

The History of the Pickup

AN EXCERPT FROM DAVE HUNTER'S THE GUITAR PICKUP HANDBOOK

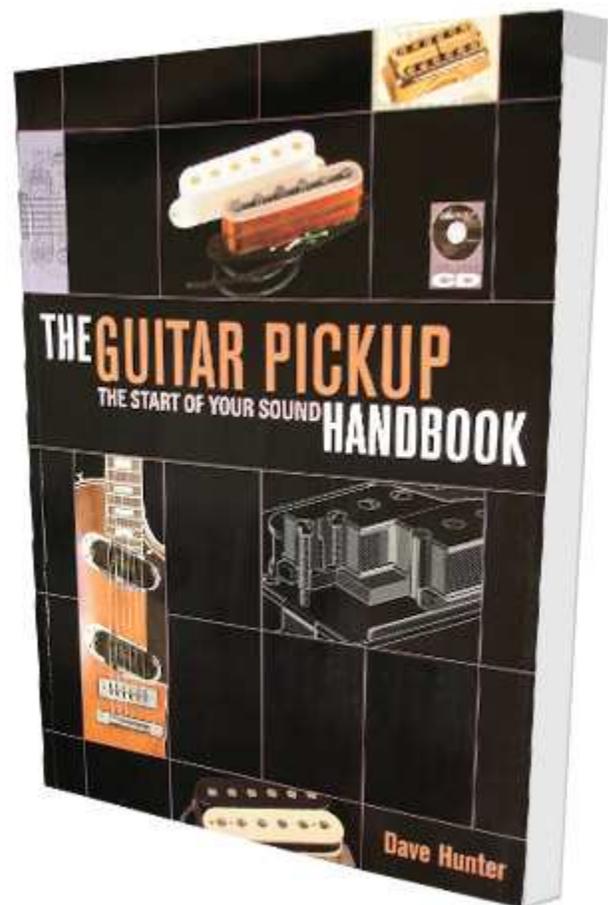
Dave Hunter

March 26, 2009

As the electric movement began to show some legs, established guitar manufacturers — those who naturally approached the challenge from the perspective of the traditional, wood-bodied, acoustic instrument — pursued their own means of entering the race. The most prominent of these is Gibson, which released a cast-aluminum Electric Hawaiian lap-steel guitar in 1935, the E-150 (later EH-150, a model number it shared with its accompanying amplifier). The following year, the company debuted its Electric Spanish ES-150, which is widely acknowledged as the first production electric from a major guitar manufacturer. Around the same time, however, the lesser-known Epiphone company introduced its own Electraphone (later Electar) range of non-cutaway archtop Spanish and lap-style Hawaiian electric guitars, which were fitted with horseshoe pickups acquired from Electro String [aka Rickenbacker]. By 1939, both Gretsch and Epiphone were marketing electric guitars with their own pickups, although the former's Electromatic Spanish model was actually manufactured by Kay (formerly Stromberg-Voisinet) in Chicago. The pickups on Zephyr, Coronet and Century models from Epiphone were large, oval-shaped units, which later in the year were adapted to take adjustable pole pieces, making them the first such pickups available. Despite the innovation, Gibson was by this time clearly pulling ahead in the game; already recognized as the preeminent manufacturer of archtop guitars, its electrics were fast becoming the professional's choice for amped-up requirements, too.

Although our journey here involves an exploration of electromagnetic pickups used on electric guitars, it's worth visiting a few other significant designs along the way, even those that are all but forgotten, and perhaps even went tragically unsung in their day. One such detour should pay brief homage to the father of the humbucking pickup... and right here where you're anticipating the name 'Seth Lover', I'm going to delight in throwing out instead the unfamiliar moniker **Armand F. Knoblauch**, a designer working for the Baldwin Company of Cincinnati, Ohio. A good 21 years before Gibson was awarded a patent for Set Lover's humbucking pickup, Baldwin was awarded a patent for a humbucking pickup design filed on the company's behalf by **Knoblauch** in 1935. Sure, the unit was intended primarily to amplify the electric piano, but **Knoblauch's** application also states that it can be used on other instruments that employ vibrating steel strings, so it wouldn't be much of a stretch to adapt it to the guitar. Here's the kicker though — the application states,

"The principal object of my invention is the elimination of effects caused by stray magnetic fields and such elimination of the device of my invention, without affecting its sensitivity to the motion of the adjacent magnetized strings. For example, let the coils [figs 11 and 12] be identically constructed and be connected in series in an opposite sense... The induction of electromotive forces by stray magnetic fields into



coil 12 is then counterbalanced, part by part, by the induction of equal and opposite electromotive forces into coil 11, with the result that any reproduced extraneous noises, such as hum, are essentially eliminated.” (A.F. **Knoblauch**, Patent Number 2,119,584).”

Knoblauch's design used two stacked coils rather than two placed side by side, and the concept of a ‘hum-bucking’ choke transformer was already commonplace in radio and amplification technology — as both Seth Lover and Ray Butts would cite in regard to the inspiration for their own humbucking pickups two decades later — but it’s an impressively advanced piece of design, nevertheless. And, having been awarded a patent in 1938, it was there on file for any future pickup inventors to discover...

Taken from *The Guitar Pickup Handbook*, Chapter 1: The Development of the Pickup. Published 2009 by Backbeat Books, an imprint of Hal Leonard.

In The Guitar Pickup Handbook, Dave Hunter traces the history and development of the pickup, from the 1920s to the present day, explaining magnet types, size, and structure, and the many different types of coils. The “big four” manufacturers — Gibson, Fender, Rickenbacker, and Gretsch — are each profiled in detail, alongside overviews of more than 20 other specialist guitar and pickup makers, both new and long established, including Alembic, Tom Anderson Guitarworks, Kent Armstrong, Joe Barden, Burns, Carvin, Danelectro/Silvertone, Fralin, Lollar, Rio Grande, T.V. Jones, Bare Knuckle and others, with lengthy interviews of many leading manufacturers. With detailed specifications for each model discussed, this guide provides everything you need to know to choose the pickup that is right for you.