

ELECTRIC GUITAR

“Louder, please!” This request was the spur for the invention of the electric guitar. With this, one can greatly increase the volume and also produce new sounds.

About a hundred years ago, there were many changes in the world of music. Big band jazz was becoming more popular, and the sound of this kind of music really was big. Together with piano, percussion, and guitar, there were several trumpets, trombones, and saxophones. Unfortunately, however, against all of these instruments you could hardly hear a note from the acoustic guitars. Instead of saying to himself, “In that case I’ll only play in small bands,” the Texan musician George Beauchamp decided to look for a way to magnify the sound of his guitar. After much twiddling around and a number of failures, he finally invented the electromagnetic sound reproducer.



This is still in use today and works along similar principles to those of a dynamo on a bicycle. It has a spool of coiled copper wire that is wrapped around one or several magnets. (Beauchamp used two horseshoe magnets.) The metal strings of the guitar run in between. Just as with a dynamo—when the energy created by the rotation of the wheel lights the cycle lamp—the guitar uses movement for the same effect, although this may be less easily visible to the human eye. When the metal strings are plucked, there are vibrations. The magnets and the copper wire produce an electromagnetic

field, and the vibrations are recognized by the sound reproducer or, to be more precise, it recognizes the number and speed of the vibrations and carries these to the amplifier (see next page). The finish comes when the amplifier turns the vibrations back into audible sounds.

Together with the guitar maker Paul Barth and the inventor Adolph Rickenbacker, Beauchamp developed the first electrically amplifiable Hawaiian guitar. Owing to its appearance, it was dubbed the Frying Pan.

In the early 1950s, the American instrument maker Leo Fender designed the electric guitar and electric bass that

Musicians loved the new invention. For instance ...



... The Beatles, ...

... the brilliant guitarist Sister Rosetta Tharpe, ...

... and Chuck Berry.