

Fore-and-aft Adjustment of English Square Piano Hammers

It is a common problem for some of the hammers on a square piano to strike a string adjacent to the intended pair. This problem usually arises because the main structure of the piano (in particular the bottom boards) shrinks across the grain, whereas the side members of the keyframe do not shrink as much along the grain. This effect may not necessarily equal across the compass. If the problem affects all of the hammers, or gradually gets worse at one end of the compass, this is likely to be the problem.

If just odd notes are affected, and there is no general trend, then the problem is likely to have some other cause. Beware that sometimes those who came before us might have resorted to 'clipping' the face of the hammer, or some other ill-advised measure.

The following notes are intended to address the case where there is a general trend. Of course, the problem will always appear on some notes before others.

Most English square pianos have the hammers on leather hinges. Please note that adjusting the position of these is NOT a good way to address the problem. If the action is to play nicely, it is essential that the fit of the butt of the hammer to the hammer-rail is close and snug, but not too tight. There is usually a narrow strip of soft leather on the back of the hammer-rail as part of this fit. If it is too tight, the hammer will not swing properly, and if it is too loose, the action will be sloppy and difficult to control.

The Solution

The hammers are hinged to a flat hammer-rail, which is mounted on vertical 'ears' at either end of the action. These ears are screwed to the ends of the keyframe. The keyframe in turn is screwed to the bottom of the piano. Our problem can usually be cured by moving one or more of these elements. In the case of a double action, the under-hammers are mounted on a separate rail, and the hoppers are fixed to the keys, so movement of any one of these will have some effect on the mechanics of the action. This means that the best solution is to combine several small adjustments to achieve the desired result. Moving the whole keyframe will not upset the mechanics, but there is a limit to how far this can be done without visual problems. We have already noted that the necessary adjustments might not be the same at both ends.

Hammers for 'Additional Keys'

In pianos with 5½ octaves or more, the top hammers usually attack through a slot in the soundboard; this arrangement was part of Southwell's 1794 patent. These hammers might or might not be on a separate keyframe. All the previous notes apply, but we have the advantage that the hammers are usually taller, and the joint between the head and the shaft is easy to adjust, using heat and/or moisture.

Adjusting Individual Hammers

In extreme cases, or where odd hammers are affected for some reason, then it might be necessary to adjust the length of the hammers. Especially if the coverings (even just the under-layers) are in good condition, we do not want to disturb the heads, so the hinge-end must be adjusted. Fortunately, it is more usual for the hammers to need to be shortened, which just involves careful trimming (making sure we get that accurate fit). If the hammer does need to be lengthened, then the underneath part can be moved forward, and a small fillet made to extend the main part; the underneath part will provide sufficient strength.

