

A Conversation with Charlie Chadwick
by Frank Goodman (Puremusic.com, 8/2009)

I've known Charlie Chadwick quite a few years in Nashville. Think I first ran into him playing with the early Gypsy Hombres in the days they used to play every Sunday brunch at a local brewery restaurant. And I used to catch him later in Jamie Hartford's band (son of John) with the notorious Ray Flacke on guitar.

Charlie's one of those very present people. Musically he's extremely precise but very passionate as well. I know in later and more recent years he played with Pam Tillis and Shelby Lynn and more recently has been touring the world with guitar ambassador John Jorgensen, playing Django-style gypsy music and probably whatever other style occurred to them.

I've had occasion to play or record with Charlie here and there, and sometimes in the most offhanded moments, at his or someone else's home. He's a magic maker, one of those guys that will come up with something that brings things to another level. Although he's an excellent electric bassist, his proficiency on the upright bass almost guarantees that he's been hired for that difficult axe.

Like all upright bassists, Charlie faced a huge problem in flying his oversized instrument around the globe on commercial airlines. So, being the seat-of-the-pants engineer kind of guy he is, he set to figuring out how to shrink his bass without destroying his sound. And he worked on it for years, and came up with something that no one had ever thought of, or had credibly executed.

The rest is history in the making, and here we bring you a conversation with the guy that put it all together so that upright bassists will be able to play gigs around the world with quality instruments that they own, rather than renting the crap that's available when you get there.

You'll be surprised when you see the Chadwick Folding Bass, how it actually folds *into* the back of the instrument. It's ingenious, and it's in production! Charlie explains the problem and the solution very well in the upcoming conversation.

Charlie is also an in-demand producer in Nashville, and has cut world renowned CDs in his studio, which is also the home of the acclaimed CDs of his wife, singer songwriter Laurie McClain. Charlie's stable of players on his projects is a who's who of stringmeisters.

This is our first "gear" piece ever, and we hope to bring you more, especially when they represent this level of innovation and creativity.

And now, Charlie Chadwick and his folding bass.

Puremusic: I've been a fan of you musically for such a long time, that it's really amazing to me to be having a conversation today about a different side of Charlie Chadwick, that is you as inventor.

Charlie Chadwick: That's a pretty heady title. I don't know. Sometimes you just patch things together and put some tape on it, and some glue, and it's hard to call it an invention. I don't even feel like I make basses, I feel like I'm more of a chop shop.

PM: [laughs]

CC: And so that's a heady term for what I do.

PM: Yes, but if one were indeed chopping something to make it such that it might revolutionize its nature and its possible role in the world, yeah, it's a certain kind of chop shop we're talking about. But yeah, I hear ya.

CC: Yeah. It's something that rarely has a good name. When I was a little kid I remember -- and my parents could tell you -- I was a little kid taking things apart. It always held some weird fascination with me. I mean, toys -- it doesn't matter, I'd get my dad's tools out and be taking screws and nuts and bolts and taking apart my bicycle, and anything I could -- I just liked taking things apart -- I'd go, "What's inside there?"

PM: [laughs]

CC: It's just kind of a sickness. And it played itself out as I got older, I actually got some of the things back together. There's kind of a latent engineer gene in me somewhere that never was expressed or never trained. But taking things apart is always something that I do. I even look at a band that I'm in and think, "I wonder if we took this part here and put it over there, and then took this thing out and" -- it's just weird.

PM: Well, a person that has that inclination and the freedom of mind to be a deconstructor/reconstructor is graced and doomed to do it in every corner of their life, including their very life --

CC: Yeah.

PM: -- like it's how they see their life. They see the arc and the trajectory and go, "Okay, I'm over here, and what I'd like to do is go here"--

CC: Yeah.

PM: In those reconstructional terms, that's what you've really done. And I want to get to the essence of that, which is -- before we embark on the path to this glorious solution, let's describe the problem.

CC: Well, the problem is that an upright bass is a large fragile thing. And the problem is that nothing besides this large fragile thing sounds like it. There have been many many attempts to duplicate the sound of an upright bass, many attempts at solutions. And Leo Fender started in 1950, his Fender Bass, which is now the father of the modern electric production bass, was an attempt to duplicate the upright bass. He had little pieces of felt under the strings to dampen the strings in the way that an upright dampens things. And he'd compromise on the string length, but get it as long as he could, but still have it being held around your neck. And every attempt to get the sound of an upright bass has been a compromise, and you can't get anything that sounds like an upright bass without a large wooden cavity of air, 42 to 44 inches of string length, and a bridge that vibrates on the top of this instrument. And all the attempts have been -- the little rubber band thing -- have you ever seen those little -- De Armond Ashbory Electric Bass. It's about two and a half feet long, a little bitty thing, smaller than a Fender Bass, and it has these rubber band strings, and that's supposed to sound like an upright.

PM: [laughs]

CC: Yeah. And people have been working on this for the longest time. Well, nothing quite sounds like it. So that's the problem, that nothing sounds like it, but it's a big fragile thing, so you're back at square one. So as traveling musicians do, if you have a road crew or a big company or a moving van, or whatever, you create these gigantic air-lined or foam-lined cases for your upright basses, and cross your fingers and pray and hope that it arrives safely, because it's fragile, indeed. You're looking at about 3/8" thick piece of spruce, which is basically pine, if you can imagine something that's --

PM: Pine?

CC: Yeah, pine, soft as pine -- spruce is not hard stuff.

PM: It's as soft as pine, spruce.

CC: Yeah.

PM: Because I never see it in any kind of thickness.

CC: It's very thin. And it's carved out of a book matched piece of wood, so you can imagine the tree has to be pretty good sized to get a front and a back out of a spruce log, and spruce doesn't grow fast. So all these things complicate and cause the expense and the fragility of it. And an upright bass, because of the size -- you get cracked tops on guitars, imagine if the top was two and a half times wider than it is, it's more susceptible to cracks when you've got fluctuations in humidity. So the instrument is fragile from a moving standpoint, from humidity and temperature, from shock, and then compounded by the fact that there's typically 300 to 350 pounds of string tension coming across the top of that instrument. It's not like a guitar; guitars are less than 200 pounds. You add another 100 pounds of pressure on the strings. And if you take the strings off and loosen them, the sound post falls over. It's one thing after the other. It's just a pain in the ass to

move those things, and it always has been. And any time you see a bass player walking through a parking lot into an airport with a giant upright bass, it's like a comedy routine, it's like a joke. It's like, where's the punch line.

PM: Right, you feel bad for the guy.

CC: You feel bad, it's like waiting for a pratfall. It's a pain in the ass. So our modern world has further impeded the movement of basses by restricting air travel for large instruments. Several of the airlines don't even take basses now. And then you add a marketplace where traveling has become more the norm. 20 years ago I used to get steady gigs. You had to go work at the Hilton for three, four weeks at a time, and set up your gear, and there you go. Now every gig is what we used to call a casual, it's a one-off.

PM: Yeah, it's a one-off.

CC: So you're moving your gear all the time, and you're flying. And it's not just the major acts that have airline containers and bands, but even smaller acts are traveling, too. And they're traveling in the van, or they're traveling by air. And there's the bass player going, "I'm so screwed. I have a \$10,000, \$15,000 instrument that I've saved and worked hard to get, and I'm playing a \$100 gig downtown with my bass around a bunch of drunks, or I'm putting it on an airplane and signing a waiver saying they're not responsible for ruining it..."

PM: It's crazy.

CC: It's so horrid, that to fill the gap several companies began making a travel friendly sound-alike upright bass.

PM: Sound-alike! [laughs]

CC: That's what they are. I mean, you compromise the body or the string length or anything else, and it's not a bass anymore, but it's something. So the solutions were -- obviously, the body is the biggest part, so they compromised the body. There's one called Czech Ease. Czech Ease has the body -- they took a saw, if you can imagine this, and sawed off the bottom ten inches of the base, so the bottom bout is like a little smile cut out of it.

PM: Oh, my lord.

CC: So it's about 10 inches shorter than a normal bass, but in every other way -- it's got a short tail piece, and the body is smaller. Well, that's pretty close. At least it is acoustic, you can actually hear it with a guitar. But the body was designed with that volume of air for a reason; the smaller the box, the smaller the resonant frequency. When you shorten the tail piece -- the tail piece was designed with a very specific amount of mass, and because it's made of ebony and it's the size that it is, it counter balances the mass of the string on the opposite side of the bridge. The bridge is just this dumb piece of wood that

sits and breaks the string at a certain point. And the bridge wants to be in perfect equilibrium, meaning that the amount of pressure from the backside of it and the front side of it are exactly the same; and it wants to move up as much as it wants to move down. And those dynamics, keeping the bridge in perfectly suspended equilibrium is what allows it to vibrate at its maximum rate.

So you've cut the tail piece down, you've cut the backside of the bridge, you've made the strings shorter on the backside of the bridge, you've lost all of that, that dynamic has been lost -- and you've lost the volume of air, and bingo, you don't get a bass sound. The other solution is to cut the bass laterally down the sides so the bass looks like a normal bass, but it's only four inches thick.

PM: Right. Instead of how many?

CC: Oh, nine, ten inches. And you've lost a huge volume of air. Another solution -- the most popular one is called an Eminence. An Eminence makes a body that kind of looks like a --

PM: Eminence -- not the speaker company from Kentucky.

CC: No, no, a different company. But they're the most successful company in travel basses. And they have a bass where the neck comes off. It's a normal size neck. The headstock is a little smaller. But the neck comes off and it's bolted on. And the body is about, I'm guessing, eight, ten inches wide -- and shaped like a bass, but imagine if you took Photoshop and just shrunk the bass from side to side, and it's only about four inches thick. It's a very, very small body. And the bridge is of course much shorter, also, maybe four inches high instead of the normal six and a quarter inches high. So this is one of the technical solutions. With the Eminence bass you unbolt it, and it fits in a golf bag, one of those plastic golf bags. And the airlines will still take a golf bag even though it's oversized. Eminence's solution is you stand there as a bass player -- and you got to make sure your zipper is zipped up, because you can see it around the bass.

[laughter]

CC: I mean, the bass is very, very thin, and you're standing there playing this kind of weird thin thing. And of course there's no resonance, the strings don't bounce off the finger board like they should because there's no body there, and you can't play it without an amplifier. So it kind of looks bass-ish, and it stands upright, and it's got a 42-inch string length, so hmm, okay.

PM: Right. They sent it in the bass-y direction.

CC: It's bass-like. And then go to the last solution -- this is what pushed me over the edge in bass travel is the rental bass.

PM: [laughs]

CC: Just imagine for a second, Frank, you love your guitar.

PM: Yeah.

CC: And you probably own a couple of great guitars. And that's your instrument. Can you imagine, okay, you've been practicing, you're ready for your gig, and you say, well, no, you're going to play this Sears Silvertone guitar, it's really a great guitar, Frank, you're going to love it. Well, it doesn't have your strings, it doesn't have your action, it doesn't have your pickup. It doesn't look like your instrument. The spacing of the nut is different. Even on basses, the string lengths are different. They vary anywhere from 40 and a half inches to 44 inches.

PM: Wow.

CC: That's a lot of real estate. And the break, where the neck attaches to the body on an upright, can be at what they call an Eb neck or a D neck. You've got a rental bass, you don't know. And you have no control over what you get. You're just lucky to get something. They'll go to the local music store and pull one out of the window, or they'll go to a high school and get one out of the closet.

PM: What a nightmare.

CC: Well, the night of reckoning for me was I was playing the Tonight Show with Shelby Lynn to an audience of about 30 million people. And I'm giddy. I'm just giddy, thinking, I'm playing -- this is the biggest audience I've ever played for in my life, and I never thought at this stage in my career I'd ever do those kind of things, that's the big time that I didn't opt for.

PM: Right.

CC: So I'm getting ready to play my gig, and we go to sound check -- and I was renting basses with Shelby -- and it was the worst piece of shit bass that you'd ever see.

PM: Wow.

CC: The worst. I mean, I it was some high school -- it was the third or fourth bass down the line at some high school music room. It had an awful pickup, the strings were so far off the fingerboard that it was almost unplayable. And I'm thinking this is what it's come to.

PM: "I'm playing this piece of crap on the Tonight Show."

CC: [laughs] And it was the best they could do. They didn't try to find a lousy bass, that's just the state of affairs. That's how it's working right now. And for a bass player, a jazz player or a bluegrass guy, he's either going to put his bass in a van and hope that

nobody crushes it with a suitcase or a guitar, and drive to his gig, which can be awfully difficult; or rent a bass; or borrow a buddy's bass at the bluegrass festival. So usually what happens is everybody is playing the same bass, they just pass it off to each other. This is the world of bass players. This is what it's like for us going out there in the world and trying to travel and play the instrument that we love.

PM: Ouch.

CC: It's horrid. Being the take-apart guy that I am, being the guy that says, "Well, why can't we" -- it's occurred to a lot of people, well, why don't we deconstruct this thing and put it back together? Well, you only have to try it once, and you realize, oh, that's why they glue the neck in. That's why the setup is such nightmare. Everything is held together with tension. You take off the strings, the bridge falls off; the sound post falls out, and that takes a professional to reset it.

PM: It does?

CC: Yeah! You go to a bass shop and spend 100 bucks to have your sound post set.

PM: Man.

CC: And then what happens to the strings when they're taken on and off the instrument constantly? What happens when you takes strings off -- if you took the tail piece off of your guitar, all the strings would go -- they'd all wind up into the tuners, they'd be a big mess. How do you keep them from getting tangled up. How do you attach them back so that they attach and unattach easily and quickly? And all of that being said, how do you do it without a bunch of tools and special equipment and sound setting tools?

Like the way you set a sound post is you have a long S-shaped bar of metal that goes into the F-hole. And with that and a flashlight you kind of wiggle the sound post around and hope you don't knock it off to you have to start over again, and the tap it into the right place, tune the strings, check it, tap it again. That's the nightmare of taking an upright bass apart. There are so many more problems than a guitar, for instance. I've seen folding guitars, and some very clever designs, too. But the problem with the upright is it's held together by the string tension. Once the string tension is released, the thing starts to fall apart.

PM: It's more like a marionette.

CC: I don't know much about marionettes, but yeah, what's holding the bass together is a careful balance of dynamics. And actually, it's the glue around the edges is what's holding it together. And when that glue fails -- and it does -- then it delaminates, and then of course the bass explodes. And actually I've heard stories of basses exploding. It's sitting in the corner, and you hear this *bang* -- "What the hell was that?"

PM: Wow!

CC: The bass just blew up. Yeah, that's what makes a bass make sound -- or any instrument, for that matter -- is the stored energy. It's the energy being stored as you tighten the strings, that's storing the energy, and the glue is resisting it. So it's like you take a swing, and then pull the swing back, and it's full of energy stored right there while you're holding the swing up. When you let go, there it goes. And that's what hopefully a good acoustic instrument does. It's got stored energy and a great desire to vibrate and to make sound. And that's what an upright bass is, all its stored energy is potential energy, if you will, it's hundreds of pounds of energy stored in that bass. And if anything fails, then that energy is released instantaneously as a blowing up. Well, those are the problems, and that's what I faced.

PM: I mean, that's a long list of serious problems.

CC: Oh, and look at this: All the people who've tried to do this over the 300 years the bass has existed have failed.

PM: And there've been plenty of them.

CC: Plenty of them. I've seen a bolt-on upright bass neck. There's a guy in New York right now, I've visited his website, he advertised that he'll take your neck off of your bass and install this appliance that he's made, a metal appliance that allows you to insert the neck back into this little sleeve and bolt it in, so your neck becomes a detachable neck. So there're people working on this problem. It's a huge problem. People want to use their bass, they want an acoustic instrument. They want a full-size normal-looking instrument. They don't want little skinny instruments, they don't want things you have to amplify all the time. They want something that has their strings, their action, their feel, their pickup. That's what the market wants, that's what us bass players want. We don't want a second bass, that, "Well, I use my travel bass when I travel, but it kind of sucks, but" -- you know?

PM: Yeah, I just did a gig in Guatemala with my travel guitar. I'll never do that again.

CC: No, it's not worth it. But for a guitar player, you have the option, well, I could bring my guitar. At least you can carry it on and keep an eye on it. It's not like you're throwing it to the wind.

PM: Right.

CC: So the upright bass player doesn't have the option. There's no carry-on bass.

So I thought, where are all the points of deconstruction? You can take the neck off, that seems pretty logical. The problem is -- and this might not be obvious, looking at the bass -- but the end of the fingerboard to the top of the scroll is longer than the body.

PM: Right.

CC: Right. So okay, you've taken the neck off. Taking the neck off is not a big deal. Putting it back on is a big deal, it's hard.

PM: Yeah.

CC: But let's say you took it off. Imagine, for once, that the strings and the tailpiece are still attached to it, and the tuners, and the fingerboard, and it's longer than the body. You've got to have a case for that, and it's got to be pretty well protected, because there's a lot of things that can get screwed up.

PM: Yeah.

CC: And you've got a pretty good sized case already That's a pretty good sized thing. It's not as big as the body. Well, then you've still got the body to put in a case, and there's two cases now. And you've got to figure out how to put the neck back on. And the fellow that I was referring to in New York has figured out a way to bolt the neck back on. And indeed, that's a typical repair on basses. You'll see a lot of old Kay basses, and you'll see a little plug on the heel of the neck where it attaches to the body. And what you're seeing is: that neck broke off. The repairman glued the neck back in, then took a big lag bolt, and lag bolted it right through the heel into the neck block.

PM: Wow.

CC: Typical repair.

PM: He turned it into a modification.

CC: Yeah, but you can't take it off, it's still glued in there. So the issue is, for me, from an engineering point of view, you're dealing with tremendous forces that are trying to yank the instrument apart. And my thought was instead of trying to resist those forces, what if those very forces were the ones that held it together? And that was my line of thinking.

PM: Right.

CC: So I said, instead of resisting 300 pounds of pressure, why not use 300 pounds of pressure to drive the neck into the socket? I like that. That made more sense to me.

PM: The Aikido approach.

CC: Yeah, let the energy work for you. So I started the project, and I had three goals that I insisted upon. One was that there were no tools and no bolts and no wrenches and no screws, and no nothing, none.

PM: Wow.

CC: Because you're likely to lose -- Dave Spicher was playing a gig with Pam Tillis up in Alaska, and he gets ready to go on, he goes, "Where's the bolt for my Eminence?" The Eminence has a bolt, and he couldn't find the bolt.

PM: Oh, my God.

CC: He'd left it at home. He's in Alaska.

PM: Oh, my God!

CC: He had no bass.

PM: He left the bolt at home.

CC: Yeah. And I thought, okay, no bolts, no tools. That's just rule number one.

I also wanted the bass to be visually unchanged, so that even if you handed it to the bass player and he'd play a big, he wouldn't know that there was anything funny about it. No modifications that were obvious.

And the third one I gave up, I just threw this one away, my third one was that it was reversible, meaning that you could undo it, glue the next back in, and you're back at the same bass you started with, didn't even damage the instrument in any way. But I gave up on that.

PM: [laughs]

CC: That was impossible. It was a lofty goal. The idea was you could take any high quality carved instrument and modify it and then undo it later. I have a great respect for fine instruments.

PM: Right.

CC: But I realized I couldn't get around it -- the design requirements. If there's a way to do it, I couldn't think of it. So I stuck with one and two. And you'd be surprised at the hardest part. The hardest part of this instrument was the case. And the other hardest part of the instrument was the no straps and no tools to pack it up. Because it's one thing to hold it together without tools, I got that figured out pretty early on. The problem is: How do you pack it up for travel without using any straps or holds or Velcro? How do you fasten all the loose pieces together in such a way that there's no tools and no -- you know what I'm saying?

I just kept wrestling with that one. I found ways of strapping a piece -- well, I could violate my first rule and have a few snaps and straps and things like that. It just wasn't appealing to me. And I had a removable neck, and I early on realized that if I remove the

fingerboard that really reduces the length of the neck and the fingerboard, because the fingerboard hangs over almost two feet off the edge of the neck.

PM: Two feet?

CC: Well, now I'm exaggerating. More than a foot. So I took the neck and fingerboard apart. And that solution has been working ever since. I love it. The first solution was to have a removable neck. And every time I put the neck in the neck joint was just like a loose neck. You've had a loose neck on a guitar? It's awful. And a loose neck joint on the bass is worse, because that's the frequency that's compromised by the loose joint.

PM: Yeah, you lose your resonance.

CC: Yeah. It's got to be "coupled," is the engineering term.

PM: Right.

CC: So I kept thinking about that. No, this neck joint sucks, it comes off, it goes back on, but when you put it together, the bass doesn't sound good, it sounds wrong. So I kept working on that. But all the time I'm playing this removable neck, I'm looking at the body and going, "There's a lot of air, empty space in there. If I could just somehow pack the neck and fingerboard into the body, I would save so much room traveling." I kept thinking about how to get it in there. I thought about a drawer that kind of came out the side of it.

PM: [laughs] Yo.

CC: I kept thinking about how to get the neck in there. And I just couldn't figure it out. And I had a gig one night, and this guy had one of these fiberglass guitar cases. It wasn't a Calton, but something like that. It was Tommy Emmanuel's case, as a matter of fact. And it was covered in some kind of like -- it looked like a space suit kind of thing. It was a really cool looking case. But he opened up the case, took his guitar out and shut the case, and I went oh, shit, that's it. You just open the body like a suitcase, take the neck out, fold up the neck and everything, shut the body.

And then I went, "Oh, wait a minute, the sound post! That wouldn't work, it'd just fall over. Damn it." But I suddenly was going down the right road. How do I get into the body, work around the sound post issue, and then I could store the neck in the body.

PM: Wow.

CC: I thought, *that's got to be it, got to be it*. And then I'm thinking, well, what happens when you cut the body? My God, that's probably going to ruin everything.

PM: Right. Yeah, certainly threaten to.

CC: But there's no way to know until you try it.

PM: Right.

CC: So I got a --

PM: Scalpel.

CC: I got a saw, and I cut a big enough hole in the back that the neck and the head stock would swing down into the body, but out of the way of the sound post. The sound post is off to the side. And it all worked out pretty good. I thought, well, this works. But the problem that you immediately run into: Imagine that you take a curved piece of wood, and you cut it, it deforms, and it won't fit back together.

PM: It won't reform, right.

CC: No, it won't, because there are tensions and so forth. So I thought now I'm really screwed, now I can't cut the back out because it will deform. I thought, well, what if I braced it in such a way that the braces brought it back into its original shape? Okay, that would work. Right? Well, there are many problems with that. I mean, how do you put the door back in? I could hinge it, but you can't hinge something that's curved, hinges are straight.

I'm going on and on like this, thinking I got the right idea here but somehow I can't see my way past this. Well, the solution was to brace the bass like you brace a guitar, it's basically a ladder brace. The braces run down this opening, and the braces are detachable.

PM: Oh, the braces are detachable.

CC: Exactly.

PM: Oh.

CC: And the way I detached them is I have a simple compression fitting. There's a little nylon pin that fits into a slotted groove, so you put the door in, you line the pins up with the door, and push it down, and as it goes down it starts to compression fit because the slots are on a 10 to 15 degree angle, so as you push the back down it just sucks itself right in into the braces, the braces are locked together, and the whole back and the door are compression fit and are coupled mechanically. And it worked perfectly, no tools -- it fit all of the requirements. It opened up the bass.

PM: And it did what a brace is supposed to do.

CC: Yeah. It strengthened the back and recoupled the back and the door.

PM: Wow.

CC: And they're made of spruce, brace grade spruce, and they were light. What I didn't know is, well, okay, that's good, what is it going to do to the bass sound-wise? So I got one of my good Neumann mics out, and I set my preamp up, and I recorded the bass before I cut it, cut it, braced it and put it back together, and recorded with again and analyzed the wave file, the amplitude and the wave characteristics.

PM: Wow!

CC: Yeah, I wanted to make sure it didn't change it.

PM: That's beautiful.

CC: So all that worked out pretty good.

PM: So how close was that wave form?

CC: Well, an interesting result was that the bass had a longer sustain once I put the braces in.

PM: Wow!

CC: To a bass player, that's good.

PM: That makes sense.

CC: Yeah, sustain is good unless you're playing salsa music you want your bass to boom, boom, boom, boom...

PM: Yeah, and you got to do with it your hand.

[laughter]

CC: Yeah, but long sustain is a better thing, and I think it's just because there's a little bit stiffer back. A little more mass in the back means that you're transferring -- you're not losing energy in the back, it just throws it right back at the top. So I believe -- I'm not a Luthier by trade, but I did notice that change in sustain, and I thought, well, that's a good thing.

But the problem that I was having was that you open a back up, and once you've cut the back, it'll never just return to the same shape. You have to measure the shape of the inside of the bass before you cut it. And that's a big problem, because the only way to look inside the bass is through these little F-holes, and you certainly can't put any tools down there. You can shine a flashlight and look at it, but how are you going to measure the exact curve of the bass from the outside?

It's not an easy problem to solve, to build a brace from the outside, a locking brace that fits perfectly. And my first attempt at it, it worked, but not so pretty, not too great. I wrestled with that for a while. I'm telling you, this process was a three-year process.

PM: Wow.

Okay, fast forward to 2007. I'd bought a bass from a company, Sam Shen, and he is one of the premier Chinese manufacturers of basses. [<http://www.cscproducts.com>]

PM: How do you spell his last name?

CC: S-h-e-n. And Shen instruments are sold all over the world. And it's a very nice bass. I went on the internet and researched upright basses. I wanted to find a bass to put all of my modifications on, a nice finished bass, because everything I was chopping up was all old stuff and pieces of junk. I didn't want to ruin a good instrument. But I finally had the design working, and I wanted to put all of these features onto a finished prototype that actually looked good and worked perfectly. So I looked around, and the Shen -- his top of the line plywood bass was the one that I latched onto. When I found that one, I thought, this is a great instrument, it looked great, and well built. And I'll modify one of these Sam Shen basses. So I bought one, took this brand new bass and went out in the garage and I cut it all to pieces.

And I modified it. And that's the one that I recorded and listened to the changes in from beginning to end. And it worked great, and it was a hit. It just worked perfect. I started taking it to gigs. About three months later I had a gig at the summer NAMM Show. John Jorgenson was playing the NAMM party for Rick Shubb at Saga Musical Instruments.

PM: Very cool.

CC: Yeah, so we're playing at a party. And the fellow that I had bought the Sam Shen bass from, he's located in New York. And his company, CSC products, is the North American distributor for Shen Musical Instruments. So I bought the instrument from CSC. And I was in conversation with the CSC people, and he said, "Well, Sam Shen is going to be at the NAMM Show, would you like to meet him?" "Yeah!" I said. But I'm a little concerned. I mean, is he going to be upset that I cut his bass all up? I mean, this could be disturbing.

PM: No, he's Chinese.

CC: He said, "Oh, no, Sam loves this kind of thing. He'd get a kick out of it." Because I had told CSC what I was doing with their instrument. And so we meet. He came to the party and we met afterwards. And he was a wonderful gracious guy. He was not at all what I'd expected. He'd lived maybe 20 years in Canada. He'd left China when communism pretty much shut down entrepreneurship and all that. He'd moved to Canada and was building instruments up there and developing --

PM: Where?

CC: Where in Canada? I'd have to research it. And he had developed the contacts with Canadian wood, and he became a builder in Canada.

PM: How interesting.

CC: Yeah. But when things started to open up in the late '80s, early '90s, he saw an opportunity. He's a Chinese citizen, he speaks fluent Chinese, he understands Chinese mentality, and he knew there was an opportunity to make instruments in China. And he went to China as a Canadian, and opened up his factory in China and began making musical instruments. Well, so he's at the NAMM Show. He's doing very well, his company has been highly successful.

PM: What's their big product, string instruments?

CC: All orchestra instruments in the violin family. Saga will get into dobros and mandolins and all that.

PM: They have electric guitars out the wazoo.

CC: Yeah, exactly, and gypsy guitars and all that stuff. And that's our connection with Saga, they were making a gypsy guitar for John Jorgenson. So Sam and I meet at the NAMM Show. I'm standing there, I'm holding my bass. He came up after the show and said, "I really would like to see the bass." And I said, "You're looking at it."

PM: Wow.

CC: Yeah, the guy who made it, he goes, "What?" I said, "Check this out." I turn the bass around, I pull the back door up, and it releases into my hand, and he gets it right away. He just understands all of it. He said, "Oh, okay, uh-huh." He's looking at this thing. He's saying, "Oh, this is brilliant. It's brilliant. I love this. It's so good." And I'm going, "Oh, good, he's not going to" --

PM: What a moment!

CC: It was a moment. And he said, "There's a fellow in France who has a type of neck removal system, but this is much, much better." He knew what was going on in this field.

PM: And had you heard of this French guy yet?

CC: No. I didn't know who this was. So he says to me, "If I was to do this, this piece here that you made with plastic, I would make with ebony, that's better. And this finish, it's not so good. You should finish this part also." He's actually seeing -- he understood it completely in seconds. And I said, "Well, Sam, everything you're looking at here came from Home Depot."

[laughter]

CC: "I don't have access to the materials."

PM: "I don't have a factory."

CC: Yeah, I had to cut a finished bass, trying not to mar the finish in any way, because I can't reproduce the finish.

PM: Of course not.

CC: He said, "I could do this much better." I said, "I would love for you to do this. I would love for you to make these for me, because this one took me a couple of weeks to do in my own laboring way. And there's obviously no profit in making those."

PM: Right.

CC: "And it's a pain in the ass, and I want to go work in my studio and play my bass, and I don't want to be making basses." Well, that conversation began. He said, "You should come to China, and we'll talk." And I thought, well, that's great. I was very excited. But a couple of months went by, and I thought, well, that might have been a very polite way of saying, "Yeah, it's cute, nice idea." That was in January. In April I got a call from my contact at CSC, who said, "Sam wants to know if you want to come. Can you come?" I said, "Yeah, let's go." He said, "Well, I'm coming out in about a month, if you want to join me, we'll go together." So I went out there for a week, and we talked design, and I left him pictures and drawings. And I found Sam to be just so enthusiastic and cooperative and excited about doing it. Never and to this moment no contracts or any formal agreements have been drafted or signed, we're just a couple of guys trying to make this happen.

PM: Wow. How old is Sam Shen?

CC: It's hard to tell, I would say early 40s, would be my guess.

PM: Oh, that's all.

CC: Yeah, yeah. And he's just a marvelous happy guy. We went out and had dinner every night after working. At about 5:00, 6:00, we'd go have a Chinese beer and some exotic food, fried jellyfish or duck tongue or something exotic. And he's just a gracious wonderful guy and not at all uptight or stressed in any way.

PM: Is he closer to Shanghai?

CC: Yeah, more to Shanghai. He's just about 40 kilometers west of Shanghai.

PM: Did you get to hang in the city at all in Shanghai?

CC: Yeah, a little bit. He has a violin shop in Shanghai, a very elegant place. And now he has a shop in Beijing also.

PM: Shanghai is amazing.

CC: Oh, yeah, great town. And of course, I probably didn't see much of it. But we hung out in Suzhou, and that's where his main factory is. He also has a factory in the north for plywood instruments.

So that trip went very well. He ended up making a bass in the next couple of months and sending it to me. And we went over the design, changed a few things. And as fate would have it, John had a trip to Shanghai for a trade show, so we coordinated with Sam, and I went and visited with him for another week later, in 2008. So we had a couple of weeks together in Shanghai and refining the bass, and then started working on the case details.

Like I said, the case has been the biggest pain in the ass. It's unbelievable that it would be such a difficult proposition. But if you think about it, here's the problem, the bass, with strings, soaking wet, weighs about 27 pounds. Well, the case can't weigh more than 22 pounds if you want to keep it under 50. That's the problem. That's a huge problem. I mean, 22 pounds?

PM: That's not much, not for a case.

CC: No. And the case has to be absolutely small as possible.

PM: Sure.

CC: Okay. But the smaller it is, the less padding, the less reinforcement. So what material do you make it out of? How do you reinforce it so that the thing can be dropped from, say, two feet drop, just drop it from two feet in the air onto the hard concrete, and not have the case or the bass destroyed? And the case has to be light weight, too. So it's not such a simple thing.

I was trying to make the case and bass under 50 pounds so it meets the airline standard for luggage, and as small as physically possible so it doesn't look like you're shipping some giant box. So the design that I came up with actually follows the contour of the bass. It's got a curved back and top, arch top, and it's in the shape of the bass except that it doesn't have the cutouts in the middle, so it's kind of pear shaped, smaller at the top, flat at the bottom. And it's a hard shell case. We made the case out of another bass top and another bass back. So it's a bass in a bass, if you can picture that. That's what the case is.

PM: Wow.

CC: We spent some time designing it. Sam made five cases and threw them all out because they weren't exactly the right dimension, internal dimension. Because we're cutting it as close as possible. So the sixth case worked, he sent it to me, and I redesigned the lining. I wasn't happy with the lining, but the case was brilliant, it was perfect. So that's where we're at right now, is we've finally got the case. Finally. The last bugger in this whole thing was the case, believe it or not, the hardest part.

And the case and bass now are under 50 pounds. They can resist normal and a little worse than normal handling without the bass being damaged. The sound post doesn't fall over, the things don't get tangled. It sets up -- now, I've never tried to do it as fast as I can do it. But I set it up in under 2 minutes, from the case to tuned, ready to play, under two minutes. I can take it apart in even less time. [You really should watch Charlie doing this! See it here: <http://www.foldingbass.com/video.html>] Normal for me is about a minute and 15 seconds to minute and a half -- completely disassembled, packed, ready to put in the airplane. You don't have to do any strapping or special pieces of foam. You just collapse it, put it in the box, zip the box shut, and take it to the airline. It's ready to go. And when I was able to have the design work that well, that was when I knew this would be really useful to other bass players.

PM: Right.

CC: If you have to build a bass in order to use it, or know about setups, or know about -- you know, it's too complicated and nobody is going to really want it. And I used to take this thing to trade shows for years showing people -- I didn't care, steal the idea if you want, because it's not commercial. But when I got the neck to fold, the back to lock--

PM: You stopped taking it around then.

CC: Uh-uh. "You're not looking at this one until I get it patented." So in April of '07, I went to a patent attorney in Nashville, Wadley & Patterson is the firm. And we began the patent process. And we filed our patent in October of '07. So I knew this was a good idea. And the idea was never intended to be a business proposition. I had never intended to make a bass or to make it available. I just wanted to not play a piece of shit bass on my gigs. I wanted to travel with my bass to my gigs. And my solution became evident that this was a very, very good idea.

When I came up with the folding neck in late '06, early '07, you wouldn't believe the crowds that would gather. People love to see that thing fold up. They weren't that interested in the removable neck. That didn't excite people.

PM: Watch the man saw the bass in half!

[laughter]

CC: People flipped out, seriously. I've been playing shows with John Jorgenson, and the audience is half guitar players, as you can imagine, if they all drug any of their girlfriends

with them. And after the show the guitar players gather and want to look at John's gear and talk to him. Well, I was gathering a bigger crowd taking my bass apart on stage.

PM: [laughs]

CC: Well, it was unbelievable, and I knew this was hot. And I asked myself a simple question: Do I want to open a musical instrument catalog book another year or two from now and see my design and have somebody else making it?

PM: Yeah, that's really crazy, yeah.

CC: It would be whacked. And I said this really doesn't make any sense. I've spent a lot of time on this, and I've got a solution that I know works. It solved my travel problems. Solved. And I've had so many bass players say, "Oh, my God, could you modify my bass? Could you make one of these for me?" And the answer is no, no way.

PM: Absolutely not, not unless I'm going to make a thousand of them.

CC: Yeah. So my idea was I wanted to exploit it from my point of view so that I get the benefit for my hard work on this.

PM: So you get paid, essentially.

CC: Yeah, but not have to make them myself. And my relationship with Sam Shen made that all possible. And the patent was there so that we don't have any unfair competition. Because the idea, as all effective ideas are, is bonehead simple when you see how I did it.

PM: Amazing.

CC: It's not complicated.

PM: But to arrive at that bone-headedly simple conclusion took quite a long time and a lot of brain power and trial and error. And it's amazing what simple solutions take to arrive at.

CC: When I was in college, I studied mathematics. And in mathematics there's an expression that you use, it's called "elegance." And "elegance" describes a type of solution to a problem. An elegant solution is the simplest, easiest, fewest steps, most efficient solution to a problem. As you can image, in math there are many ways to solve an equation. But the elegant solution is the one that makes mathematicians get all excited. "Oh! Oh! How simple, only three steps. Beautiful!"

PM: [laughs]

CC: And for me, the elegance factor is the simplicity. It's misleading, because it is not so simple to come to the solution, but once you see it, you go "Ah!" It just makes you feel

good. You go, “Oh, that’s so straightforward, it goes right to the point, right to the heart of it.” So it is simple. If you want, I’ll show you how to do it, you can do it to your own basses if you want. But good luck.

PM: No, no, no. Nobody in their right mind, present company notwithstanding, are going to do that.

CC: Yeah. Well, if a guy was handy with his hands, and really felt like doing it. But my feeling is, the bass that I’m building on, the platform I’m building is the Sam Shen SB-100. Sam Shen retails that bass in the United States for \$2,100. That’s no strings, the fingerboard isn’t shaved, there’s no case, there’s no bass bag, that’s just the bass. Okay? That’s the bass that I’m building on, with a few extras.

Because this is my little business, and because my income is my little studio and playing gigs, capitalization is always an issue. The obvious customers are the traveling professionals. They see the value, they’ve got 3,000 bucks, and they’re going to buy one and get me up and running.

But potentially, if this could be a student bass, for instance, like imagine schools, if schools bought basses, and they say, “Well, we travel, we have a traveling band, and we could put these in the music room without having huge closets to store them in, and a kid could take one home without having to have a station wagon or a van, or we could put it in the bus for our traveling gigs” -- the school market is gigantic.

And another market would be people who live in the city. You lived in New York, you know how it is. You want to be an upright bass player going to gigs in New York? Think about it. Well, this is the solution for a lot of people. It fits in the trunk of a car. I put this in our Camry trunk.

PM: It fits in the Camry trunk?

CC: Yeah. In New York I just put it in the trunk of the cab, and I had room for other bags and suitcases. We’re talking a huge paradigm shift.

PM: Oh, my God.

CC: And then think about electric bass players who say, "I’m losing gigs because I don’t have an upright. I’d like to have an upright." They can buy this one for \$3,000. 3,000 bucks and you’ve got an upright. You can practice it at home, take it on gigs when you feel like it. It can be your only bass. And those markets become huge. But the way I would approach those markets is with me selling it right now, with me being the retailer, I can make enough on each bass that I begin to develop the capitalization I will need to make the business work. You’re sticking a lot of money out there because you’re buying basses--

PM: Well, somebody is.

CC: Well, it would be me. And I'd have to put these basses out there, and realizing that they will sell. They may sell as far as you put them up on the storeroom floor, I don't know. But it would depend on the number of outlets you're talking about, 20, 30, 50, 100 basses all out there in the world either collecting dust or converting new purchasers. I don't know how--

PM: Okay. Well, here's the smaller idea that goes with your plan that speaks to the other idea. I'm sure you may have considered this already -- but having key guys in all the major cities-

CC: Yes.

PM: That get special pricing, in return for what they do for you.

CC: They show the bass.

PM: Yeah.

CC: I'm with you.

PM: Any time somebody calls you, you say, "Yep, I'm playing with so-an-so tonight. Be there or be square."

CC: Yes. I've got my guy in San Francisco, I got my guy in Boston, I got my guy in Philly, and people can go see the bass, talk to the player who's using it.

PM: You're there already, right.

CC: I like that idea. Another marketing idea that I'm incorporating right now is that the bass -- since you can't touch it and see it and play it before you buy it -- that's always a difficult -- imagine if someone told you, "Yeah, Frank, I got a guitar, send me \$3,000 and I'll send it to you."

PM: Sure, that's gonna happen.

CC: Yeah, it's not. So I thought, well, since they can't really see it, they just see a website, I'm selling it to them with full money back return. If you don't like it, just put it back in the package and send it back to me, and I'll refund all of your money. That is a very generous trial, but I really feel that gives the player the confidence. He goes, "Okay, if I get all my money back if I don't like it, then the seller is telling me he really believes in this thing."

PM: Yeah.

CC: So that's what I'm doing in the beginning. Since people see it on the website, they see a video, they're going to hear a couple of endorsements, a couple of glowing comments from customers, and they're still going to go, "Damn, I just don't know if this is something that -- am I going to get it and think 'this sucks, I just spent 3,000 bucks for something that's no good?'" But instead, they can try it out, and if in a couple of days they've played it, put it together a couple of times, and they go, "Nah, it's not for me," just send it back. And I think with all of those things in place I'm going to get people to try it. They try it, they're going to love it.

PM: What is that website, Charlie?

CC: foldingbass.com [<http://www.foldingbass.com>]

PM: Yeah, of course it was available because nobody had figured it out.

CC: If you Google "folding bass," what you get is my website, and then folding bass stand, folding bass chair, folding bass drum stand, but no folding basses. There's no such thing, never was.

PM: Not until now, people.

CC: My thinking about it is, it's a trust issue. Do they believe it? Because bass players, we're skeptical. We've seen the solutions come out, and none of them really do it.

PM: And why wouldn't you be skeptical at this point?

CC: Exactly. The other solutions just don't work. But I've sold five of them right now, and that's sight unseen. They just heard about it, and they went, "Okay, let me try it out." Well, none have come back. And those are people that sent \$3,000 to me and said, "Okay, well, send me a bass." That's how much confidence they had or how desperate they are, I'm not sure which.

PM: I'll tell you what, Charlie, I was associated with Mesa Boogie in the days when people had to send thousands of dollars up front and wait six months to get an amplifier. And in time that grew into the very respectable cottage industry you know it as today.

CC: Yeah, yeah. It's possible. And boutique builders, you expect to wait for an instrument. I just don't want to put the major word out there and then not have them available. That, to me, is not good business. And once again, my efficiency side comes out, and I think that's bullshit. If I'm going to say this is available, I need to say, "Okay, where is your address? I'll send you one." That's how I want to do business. So I'm trying to time the interest in the instrument with the availability, trying to match those two up. The problem is always there's so much guess work involved. The easy thing to do would be not to sell any and let 50 of them come over and then start selling them. But the problem with that is that I have to buy 50 of them.

PM: Yeah, right, you've got to be capitalizing today.

CC: But I did have an interesting email conversation with a fellow over at the publishers of the *International Musicians Journal*. I've been a member of the Musicians Union for 40 years, and they have a journal, it comes out every month, it's mailed to every professional musician in the union in the U.S. and Canada. And they just started a few months ago a feature called Cool Tools. And Cool Tools would include music stands or saxophone cases -- anything they thought was a kind of interesting new product out there. And I saw a couple of things in there, and I thought my bass would be great in this because this really is something new. So I took a chance and I called them and talked to the staff writer editor over there. And he goes, "Hey, that's great. I was just thinking the other day I don't have enough stuff on basses in my Cool Tools section. This'll be great." I mean, that could launch it in a huge way, all of a sudden it's in the home of every professional musician in the country.

PM: Well, what's going on with the people at *Bass Player* magazine? You have a friend over there?

CC: Dave Pomeroy is a good friend of mine, and he's been writing articles for them for years. And Dave told me, "When you're ready, I'll walk you in there, and we'll show it to them, and we'll see if we can get a feature article on it, we'll go for a cover story, whatever we can do, I'll get you going."

PM: Wow! Oh, imagine getting a cover story in *Bass Player*, how exciting that would be! [<http://www.bassplayer.com>]

CC: Well, I haven't gone to Dave. Dave just won the presidency of our local union.

PM: He did?

CC: I didn't know if you'd heard that. Harold Bradley is out. Dave Pomeroy is our new pres.

PM: Oh, my God!

CC: It was a huge upset. And I voted for Dave.

PM: Holy jeez, that's incredible.

CC: Yes, Dave is my man. And Dave is the new president. And it all kind of happened right at the time when my basses were starting to arrive. I just don't want to overwhelm Dave with things. But it's on my docket to call him next week and say, "Dave, I'd like to bring the bass down to your office, down to the union and show it to you, and see what you think. And let's see what you're willing to do and what you want to do to get this thing going." So I'm going to give him the first shot. Dave has been enthusiastic about this from day one. And he's a good writer and he has the--

PM: He's a real -- a term I'm going to coin a term for you now -- he's a real amBASSador.

CC: He is an amBASSador, you are so right on. And another good thing that happened is, you probably know Dan Miller? He's the publisher of *Flatpicking Guitar Magazine*. [<http://www.flatpick.com>]

PM: Oh, yeah.

CC: He's a great guy and a great guitar player and enthusiast of acoustic music. And he was over to the studio. We just finished producing *Flatpicking Guitar Magazine* compilation record at my studio with -- Tim May was the producer here locally. And Dan asked about the bass. And I said, "Well, I'm so glad you asked. It's sitting right here." And he went, "That's it?" People can't believe it. So I took it apart right in front of him and put it back together. He goes, "Oh, my God. I want to do an article on this. I want to write the article and put it in flat picking magazine." And he said, "I also can walk you across to *Bluegrass Unlimited*, which is a sister magazine of ours, and they'd love this thing, too."

PM: Unbelievable.

CC: So it's starting to explode.

PM: Oh, it's happening, Charlie. And it's going to happen.

So also you need a good video.

CC: I did an instructional video for my first sales, because I couldn't see sending it to somebody without instructions. So I made a video of me. Frank, it's laughable, it's so horrid. I am like the worst actor ever. And the video was real grainy, oh, it's so embarrassing.

PM: Hold onto that, though, you're going to want it someday.

CC: Yeah, I'll hold onto it for a good laugh. But one of my other things for next week is to go to a video store and buy one of those new handy HD cameras.

PM: Yeah.

CC: Oh, my God, they're so good. And now I know how to edit. I can edit films, put in sound tracks, and splice together -- I know how to do that. And I'm going to make a real nice video.

PM: Fantastic, because that's going to be a very good tool, it's a tool for today.

CC: Yeah. And put it on youtube. [Check it out! The videos of Charlie doing the bass setup and breaking it down again -- without any indication of rushing, the process takes less than two minutes -- can be see on youtube and at foldingbass.com]

The thing is, guys like me and you, we're in the business. We kind of hear what's going on. But your average guy, you got to knock on his door a few times to kind of get the message across.

PM: Come on, he's in there playing a video game with the headphones on, you got to kick the door down, maing. [laughs]

CC: Yes. And I don't want him to buy an Eminence Bass or a Czech Ease Bass, or one of these competitors, when what he really wants is one of my basses.

PM: Absolutely.

CC: Yeah. I got an email from a guy just yesterday. He said, "I've just put my Eminence on the market. I hope it sells quick. I want to buy one of your basses." And I wrote back, I said, "Well, you better sell it quick before people realize that this is the cheaper and better alternative, and then you're not going to be able to sell your Eminence bass, because no one is going to want one."

PM: I mean, it's not outlandish to think -- I'm not an upright bass player, I like to fool around on bass -- but for three grand, I'd freakin' buy one. I'm already thinking, now, how -- where can I pull money from -- I need an upright bass. I'm thinking I want to bring it to Guatemala.

CC: Yeah, an upright just to have around the house for jam sessions, or you're laying down some tracks.

PM: I can have an upright bass in Guatemala, hell with that.

CC: Oh, my God, yeah.

PM: There's one for \$3,000 I can fly?

CC: Yeah, it's just luggage, you check it at the curb and let it go, and not worry about it. I'll tell you what, Frank, I think the price, the ease of setup, and the fact that it's beautiful and it sounds great -- I recorded four songs yesterday in the studio. I miked my folding bass. I didn't use a pickup, I just miked it. It sounds incredible. I did a record at John Carter Cash's last month. Jamie Hartford was on the session. It was great to see Jamie again. And I just brought my folding bass. And nobody knew it was a folding bass until I said, "Hey, guys, check this out." And they go, "Holy shit!" It's an ordinary acoustic bass in every respect, nothing to draw your attention, and even professional musicians can't tell it from an upright bass.

PM: Well, Charlie, I think you're a genius in our midst.

CC: I'm a chop shop, we'll go back to the beginning. I chop things up and I put them back together.

PM: Yeah, but you done good this time, my man.

CC: Well, I'm proud of this one. I've scribbled on many a notepad. I've gone through many a notebook trying to bust this nut. And every little problem, unwinding the strings, the strings coming out of the tailpiece, the sound post falling over -- every one of those problems -- if I didn't solve each and every one of them, the whole thing would collapse. It's like a lot of things in your life, you get everything together, and you miss one thing, all your effort could be for nothing.

PM: Right.

CC: So every part of this problem, from the case to the strings, everything had to work together in concert.

PM: Well, I hope that there will be some very good photographs for us to include with this, our very first piece on gear ever --

CC: Yeah!

PM: -- in our nine-year history. And I've always wanted to do it. And I think I was just waiting for the one momentous thing that just needed to be addressed, and here it is.

CC: I'm working on a picture right now that I think is -- I'm looking for a picture that tells the story, you can look at one picture, and you kind of get the whole thing. You get, oh, it's a full size upright bass that fits in a small case. I mean, I want the picture to say that. I've got a picture, Laurie just took it last night. I'm just doing some final editing on this right now.

PM: Well, somehow, Charlie, by Jove, you've done it, through persistence and just good American ingenuity.

CC: It was just doggedness. You might know that I love puzzles. And of course, the greatest puzzle for any man is a woman.

PM: [laughs]

CC: I haven't busted that one yet. I don't know. In fact, the more I look into that the less I know about it. So I can't offer anything on that. But I do like Sudoku puzzles. I like problem solving. I hate reading manuals because I want to figure it out myself. It's just the nature of the beast. And this was a puzzle that I happily approached, and I'm happy

with the conclusion. I solved it. It's a Rubik's cube that took three years, but I got it solved. And I'm very pleased about that.

PM: There's no doubt in my mind -- it's going to take a little time, but you're going to sell a pile of these.

CC: I'm hoping so, and so is the manufacturer. We're all excited about it. And I think the thing that underlies it all is that my frustration was the same as so many bass players' right now in the world. And there's a solution now. It's affordable, it works, you're going to be happy, you're going to dig it. And that gives me a lot of pleasure. Because a lot of times you get -- people get in their fifties, and they start thinking about funny things late at night when they're going to bed. You go, what's this all about? What am I doing? My time here, what was it all about?"

PM: Was I just treading water?

CC: Yeah. Was I treading water? Did I do something that--

PM: Did I get to the other side of something?

CC: Yes. And I really feel that for me, at my age, I feel like I've really contributed -- maybe not to the bass literature, I didn't write any bass songs --

PM: Really? Not yet, maybe.

CC: Well, not yet. But I did something for bass players, something that we needed. And I was the right guy to do it. I had the right disposition and the right attitude toward it, and the right talents for it. So I feel good about that. It's for my brothers and sisters in arms out there.

PM: It's a beautiful thing, Charlie. And I love that we had the time today to kind of commemorate that whole process. And I love being part of the process to help get the word out there.

CC: Puremusic is going to be a big help, and I'm honored to be the first of your gear articles, too. That's so cool.

PM: Yeah, now I've got the bug. I'm going to have to see if there are any other geniuses out there in the musical equipment world to whom we should talk.

CC: Calling all geniuses. Well, Frank, thank you for having me in Puremusic.

PM: It's great, Charlie. I'm really proud of you, and wish you all the best with your incredible invention.