

Jasper's Guitar Magazine

The Development of the Gibson L-5

The Gibson L-5 is a hollow body arch top guitar first produced by the Gibson Guitar-Mandolin Corporation in 1923. There were two versions of the L-5 model, an electric and an acoustic model. The Gibson L-5 is among the most influential jazz guitar models due to its revolutionary sound and feel, played by many jazz guitar giants such as Carl Cress, Dick McDonough, and Eddie Lang. The L-5 was first an acoustic instrument but was made electric in 1951.

In this session of Jasper's Guitar Magazine, we will analyse and try to find the reason for the L-5's popularity among many great jazz guitar players. We will also explore and compare the sound and the construction of the L-5 as it developed acoustically from 1923 to 1950.



A 1936 Acoustic Gibson L-5 owned by American Actor James Cagney. The guitar is in very good shape. This L-5 has been refretted, and the nut and pickguard have been replaced. More information about the guitar can be found on: <https://rudysmusic.com/products/c-gibson-l-5-belonged-to-james-cagney-1019-f-5-s-n-93904-w-ohsc>.

To better understand the uniqueness and speciality of the revolutionary model, it is essential to have a simple understanding of archtop development.

A short history of Gibson Archtops

The archtop is considered the American interpretation of the European guitar. The first archtop design is accredited to Orville Gibson of Kalamazoo, Michigan. Gibson applied for a carved top and back (a violin-like feature) for mandolin designs (mandolins, archtop guitars) in 1885. In 1898 Gibson was awarded his patent.

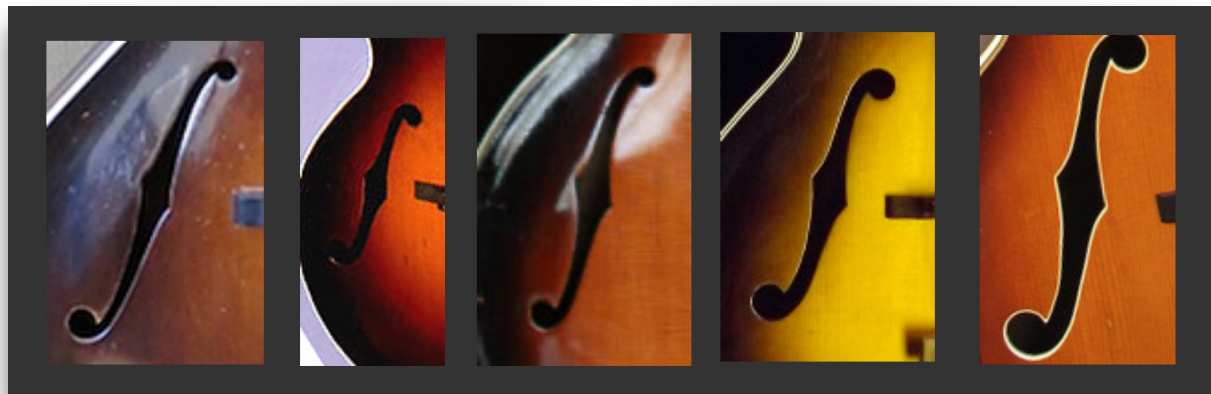
Despite Gibson not being the first guitar builder, he was the first to use violin features (floating bridges, rear-mounted tailpieces, opposite-facing f-holes) in his mandolins and archtop guitars. The guitar's violin-inspired elements increased its (and the mandolins') resonance and vibratory qualities, making them much louder than many of the guitars (and mandolins) of the time. The loudness of the guitar made them popular among jazz guitar players.

In 1902, Gibson sold his patent (and his name) to a group of Kalamazoo entrepreneurs. They formed the Gibson Mandolin-Guitar Manufacturing Company and specialised in producing mandolins (all sizes) and guitars.

With the invention of the truss rod by Thaddeus McHugh (a Gibson employee) in 1921, we find that the many tuning and neck issues Gibson guitars once faced no longer existed. Truss rods became a must on many future archtops.

With Gibson's death in 1918, Lloyd Loar (born in 1886 in Cropsey, Illinois) was hired to supersede Gibson as the new luthier and designer. Loar, originally a sound engineer, designed the F-5 mandolins. He then translated his design to guitar creating the Gibson L-5 in 1923. The L-5 is the basis of what we now know as the modern archtop. The L-5 had several distinguishable features. It was the first guitar with f-holes, floating fingerboards, trapeze-shaped tailpieces, and a long pickguard.

The L-5 was not an immediate success, resulting in the short stay of Loar at Gibson's manufacturing. The L-5 would only gain popularity years later for its loud, bright, and percussive sound, capable of cutting through large horn sections. Hence, the L-5 model became popular with big-band guitarists.



From left: small unbound f-hole from 16-inch L-5; large unbound f-hole from 16-inch L-5 (serial number 92033); small unbound f-hole from 17-inch Advanced L-5; large unbound f-hole from 17-inch Advanced L-5; large bound f-hole from 17-inch Advanced L-5. Image and description taken from: <https://prewargibsonl-5.com/body/>.

The L-5 was originally 16 inches wide but soon evolved to 17 inches in 1934 as retaliation to Epiphone's "Masterbuilt" models, which were 16.375 inches wide. In 1939, the cutaway was introduced, which gave players more playability.

What made the L-5 so special?

As previously mentioned, the L-5 is known for its unique and distinguishable features giving its loud, percussive, and bright sound. To understand the genius of the L-5 design, we will focus on its different specifications and properties. First, it is essential to note that the L-5 was considered Gibson's best and most high-end model. It was made from the best woods and materials to ensure the excellent quality the L-5 is known for.

Body

The three main body features which enhanced the archtop sound and gave the L-5 the iconic and unique sound are: the use of maple and birch, parallel bracing, and a thinner top.

The most important feature of the L-5 is its body. Lloyd Loar first used maple for the sides and birch for the back. Both maple and birch produce brightness and resonance in guitar building. Both kinds of wood are hardwoods, meaning

they resonate well and give a punchy and sharp sound. Guitar players needed a loud, cutting-edge sound audible in big bands. The punchy high-end and sometimes boomy low-end from the two kinds of wood gave guitar players just what they needed. However, birch and maple are challenging to build due to their stiff and solid nature. Hardwoods are now less used in guitar building, requiring more effort, time, and skill to shape, bend, and construct, which likely explained the priciness of the L-5 models.



Birch (left) and maple wood (right). Image taken from: <https://www.deslaurier.com/en-ca/learning-centre/birch-vs.-maple-kitchen-cabinets>.

Different building techniques and bracing patterns were experimented with in the L-5 to increase volume. Loar originally built his model with the Virzi Tone Producer (a small tone chamber); however, these proved ineffective in the L-5s. The Virzi Tone would soon be replaced by the (modified) parallel bracing pattern, which gave the guitars a much louder and distinguishable sound. Parallel bracing can withstand more string tension without the guitar top bending or deforming, which helps increase the guitar's volume.

Parallel bracing enhanced the iconic sound of the L-5. Parallel bracing also gave the guitar a much brighter, punchy, and louder sound, which made the guitar much more viable in big bands and large ensemble settings. The parallel bracing strengthened the guitar tops' strength, allowing for thinner tops. Lighter and thinner guitar tops produced resonated better, which in turn made the guitar louder. The more delicate tops gave the guitar a more balanced sound between the high and low ends (less so on the mid ends). This adjustment, in turn, helped counteract the sharpness of the woods, making the

guitar sound much more unique and desirable in jazz. However, thin tops were challenging to build; only the most experienced builders could build them.



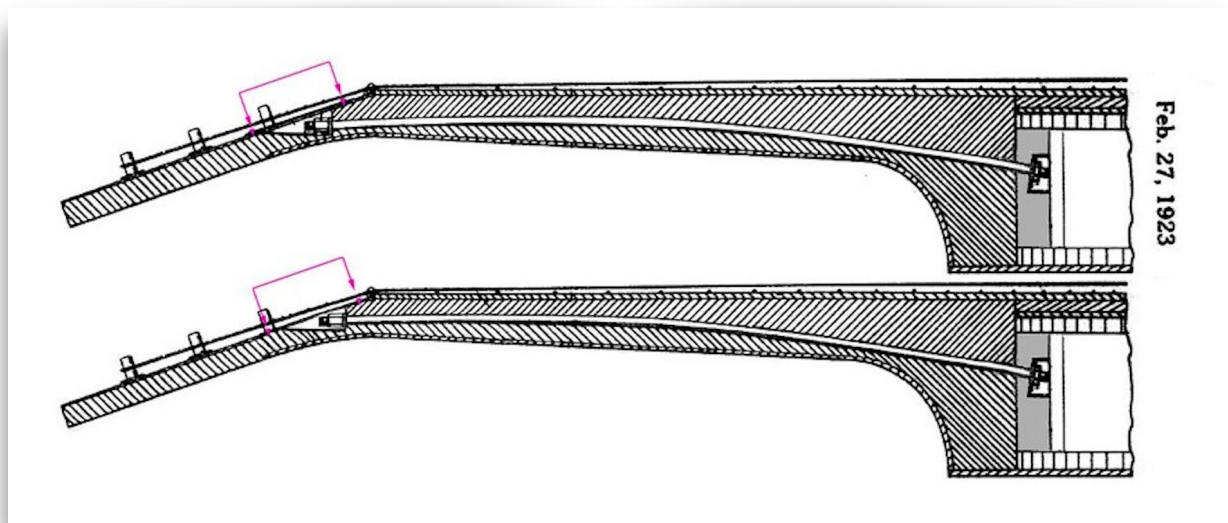
L-5N with serial number 97291. The back of the archtop is removed to show the bracing. Image taken from: <https://prewargibsonl-5.com/body/>.

Combining wood choice, bracing technique and thinner tops made the L-5 model significantly louder than other arch top models. All three features give the guitar a bright, punchy sound. The parallel bracing gave the L-5 a more balanced sound, mainly for the guitar's high and low ends. With the wood bracing combination, the guitar gained significantly more volume making them more viable in the musical settings of the time.

Neck

The invention of the truss in 1921 resolved many tuning issues. Tuning and intonation were issues many earlier and previous guitar models faced, making the truss-rod inclusive guitars, like the L-5, more desirable. From 1921 onwards, all the L-5s could be intonated and tuned. Since the truss rod was first patented and exclusive to Gibson models only, Gibson guitarists quickly gained popularity among the guitar public.

In addition, introducing the truss rod reduced the chunkiness and thickness of the guitar necks. The thinner and narrower L-5 necks made the guitars much more playable. The increased playability gave many guitar players much more versatility, allowing the guitar to become a solo and rhythmic instrument.



Schematic diagram of the first truss rods models. Image taken from: <https://prewargibsonl-5.com/head-and-neck/>.

The earlier L-5s models also had rosewood fingerboards. These fingerboards helped develop the unique sound of the L-5. The rosewood fingerboard gave the guitar a slightly more mellow and blended sound which is desirable in jazz music. Rosewood is also a very playable fingerboard wood due to its softness, compared to ebony and maple, popularising the L-5 models.



1936 L-5 with rosewood fingerboard. Image taken from: <https://www.atbguitars.com/1936-gibson-l5-hsc>.

Rosewood is considered a softer wood and much easier to build, making it a popular fretboard-building wood among guitar builders. Not only was rosewood cheaper and easier to build with, but it was also easy to maintain and clean, making rosewood guitars popular among guitar players.

Gibson would later build L-5s with ebony fingerboards. Ebony is a slightly harder wood, giving the guitar a brighter, more precise, snappier sound. Ebony was also the traditional fretboard wood for violin makers, potentially explaining the choices made by Gibson.

Cutaway



1956 L-5N with rosewood fingerboard. Image taken from: <https://www.normansrareguitars.com/1956-gibson-l5n-cutaway-acoustic.html>.

As the guitar's playability (L-5 increased over time) and since the guitar was becoming more of a solo and melodic instrument, players had more difficulty playing higher up the neck, given the large body of the early L-5s. To counteract this problem, Gibson introduced the cutaway. A cutaway is a physically noticeable feature where part of the body underneath the fretboard

and neck is carved away, hence the name cutaway. These cutaways proved effective, and the L-5 would gain even more popularity among players.

Sound



1929 Gibson L-5 Archtop: <https://www.youtube.com/watch?v=JqDe5592XTM>.



1934 Gibson L-5 Archtop: <https://www.youtube.com/watch?v=9Kzb6Y7061k>.



1931 Gibson L-5 Archtop: <https://www.youtube.com/watch?v=xQUSy8OlyvE>



1933 Gibson L-5 Archtop: <https://www.youtube.com/watch?v=vqjAPGDJLgs>.

Conclusion

In conclusion, one can say that the L-5 can be considered a guitar design masterpiece. The L-5, unlike many guitars of the time, had enough volume and was playable. The bodies' woods, bracing, and thin tops helped define the L-5

(maybe even arch top) sound we know today. The introduction of the truss rod helped fix many of the tuning issues faced by the previous archtop models. Due to the truss rod, the guitar necks no longer had to be as thick, and hence L-5s were much more playable than guitars without this device. These traits made the L-5 very popular and helped make the guitar a melodic, harmonic, and rhythmic instrument, rather than only a rhythm instrument.