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75 YEARS

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Contents

Introduction

If you uttered the phrase "electric guitar" any time in the past seven decades, chances are that nine out of ten people within earshot would immediately have pictured a Fender.

It's impossible to overstate the impact of Fender instruments, amplifiers, and effects upon the sound of popular music made over the past seventy-five years. Even so, we might begin to comprehend the weight of the company's influence by considering that, within less than a decade of its founding, Fender had delivered not one, not two, not three, but several instruments and amplifiers that were utterly groundbreaking and that set new standards of manufacture, playability, sound, and performance that remain benchmarks in the industry to this day.

In many ways, much of the popular music made over the past three quarters of a century simply *was* Fender music: the bright, twangy country guitar of the early 1950s or the gnarly, raw rock 'n' roll of the late 1950s; the wet-and-wild instrumental surf music of the early 1960s or the heavy, trippy psychedelic rock that took the stage a few years later; the powerful, bombastic arena rock of the 1970s; the lithe, wiry electric blues revival of the early 1980s or the grunge explosion at the end of that decade—all relied so heavily on the sound of Fender guitars, basses, and amplifiers that it's impossible to imagine these cultural waves having occurred without them.

From Jimmy Bryant and Bill Carson, to Dick Dale and Hank Marvin; from Buddy Holly and James Burton, to Jimi Hendrix and Ritchie Blackmore; from Keith Richards and Bruce Springsteen, to Stevie Ray Vaughan and Kurt Cobain, and on and on and on, the sound was Fender, and the impact was nothing short of revolutionary.

Looked at from the other side of the assembly line, Fender's impact on popular music—and, as a result, its impact on culture and society in the latter half of the twentieth century—was so significant because Leo Fender's vision was so greatly ahead of its time. The products of that vision defined the sound of rock 'n' roll before it even existed, then continued to evolve with the styles to provide musicians with exactly what they needed to sound fresh and exciting in genre after genre, from one era to the next.

Fender guitars and amplifiers earned respect so quickly because Leo made them, first and foremost, sound good and function well, able to survive the rigors of the road and to be easily serviceable. They weren't just supposed to look good in a department store window or catalog, or boast fancy semifunctional features, or appeal to passing trends that would find them gathering dust in attics and under beds once the next big thing hit the airwaves. They were utterly utilitarian and aimed entirely at professionals. Certainly, Leo and his company had to make a profit to stay in business, but they strove to make every new product the best it could be within a manufacturing budget that enabled them to still sell the things. As a result, the company set new standards for quality and professionalism in the electric guitar and amplifier industries.

Because of this focus on quality, Fender creations represent some of the finest examples we have of culture and industry coming together to both define and fulfill a need. Leo Fender's knack for listening closely to musicians' expressions of those needs and adapting them to his work (rather than telling them what they *should* want) established practices that helped produce one guitar, amp, bass, and effects unit after another that quickly became a must-have among top artists of its day and beyond.

In 1946, the year Leo Fender founded his company, World War II was just barely behind us, gas cost fifteen cents per gallon, Perry Como held the highest position on the Billboard Top 100 with "Prisoner of Love," and as many as six thousand Americans were enjoying a new form of broadcast called television. As primitive as the era appears from the rearview mirror of the twenty-first century, within a few short years the Fender Musical Instrument Company developed electric instruments and amplifiers that are still among the most desired and relevant in the music world today, whether in original or reimagined form, and that remain in use by the most forward-looking artists of 2021. A lot has happened in the past seventy-five years, but not once has a new musical style, trend, or craze ever threatened to make Fender's groundbreaking creations irrelevant.


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Chapter

1

CALIFORNIA DREAMIN'

Young Leo Fender and the Radio Store

MAIN:
K&F amplifier and lap-steel guitar, circa 1945.

RIGHT:
Detail of a record pressed at Fender's Radio Service.

The story of Leo Fender's early life, up until the founding of the Fender Electric Instruments Company, appears, from our perspective in the twenty-first century, like a bridge between a very different and even ancient-seeming America to one on the cusp of modernity, just beginning to toddle toward the world we live in today. Any subject with such deep historical roots requires some examination of the era in which it was conceived in order to provide adequate context. The story of Fender's conception and founding of his revolutionary company fully makes sense only when considered alongside an exploration of the political, social, and cultural circumstances of the midcentury America into which it was born.

The world was in the midst of major flux at precisely the point Fender decided to launch a company to make electric instruments and amplifiers. Social norms, industry, cultural trends, and music would all be quite different—and they began careening rapidly toward *very* different—after World War II than they were before. In founding the company that bore his name in 1946, Fender was right at the demarcation point of that tectonic culture shift.

With its arc tied directly to dual revolutions in music and the musical instrument industry, the Fender company was primed to play an outsized part in influencing both. It would be inextricably intertwined with the tools for creating popular music and with how those tools were designed and manufactured, but as a result, also with how music *sounded*. It's all the more impressive that this profound influence came not from one of the major guitar companies that were already active and thriving prior to the war—Gibson, Martin, Epiphone, Gretsch, Rickenbacker, or National—but from an upstart, a company barely established as an instrument manufacturer.

Ultimately the story of Fender's progress toward founding the world's most influential electric instrument company, and the stratospheric rise thereof, remains fascinating not only because of the unprecedented success that company would go on to experience; it's also the story of who we were as a nation and as a culture in the middle of the last century. As such, it also tells the tale of a time when that culture and a particular industry were conjoined, each influencing the other in roughly equal measure to drive the sound and feel of the music that would populate the soundtrack of our lives.

Before triggering that unquantifiable achievement, though, Fender had to find his path in an even more dramatically different, prewar America. And it wasn't always clear that that path would involve musical instruments.

A Fender is Born in Fullerton

Drive the stretch between Anaheim and Fullerton, California, today and you find yourself plying seemingly endless residential neighborhoods and business districts in what is largely considered the suburbs of southeast Los Angeles. Back in 1909, when Clarence Leonidas "Leo" Fender was born, however, the region was mostly rolling farmland, a parcel of which included the successful orange grove and farm run by his parents, Clarence Monte Fender and Harriet Elvira Wood. Born and raised on land not far from the later location of the first Fender factory, Leo had a relatively normal childhood for the times: school, work on the family farm, and a range of constructive hobbies, all of which combined to foment his groundbreaking endeavors a few decades later.

Leo attended the local public schools throughout his youth and showed a keen interest in radio and amplification electronics, and in all things mechanical, which served as his hobbies when he wasn't pitching in at the orange grove. His uncle, John West, ran an auto shop in Santa Maria. One year, he sent a box of salvaged electronics components to Leo for Christmas, which helped fuel his desire to create something functional with this new technology. The following year, thirteen-year-old Leo visited his uncle's shop and was amazed by a creation he found there that had nothing to do with the auto repair that was West's stock-in-trade.

"He had built some radio equipment and had a large wooden trumpet speaker in front of his shop, pointed downtown to [amplify] radio programs," Fender recalled years later in a high school reunion speech. The clear, loud sound of that DIY radio clearly made an impact. "This acquainted me with radio," Leo added, "and led to my building amplifiers for musicians."[1]

While it's widely reported that Leo never learned to play the guitar, he did have a keen interest in music in general, played the saxophone in his high school band, and he had taken piano and trumpet lessons before that. He built an acoustic guitar at age sixteen and seems to have seen intuitively the potential link between musical instruments and electronic amplification from a relatively early age.

TOP LEFT: *A young Leo Fender (second from left) joins the family duck hunt.* TOP CENTER: *With orange trees in the background, a dapper Leo leans on the family car.* TOP RIGHT: *Though he never learned guitar, Leo played the saxophone, piano, and trumpet.* ABOVE: *A teenaged Leo in front of his school.*

From Accounting to Amplification

Upon graduating from Fullerton Union High School in 1928 (the same year the first AC vacuum tubes arrived on the market, as it happens, making amplifier design and construction much easier), Leo attended Fullerton Junior College, where he earned a two-year diploma in accounting.

Already an inveterate tinkerer, he built a PA system for a local band while working as a bookkeeper for the Consolidated Ice and Cold Storage Company in Anaheim in the early 1930s (having moved up the ladder from his first job there as a delivery man) and was soon building, renting out, and maintaining as many as half a dozen PA systems for musical performances, baseball games, fairs, and other events around Orange County and the environs surrounding Los Angeles. Already, it seems, the die was cast, even if Fender himself didn't quite know it yet.

In 1933, he met and fell in love with Esther Klosky, and the two married in 1934. Shortly thereafter, the newlyweds moved to San Luis Obispo, some 200 miles up the California coast, so Fender could take a job as an accountant with a tire company. The young bookkeeper hadn't considered leaving accounting for a career in music electronics until he lost what would be the last of his jobs in the field: the tire company, struggling as many were amid the Great Depression, cut its entire accounting department and left Fender unemployed.

This is perhaps the second of two twists of fate that saved Fender from an alternative future. The couple returned to Fullerton in 1938 and Leo took out a $600 loan with which to start his own business, a move that served as the springboard to the eventual creation of the company that would make him famous.

The first twist of fate had its seeds in a much earlier occurrence: at age eight, Feder had lost his left eye (accounts differ as to whether this was due to a tumor or a farm accident) and would forever after wear a glass eye in that socket. As he returned to Fullerton to open Fender's Radio Service with that $600 loan, World War II was just around the corner. Due to his visual impairment, however, he was among those young men deemed unfit to serve.

ABOVE: *Leo's first PA amplifier.* BELOW: *Leo mans his PA service at a civic event in Fullerton in the 1940s.*

Fender's Radio Service

More than just a place to get your radio repaired, Fender's shop was a full-service business, addressing the needs both of local music fans and musicians themselves. In addition to selling radios, records, and record players, Fender soon found himself repairing instruments and amplifiers brought in by local musicians who began asking him to build them new amps and PA systems.

From his first years in business, Fender displayed the propensity to listen to the needs of musicians and the knack for discerning flaws in existing designs—two traits that would greatly inform his later approaches to the design and construction of electric instruments and amplifiers, while also helping to distinguish his products in a crowded marketplace.

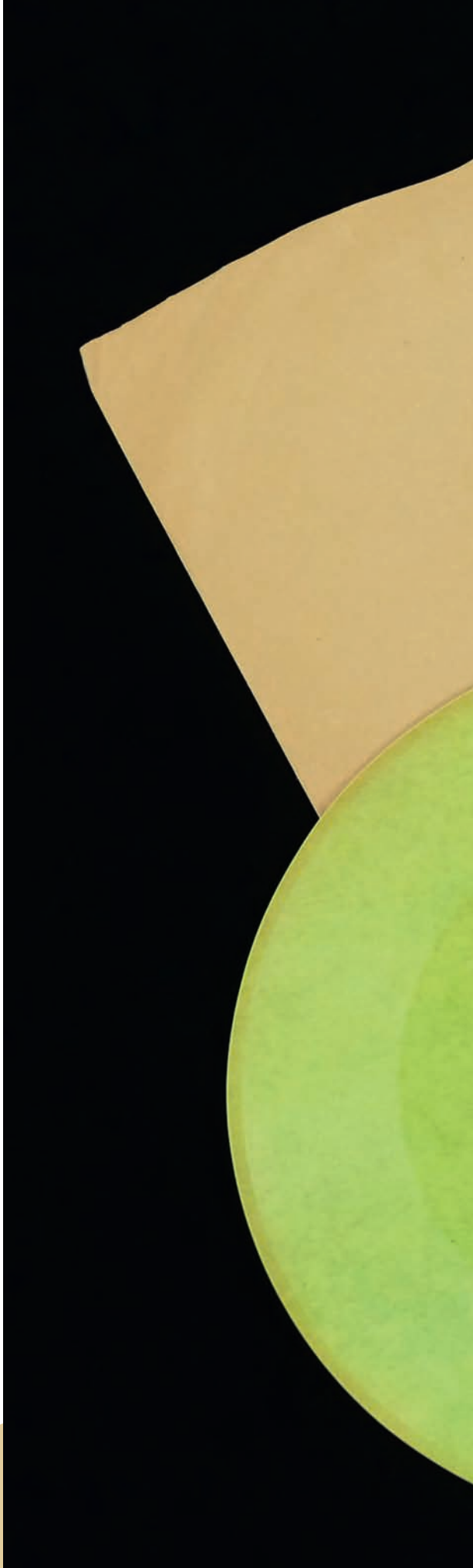
"Originally my work was design, modification, repair, and custom building," he said in 1971. "This gave me a wide acquaintance with competitive products and users' needs. Since my work encompassed more than musical equipment, I knew of benefits I could apply to the musicians' gear. I guess you would say the objectives were durability, performance, and tone."[2]

A genuine music enthusiast, if never a professional performer himself, Fender was known to have truly enjoyed the company of working musicians. He valued the raw and sometimes wacky ideas they would bring him, and also took constructive criticism of his creations as valuable means of evolving toward better and more suitable products.

Just as it did for any business dealing in components and commodities that were essential to the war effort, the United States' entry into World War II meant severe supply shortages for Fender's business and must have slowed his progress. Unlike many of the bigger guitar and amplifier manufacturers—some of which were forced to shut down entirely to serve the needs of the armed services—a small shop like Fender's could bob and weave and move a little more nimbly through the tough times, more often than not finding workarounds and acquiring necessary parts somewhere or other, and thus still serve the needs of local musicians.

Deep into the enforced austerity of the war years, Fender still managed to grow his notion of what his business should be, gradually moving away from the original retail model toward product development and manufacturing. "I liked developing new items that people needed. Working with tools and equipment was more to my liking than retail sales,"[3] he said in an interview in *Guitar Player* in 1971. It was clear that, even before the war was over, Fender had found a new direction for the business.

Records pressed at Fender's Radio Service, alongside an ad for the shop.




FENDER'S
RADIO SERVICE
Radios · Records · Phonographs
107 S. SPADRA, FULLERTON
Phone 6
FOR A COLORFUL REPRODUCTION
FENDER'S
RADIO SERVICE
112 SO. SPADRA, FULLERTON, CALIF.
Phone 1257
Motorola
Packard Bell
Radios-Recorders
ARTIST:
TITLE:
DATE:
RAINBO RECORD CO. LOS ANGELES

A New Partner and New Premises

Things were happening pretty quickly for Fender by the mid-1940s. Even while the business remained small and war shortages dictated certain limitations, his natural drive and application of critical thinking to the burgeoning need for better electric guitars and amplifiers were revealing a potential pioneer in the industry.

Fender had always valued the knowledge and skill of others working in the fledgling field, and around 1943 he saw an opportunity when he took on a partner. A local musician and inventor by the name of Clayton "Doc" Kauffman had been frequenting the shop for some time, and Fender was impressed with his designs for electric guitars and several unique pieces of hardware. Way back in 1929, Kauffman had designed a vibrato tailpiece that worked on both banjo and guitar, and for which he received a patent in 1932. He later designed a motorized vibrola unit that Rickenbacker used on guitars they released in 1937. He also designed and wound his own pickups.

In the early 1940s, Kauffman and Fender codesigned an automated record changer and sold the patent to another manufacturer for $5,000, which they used as seed money for the business. Around the same time, the pair also invented a pickup that had the instrument's strings pass through the coil windings. They filed a patent for that too, which was awarded in 1948 (patents often took several years to be granted at that time). Many reports also indicate that Kauffman and Fender built their first solidbody electric guitar as early as 1944, mainly as a testbed for their pickups. Demand for the instrument, however, found them renting it out to local musicians.

Meanwhile Fender and Kauffman were looking more and more like real manufacturers, turning out their own designs for electric Hawaiian (a.k.a. lap-steel) guitars and amplifiers. These were still extremely popular at the tail end of the Hawaiian music craze, which, in fact, segued neatly into the western swing craze, a genre in which the evocative slide-guitar sound loomed large.

South Harbor Boulevard in Fullerton, California.

ABOVE: *A crude lap steel made to test Fender and Kauffman's "boxcar" pickup.* RIGHT: *Label detail from a 1945 K&F amplifier, along with a rear view of the amp.* BELOW: *Hand-drawn design and advertisement for Fender and Kauffman's record changer.*

NOW ON DISPLAY
OUR NEW

Automatic Record Player

After servicing hundreds of automatic record players over a period of years we decided to build one as free as possible of faults.

The result is—an automatic mechanism having only one principle moving part (no multitude of springs, gears, and cams).

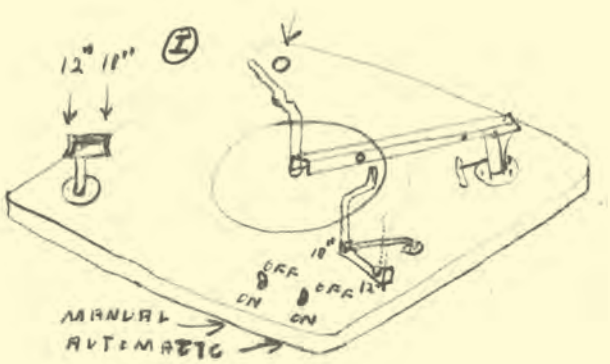
1. It plays 15 records automatically requiring approximately one second to change each record.
2. It has no bunch of tricky adjustments in the mechanism.
3. You cannot throw it out of adjustment by interfering with the action of the arm.
4. It is free from vibration through exclusive motor suspension principle.
5. It would require no costly cycle changes. 50 or 60 cycle current makes no difference to it.
6. It requires no spring mounting but will operate bolted solidly to the cabinet (an advantage in shipping). Other machines require delicate spring mounts to stay in questionable adjustment and to eliminate motor roar being amplified by the cabinet.
7. Fingertip adjustment will change the number of revolutions from 10 to 100 per minute.
8. There is nothing to jam, bind or bend as in other machines.
9. It has no wows or rumble, all notes are even and clear.
10. It won't chip or split records.
11. Due to few parts it is the strongest and lightest machine built.

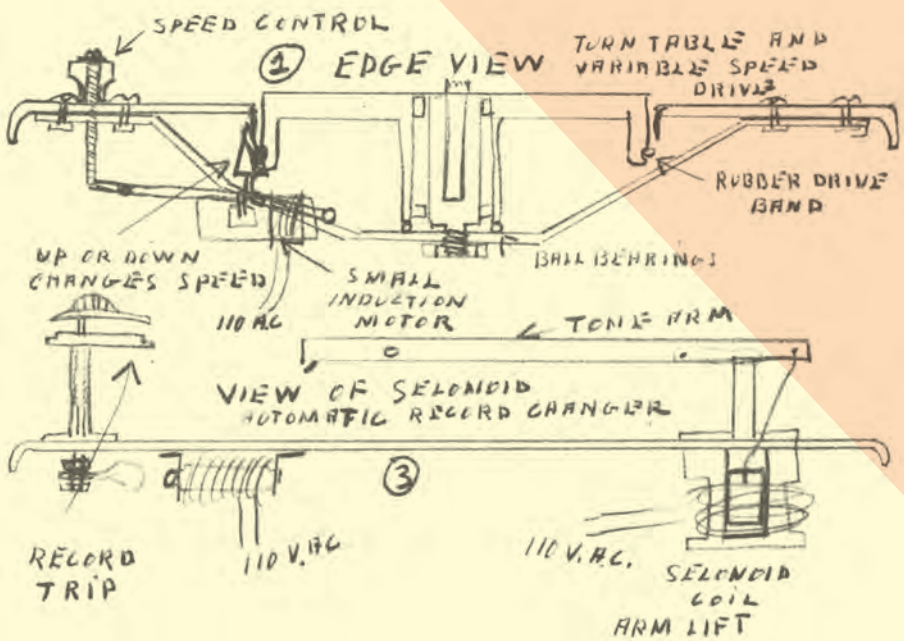
Another Invention From

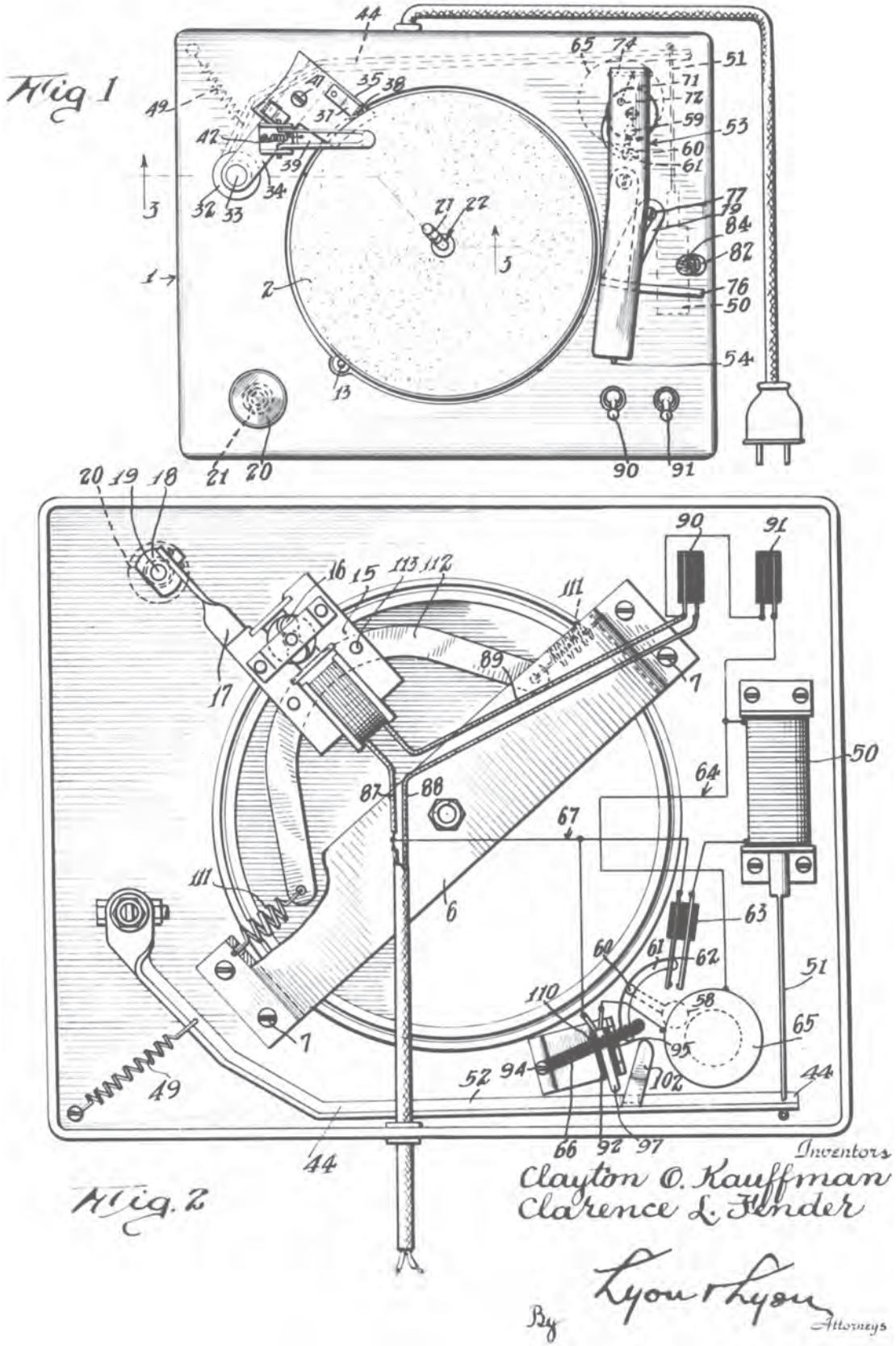
FENDER'S RADIO SHOP

MOST COMPLETELY EQUIPPED IN ORANGE COUNTY
107 South Spadra, Fullerton, Phone 6

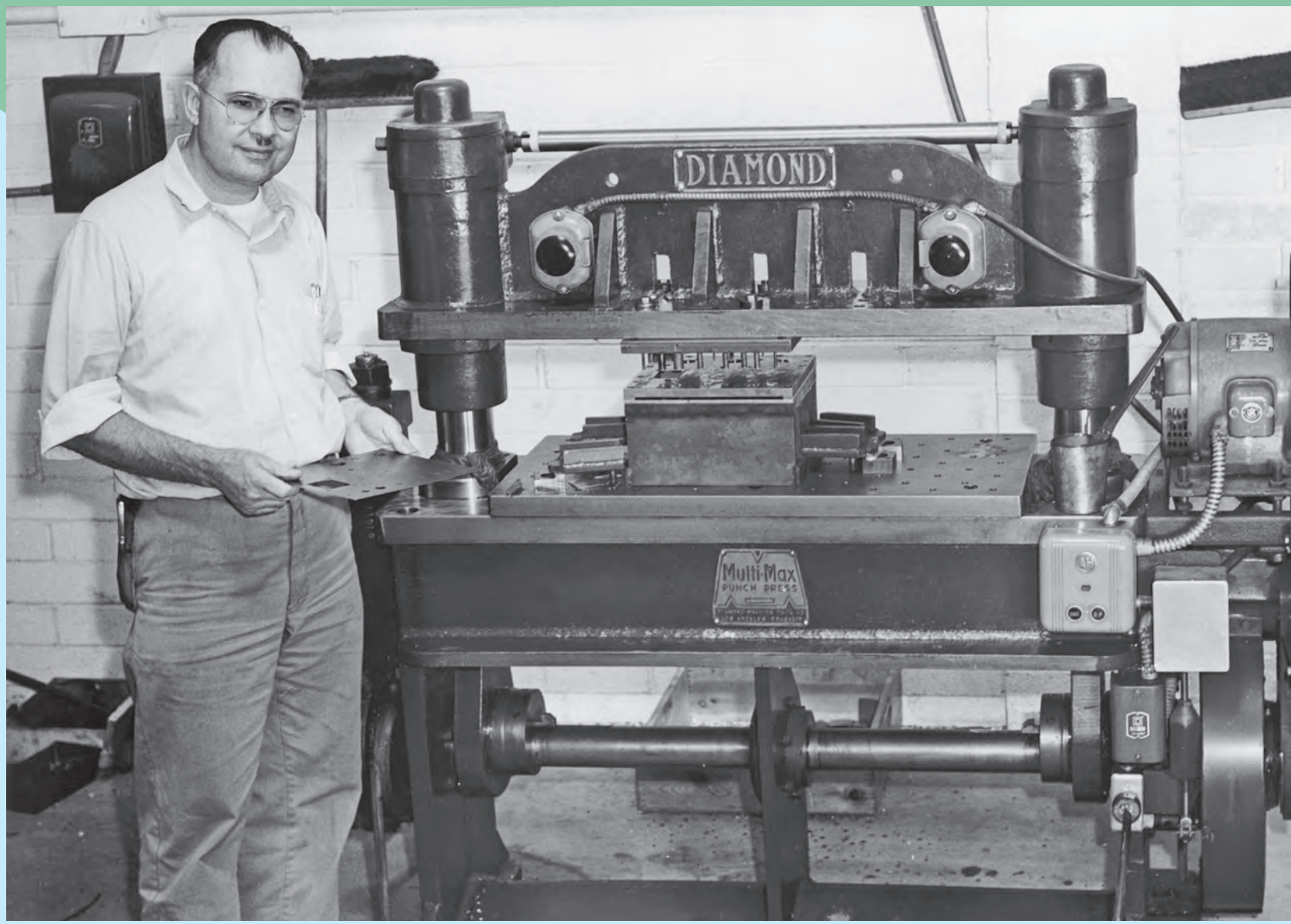
Auto Radios — Records — Sheet Music
Electric Hawaiian and Standard Guitars







LEFT: *Diagrams on the patent application for the record changer.*
OPPOSITE: *Leo at the punch press.*



In 1944 Fender's Radio Service acquired new, larger premises at 107 South Harbor Boulevard in Fullerton (formerly South Spadra). The following year, Kauffman and Fender made their existing partnership official by forming K&F Manufacturing Corp., which operated out of that address, with manufacturing spilling into a shack behind it when things got busy. The K&F logo appeared on several lap-steel guitars and amplifiers made and sold in that first year of the company's existence, but Kauffman quickly grew wary of the risks associated with owning a business. In February 1946 he traded his interest in K&F to Fender in exchange for a punch press, and the remaining partner lopped Kauffman's name from the company logo, forming Fender Electric Instruments shortly thereafter.

There was still plenty of hustling to be done, and more than a few bumps in the road lay ahead, but by now much of the groundwork was set for what would become the most influential company in the history of the electric guitar.

Chapter

2

WOOD, WIRE & STEEL

The Birth of Fender Electric Instrument Co.

MAIN:
Fender lap-steel guitars and accompanying "woody" amplifiers.

For many fans of Fender's groundbreaking creations, the company's history begins in 1950 with the introduction of the world's first successful production-model solidbody electric guitar. This was the culmination of four years—beginning with the company's founding in 1946—packed with developments and innovations that charted a direct path to the solidbody's revolutionary release. The work leading up to that moment helped define the Fender sound, even if in somewhat different forms.

In its short year of existence, the K&F Manufacturing Corp. run by Doc Kauffman and Leo Fender produced six models of lap-steel (Hawaiian) electric guitars and three amplifiers. The lap-steels and amplifiers were paired according to their size and features in sets aimed at students, novices, and professionals respectively. Hitting the ground running in 1946, Leo and the four employees he retained from K&F carried on in much the same way, although it's generally acknowledged that production quality increased fairly quickly as Leo devoted his attention more fully to the effort.

With the shift to the new company, Fender also began to partner with a new distributor. For several years, Leo had purchased electronic components from the Radio & Television Equipment Co. (Radio-Tel) in Santa Ana—more specifically from Don Randall, the salesman for the Fullerton area, who also served as Radio-Tel's general manager. While encouraging Fender to ramp up his own manufacturing, Randall also convinced the owner of Radio-Tel, F. C. Hall, that they should distribute products made by Fender Electric Instrument Co. Before the end of Fender company's first year in business, a deal was penned to do just that.

RIGHT:
The 1950 catalog cover featured a three-neck lap-steel.

FAR RIGHT:
Don Randall, the general manager of Radio-Tel, convinced Leo to ramp up production in 1946. He also convinced his boss, F. C. Hall, that Radio-Tel should become Fender's distributor.

Upgrading the Amplifiers

Early in 1946 Leo introduced a new lineup of Fender amplifiers and single-neck lap-steel guitars, paired from more affordable to more expensive models: the Princeton, Deluxe, and Professional. All but the smaller Princeton amplifier wore the new lightning bolt Fender logo. Fender amps from this era have probably remained the most distinguished among early Fender products. Nicknamed "woodies," each came in a lustrously finished hardwood cabinet—available in maple, black walnut, mahogany, and, occasionally, oak—three shiny protective metal grille strips, and a fixed wooden handle on top, representing a major upgrade in both style and construction from the K&F amplifiers of just a few months before.

Although there would be some notable developments in the electric Hawaiian guitar line, it's widely acknowledged that Fender's amplifier development was coming along by leaps and bounds. Just a year after introducing the appealing woodies, Fender—still a tiny company by any standard—unveiled what many vintage amp authorities today consider one of the most significant evolutionary leaps ever in amp design: the Dual Professional.

In addition to bringing an enduring new look to the Fender lineup with its cabinet covered in aircraft-grade linen—a variation of the tweed covering that would adorn Fender amps until 1960—the Dual Professional introduced several major innovations:

- The world's first production amplifier to carry two speakers (a pair of 10-inch Jensens)
- The first Fender (and one of the first-ever guitar amps) to carry a top-mounted chassis with upward-facing control panel
- The first Fender with a removable back panel for easy circuitry access
- One of the first production guitar amps to have its electronic components mounted to a circuit board
- The first Fender amp with a tube chart
- The first Fender amp made with a finger-jointed pine cabinet[4]

The Dual Professional was also distinguished by its wedge-shaped (a.k.a. V-front) cabinet, designed to increase the dispersion of the two speakers. This feature was retained the following year when the model name was changed to the Super. All single-speaker Fender amplifiers were eventually migrated to tweed-covered cabinets that have come to be known as TV fronts for their resemblance to early television sets.

OPPOSITE TOP: *Billy F Gibbons with a brace of Esquires and a stack of V-front amplifiers.* OPPOSITE BOTTOM: *1949 V-front Super. Introduced in 1947 as the Dual Professional, the amps featured a wedge design to disperse sound.* ABOVE: *George Fullerton's brother Bob shows off a pair of TV-front amps outside the early Fullerton facilities.* RIGHT: *A 1951 TV-front Princeton amplifier. Fender single-speaker amps migrated to this tweed-covered design.*