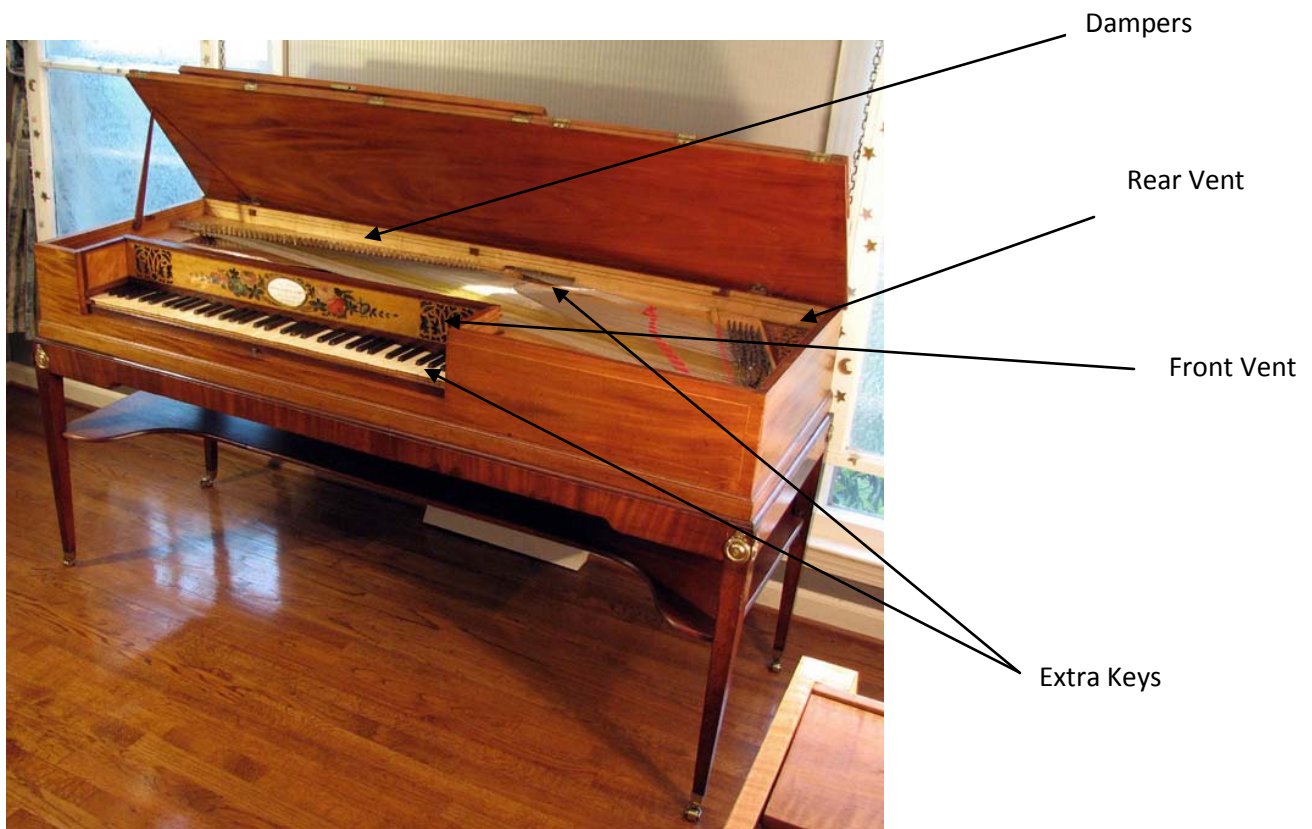


Southwell's New Improved Piano Fortes: the lasting impact of William Southwell on the Piano

The 18th C maker William Southwell (1736/37-1825) was of a constantly inventive and creative spirit. As superbly documented by Margaret Debenham in her recent article "William Southwell, Anglo-Irish Musical Instrument Inventor and Maker – an extraordinary life" he was responsible for any number of important improvements to the piano forte of his day, some of which have carried through to the present time. This short addendum to Debenham's article gives a photographic tour of the seminal 1794 patent for small square piano fortes, and discusses the improvements and their subsequent use through time.



Notice found on the underside of a converted Southwell square piano, photo by Tim Harding and processed by Tom Strange, used by permission



Longman & Clementi of 1799 with Southwell improvements, Photo Tom Strange

Pianos made with the Southwell improvements are labeled 'New Patent' to distinguish them from the 'Patent' pianos of John Geib, with the English double action. 'New Patent' pianos almost always employed the double action as well, but examples of single action pianos with 5.5 octaves (the 'extra keys'), do exist.

The first mentioned improvement for these square pianos is the **Sonovent** which he claimed had an amazing effect. This refers to the fretted openings made in the nameboard, and the right rear corner of the instrument. 'Sonovent' as a name was lost to researchers until fairly recently, but it was clear that Southwell intended this feature to allow the sound out of the instrument with the lid closed, which was invariably the case in period illustrations of square pianos.

From Debenham we learn that Southwell had introduced some or all of these improvements by 1792, but obtained his important patent (2017) for them in 1794. This patent was sold to James Longman of Longman & Broderip almost immediately, for a royalty on each piano made. Perhaps for reasons of cost or desirability, some but not all of the improvements are found in extant Longman & Broderip pianos today, chiefly the additional half octave of keys, dampers on wires, and rear corner vent. Nameboard vents in extant L&B pianos are quite rare, but became common under Clementi's ownership.

The Sonovent allows sound to emerge from the soundboard cavity, and the right rear vent makes a difference even with the lid raised, where the piano speaks at its loudest, but with the lid lowered the total effect is a far more brilliant projection than before, with a mellowness from the absorption of harmonics by the lid.



Longman & Broderip with wire dampers, extra keys, and right rear Sonovent. The nameboard has no fretted openings in this example.

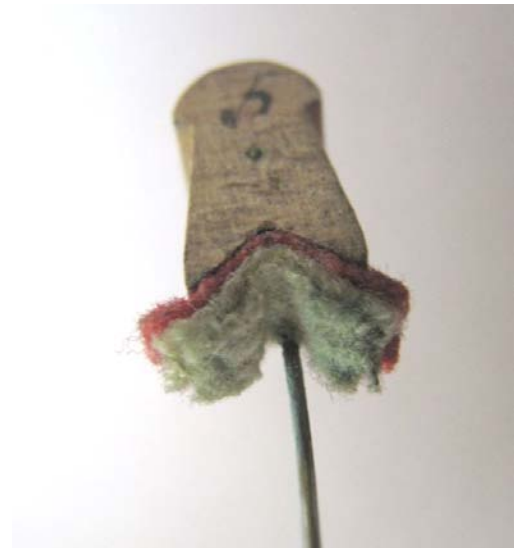


Detail of Longman & Clementi nameboard Sonovent

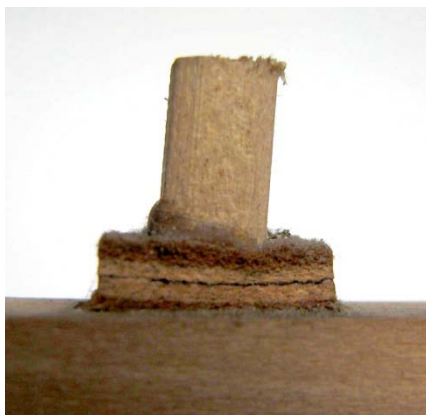


In pianos made by Southwell himself, the rear vents had a certain 'Irish' influence in design.

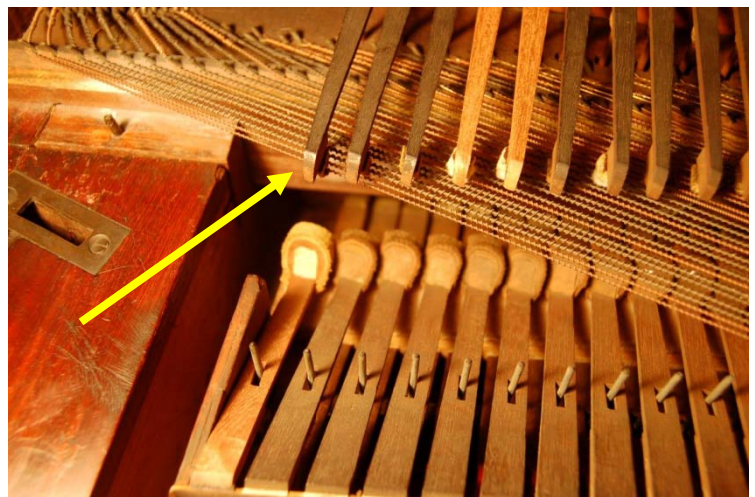
Dampers - Southwell goes on to describe the dampers, without springs. These are small wooden cloths pin shaped pieces, usually having three layers of flannel glued in (typically with a first red layer followed by two white layers in English models), and attached by a wire to the key lever tail below, by way of a post mounted on flexible buff leather. The key lever then adds to the weight of the damper and achieves a very effective damping action, without any appreciable extra weight on the key lever, such that the touch is quite light, typically under 35 grams. However, to remove the action, each and every damper must be screwed out, a tedious job. One contemporary technician was reported to have written that the inventor of that damper action should have poison poured over his grave!



These are also called 'Irish' dampers, 'Dolly' dampers, mop-stick dampers, or patent dampers.



Damper anchor and tail of key lever



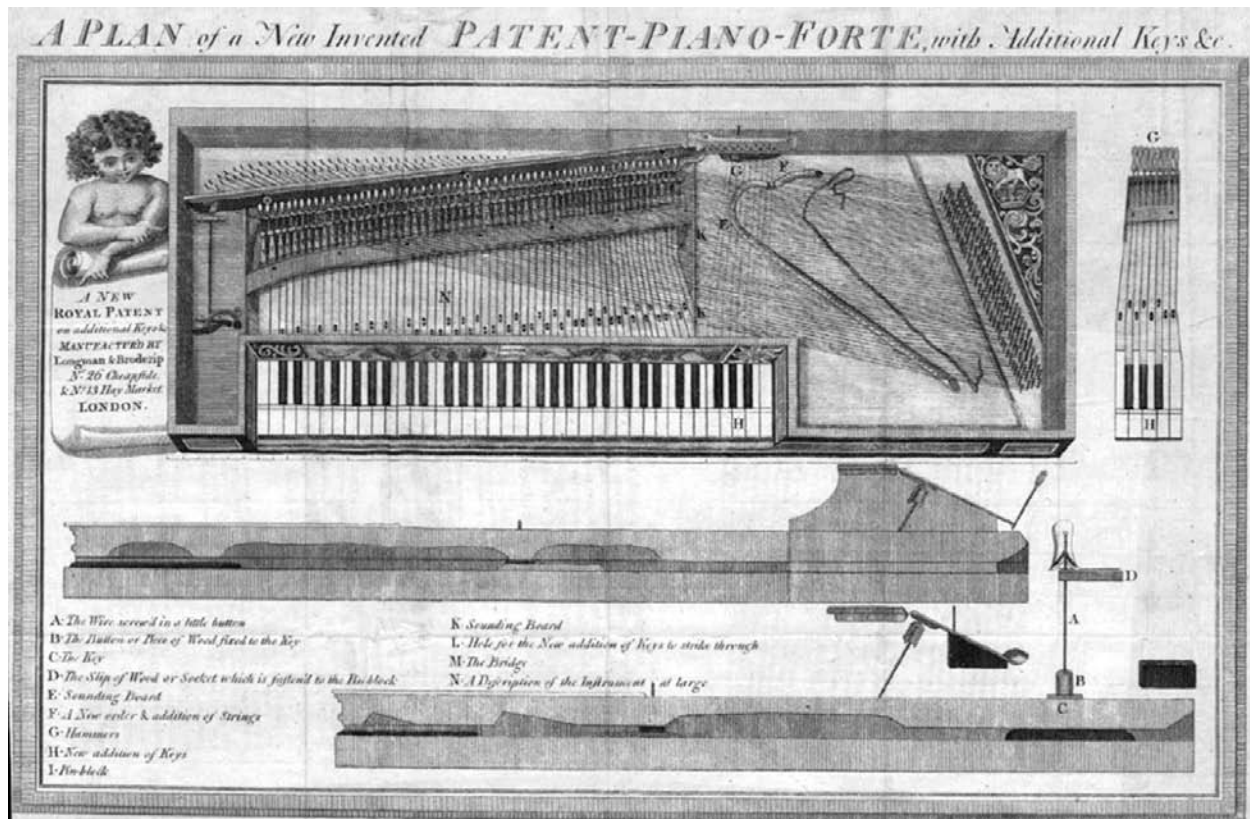
Earlier lever dampers with whalebone springs in rear

The **addition of keys** from f3 to c4, giving a compass of 5.5 octaves, is accomplished by cutting into the soundboard and allowing the hammers to pop up through the opening. This required the action to be in two sections, with a smaller half octave section just for the **extra keys**.



Separate action frame for Longman & Clementi

The final improvement, the **Harp Stop** over the strings, was apparently an alternate method of adding what was known as the buff stop, but from above rather than from below. The presence of the wire dampers would preclude the use of a conventional buff stop, which acted from below the strings to press a soft buff leather strip to the strings just after the nut, and so damp the strings, giving a plucked sound like a lute or harp. This stop was falling out of use by the late 18th C in any case, and few were ever built with the Southwell adaptation. In the surviving examples, the stop was attached just behind the dampers from a structure in front of the nut.



Longman & Broderip drawing showing the Sonovents, additional keys and dampers, but not the harp stop.

The long term impact of Southwell's improvements:

Except for the quickly forgotten harp stop, every one of the remaining improvements by Southwell were widely adopted by other makers, mostly to the detriment of Southwell himself, who failed to profit from his work as he should have. Regardless, his gift to music was profound. The concept of the Sonovent was adopted by Longman & Clementi and featured in all Clementi pianos up to his death, and then by Collard and Collard, his successors, until the last square was made in the UK in the early 1870s. In America, the vents in the nameboard fell out of favor by 1830 but

the rear vent was retained for many years after, usually covered in the metallic string plate, but with openings cast in for the sound to escape.



Late 1850s Collard and Collard with Sonovents in front

The 'Extra Keys' concept with two separate action sections was retained until the 1830s in America, and even when the keyboard was no longer made in two pieces, a form of this concept was kept throughout the entire period of square pianos, with the hammers popping up from behind a continuous soundboard.

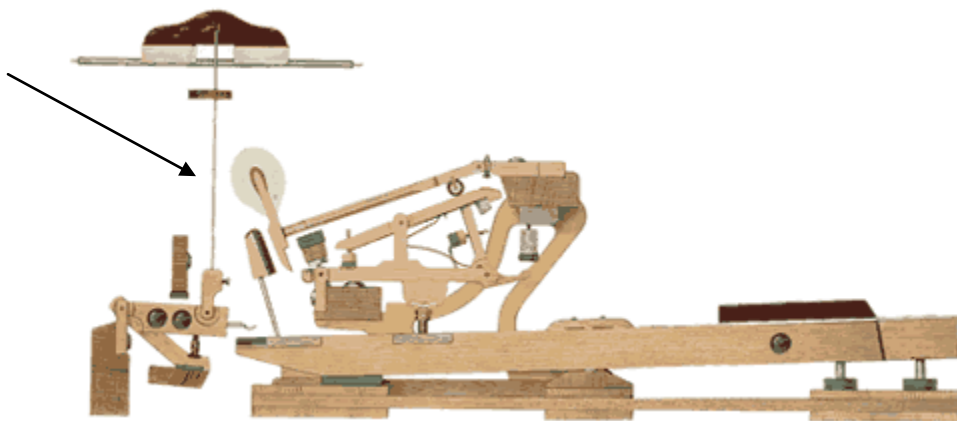


Separate actions for William Geib of 1832

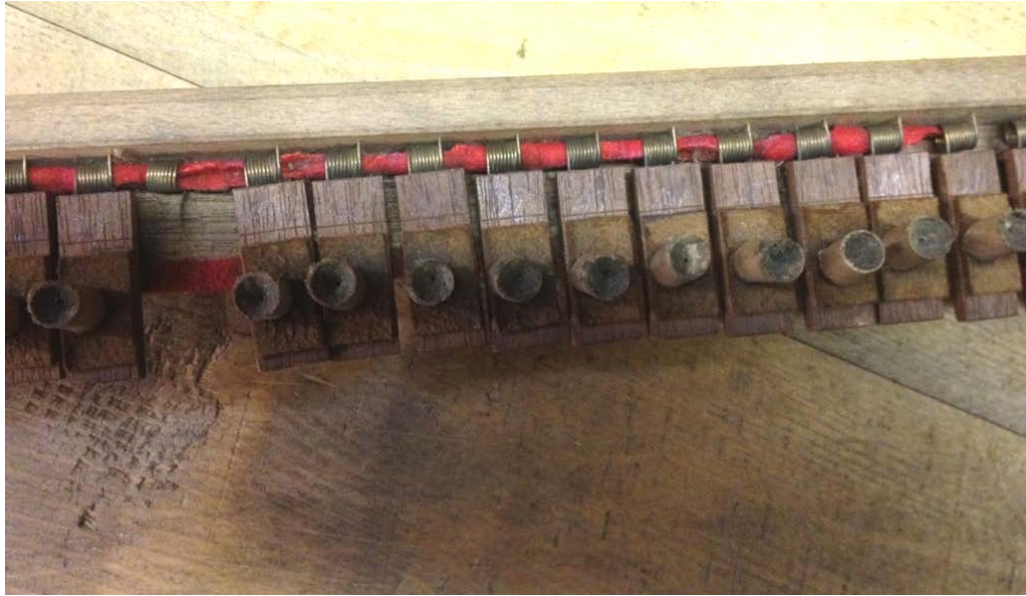
However, it was his concept for the dampers that truly endured. The creation of a cloth covered wooden device, guided by holes near the nut (later with bushing cloth to reduce residual rattle, ensuring a silent operation), was used in all English square pianos until their extinction in the UK, and all grands to the present day. In America we find the Southwell style damper in square pianos through the 1850s, giving over to the 'French lever damper' for the very large squares, but the Southwell approach was quickly adopted for grands, and never changed.



Southwell styled dampers in an 1854 Newman & Brother piano of Baltimore.



All grand pianos today use this approach, modified only by the use of a separate damper lever, rather than screwed in the key lever tail directly. This damper lever was in use by at least 1803 by Broadwood, and perhaps earlier. 220 years is an impressive run for a technology, and is in no risk of being supplanted.



1803 Broadwood showing early spring loaded damper levers. The damper wire screwed into the conical ends of the posts, which were mounted on buff leather flexible pads as with Clementi. In this way a key or an entire action could be withdrawn quickly.



Jacob Ball square with alternate approach to damper levers. These are modified double action jacks, and may have used a spring assist, now missing.