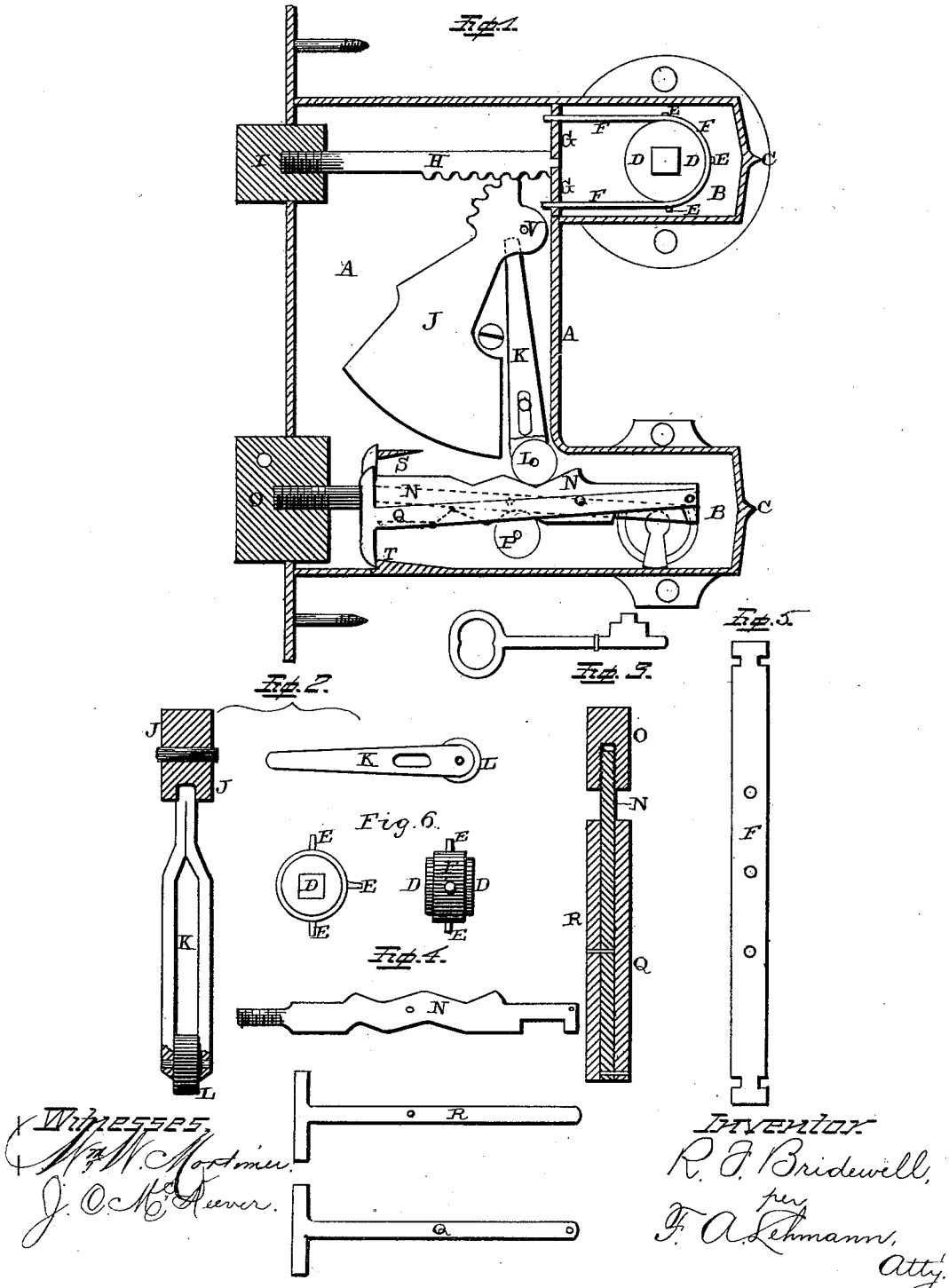
(No Model.)

R. F. BRIDEWELL.

COMBINED LOCK AND LATCH.

No. 266,758. Patented Oct. 31, 1882.



UNITED STATES PATENT OFFICE.

RICHARD F. BRIDEWELL, OF SAN FRANCISCO, CALIFORNIA.

COMBINED LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 266,758, dated October 31, 1882.

Application filed March 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, RICHD. F. BRIDEWELL, of San Francisco, in the county of San Francisco and State of California, 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in locks; and it consists, first, in the combination of the locking-bolt with the two headed tumblers, which are pivoted to the bolt, and which are moved at their front ends in opposite directions, so as to catch behind different stops; second, in the combination of a knob-bolt provided with teeth upon its lower edge, with a pivoted weight which is provided with teeth upon its upper portion, and which weight serves to hold the locking-bolt in position through a sliding rod which extends from the bolt up to the weight; and, third, in the combination of a locking-bolt having serrations formed in its upper and lower edges, with tumblers pivoted thereto at different points, and suitable rollers, which are applied to opposite sides of the bolt, all of which will be fully described hereinafter.

Figure 1 is a side elevation of my lock, partly in section. Figs. 2, 3, 4, 5, 6 are detailed views of the same.

A represents the lock-frame, which may be either cast or stamped from sheet metal, and which has two extensions, B, formed on its rear edge. These extensions are made tubular, and upon the center of each one is formed the projection C, so that when the lock is pressed against the edge of the door these projections C will make a mark, so as to show where the holes are to be bored. After the two holes have been bored into the door a suitable distance that portion between the two is cut away, so as to form a regular mortise, in the usual manner; or the intervening wood may be removed by means of an auger in the usual manner. By having these extensions B formed upon the rear edge of the lock, as here shown, the screws for the escutcheons will not interfere with the lock in any manner as they are passed into the door above and below the extensions, as shown. The knob-barrel D has a suitable number of projections, E, made upon it, and these projections passed through suitable openings in the strap F, which is made of any suitable flexible material, and which is connected at both of its ends with the rod G, to which the knob-bolt H is fastened. As this strap F is of the same width as the internal diameter of the frame, it matters not in which direction the knob is turned, for it will draw the bolt H back equally as well when turned in either direction.

The bolt H may be made in a separate and distinct piece by itself, and then screwed into the bolt-head I, which may be made of the same or a different material. Formed in the lower edge of this bolt H are a number of teeth or cogs, with which the teeth or cogs of the upper portion of the weight J engage. This weight J is pivoted at V, and has its teeth formed so as to form the segment of a circle, and thus it is made to move upon the pivot V whenever the bolt H is moved by the knob. This weight takes the part of a spring and serves the double purpose of returning the bolt-head I to position after it has been drawn inward by the knob and to hold the locking-bolt in position. When the knob is turned so as to draw the bolt H backward the weight J is raised upward into a horizontal position, and then as soon as the bolt is released the weight drops back into position and forces the bolt outward again. In the under side of the upper end of this weight J, and to one side of the pivot V, is made a recess, in which the upper end of the sliding rod K catches. This rod has a pin passed through its slot, so as to serve as a guide to keep it always in position. The lower end of this rod K has a roller, L, pivoted in it, and this roller bears upon the top of the corrugated locking-bolt N. This bolt N will be preferably stamped up from a piece of wire, and will have a screw-thread formed upon its outer end, so as to have the bolt-head O screwed upon it, and it will have both of its edges corrugated, as shown, the corrugations being placed at an angle to each other. This bolt N is supported in position upon the roller P, which is journaled in the lock-frame. Pivoted to this bolt N, at its rear end, is the lever Q, and pivoted to the bolt N upon the other side,

near its center, is a second lever, R. These two levers form tumblers and are pivoted at different points, so that when the key is inserted the end of one lever will be thrown upward at the same time that the other is thrown down. Each one of these levers has shoulders formed upon its outer end, so as to catch behind the stops S and T, which are formed inside of the lock-frame when the bolt is shot outward. When the key is inserted the rear ends of the two levers or tumblers Q R are moved in opposite directions, so as to throw the front end of Q upward and release it from the stop or shoulder T and to throw down the front end of R and thus release it from the stop S. The front ends of these two parts being released, the bolt can be freely moved in and out by the key. Should a false key be inserted which is too small, the two tumblers will not be moved far enough to release them, and should the key be too large the tumblers will be moved at their front ends, so as to catch behind the opposite stops. In order to make the two tumblers operate more readily, the front end of the one Q is made heaviest at its front end, so as to hang downward, while the one R is made heaviest at its rear end, so that its front end will be pressed upward. The two stops S T are made inclined upon those sides where the ends of the tumblers come in contact with them, and thus guide them in their movements. As the bolt N is held down upon the roller P by the weight J and the rod K, when the key is inserted and the rear end of the bolt raised upward the two tumblers will have their front ends disengaged from the stops and the rod K will be raised upward at the same time, and the weight J will also be moved a slight distance. The bolt will then be moved either forward or back; but as soon as the bolt is released from the key it becomes locked between the two rollers L and P in such a manner that it is almost impossible to pick the lock.

Having thus described my invention, I claim—

1. The combination, in a lock, of a knob-bolt, H, provided with teeth and the toothed pivoted weight J, with the connecting-rod G, the perforated strap F, and the knob-barrel D, provided with projections E, substantially as described.

2. The combination, in a lock, of the swinging weight J, the rod K, provided with a roller, L, a corrugated locking-bolt, and the supporting-roller P, the bolts being provided with suitable tumblers, substantially as set forth.

3. The combination of the locking-bolt N, the levers R and Q, provided with shoulders upon their front ends and pivoted at different points upon the bolt, with suitable stops, S and T, which are placed inside of the lock-frame, a suitable means for supporting the bolt in position, and a suitable means for holding the bolt down, substantially as specified.

4. In a lock, the combination of the locking-bolt with the two headed levers or tumblers, which are pivoted to the bolt, and which are moved at their front ends in opposite directions, so as to catch behind different stops, substantially as shown.

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

RICHARD FRANCIS BRIDEWELL.

Witnesses:

JOHN WHITE,

JOHN E. HAMILL.