

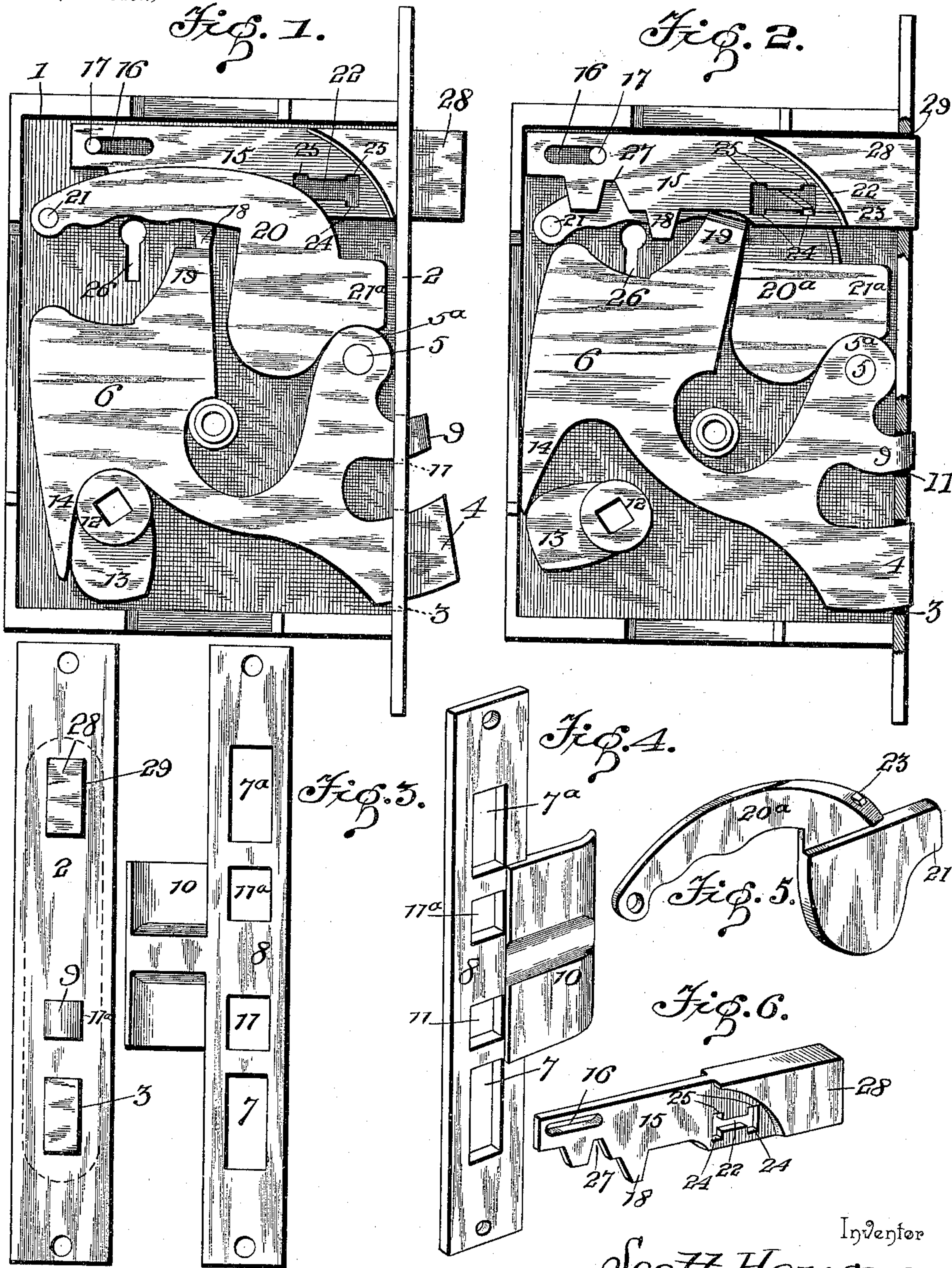
No. 610,813.

Patented Sept. 13, 1898.

S. HOUSER.  
LOCK.

(Application filed July 22, 1897.)

(No Model.)



Witnesses

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By his Attorneys,

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Inventor  
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# UNITED STATES PATENT OFFICE.

SCOTT HOUSER, OF BELLEFONTE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF  
TO FRANCIS S. RHOADES, OF SAME PLACE.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 610,813, dated September 13, 1898.

Application filed July 22, 1897. Serial No. 645,530. (No model.)

*To all whom it may concern:*

Be it known that I, SCOTT HOUSER, a citizen of the United States, residing at Bellefonte, in the county of Centre and State of Pennsylvania, have invented a new and useful Lock, of which the following is a specification.

My invention relates to locks, and particularly to a combined latch and lock; and the object in view is to provide a device of this class which without readjustment of the interior construction is reversible for use upon either right or left hand doors; furthermore, to provide simple and efficient means for securing a gravity latch-bolt in its extended position to perform the functions of a locking-bolt, to provide for the latch-bolt an adjustable stop constructed to form an auxiliary locking-bolt, and to provide a reversible catch-plate constructed to coöperate with the latch-bolt in either of the relatively reversed positions of the lock-casing.

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 side view of a lock constructed in accordance with my invention, the removable side plate being omitted and the parts being shown in their locked positions. Fig. 2 is a similar view showing the latch-bolt released and retracted, the foremost tumbler member being omitted to show the engagement of the other tumbler member with the latch-bolt stop. Fig. 3 is a front view of the lock and the coöperating catch-plate as seen in the positions which they occupy just prior to the engagement of the repressing-stud with the ear of the catch-plate. Fig. 4 is a perspective view of the catch-plate. Fig. 5 is a similar view of one of the tumbler members. Fig. 6 is a similar view of the latch-bolt stop.

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

The casing 1 of the lock embodying my invention is provided with a face-plate 2, having a latch-bolt opening 3, through which projects the nose of the latch-bolt 4. This latch-

bolt is fulcrumed upon a pin 5 contiguous to the plane of the face-plate and is provided at its rear end with a weight 6, whereby the latch-bolt is yieldingly actuated to extend its nose beyond the face-plate for engagement with one of the openings 7 7<sup>a</sup> of the catch-plate 8. The nose of the latch-bolt is square or flat-sided to adapt it to engage with one of said openings 7 7<sup>a</sup> in the catch-plate whether the lock is used in connection with a right or a left hand door, the catch-plate being reversible, according to the direction in which the door swings, to cause said nose of the latch-bolt to engage one or the other of the said openings; and in order that the latch-bolt may be repressed as it approaches the catch-plate, to withdraw the nose of the bolt into the casing prior to engagement with one of said openings, I provide the latch-bolt, between the plane of its nose and its fulcrum, with a repressing-stud 9, which is rounded or beveled at both sides, and also provide the catch-plate with a lateral ear 10, which projects to one side of the line of the openings 7 7<sup>a</sup> a sufficient distance to engage the repressing-stud and throw the latch-bolt to its retracted position before the nose of the latch-bolt reaches the edge of the catch-plate, as will be understood by reference to Fig. 3, wherein the relative positions of the nose of the latch-bolt and the catch-plate are shown when the repressing-stud is about to engage the ear of the catch-plate. The repressing-stud is arranged near the center of the face-plate in order to coöperate with the ear 10 of the catch-plate in either position of the lock-casing and catch-plate; but in practice I prefer to arrange it sufficiently near to the fulcrum of the latch-bolt to cause a slight movement of the repressing-stud to withdraw the nose of the latch-bolt into the casing, and in the construction illustrated said stud is arranged slightly below the transverse center of the face-plate, and hence I provide the catch-plate with duplicate openings 11 11<sup>a</sup> to receive the extremity of the repressing-stud when the nose of the latch-bolt is advanced into engagement with one of the openings 7 7<sup>a</sup>. The means illustrated in the drawings for manually retracting the latch-bolt is of the ordinary construction, including a knob-spin-



dle hub 12, having an arm or cam 13 and adapted to engage a projection 14 on the latch-bolt, as will be seen by reference to Figs. 1 and 2.

5 Mounted in the casing for sliding movement and adapted to be arranged in the path of the pivotal movement of the latch-bolt is a latch-bolt stop 15, provided at its rear end with a slot 16, mounted upon a guide-pin 17  
10 and having a projection 18 for arrangement in the path of a reduced arm 19 on the latch-bolt, whereby the adjustment of the stop is adapted to arrange said projection 18 either in or out of the path of the reduced arm 19  
15 to lock or release the latch-bolt.

In Fig. 1 the parts are shown in their locked positions, wherein the projection 18 is in the path of the reduced arm of the latch-bolt, from which it will be seen that the latch-bolt  
20 can be retracted neither manually nor mechanically, and in order that the stop may be secured in this locking position I provide a tumbler which in the construction illustrated consists of separate tumbler members 20 20<sup>a</sup>,  
25 fulcrumed upon a pin 21, which is rigidly fixed to the lock-casing and arranged, respectively, upon opposite sides of the plane of the sliding stop. The tumbler members are enlarged or weighted at their free front ends to  
30 depend in front of the arm 19 of the latch-bolt and between said arm and the hub 5<sup>a</sup> of the latch-bolt, the contiguous faces of said enlarged or weighted portions of the tumblers being arranged in contact, and the downward  
35 movement of the free ends of the tumblers is limited by the contact of stop-ears 21 with the hub 5<sup>a</sup> of the latch-bolt. The latch-bolt stop is provided with a longitudinal catch-slot 22, in which operate studs 23, carried by the  
40 tumblers contiguous to their free ends, said studs projecting into the catch-slot from opposite sides of the plane of the stop. At the extremities of said slot are formed main seats 24 for engagement by the said studs, respectively, when the stop is in its extended and  
45 retracted positions. I also preferably provide said catch-slot with false seats 25 in the upper wall of the slot, whereby if the tumblers are raised beyond a certain height the  
50 studs thereon engage said false seats, and thus prevent the movement of the stop. This construction requires the use of a special key to adjust the stop, provision being made by means of the keyhole 26 for the introduction  
55 of a key suitable for disengaging the tumblers from the stop, and a notch 27 is formed in the lower edge of the stop for engagement by such a key to move said stop in the desired direction.

60 In addition to the above-described construction I have deemed it desirable, particularly in view of the fact that the reversible catch-plate is provided with twin openings 7 7<sup>a</sup>, to employ an auxiliary or locking bolt to engage  
65 that opening in the catch-plate which is not engaged by the latch-bolt nose, and hence I have extended the adjustable stop 15 to form

an auxiliary or locking-bolt nose 28, adapted to operate through a suitable opening 29 in the face-plate. This auxiliary opening 29 occupies a position at such an interval from the opening 3 that when the catch-plate is reversed, as above described, in order to suit right and left hand doors, the auxiliary locking-bolt is adapted to engage the uppermost  
75 opening of the catch-plate, the nose of the latch-bolt invariably engaging the lowermost opening of the catch-plate in either position of the latter.

In my improved lock the latch-bolt, the  
80 slidable stop-bolt, and the tumbler mechanism are all operatively combined for service, so as to lock the latch-bolt and the stop-bolt in their projected or shot positions. The two  
85 tumblers are disposed on opposite sides of the stop-bolt, so as to have their studs 23 project into the slot 22 from opposite sides of the stop-bolt, so as to engage with a seat at the front or rear end of the slot 22, according as  
90 the stop-bolt is projected or retracted, and these tumblers are arranged close to the key-slot, so as to be engaged by the key and then released from the seats of the stop-bolt before the key engages with the stop-bolt notch  
95 27, in order to retract the stop-bolt and with its arm 18 from the path of the locking-arm 19 of the latch-bolt. The latch-bolt and the tumblers are all counterweighted to insure their retention in operative relation by gravity and without the employment of springs,  
100 and the stop-bolt and weighted portions of the tumblers are disposed in relation to the gravity latch-bolt, so as to insure the desired operation of the parts without hindrance one from the other. Thus without adding to the  
105 number of parts of the lock I have provided a device which is reversible to suit right and left hand doors without the readjustment of any of the interior construction thereof and have provided a plurality of projecting bolt-  
110 noses, both of which are locked in their extended positions by the same means and both of which are releasable by a single manipulation of the tumblers whereby the sliding stop is secured in its operative position.  
115

As shown by dotted lines in Fig. 3, the upper and lower edges of the casing of the lock are rounded to provide for fitting the mortised portion thereof in an opening formed solely by means of an auger without chiseling. This materially facilitates the affixing  
120 of a lock to a door.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit  
125 or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a casing, and a  
130 gravity-latch pivotally hung therein and provided at its upper end with the locking-arm, 19, of a stop-bolt, 15, slidably fitted in the casing and provided with the depending lock-



ing-stud, 18, and with the longitudinal slot, 22, having the notch-seats, 24, and the gravity-tumblers arranged above the latch-bolt, on opposite sides of the slidable stop-bolt, and  
5 hung or pivoted in the casing independently of said stop-bolt and the latch-bolt, said tumblers having their weighted free ends disposed over the latch-bolt for their lugs, 21<sup>a</sup>, to rest upon the latch-bolt hub, and said tumblers  
10 also provided with studs which enter the slot of the stop-bolt and are adapted to enter one or the other of the notch-seats therein accordingly as said stop-bolt is projected or retracted, substantially as described.  
15 2. In a lock, the combination of a casing having its face-plate provided with terminal bolt-openings 3 and 29, and an intermediate opening 11, a pivotal bolt having its nose projecting through one of said openings in the  
20 face-plate, and provided with a repressing-stud 9 extending through the intermediate

opening of the face-plate, an auxiliary bolt mounted for sliding movement in alinement with, for terminal extension through, the other bolt-opening, and having a projecting  
25 portion 18 for movement in a direction transverse to that of a contiguous portion 19 of the pivotal bolt, and adapted to occupy a position in the path of the latter when the auxiliary bolt is extended, means for securing the  
30 auxiliary bolt in either of its adjusted positions, and a reversible catch-plate provided with twin spaced bolt-openings and an intermediate opening for the reception of the repressing-stud, substantially as specified. 35

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SCOTT HOUSER.

Witnesses:

PAUL C. GERBACH,  
HARRY KELLER.