

Push-key Pin-hole Padlocks

by Michelle Kaye

There are some interesting padlocks out there that have both push-key levers and pins that engage holes in the key.

I suppose you could relate the pin-and-hole principle to a ward principle, where the position of the pin relates to the position of a hole in the key, like the position of a ward would relate to a ward cut in a key.

The placement of the pin(s) and hole(s) can be used as part of the unique bitting of the key, and/or can be used to hold the key in the lock while the shackle is unlocked. Both the Kaye's and Stein mechanisms allow the key to be removed when the shackle is in the open position, and subsequently allow the shackle to be snapped shut. In the "feather" lock the pin in the hole traps the key until the shackle is closed.

It is possible to decode the levers in the Stein lock by measuring how far a probe goes into the lock at each lever. If you look at **Fig. 11** you can see that when the levers are at rest with all the of the underlift hooks against the shackle a probe would go into the lock a different distance for each lever.

Editor's Note: After calling the "My Trusted Psychic Advisor and All-Knowing Seer" hotline, and paying a nominal exorbitant fee, I have been assured that the Kaye in Kaye's Patent was in fact me in a former life. Therefore all future questions, articles and photographs of Kaye's patent locks will be subject to a nominal exorbitant fee, payable to me. Thank you. Michelle Kaye, editor.

The Kaye's patent padlock from England.



Fig. 1



Fig. 2

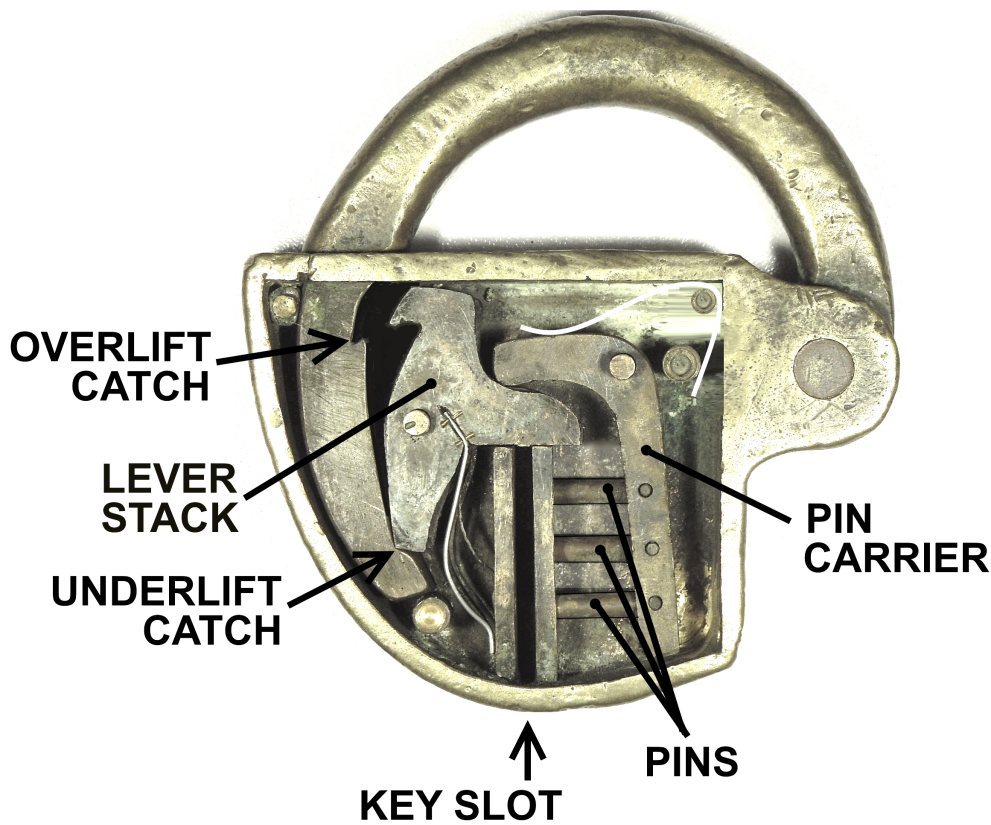


Fig. 3

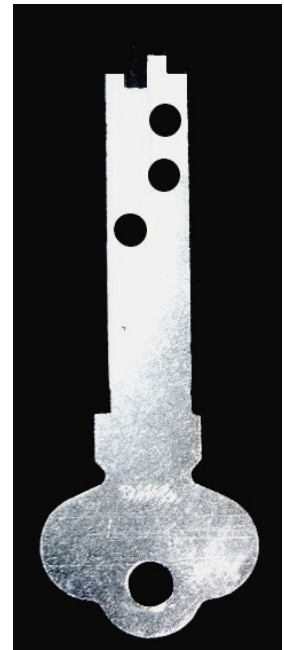


Fig. 4

Fig. 3 shows the parts in the lock. There are 2 catches that hold the shackle locked: the underlift catch, in which the shackle is held by the levers when the levers are at rest or haven't been rotated enough by an incorrect key, and the overlift catch, in which the shackle is held by the levers when the levers have been rotated too much by an incorrect key.



Fig. 5

Fig. 5 shows the lock unlocked and the shackle starting to rotate. When the key is pushed into the key slot from the bottom it contacts the bottoms of the 4 levers. If the bitting on the end of the key is correct the levers will rotate just enough that they move out of the shackle's underlift catch, but not so much that they enter the shackle's overlift catch.

Also, as the levers are rotated they contact the pin carrier causing it to rotate and push the 3 pins against the key. If the positions of the holes in the key are correct the pins will enter the holes. The actions of both of these mechanisms, the rotation of the levers and the rotation of the pin carrier, happen simultaneously.

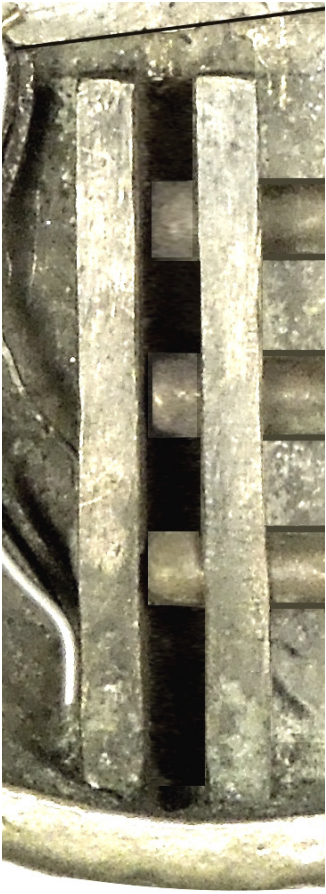


Fig. 6

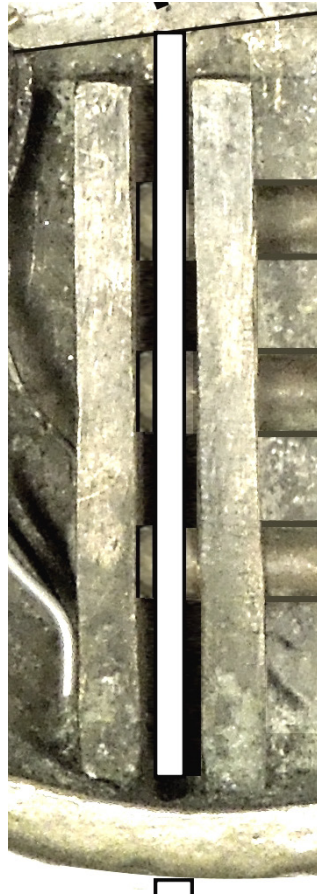


Fig. 7

Fig. 6 shows the pins extending through the keyway.

Fig. 7 shows the pins extending through the holes in the key.

Fig. 8 shows the padlock opened. The key has been removed and the levers and pin carrier returned to their relaxed positions. The shackle may be snapped shut.



Fig. 8