Unusual Piano Structures

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Ginny Baer

We discussed a Berger console with no iron plate. This was a straight-strung piano with vertical wooden posts to support the pin block and soundboard. It had six octaves, from F to F. Pianos without metal frames need to be smaller to support the tension. The tuning pins were lined up perfectly vertically in threes.

Bill Smith

In 1962 during the Seattle Worlds Fair, Sherman Clay and the owner of Channel Station 5 – the wife of Scott Bullett – wanted to donate a concert Steinway on the date that the fair opened. The piano came about three or four weeks before the fair opened. It was unboxed at the storage place, and the movers called saying it didn't look too good. What had happened was that enroute from the factory in New York to Seattle, there was an incident that happened in Montana. Somehow the boxcar containing the piano had collided, either from the impact of coupling up or from some sort of collision. This jolt was of such force that the piano crate slid against the wall so hard that the crate bolts sheered off and the crate itself was damaged.

Originally the people at Sherman Clay had planned on spending a few days to get the piano ready for the fair. What had happened was that the right side of the band was separated from the soundboard, and the key bed was separated from the structure as well. Within three weeks the piano had to be ready for the opening concert. They evaluated the situation and decided to start with the case bands. The fellow who was helping had been working on pianos since 1918 and was someone who could rebuild a piano from scratch. His name was Carl Johnson and was well respected.

Carl decided that if the case were clamped back to its original shape, then they could see if everything was OK or warped or strained. The strings were left at tension, and the piano was off the legs and solidly propped up. Everyone held their breath to see if anything would happen. After three days they decided to continue. First they put in three lag bolts into the frame. Carl drilled three holes and placed three lag bolts as a trial basis. When they took the clamps off, there were some grunts and groans. After about a week they decided to put glue in. They used cold hide glue because of time constraints (even though hot hide glue would have held better), as well as the lag bolts, and it went like clockwork. After letting the glue set for three days they removed the clamps and it held fine.

When they took the action out, it also looked different. It was one of the first actions made with Teflon bushings. No one had seen these before. It was Bill's job to remove the clicks and noises. Jack Caskey, who had a big shop on the east side of Lake Washington, came to help. They slaved over this action – repining and whatever – to get rid of the noises. Some of these bushings were themselves turning inside the wood holes. They found that it was a mistake to treat the Teflon bushings like felt bushings, because

reamers would score the Teflon. At the time there were no other reamers to use. So they sent to Steinway for extra bushings. After toying with these original bushings, they tightened up a little on their own because they had been scored.

Finally the action was acceptable for the first concert. When the piano was delivered, even the manager of Sherman Clay was there to make sure there was not a single scratch on it. For the first two or three months none of the artists complained. By the fourth month complaints started to come in. By then Steinway had sent a new set of Teflon bushings, and the action had to be repined.

The reason Steinway tried Teflon bushings was to compensate for the fact that with fluctuations in humidity, felt expands and contracts more than the wood does. Felt and wood will take on humidity faster than they put it out. When you do something new, you not only have to solve the old problems, but you also have to solve all the new ones. The problem with inserting Teflon bushings with press is that the bird's eyes get smashed; metal flanges are not affected. Knight started making brass bushings in the 1960's, and these did not change at all. All other knuckles are made with a woven felt with buckskin on it. Steinway in the 60's started making knuckles made like piano hammers, stretching felt over the molding.

Ray Klapwyk

He gutted the interior and did everything he thought would make it work He removed the entire action and rails apart. First he removed the wippens, then the rails. He figured he could use the rails and the frames, and then he replaced everything else. The sostenuto tabs were plastic; when the pedal rocked the action forward, the spoons would hit the The wippen had a regulating screw to adjust from the bottom. The closest matching wippen he could find with a similar geometry was a Kawai wippen. Like the Chickering, the flange was flat, not vertical, so he had to reconfigure the flanges. Then he found out that the wippen on the jack tail was farther back, so he had to add spacers. He had to shape down the wood on each hammer, and had to custom saw each flange. There were only two breaks – three sections – in the whole piano. At that time the notes next to the struts had a deader tone, so the fewer strut there were, the better. He installed Abel hammers, regulated and tuned the piano, and it worked. Each time he went back he did finer and finer adjustments. The customers were pleased with the results: their non-working piano worked!

Ed McMorrow

Ed's landlord has a piano where the back-checks are curved. One of the problems with a vertical action is that when the vertical train of motion is piled up there is a tendency for side oscillations. Jacks will kick over and bias the butt from the side. This tendency for all the vertical parts to move sideways is why vertical pianos are more difficult to adjust for precision touch.

Don't over-tighten flange screws on brass rails. Sometimes adding super-glue will add sufficient friction for it to work.