

# Removing the Action from a Square Piano

by David Hackett

These notes apply to English, Irish and Scottish square pianos. Those from other traditions (e.g. 'Viennese') may be completely different.

As opportunities present themselves, I hope to be able to add more pictures to illustrate this article. In the meantime, *please* read this note though to the end before starting, to avoid accidents.

There are many reasons for needing to remove the action from a piano – including replacement of the leather hammer-hinges or any of the various woollen cloths, or even attention to the hammers themselves.

The keyframes, keys, action, and hammers of all our pianos slide out forwards. The keyframes are screwed to the bed of the piano, and these screws must be removed first (although N.B. an earlier restorer may have failed to replace them! This is bad practice, as good adjustment requires the keyframes to be snug against the base.)

The screws are, however, underneath the keys themselves... So it is necessary to remove the appropriate keys. First of all, remove the nameboard. This slides vertically upwards. It may be tight, as the tension of the strings tends to compress the gap, but I have never yet come across one that is actually glued in! Some careful use of levers and wedges may be necessary, but make sure it comes up straight, not lopsided, otherwise it will surely jam. Then, across the front of the piano, just underneath the key fronts there is (or should be) the key slip – a narrow batten of mahogany. In most pianos this is loose (!) and lifts straight out. However, in some later pianos (including Broadwoods) it may be screwed to the front of the keyframe, in which case it can be left alone. In pianos with 5½ octaves and more, it may be in two pieces.

In the older, 5 octave pianos, the action is all in one piece. But usually, the extended compass in 5½ octave+ instruments was achieved by way of 'extra notes', and in most (but not all) of these cases, the extra keys (whose hammers attack through the soundboard) have their own separate keyframe and action.

Let's deal with the simple 5 octave piano first. Nearly always (but not invariably) there are three screws through the front (touch) rail and three through the middle (balance) rail. If you are lucky, a previous restorer will have marked the keys, just behind the ivories, with a pencil Ø mark (like a screw-head). But otherwise try middle C. Lift the key at the front, and clear of the balance-pin. Try not to break anything... yes, it can be tricky: the hammer-hinge is the most likely bit to suffer. When the key is out, poke about under the touch-cloth. There may be a hole, there is sure to be dust... The screws are quite big, about #12. Nothing found? Try B and C#... and then... If there really is nothing, try a couple of notes in from either end, say

A at the bottom, and D at the top. Keep looking... If you find these two, and still nothing in the middle, you might have one of the very few pianos with four pairs, which should be about evenly spaced. When all the screws are out, the keyframes should be loose, but please STOP and think.

The first caution applies to nearly all pianos, and affects the left-hand cheek of the key-well. The hammer-rail is supported on a pair of 'ears' or standards, one at either end, and the left-hand one *will* scratch the cheek badly if you let it. You won't notice, because your eyes will be elsewhere, and there will be a scraping noise anyway. Protect it with a piece of A4 card.

The second possible complication applies to all Broadwoods up to 1806, and any other pianos with those lovely brass peacock dampers. They will catch on the strings, and make withdrawal just about impossible. Put sheets of A4 paper between them and the strings.

There are very few five octave pianos about with 'Irish' dampers (I think it would have to be a Southwell or a Longman & Broderip) but if so, please see the note later on about Clementis.

You should now be able to slide the action out carefully, and do whatever is necessary. Please note that the action is held in at the back (where screws would be impossible) by little metal pegs, and corresponding holes in the back rail. These usually need cleaning up before reassembly!

Now we move to the 5½ octave (plus) pianos. If we have a Clementi before about 1815, or another make with 'Irish' dampers, all of these will need to be unscrewed first, and stored carefully in order. Sorry, but there it is. It's the price we pay for that beautiful light, responsive touch. Irish dampers can be identified by pulling a damper up. If the key moves down, it means they are attached: Irish dampers (invented by Southwell). If the wires break instead of unscrewing from their little toggles – too bad. They don't usually, but it can happen. Not too difficult to make new ones.

Now we come to the key removal. As we said earlier, the 'extra notes' usually have their own keyframe and action. It is usually best to remove the extra notes section first. In this case, there are usually just two screws holding the keyframe of the top section; the picture shows a six-octave Broadwood from 1826, where the screws were under the top A.

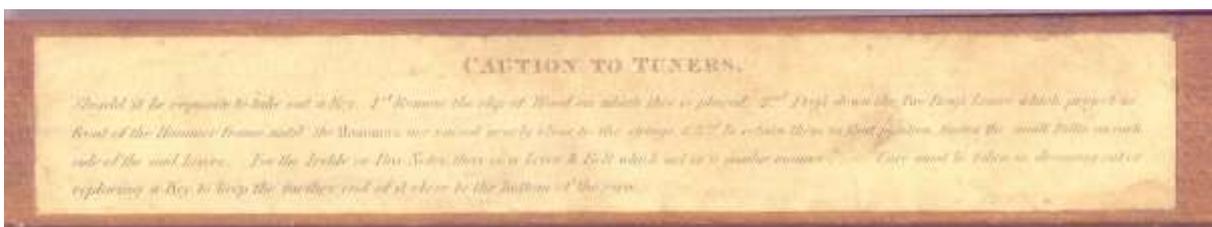


In this piano, because the first ‘extra note’ was F#, it was necessary to remove the F below to allow withdrawal. Just one extra caution. Be VERY careful that none of the hammers are ‘up’ as you withdraw the action, otherwise you will break the heads off with no effort at all. A stray finger can easily cause this to happen, or possibly a hammer is stuck...

Then, removal of the main section is as detailed above.

Two final Special Cases: both concern pianos with back-checks for the hammers. These pianos often have full-length soundboards which cover the keys. Sometimes words like ‘Patent Repeater’ are a clue, but this is not reliable. Back-checks are more common after about 1830. In the case of pianos with back-checks, it is not possible to remove single keys to get at the screws, because the checks can’t pass the hammers, but the screws are still there!

The first group are Broadwoods and possibly others. These have (or should have) a special sort of hinged shelf with little brass fittings to enable the hammers to be lifted out of the way, and to allow removal of single keys. There should be a little notice like this:



Unfortunately, the first line reads: “*1<sup>st</sup> remove the strip of wood on which this is placed,*” and many tuners in the past have done just that... However, after removing the necessary keys and finding (and taking out) the screws remember to drop the hammers back to their normal rest position before drawing out the action.

The second group includes the later Collard & Collard pianos. These solve the problem in a different way, by having the screws *underneath* the keyboard, so you have to lie on the floor and work upside down. Apart from that, though, it really is a better idea – as long as you know where to look!

David Hackett 2011.