

Repairing Antique Padlocks

By Bob Heilemann

Over the years many of our club members have asked to have some article about a repair, key fitting or restoration. I have been somewhat reluctant thinking that I was not the most qualified and that my writing skills were not quite up to what they should be. Now it seemed to be a good time to give a try at it to share some of the repair/restoration projects and skills/methods that I use.

Before I tell you about my latest lock restoration project, perhaps a short background on how I got started repairing antique padlocks would be in order. In 1965 an old peddler of miscellaneous locks and lock hardware came into my uncle's shop in Santa Monica (where I still work today). On this occasion he brought along a small collection of 15 to 20 antique padlocks. I had a fascination for old and different mechanisms so I asked if I could buy them. He said that he was saving them for another locksmith/collector in our area and would need to give this person first right of refusal. It seemed like months before the old drummer came back by again – every day I wondered what became of these locks. On his next visit, with great hope and anticipation, I immediately approached him to see if he still had this group of antique padlocks. I guess the old boy had taken to heart my previous pleas to acquire the padlocks. He still had the group and told me I could have them for \$80. I had just recently got married and that was more than “pocket change” for me. Most of the locks were without keys and some needed repair.

This is how I got my start in antique lock key fitting and repair. Over the past 40 years I have been working on locks. My passion is to get these mechanical marvels back to operational condition and then back to looking as close to original as possible. Getting locks to “look” good

is more often more difficult than the repair. If the lock is a rare piece it is difficult to know what “original” really was. At that point it is instinct and personal preference. Often I need to consult first with fellow collectors who have the lock or knowledge of what “original” might be.

In this issue I will show a lock I have just completed and a very similar one from my collection. What I found interesting about these the two locks is that, although they are the same size, they have different manufacturers, patent dates, and operate differently.

The padlock for repair is marked “Westfield Lock Works” on the front side of the shackle, and “Patent Dec. 10, 1861” on the front of the lock case. This large iron lock is 6 inches tall, 4 inches wide, almost 1-1/4 inch thick and weighs over 4 pounds.

This lock had been taken apart before, and put back together poorly. The rivets were a mess, the key post was broken off, and the key was missing. I apologize for not having a picture of the original condition but it was not until I had the lock apart that I decided to write this article. Thinking this might be an easy repair I tried to drive (punch) the rivets out from the front through the back. It was soon apparent that this was not going to work even after drilling the rivets most of the way through the front case cover. I soon discovered that all the rivets were “shouldered” which prevented driving them out. Finally the case plate came off by wedging. I drill down

the center of the rivet with drill bit just smaller than the diameter of the rivet, then use a series of old knives which are adapted to accomplish wedging to carefully pry the cover off. The lock with cover removed is

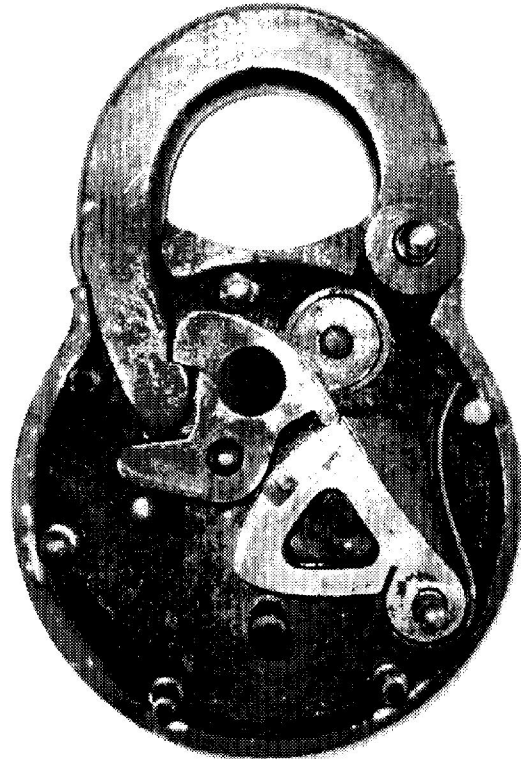


Photo 1. The Westfield Lock with the cover removed

shown in Photo 1.

Now that the cover is off the parts are removed and marked in their proper sequence. This insures that the key combination stays original and really helps when reassembling, especially if some time has elapsed. The completely disassembled lock is shown in Photo 2.

The ten rivets on the lock case needed to be built up by welding and then dressed down to the correct diameter so that they fit through the case cover. (I am fortunate to have my cousin do most of the welding for me as he is a genius using the heliarc welder.) Next, the post (or pin) was put in after selecting the proper diameter rod, then turning down the bottom end so that it was “shouldered”.

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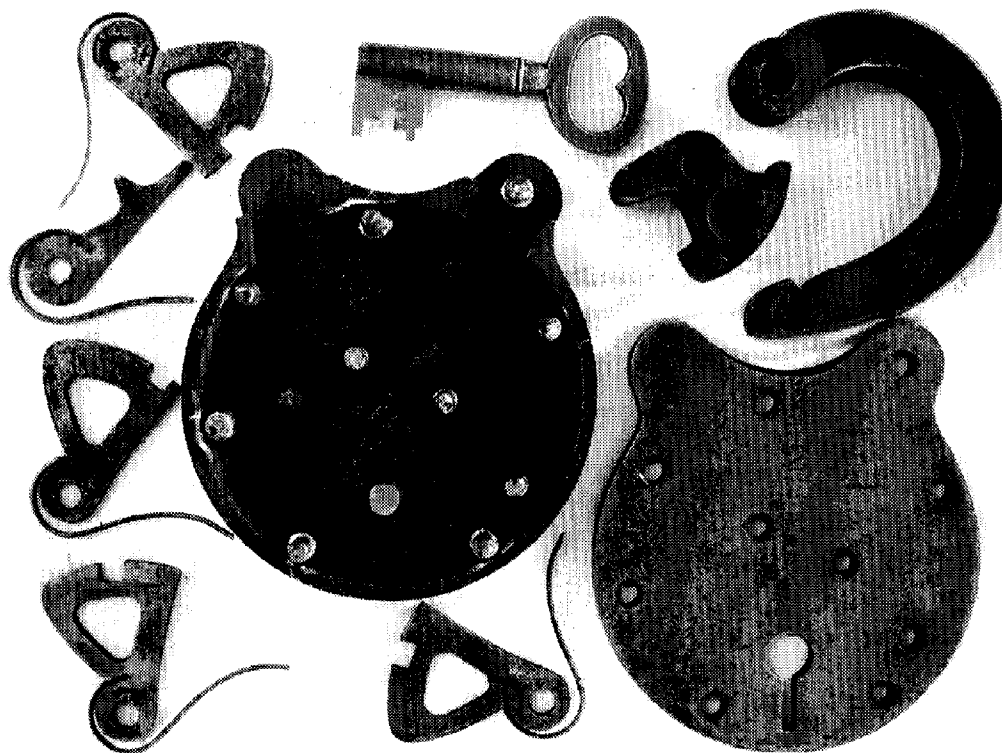


Photo 2. Completely disassembled lock. The parts have been marked to insure that they are reassembled in the original order.

The pin was peened down from the back of the lock, and the top cut off so it protruded just slightly above the top of the case.

If you are lucky you may have a key blank that will work with the lock, as I was this time. The key blank just needed the hole drilled larger to fit over the pin, and to thin the key blade. Filing the key to fit is pretty straight forward, starting with the bottom lever, then #2, #3, #4; checking to see if the locking “dog” will drop into the lever “gate”.

After the key was made, the lock parts were put back in, the pin installed, and the rivets built-up and dressed down; the cover was put in place. Next came the long tedious job of peening down the rivets. Riveting is best accomplished by many light blows with a ball-peen hammer. Check the key often for proper operation as sometimes the hammering from setting the rivets can jar some part of the mechanism out of order. If this happens the lock will

most likely need to come back apart again to get the mechanism working. (I hate it when that happens!)

Once the rivets are “set” and the lock is working properly, the rivet heads need to be dressed down flush on this particular lock. To do this I used a “Dremel” tool with a grindstone and ground the rivets down to within a few thousandths above the case. The final finishing was done with a small bench belt sander using a fine grit belt. When the rivets and key pin were flush with the cover they needed to be “pitted” a little to match the rust and casting pits of the rest of the lock. I have found that this is best accomplished by placing a piece of rough grit sandpaper over the rivet and lightly hammering against it. A light brushing; first with a plastic wheel, and then a cloth polishing wheel usually results in a close match.

Next, it was time for the “Dreaded Antiquing;” which is probably my least favorite part of restora-

tion. I have tried many ways to imitate “Aging” and find that a mixture of selenious acid, cupric sulfate, phosphoric acid, zinc sulfate, ammonium molybdate, diluted with water works well if aging needs to be done quickly. This is a commercially sold product made by Birchwood Casey, called “Antique Black”. Be sure to have all oils cleaned off before using the solution or the area you want to be darkened will not darken evenly. I have been known to sneak a lock or two through the dishwasher to remove oils without telling my wife. Wear rubber gloves and eye protection! When the dark-

ening is complete rinse off the lock thoroughly with water, then rub the area with cloth or plastic scrubbing pad to get the desired “look”. Good Luck!

The restored lock is shown in Photo 3. I have very little information on the “Westfield Lock Works”. I have one lock which is marked “Westfield Lock Works, Westfield, New York”, so I assume that this is where the company existed.

Another lock from my collection that is very similar to the restored lock is shown in Photo 4. This lock is the same size and style so I am assuming that it must have some connection with the Westfield padlock. The lock from my collection is marked “E.M. & J.E. Mix, Ithaca, Patent, Nov. 2, 1858”. The key is original made of steel and marked “Mix Brothers patent, Ithaca, N.Y.”. I will explain similarities and differences: The two locks are nearly identical in size and weight; 4 inches wide

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Photo 3. Finished Restoration of the Westfield Lock with key

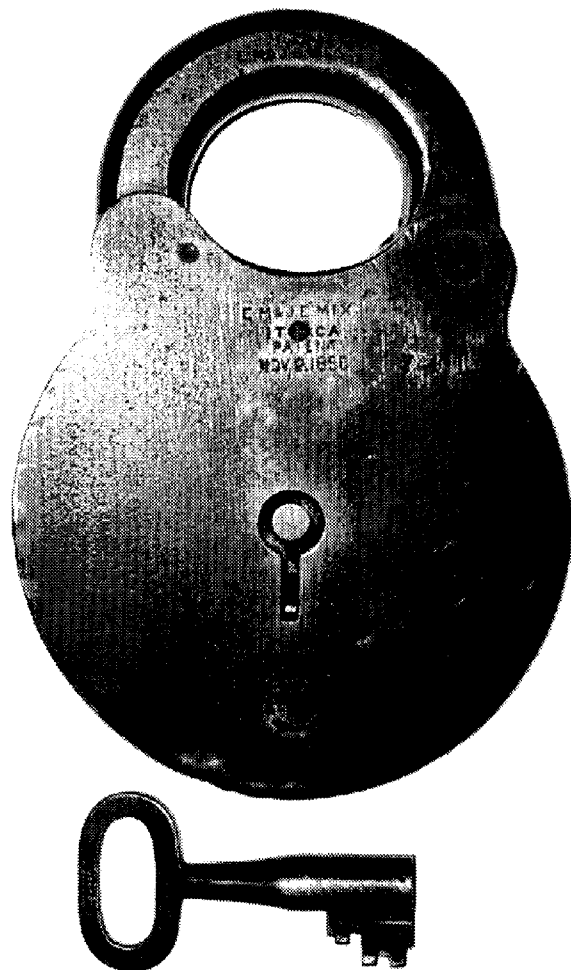


Photo 4. Mix Lock from the Bob Heilemann Collection with original key

by 6 inches tall, and 1 ¼ inches thick. Both are steel and weigh just over 4 pounds. The Westfield lock is a four lever lock whereas the Mix uses 6 levers. The key turns clockwise 360 degrees which pops the shackle up in the Westfield lock; the key turns about 110 degrees left to set the levers in the Mix padlock. The shackle needs to be manually pulled up to pull the locking “dog” into the lever “gates” to release. One very visible difference is the positioning of the keyholes - the Westfield is near the bottom of the lock and the Mix has the keyhole in the center.

Looking up the patent dates in Don Stewart’s “United States Patent Padlocks” book, I find that the Nov. 2, 1858 date is associated with patent number 22,000 and the Dec. 10, 1861 date with patent number

33,920. Looking these numbers up on the Patent Office website, I find that No. 22,000 assigned to the Mixes and to C. D. Johnson and the second, three years later, to the Mixes and to John Gountlett, all parties from Ithaca, NY.

Incidentally, I have a smaller brass lock which is marked “Townsend Mfg. Company”, “Mix Brothers Patent” “Dec. 10, 1861 - the same date as on the Westfield padlock. This adds another lock company into the mix (pardon the pun.) These companies either co-existed or more likely one bought out the other; which is the earliest I’m not sure. Perhaps C. D. Johnson was associated with the Westfield Lock Co. and John Gountlett with the Townsend Lock Co? I have been told that these large iron padlocks were used at the

Ithaca State Penitentiary in New York. The penitentiary opened in 1857 and closed down in 1897.

I would be happy to hear from other collectors with more information about these companies; perhaps a follow up could be put in a future newsletter. Also, I would appreciate any positive input on the article - thoughts, and or questions for future articles on lock repairs or key fitting. Thanks, Bob.



*Photographs by Loren Harvey.
Bob Heilemann can be reached at
Locksmann@earthlink.net*