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Seth Lover Seth Lover

By Stephen Patt

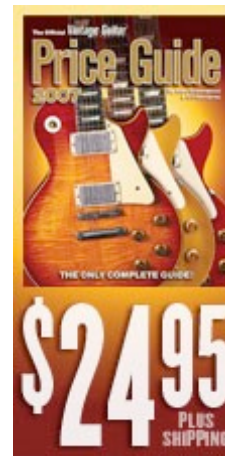
The history of the musical instrument business is full of stories, from the drab to the miraculous. Some bean-counters will busily push their way to the forefront, grabbing for a piece of history, while others quietly create. Seth Lover peers out at me from the doorway of his humble Southern California ranch house looking for all the world like an elf dressed in worn work clothes. Welcoming me inside as if he'd known me all his life, I enter a home that is rooted as firmly in the past as in the present. The charming Mrs. Lover joined us for our afternoon together, occasionally chiming in from time to time. Electronics manuals and instruments are in every corner, and the inner sanctum, Seth's crowded two-car garage, is a wonderland of old inventions never marketed, examples of his prodigious career spanning five decades, and enough parts inventory to start a musical

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instrument company.

A noted creator — never a bean-counter — Seth's lifetime of achievements include numerous amplifiers and circuits, but none of these have been as recognized as his humbucking pickup, which began life in the 1950s while Mr. Lover was designing for Gibson, became the PAF, and spun off multiple imitations over the years. Finally, in the 1990s Seth may be getting some of the praise he has missed in the past, as noted pickup designer/manufacturer Seymour Duncan releases the Seth Lover Model Humbucker Pickup, the SH-55, from Duncan's Santa Barbara, California factory. And, of course, one hopes some of the well-deserved financial rewards will also go Mr. Lover's way. He's certainly earned it.

Vitage Guitar:Who got you started on the path of electronics?

Seth Lover: I was born in Kalamazoo, Michigan on January 1st, 1910. This year I'll be eighty-six years old. In the early 1920s a schoolteacher in Pennsylvania began helping me with electronics projects. I was living with my grandparents at the time, and we used to get the Philadelphia newspaper; the radio section showed how to build different circuits. I guess my first project was a one-tube radio, which worked pretty well. My grandparents had died in the

1920s, and I decided to join the Army. Oh, and in between I lied about my age at 17, worked for the railroad, got laid off, and worked for several others. In the Army, I was assigned to Battery C of the 16th Field Artillery, Grey Horse Battery in Fort Meyer, Virginia. We all had grey horses, which sort of explains the name.

While there I was working around electronics, and when I hit the end of my term in 1931, took a radio course from a Washington, D.C. company. This was actually my second course — the first course was in 1925 while I was working on a farm. That was from the Radio Association of America, and they were supposed to send parts for me to assemble a radio. Instead they sent one that was already built! They had bought it from Montgomery Wards! I did buy batteries, and it worked pretty good. Radios weren't commonplace, and we liked to listen to ball games, especially the World Series.

How did your first radio business come about?

Well, in 1930 with my second course under my belt I went into business in Kalamazoo. I was repairing radios and the like at the Butler Battery Shop. We'd have to recharge batteries, repair radios, and install 'em. But we moved when Butler died, and started our own shop at 465

Academy in Kalamazoo. Eddy Smith, an orchestra leader who played out at Long Lake, was a good customer. I used to build amplifiers for them to use. The poor guitar player would be playing next to the piano, and you could see him moving his hands, but for the life of me you couldn't hear him play one note! If they let him get close to the microphone he could be amplified and heard. So I worked up there, and in 1935 I went to work for M and T Battery Company, doing the same thing, repairing and installing radios. But then in 1941 Walt Fuller got ahold of me and wanted me to come to work for Gibson. I began working with them full time. They were buying amps from a Chicago company, putting out the EH-125, the 150, and the 185. We'd plug in the tubes and test 'em, and if they worked, well fine, but if not, why I'd have to fix em up. I was a troubleshooter. And when the World War II came along, I joined up again.

In what capacity was that?

They offered me a Second Class Radioman rating, and I ended up in the Navy. I was sent to "Neurotic Heights", in Connecticut. Then I was sent out to Treasure Island near San Francisco, to radio electronics school for a couple months, and in August I received my First Class rating. I was sent to teach electronics near Washington, DC, and most of my

time during the war was spent teaching.

In 1944 it was decided that I had to go to sea, so after a refresher course in Maryland for a month, I was ready. We were allowed to pick a ship, and I got the USS Columbus, which was being built in Quincy, Massachusetts. I was sent up there, and began checking installations and spare parts, and a little later we were sent out to sea. Well, about 500 miles out the drive shaft broke, and we had to turn around. In order to get at the thing, they had to cut a hole through all the decks. Well, before they got the darn thing fixed the war was over! (warm laughter from Mr. and Mrs. Lover). I had enough points to get out, but they said I had to sail down to Guantanamo Bay, Cuba. I repaired a few transmitters down there, and then came back in October, and was discharged.

Did you immediately resume your electronics work?

Yep, I went back to work for Gibson, and stayed with them for a couple years until the Navy built a training station in Michigan. With my Chief's rating, I was a good prospect for them, and was asked to work for them for \$5,000 per year, which was a lot of money back then. Gibson was only paying me \$3,000, so I went back to the Navy. A few years later, they wanted to transfer me

to Minnesota. Ted McCarty asked me to build him a special kind of pickup, which I did by hand, and I've probably got the original out in the shed somewhere... He decided that Gibson could afford to pay me what I had been getting in the Navy, so I was back with Gibson again! That was in 1952.

What were some of your earlier designs?

Before I'd gone into the Navy, I'd begun to design an amplifier. The tremolo circuit in typical amps "putted" along if there was too much depth. I found a way to get a tremolo without any noise, using an optical device, and Gibson was building it while I was in the Navy. So in 1952, I began designing other amp circuits. In 1955, I got the idea for this hum-bucking pickup. You see, a single coil pickup, when it got too close to an amplifier, would make a god-awful hum, and the guitar player would have to position himself just right to minimize the noise.

I had designed an amplifier, the Model 90, which had a special hum-bucking choke, and figured I could use the same concept on the pickup itself. It was quite simple, really, just two coils opposed, and they'd pick up the hum and just cancel out. I designed it into the tone circuit of the amplifier, and if you'd swing to one end it would wipe out the

bass, to the other extreme it would wipe out the treble. So, the pickup was similar in concept, and it "bucked the hum", hence the name. We made the patent application in 1955, and it took us four years to actually get the patent on that. Apparently, a number of people had done something similar. They had big U-shaped magnets taken off of speakers, and had a coil at each end. One of them even had two big coils, took the power from the amplifier, and fed it to the coils, so as to magnetize the strings and pick up the vibration.

When did your humbucker actually begin production at Gibson?

We starting building our version in 1955, even though we didn't have a patent, and that's when they got the "PAF" stickers to put on them. I understand that those pickups have gotten quite popular. When we finally were granted our patent, we changed the sticker to one with a patent number, but we actually printed the wrong number on the sticker, one that matched our tailpiece. This way people who sent away for copies of that patent didn't ever get a copy of the pickup! (a low chuckle erupts). We were replacing the P-90, and there were other single coils being used, especially on steel guitars. I did make a humbucking pickup for steels that worked particularly well. The

Gibson Electraharp had my pickup on it, and it was a whopper, but they didn't build too many of them. It was quite expensive. I also had designed a special pickup that had a single-coil across all the strings, then an additional single coil for the treble strings, and a third single coil for the bass strings. There was a switch so you could add a little more treble, or a little more bass.

What prompted your shift from Gibson to their main competitor, Fender?

I stayed on with Gibson until 1967, and then had an offer from my friend Dick Evan who had also worked for Gibson in the '60s, and was Chief Engineer. Now while I designed most of the amplifiers and pickups, I never did hold that title. I was just a designer. CBS had bought Fender, and they were kind enough to offer me a job. He sent me a ticket to come out and talk, and Fender offered me \$12,000 per year. Hmmm — I was only getting \$9,000 at Gibson, so I came out and went to work for the competition. I did design quite a bit of stuff for them, but the thing was, if the front office didn't ask for something, you couldn't give it away. They just weren't interested in anything you could come up with. Why I've got a special guitar I designed while I was with Fender...here, let me show it to you. It's in the closet.

[A short walk ensues, and a dusty but serviceable case reveals an odd looking Fender semi-hollow guitar with a smorgasbord of switches and pickups. After a brief search for a cord and an amplifier, loud noises begin to fill the room.]

It's got a humbucking pickup, my own of course, and Fender wanted to sound just like Gibson's. Well, I didn't feel that way about it. Since Fender had a naturally brighter sound to their pickups, I decided to make this a little different. I used CuNiFe magnets in this one, copper/nickel/iron, and it can be threaded. Al-Nickel really can't do that, unless it's molded. This was nothing like Gibson's. If you look at this guitar, it has regular and "special effects" pickups. There's a built in octave-generator, as well as the normal guitar sound. Now the second harmonic is pleasant and strong in this pickup. I also inserted an auto-wah on the second pickup, and you can vary the attack. [Seth demonstrates at top volume with a gleeful grin on his face.] When I'd worked for Gibson, I built a fuzz-wah pedal using transistors. The idea came from down in Kentucky, where this fella had an amp that had gone all fuzzy; the plate resistor for the input tube had gone so high in value that the plate load dropped, and the tube would overload and distort. I did the same thing with these transistors,

amplifying the signal to the point where it would overload and produce distortion. So here it is, and what a sound it makes! [Again, a joyful noise is produced.] Of course, single notes were best.

What kind of response did your special effects guitar get?

Carol Kaye [noted California bassist] came down to try out this rig in a bass and loved it. Other players from Los Angeles tried the guitar and were impressed. But since Sales hadn't thought of it, well they just weren't interested. Now this operates off of a single C-cell, and it'll last about three months. Gene Fields, a great steel player, now lives down in Texas. He had one of my units built into his steel, and wow, you should have heard that thing! There's all told about 75 transistors here, and I bet if we went to some integrated circuit manufacturer now to build it, there be no size to it at all.

Fender had a rough reputation during the CBS years.

They had trouble designing solid-state amplifiers. Two things were always a problem; one, that they wouldn't tighten the screws down enough to hold the power transistors to the heat shields, and they'd blow. Also, the soldering machine was never cleaned, and consequently there were always bad connections.

Things just didn't work. Why, I built test equipment for our production runs, and 40 of the 50 would fail! Always the same problems, so they just abandoned that venture. I did speak up about what the source of the failures was, but they didn't want to listen.

What other involvement did you have in design, other than electronic?

I had some contributions in guitar design. I thought it was foolish to have a guitar that was round on the bottom and would always fall over if you left it propped up. I figured, make it symmetrical so it could stand up [points out a picture of the Flying V guitar]. It wasn't a great seller back in the '50s, but I hear they're quite popular now. I also designed a body with a bit of a different shape. I called it the "bent beer can" model, 'cause the shape of the top and bottom of a smashed beer can never quite line up. When they brought the prototype back from Chicago, it looked odd. I thought it looked better on paper, to tell the truth. But I gave my drawings to Ted, and that's what resulted from it.

Now let's take a little walk into my workroom. [Winding past the kitchen we enter a dark garage suddenly illuminated by fluorescent lights, filled with a sea of parts and amplifiers.] Now this is something I liked — this is the

Fender power-speaker, XFL 2000. The power amplifier was at the bottom, then there's six ten inch speakers, and here's the head at the top. The idea was, Fender wanted a three-channel guitar amp, one for the bass player, one for the accompaniment, and the last for the lead guitar. There'd be reverb and tremolo on the third channel only. The accompaniment would have the oil-can vibrato, and the bass had a fuzz. But anybody who had an amplifier didn't want anybody else plugging in to his amp! It's just human nature. But Fender thought they were building this for trios, and people would lap 'em up. Look, here's an E-tuner built into the head! I wanted a switch added so the lead guitar could access any effect he wanted, in case some fella decided to use this all by himself. But instead, they came up with jumper cords, to bridge the channels. Nobody liked it, though.

Now, I bet you'll like this. [Seth rummages through an old cabinet, and pulls out a cloth-wrapped something.] This is my PAF prototype. It has a stainless steel cover. There's no high conductivity in stainless like copper and brass, so it worked well. When the salesmen saw this, without any adjustment screws, it was like breaking their arms. They just didn't have anything to talk about. So, next came the punched-out holes and the

adjustment screws. [Now a genuine Seymour Duncan Seth Lover humbucking pickup, model SH-55, is displayed, looking similar to a vintage PAF.] These were sent down to me from Santa Barbara, for a final check. And there pretty darn good.

Was there anything you did specifically for Epiphone?

Epiphone guitars used to have a bunch of push-button switches on their guitars, and every time you'd change settings, it'd go "clunk!" I designed a no-clunk switch, with a rocker panel and a magnet to hold the position. [Seth rummages in a drawer and pulls out a working model, with an elegant design.] My version was never used, but it worked awfully well. And here's the Epiphone mini-humbucker. I changed the design so as to offset the screws and look different — maybe better in some ways — than the Gibson humbucker with its straight screws. It wasn't quite as loud as the Gibson version, with fewer turns of the coil, and it was a bit trebly... but it did the job.

I was recently at the Seymour Duncan plant up in Santa Barbara, and had a chance to view the regular process that they use in pickup manufacture, which is very impressive. The Vice President of Marketing, Evan Skopp, and Seymour himself showed me the special area they've set

aside for the SH-55 and the Antiquity series. There's an aged winding machine, which allows the operator to put a little stretch into the winding, just like the originals. How did you and Seymour join forces?

After the patent ran out, Seymour started making the pickups, and he did an awfully good job, not just in appearance, but in materials and workmanship and sound. Everything, down to finest detail, was intact. We had used plain enameled #42 wire. A lot of people would use plastic-coated wire, but the results weren't the same. We used nickel-silver on the covers originally, sometimes called German silver, again due to its low conductivity. You can't solder stainless steel, so the nickel-silver worked better. And that's what you see on these special Duncan-Lover pickups. It's really faithful to the original. The SH-55 will have my stamp of approval on it, and I'll even get a small royalty on each sale. Now, *that's* something that Gibson never got around to giving me! My name doesn't show up in too many of these history books, and maybe they didn't value design in those days. I guess that's why they never paid me much [a wicked glint in his eyes signals that Seth is gently pulling my leg]. I did a lot of work, and now it seems to be getting recognized. Now here's an ad that Gibson ran

on the 25th Anniversary of the patent for my pickup [displays a worn framed picture of a 1980 print ad for Gibson] promoting the company and recognizing how special my Gibson humbucking pickup was. There's a signature on here saying "Seth Lover", but it's not mine. I contacted the company, and said, "Gee, I would have signed the ad myself if you'd asked," and they responded, "We didn't know you were still alive!" (rambunctious laughter from both Mr. and Mrs. Lover).

The father of the humbucking pickup holds his first-born. In Seth's right hand is the PAF Prototype, with no set screws and stainless cover. Photo: Stephen Patt.

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