

UNITED STATES PATENT OFFICE.

CHARLES E. PIERCE, OF NEW YORK, N. Y.

IMPROVEMENT IN ALARM-LOCKS.

Specification forming part of Letters Patent No. 119,403, dated September 26, 1871.

To all whom it may concern:

Be it known that I, CHARLES E. PIERCE, of the city, county, and State of New York, have invented certain new and useful Improvements in Burglar-Alarm Locks; and the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of the same, in which—

Figure 1 is a rear view of the keeper. Fig. 2 is the front view of the interior of the lock, the bell being removed. Fig. 3 is an edge view of the keeper. Fig. 4 is a side view of the alarm mechanism. Fig. 5 is a view in detail of one of the bolts and its connections. Fig. 6 is a view in detail of the segment lever.

In the construction of my alarm-lock a set of gear-wheels, verge, bell, spring, and bell-hammer may be used, all of which are in common use in clocks and alarm-locks, and form no part of my invention. In the drawing I have shown a combination of a bolt and an alarm mechanism, and a bolt which is moved in and away from the keeper by a key, also a knob-bolt, all of which are placed in one case; but my specification more particularly explains the combined part of a bolt, sliding links, bars, and levers, attached to an alarm mechanism in such a manner that when the bolt is moved in the keeper the pressure of the bolt against the keeper made by a person causes the bolt to move in the keeper in such a manner as to cause an alarm to be sounded while the door is still locked.

A is the keeper, provided upon its inner face with a projection, T, said projection being beveled at each end, as at B². A short space, C', is left between the beveled ends of projection T and the inner ends of the keeper. B is the lock-case. D is a lever, pivoted to the case at d, and is provided at its upper end with a toothed segment, D², which engages with the cog-wheel H of the alarm mechanism. K is a bolt, provided at its inner end with a slot, M, also a notch or recess, L'. A pivot, M², passes through the slot M and into the case B, and thus holds the bolt in place, but allowing it to have a vertical and longitudinal movement. The knob L, arranged to move in a slot in the upper edge of the case, has a projection which engages in the slot or recess L', and serves to slide the bolt K out of and in connection with the keeper. Bolt K is also provided near its outer end with a projection, N. I is a

sliding link or bar, made or shaped similar to the letter L, and is provided with an oblong slot, O, and a projecting tenon, R, and is fastened to case B by a plate, U, and thus holds the sliding link I in place, but allowing it to have a vertical movement. Bolt K and sliding link I are connected to each other at projection N and oblong slot O by pin N' passing through slot O and projection N. J is a bar, having a mortise at each end, R' and P², with an angular slot, P, in or near the center of said bar. Bar J is connected to case B by plate U and pin Q, thus holding it in its proper place, but allowing it a vertical and longitudinal movement. A spiral spring is fitted in a hole on end P² on bar J, to keep one end of plate P¹ out in its place, so as to come in contact with end D³ on lever D. An oblong slot is made in case B, so as to allow the end B¹ of bolt K a vertical movement. S, on Fig. 2, represents a spiral spring, which is fastened at one end to bolt K and the other end to case B, and is intended to keep bolt K and its connections in their proper places. Bolt K and all the other parts of my improved alarm-lock may be made of brass or any other metal, and of any size desired. If desired, bolt K and link I may be arranged in a separate case from the alarm mechanism, and the operating parts connected together by means of wires or cords.

When an alarm mechanism and bell and the different parts shown in the drawing and specification are properly adjusted, one to the other, in a case and fastened in a proper manner on a door, gate, window, or shutter, and the keeper or nosing to the alarm-lock is fastened to the frame of said doors and windows, &c., in a manner to fit said lock or bolt, and when the end B¹ of bolt K is moved against beveled end B² on projection T, by pressing against the door after the key-bolt and knob-bolt are moved away from the keeper, such pressure made against the door by some one will cause bolt K to move on the inclined plane or beveled end B² on projection T. This movement of bolt K causes sliding link I, attached to bolt K, to move bar J vertically. Pin Q, in angular slot P, causes the lower end of bar J to move laterally after bolt K moves it a short distance vertically, plate P¹ being pivoted to end P² of bar J, and one end of said plate projecting out necessarily comes in contact with and moves arm D³ of lever D, which causes the toothed seg-

ment D^2 of lever D, which engages cog-wheel H, to move the same, and winds up the spring attached to the alarm mechanism. After the bolt is moved a short distance on beveled end B^2 , and is still moving into recess C' in keeper A, pin Q in angular slot P causes plate P^1 to move away from arm D^3 , thereby releasing the arm D^3 of lever D. The spring having been wound by such movement, and arm D^3 having been released from plate P^1 , causes the alarm mechanism to move and the bell-hammer to strike the bell and an alarm to be sounded, while the bolt K is still retained in keeper A and the door securely locked.

Having thus described my improved alarm-lock and the manner in which the same is operated, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The lever D, provided with the toothed segment D^2 , in combination with the cog-wheel H of the alarm mechanism, and plate P^1 , pivoted to the bar J, substantially as and for the purposes described.

2. In combination with the toothed segment-le-

ver D and sliding link I, bar J, with its angular slot P and mortised end R' , and plate P^1 pivoted to mortised end P^2 on bar J, for purposes set forth.

3. In combination with bolt K and bar J, sliding link I, having slot O in and tenon R on the same, as described, and for the purposes set forth.

4. In combination with the preceding claim, projecting-pieces N, slot M, and recess L' , as described, and for the purposes set forth.

5. Bolt K and sliding link I, attached to each other, in combination with beveled ends B^2 of the keeper, bar J, toothed segment-lever D, and an alarm mechanism, all of which are arranged to connect with each other, and, by pressing bolt K against one of the beveled ends of the keeper, will cause said bolt to move and an alarm to be sounded while said bolt is still retained in the keeper, substantially as set forth.

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Witnesses:

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