

## **Restoration of a Model 1857 American Watch Co. (Waltham) Pocket Watch**

The following is an example of what a restoration entails. The watch in this case has seen nearly 150 years of use and was in rough condition. Mechanically and cosmetically, there was a lot of work to perform.



The case – The wear on the case was significant, but is still a good functional and original coin silver hunter style case. There were dents on both front and back covers and many surface scratches on all three. The bow was attached with a sewing pin and the crystal was missing. Additionally, both the second hand and hour hand were missing and the minute hand was showing signs of corrosion.



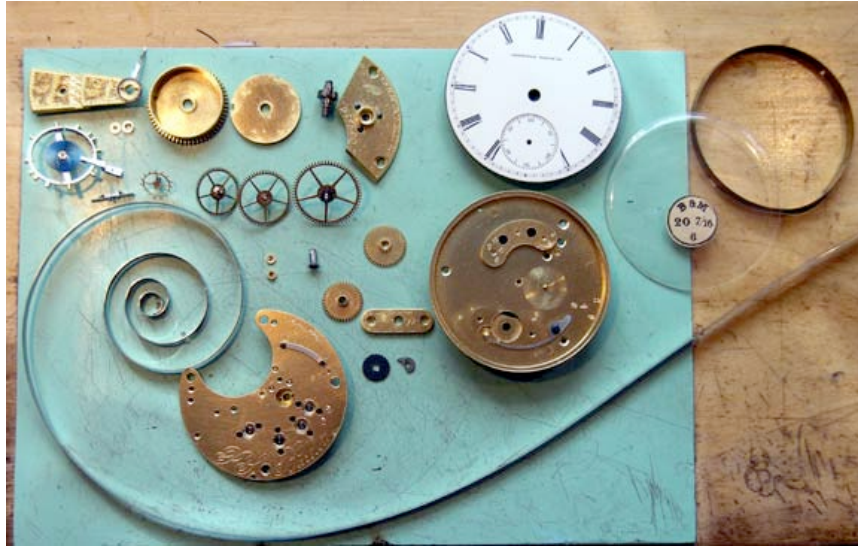
The Movement - Mechanically, the watch was complete, but filthy dirty with oil that had dried to such an extent that many of the wheels were bound up tight in their bearings. There was one balance wheel jewel that was cracked, but the balance pivots were not broken and would only required a polishing. The mainspring was set, meaning it had lost a lot of its original strength.



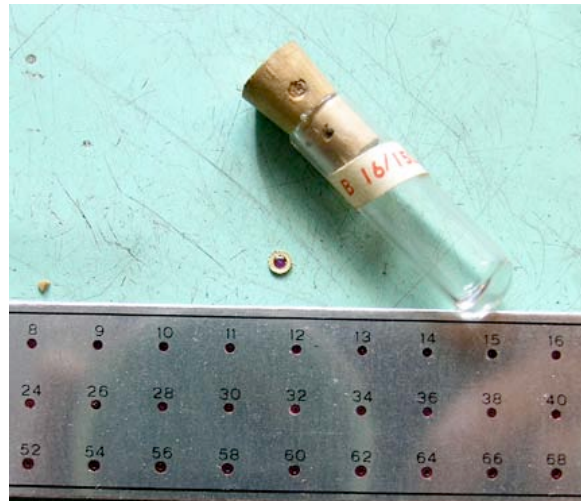
1. The first task was to disassemble the entire works including the removal of cap jewels and detail what might be needed in order to bring it back to good operating condition. Note the dirt, dust and lint and lack of luster on the movement parts. Also note how the mainspring in its relaxed state opens to a small diameter. This is a sign of a weak spring and the watch will assuredly benefit from a new spring.



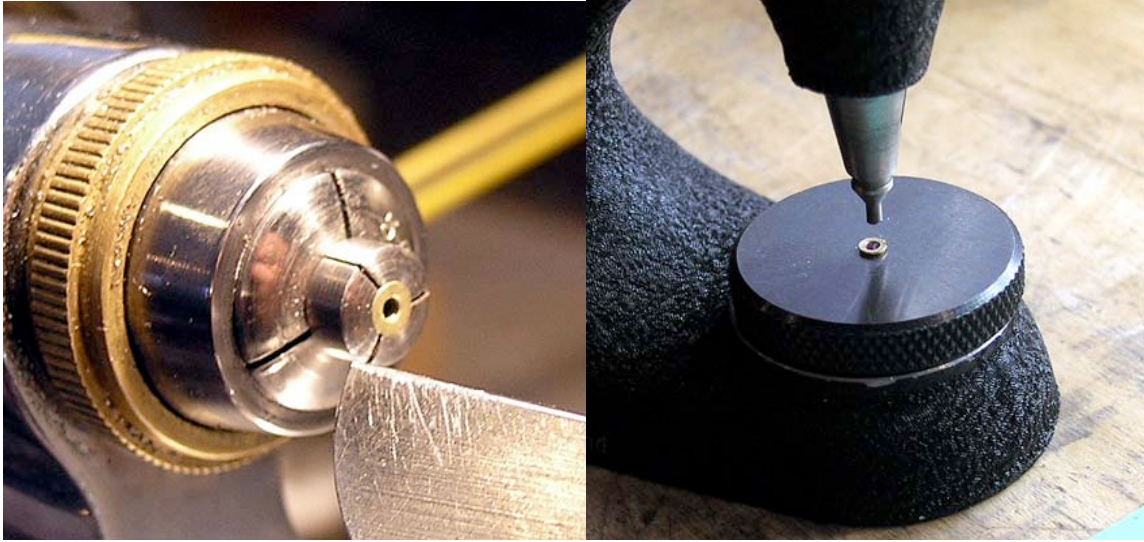
2. The movement is then cleaned in an ultrasonic tank followed by a spin cleaning and two rinses. Then the parts are dried and re-inspected for wear.



3. The first repair is to replace the cracked balance jewel. The old one is removed and a new one is selected with the proper dimensions.



Below shows the jewel setting being turned in the lathe to the right dimension to accept the new balance jewel.



Then the jewel is pressed into the properly sized setting and seated firmly.

4. With a new mainspring greased and fitted into the barrel, the watch is assembled. The balance wheel has a good action in one position, but the top pivot shows signs of wear, likely caused by the watch being used for a long period with a cracked jewel. The hairspring is removed and the balance is chucked up in the lathe and a polish is offered to the top balance pivot as well as the bottom.



5. The watch is tested again and the timing machine offers a good diagnosis. The rate appears well and the amplitude is better than anticipated for a watch of this age. In vertical and horizontal positions, the watch offers little variance.



6. The case receives a detailing. Small dents are tapped out and the case is polished on the outside and inside. Scratches and lightly buffed out of the cuvette where a careless key left its signs of wear. Then the case is submersed into the ultrasonic tank to remove any puffing compound and residual dust or lint. Once dried, the bow is fitted with a proper brass tapered pin and a new old stock glass crystal is selected and secured into place.



7. The minute hand, showing little to no bluing left, is polished completely and re-blued on a copper tray using a small torch below until just the right color is achieved to match the new old stock hour hand obtained from my stock of vintage parts. Then a second hand is also selected and fitted to match.



8. With the case complete and the movement keeping good time, the two are fitted together and checked again for timekeeping. In all, the entire job took roughly 3.5 hrs and would have cost a customer approximately \$300-400. With good care and regular servicing, this watch should have no problem reaching its 300<sup>th</sup> birthday.

## Before



## After



## Before



## After

