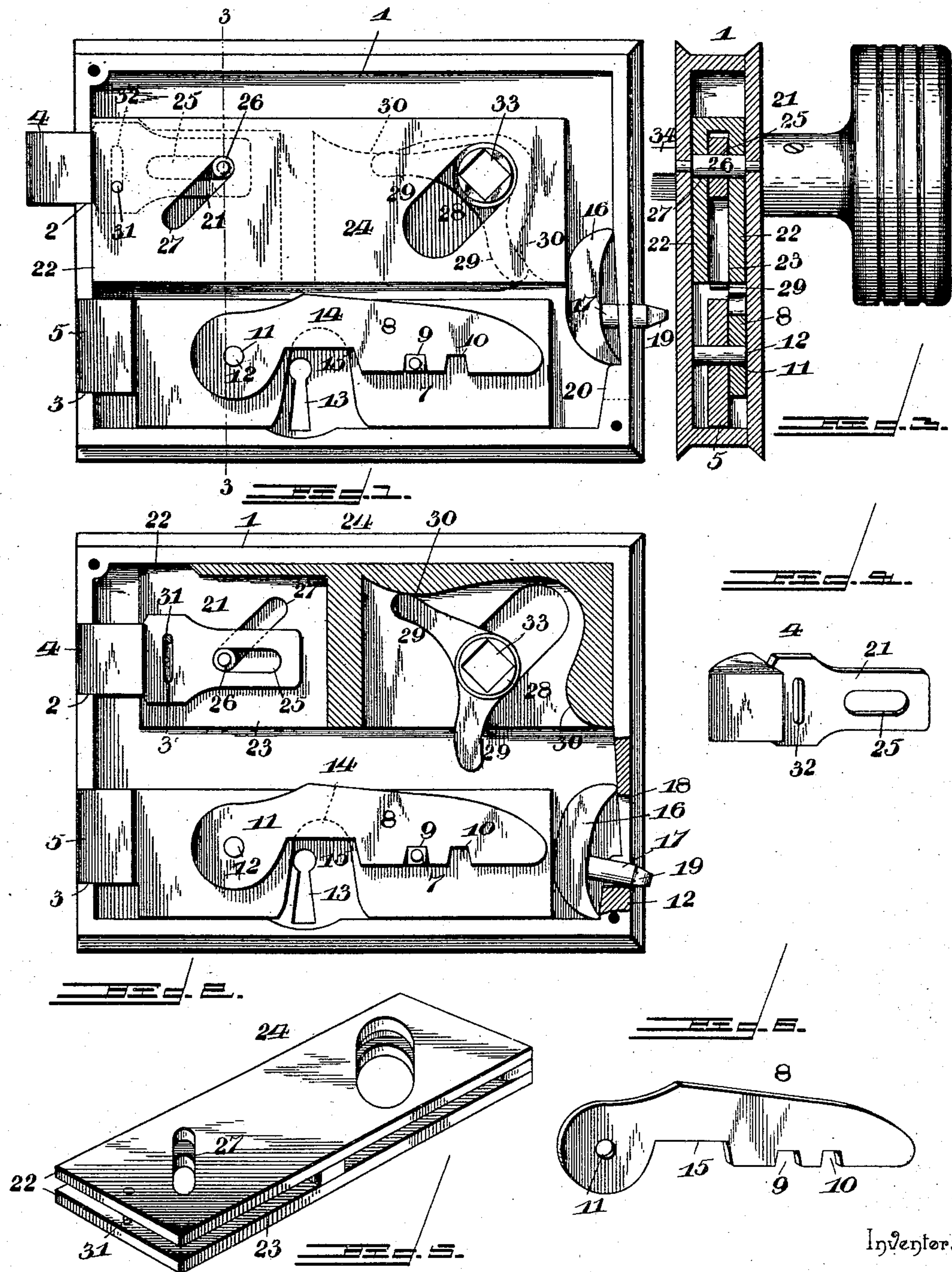


(No Model.)

G. R. BROBECK & L. D. LEWIS.
GRAVITY LOCK.

No. 572,628.

Patented Dec. 8, 1896.



Witnesses
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By their Attorneys,

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UNITED STATES PATENT OFFICE.

GEORGE R. BROBECK AND LEE D. LEWIS, OF TULSO, INDIAN TERRITORY.

GRAVITY-LOCK.

SPECIFICATION forming part of Letters Patent No. 572,628, dated December 8, 1896.

Application filed February 20, 1896. Serial No. 580,056. (No model.)

To all whom it may concern:

Be it known that we, GEORGE R. BROBECK and LEE D. LEWIS, citizens of the United States, residing at Tulso, Creek Nation, Indian Territory, have invented a new and useful Gravity-Lock, of which the following is a specification.

Our invention relates to gravity-locks, and has for its object to provide a simple and efficient construction and arrangement of parts to insure the accuracy of movement of the latch and bolt.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view of a lock constructed in accordance with our invention, the front plate of the casing being omitted. Fig. 2 is a similar view showing the latch-bolt-operating weight partly broken away. Fig. 3 is a transverse section on the line 3 3 of Fig. 1. Fig. 4 is a detail view in perspective of the latch-bolt. Fig. 5 is a similar view of the weight. Fig. 6 is a similar view of the gravity-tumbler.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a casing provided at its front end with bolt-openings 2 and 3, through which project the noses of latch and lock bolts 4 and 5, the locking-bolt being longitudinally slotted at 6 to receive and slide upon a guide and stop pin 7, which is fixed to the casing. Pivotaly mounted upon and carried by the locking-bolt is a gravity-tumbler 8, provided with a plurality of notches 9 and 10 to engage said stop-pin 7 in the different positions of the locking-bolt to prevent accidental displacement. This tumbler is provided at its front or pivotal end with an opening 11 to receive a laterally-projecting pivot-pin 12, which is fixed to the bolt, displacement of the tumbler from the pin being prevented by the side of the casing. A keyhole 13 is formed in the side of the casing, and the bolt and tumbler are cut away, as at 14 and 15, respectively, to form notches in which the ward of the key operates.

In rear of the locking-bolt we employ an ad-

justable stop 16, having a stem 17, which projects through a slot 18 in the end of the casing and terminates in an exposed head 19, by which the stop may be arranged in either the elevated or locking position (shown in Fig. 1) or the depressed or releasing position, (shown in Fig. 2,) said stop being held in the latter position by means of a supporting-shoulder 20.

The latch-bolt is provided with a thin web or tongue 21, which fits between side or cheek plates 22, formed by cutting a parallel-sided longitudinal cavity 23 in the weight 24, said weight being of a thickness corresponding, approximately, with the interval between the contiguous or inner surfaces of the side plates of the casing. Said web or tongue of the latch-bolt is longitudinally slotted, as at 25, to operate upon a guide-pin 26, which is rigid with the casing, and the weight is provided with an upwardly and rearwardly inclined guide-slot 27, which also receives said guide-pin to cause rearward movement of the weight as it is elevated. The means for elevating the weight, in the construction illustrated, consists of a rotary retracting device 28, having a hub mounted in opposite registering bearings in the side plates of the casing, and operating-arms 29, which are arranged between the planes of the cheeks of the plate and are adapted to engage shoulders 30 to communicate motion to the weight.

The latch-bolt 4 is held from vertical movement and is guided in longitudinal movement by the above-described slot 25 and pin 26, and the connection between the weight and said bolt whereby the extension and retraction of the bolt are accomplished consists of a connecting-pin 31, which engages a vertical or transverse slot 32 in the web or tongue of the bolt. Hence the weight, which has an upward and rearward movement, communicates rearward movement to the latch-bolt without imparting lateral movement thereto, and the downward tendency of the weight, when the retracting device is released, causes the extension of the latch-bolt.

The hub of the retracting device is provided with the usual cross-sectionally angular socket 33 for the reception of the spindle 34 of a knob.

From the above description it will be seen that the construction of the improved lock is

simple, the parts being so connected as to provide for their operation with accuracy and certainty without the use of springs, and it will be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

1. The combination with a casing, of a latch-bolt mounted for longitudinal sliding movement, an operating-weight mounted to slide obliquely with relation to the bolt and having a pin operating in a transverse slot in the bolt, whereby downward movement of the weight causes the extension of the bolt, and means, adapted to be manually operated, for elevating the weight and thereby retracting the bolt, substantially as specified.

2. The combination with a casing, of a latch-bolt mounted to slide longitudinally, a weight provided with parallel-spaced cheeks between which the inner extremity of said bolt is arranged, a pin carried by the weight to engage a transverse slot in the bolt, and means for imparting upward and rearward movement

in an inclined direction to the weight to retract the bolt, substantially as specified.

3. The combination with a casing, of a weight mounted for upwardly and rearwardly inclined movement, a guide-pin fixed to the casing being arranged to project through an upwardly and rearwardly inclined slot in said weight, and the weight being centrally cut away or recessed to form opposite parallel cheeks, a bolt having a reduced web or tongue arranged between said cheeks of the weight and slotted longitudinally to receive said guide-pin, a second pin carried by the weight and fitting in a transverse slot in the web or tongue of the bolt, and means for communicating upward and rearward movement to the weight to retract the bolt, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEO. R. BROBECK.
LEE D. LEWIS.

Witnesses:

F. R. WINTERS,
T. J. WILSON.