

Turning Lemons Into Lemonade

How I Accidentally Invented the Heavy Metal Punk Rock Hammer Dulcimer

Richard "Rick" Hicks

More than a few hammer dulcimers have come out of my shop over the years and I have never had a serious problem with one. I did have a massive glue failure once with a harp, which imploded most dramatically during the night once, but never a hammer dulcimer.



This is the design I usually use and I think it produces a beautiful instrument that sounds good and is quite lightweight.

I don't sell many of them anymore and just made this one early this year to have another one in the house.



I've made this design long enough that I don't really use plans or blueprints when I make it. I just use some basic measurements I have kept track of here in my shop.

Since it had been a few years since I'd made one I needed to refresh my list of supply resources and found myself using Google to get the lay of the land. In my search I found ardiesdulcimers.com and discovered that its proprietor, Randy Davis, had published a book on building dulcimers that wasn't in my library. Naturally I had to have it and found it to be most comprehensive. It was a different design from the one I have been using and I became intrigued by the design theory upon which his book was based.

I decided that since one can't really have too many dulcimers, I should just build one of Randy's. Since this was not nearly my first instrument I felt at complete liberty to modify his instructions according to the results of my own experience. This turned out not to be a very good idea. My prior design had used what some people call a skin stress construction technique. The basic trapezoid is built with braces running from right to left. Then the top and back are glued directly to the frame. Final cuts are made to refine the shape after the glue has set.

A discussion of the acoustic consequences of this design isn't relevant to this story, but it does make a very strong dulcimer. I have always used a popular brand of polyurethane glue and have produced rock solid dulcimers. So when Randy recommended Resorcinol, a two-part glue, I decided to use my old stand-by instead. After all, I wouldn't have to mix it, keep track of its air curing time, or subject myself to its fumes. Bad idea!

Randy's design has a floating soundboard, which is not an integral element of the strength of the instrument. In addition, his design is somewhat asymmetrical. These factors put a greater emphasis on the integrity of the glue joints and I should have followed his instruction about the proper glue, but I did not.

As a consequence of my decision, I finished a beautiful instrument that began making funny creaking noises shortly after I gave it its first tuning. I was concerned, but not alarmed enough to carefully inspect the instrument before I winched it up to tune for a second time. In the following hours it made some more creaking noises, a little louder this time. Deciding I had better go check on it I was heartbroken to find the corner joints of the instrument failing! I quickly snapped a couple of pictures, released the tension on the strings, mixed a strong gin and tonic, and went to bed one very disgusted luthier.



Here you can see the pin block lifting right out of the frame.



This one shows the pin block separating from the side rail.

The following morning I set out to consider my options and fairly quickly decided that there weren't many. Firewood seemed like perhaps the best one, but I'm too stubborn for that. If I destroyed the thing carefully I might be able to save the pin blocks and maybe the top, but the kind of surgery that would require would involve doing some complicated and maybe even dangerous things with my table saw. I concluded that the instrument was a total loss no matter what.

Still, I had put quite a bit of work into it and the sound it made even on that first tuning was very nice. I thought there must be some way to salvage it even if it was ugly and I might be able to stabilize it to use as a practice instrument even if I had to hide it in a closet whenever company was in the house.

I could not think of a way to remediate the failed glue joints so there had to be another way and it would have to be mechanical. Coming from the school of thought that the only metal that should be seen on an instrument is its strings it took me a while to shift my paradigm, but when I finally did a fun thing happened.

Screws, I thought. Big honking screws is what this thing needs! I had a fleeting thought that maybe I could counter sink them and hide them with plugs, but couldn't imagine that that would hide the fact that there was some poor workmanship involved here. I found myself at the hardware store staring at the bins of fasteners waiting for an inspiration. I considered lag bolts, but finally settled on # 12 X 2 1/2" wood screws. As a desperate accommodation to my strained sense of aesthetics, I also picked up a handful of finish washers.

Back home in the shop and feeling somewhat inspired I at least took the time to lay out the pilot holes in neat order just in case company should show up sometime before I could get it into the closet and began driving screws into my dulcimer like I was Norm Abram building a deck. By the time I was finished I was beginning to think this might not be so bad after all and found myself feeling a funny sort of affection for the beast.

There was also the matter of a stand for the thing which I had not yet built. That's when the madness structured itself into a plan. The formerly beautiful, but entirely worthless dulcimer would now hold its tune, but it now looked more like a machine than an instrument so I decided to go with the flow. I had the instrument sitting on one of those folding vice/work bench combination gizmos and it looked kind of at home there. I pictured a little platform for the dulcimer that would clamp into the bench, grabbed a piece of cherry and went back to work.

By the time the whole thing came together I was feeling rather pleased with myself and with my "industrial dulcimer." I emailed some pictures of it to Randy and he was very kind, but suggested that I share the story of this dulcimer with all of you at everythingdulcimer.com. He used words like ingenious and wonderfully eccentric, but I think he also might have wanted me to serve as a bad example to as many potential builders as possible. In the future I will follow the directions, but in the mean time here are some pictures of my heavy metal dulcimer. To make the theme seem even more deliberate, it should be played wearing the hard hat.



This is the stand.



Here's one view of the hardware.



Another view of the screws.



And finally a shot as an audience would see it.