

## The Battle of the Bulge

By David Motley

Photos by David Motley and Wes Lambe

Old Gibson flat top guitars have their excesses and flourishes. Top belly bulges sometimes develop just below the bridge. Like a long term sweets addiction, string tension and time can play havoc with an old lady's mid drift profile.

When introduced in 1927, the Nick Lucas Special was Gibson's top of the line guitar, selling for \$125. The Nick Lucas Special was the first signature musical instrument ever issued by a major producer with a world famous performer's sanctioned name. I bought my used NL Special (serial no. 90630) November 1, 1994 from Roy Book Binder, prolific Florida finger picker with tradition based blues in his hands and voice. This guitar can be seen on the cover of Roy's album "Live Book...Don't Start Me Talkin'...", on the covers of his 2 instructional Homespun Videos, "Blues by the Book", and on page 36 of the book "Gibson's Fabulous Flat-Top Guitars" by Whitford, Vinopal, & Erlewine.

As typical with confused guitar maker records from the early 1930's, the authoritative book cited above shows no. 90630 to be a 1932 Gibson, whereas "Gruhn's Guide to Vintage Guitars" 3<sup>rd</sup> Edition by Gruhn & Carter shows Gibson produced her in 1933.

Eighty years under tension and high stepping has taken its toll. There was only a small arched shape below the bridge evident when purchased in 1994, but that shape has steadily increased with age and use during my 18 years of stewardship. Over the most recent 2 years of playing, that bulge has accelerated as evidenced by inconsistent intonation and frequent tuning frustrations.

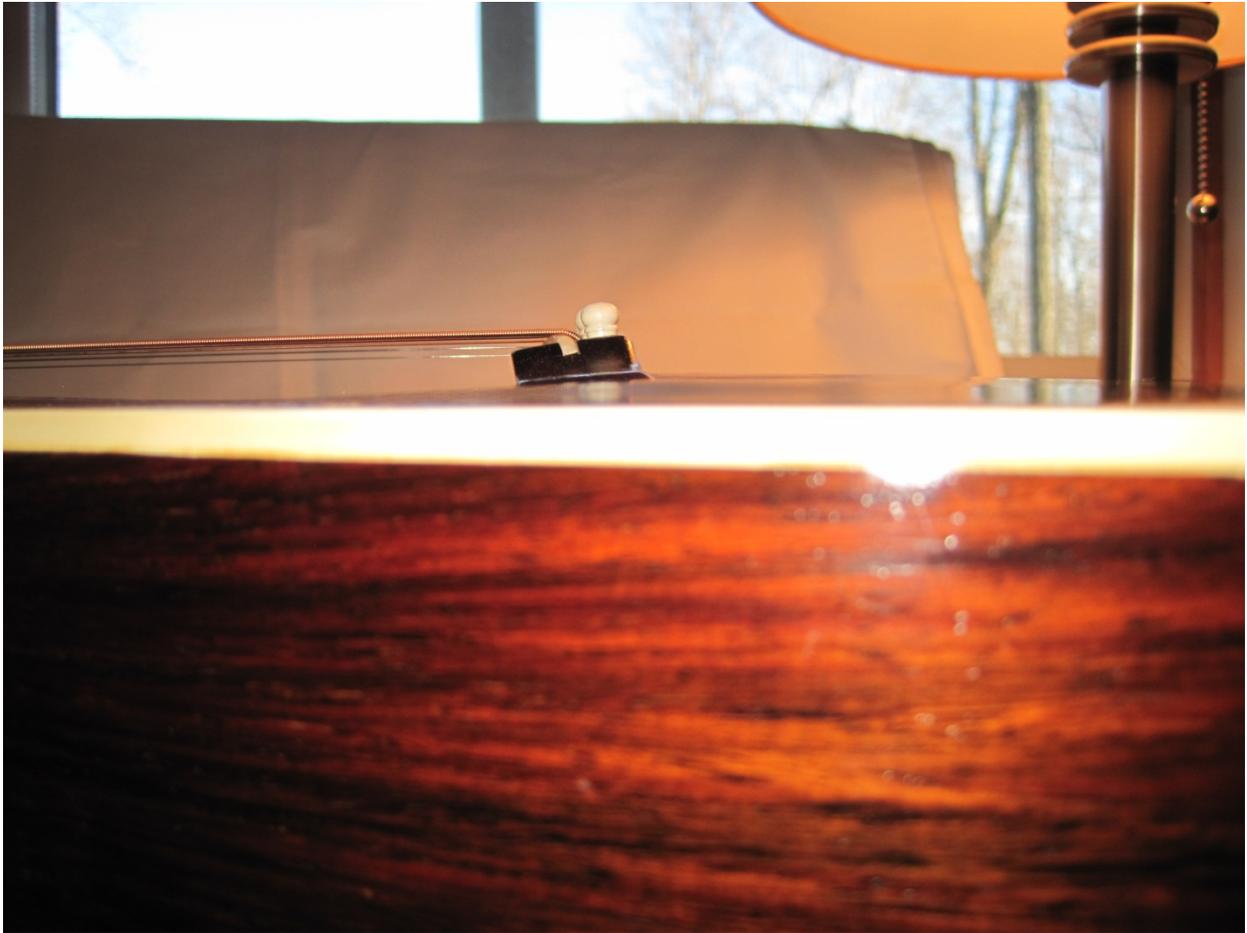
My technical opinion was that something needed to be done promptly or the increasing bridge elevation and tilt would lead to increasing over-turning moment (string force X bridge height increase) and the exponential result would be catastrophic.

Over the past 15 months I sought repair advice and counsel from 6 guitar repair experts of wide renown – one from my home state of Virginia, two nationally known with excellent vintage repair reputations and three US based and internationally renowned repair experts of the highest reputations worldwide. All except one advised, after reviewing pictures of the bulged top, to leave the guitar alone. Rationale was basically that if it still plays well and sounds good after 80 years leave the old girl to her own ways.

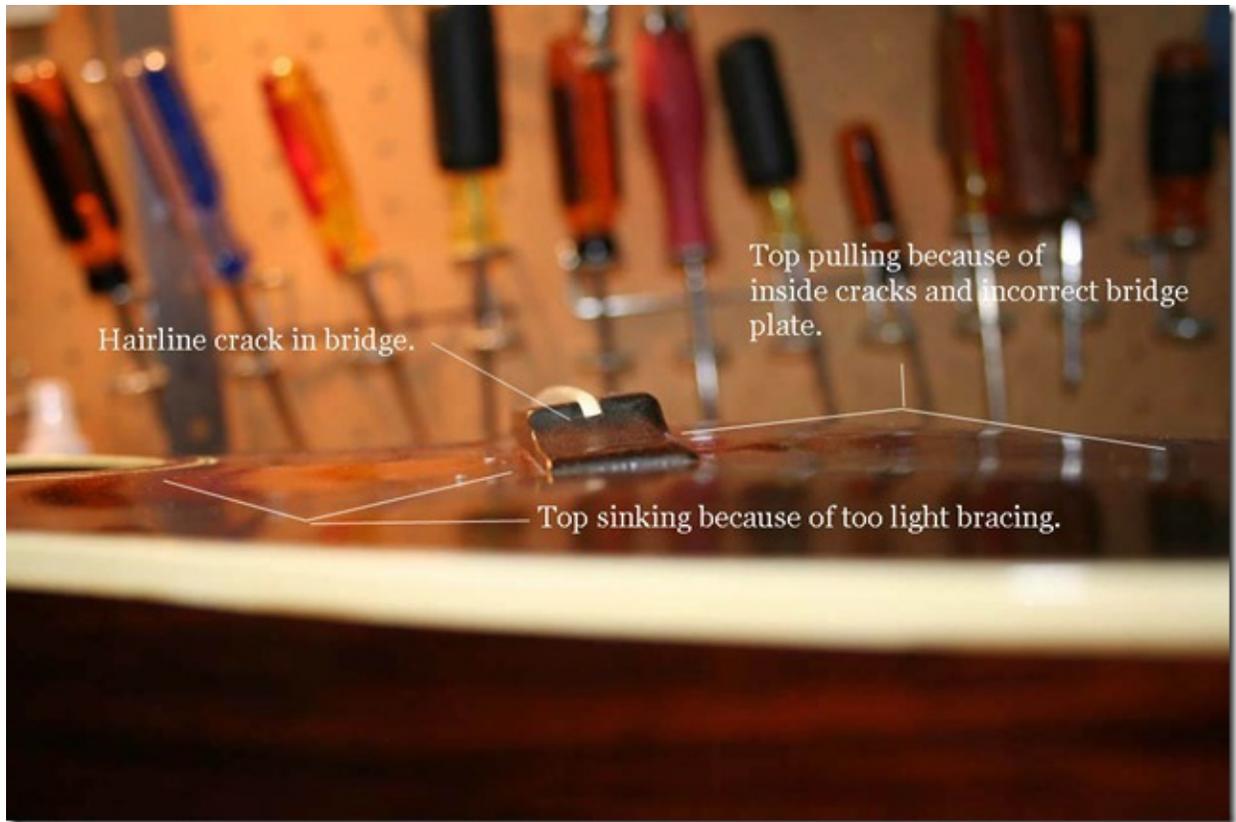
Wes Lambe of Carrboro, North Carolina, (luthier and vintage guitar repairman, [wes@wlguitars.com](mailto:wes@wlguitars.com)) said he'd like to have a look in hand and make an assessment based on what he saw inside. I immediately drove 3 hours to meet Wes in a music store (not his shop) in Carrboro. I was desperate for help in restoring strength to this old lady's stretch marks before she breathed her last and expired with an encore bow.

Wes Lambe was recommended to me for this repair by Jim Watson, original Red Clay Rambler and current member of Robin and Linda Williams' Fine Group. Being familiar with acoustic

vintage stringed instruments, Jim was aware of the rare quality and care necessary for doctoring an original Nick Lucas Special.



**Nick Lucas top belly bulge**



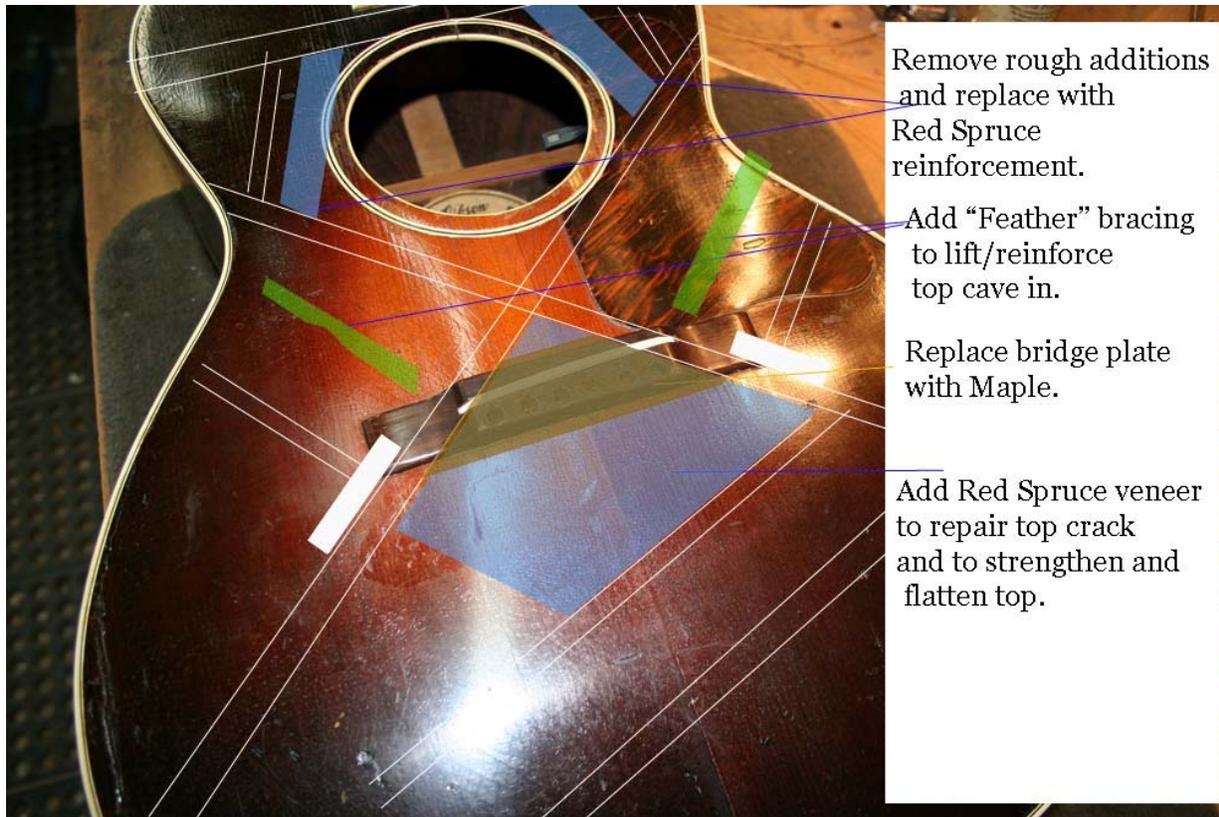
## Problem areas

A few days after my trip south, Wes emailed me a list of suggested remedial actions intended to reshape the bulged top below the bridge and flatten the dips on each side of the sound hole above the bridge. His physical examination had convinced him that corrective action was necessary to keep this antique alive and functioning. He recommended removal of internal repair braces previously added as after-market repairs, replacing the added unoriginal Mahogany bridge plate (wrong wood with grain going in wrong direction), and adding a thin veneer on the underside of the Spruce top to cover and reinforce the area with a short cross-grain crack in the underside of the top just below the bridge plate. This is not a through crack so it's not visible on the outside of the top. The thin veneer was to be made of the same wood as the top and was to be a small local unequal-4sided shape fitted up to the lower apex of the X-braces and extending down about 3-1/2 inches to the edge of the original transverse brace that is standard top bracing across the lower bout of most steel string "flat top" guitars no matter what brand or boutique. This thin veneer is structurally critical to resist the inherent local overturning moment that caused the top to bulge immediately below the bridge. This overturning moment exists on every guitar top with a fixed bridge. The small veneer was to be glued (hot hide glue) to the underside of the top and captured/glued between the bridge/top/bridge plate layered structure. The replacement bridge plate was to be Maple (like the original Gibson plate) with the wood grain running in the correct direction.

Wes opined that the existing previous brace additions on either side of the sound hole were well conceived and necessary, but were poorly executed and needed to be replaced with more careful attention to detail.



**Additions by previous repairs**



## Wes Lambe's proposed work

Wes would use his own technique of heat and clamps (after removal of the bridge and bridge plate) to reshape the original top. It is important to recall that these 1930's Gibson flat tops were never flat on top but were made with a slight arched crown, both transverse and longitudinal. I agreed to his assessment and recommendations.

About 2 months later with notice of success from Wes, I retrieved the resuscitated lady with all repairs accomplished as Wes had promised.

It should be noted that most vintage guitar restorations are focused along the philosophy of reinstating the original condition. Most vintage instrument repairs for age, wear and tear go for restoring the original. Wes maintains that same repair philosophy, but if the ravages of time have revealed a built-in weakness, the repair needs to address remedying that weakness. He said that he sometimes must custom alter replication of original construction to achieve a playable and enduring instrument that sounds as great as it once did. If you always do what they always did, then you'll always get what they always got. Wes Lambe chose to strengthen that portion of the top immediately local to the overturning moment at the base of the bridge/bridge plate.

A circular plate 14-5/8 inches in diameter (the lower bout) will not have its vibratory characteristics appreciably altered by slightly thickening the center area approximately 3" by 4" at the point of energy input. That local underside veneer reinforcement should facilitate individual vibrating string inputs to clearly stimulate that circular plate motion as originally

intended by Gibson. More simply put, it added strength and slight stiffness at the targeted vulnerable point of bending stress in the top.

Wes' willingness to tackle a complicated internal repair of a rare vintage wooden instrument that could not be fixed by parts replacement was my fortunate finding. As evidenced by playing, the guitar sounds like it originally sounded and has no intonation or tuning problems. Now if I can just figure out how Roy Book Binder plays "Mississippi Blues", this old lady and I will make music lovelier than Nick Lucas ever dreamed.



**Original rosewood bridge distorted by previous bulge along transverse axis, resting on repaired top. Previous bulge along longitudinal axis was much greater.**