The Elements of the Saddle: The Tree

Written by Chuck Stormes

There are three elements of a saddle that are of primary importance: the tree, the seat and the rigging. If all three are properly designed and constructed, the result is a good, useful saddle, regardless of style and aesthetics. If any one of these is wrong, or poorly done, the saddle is of little value. This series of articles begins with a look at modern handmade saddle trees. Articles to follow will discuss the seat and rigging.

Special-order tree with small wood horn.

History

The primitive wooden saddle tree, developed more than 2,000 years ago, served the same basic purpose as the modern western tree—to prevent pressure on the horse's spine and distribute the rider's weight.

The essential parts of a saddle tree are two strips of wood placed parallel to the spine with an arch, clearing the backbone, attached near each end of the two 'bars' to give integrity to the whole structure.

In the late nineteenth century, the American stock saddle was greatly improved by modifications made in tree design by California treemakers Antonio 'Chapo' Martinez, Aleck Taylor, Ricardo Mattle and others, who recognized the importance of a wider, well-shaped bar to distribute the pressure more evenly and over a larger area.

Following their lead, Bill Hubbard of the Visalia Stock Saddle Company and Walt Youngman of Hamley and Company of Pendleton, Oregon, modernized saddle tree design, making it more suited to the demands of twentieth century horse and rider. Their influence, especially Youngman's, is evident in every high-quality, handmade tree produced today.

Hubbard-style Visalia 3B showing hand-stitched, heavy rawhide cover.

Construction

While early stock saddle trees throughout the West were made from natural tree forks (hence the name) and locally available timber, using equipment considered crude by our standards, the principles of saddle tree making have remained essentially unchanged for the past one hundred years, although improvements in bar design and the ability to create stronger forks and cantles have been major advances.

Most trees are now made from the lighter hardwoods, such as yellow poplar, or the stronger softwoods, Douglas fir, for example, reinforced as necessary in the fork with stronger, denser hardwoods, the variety depending on local availability.

All are dried to below 10% moisture content and selected for clarity and stability. Forks are typically laminated to improve strength through multiple grain direction. A heavy, rawhide cover is fitted wet, handsewn in place and carefully dried (to control warping), adding substantially to the strength and durability of the finished tree.

Wood saddle tree before completion and rawhide covering.

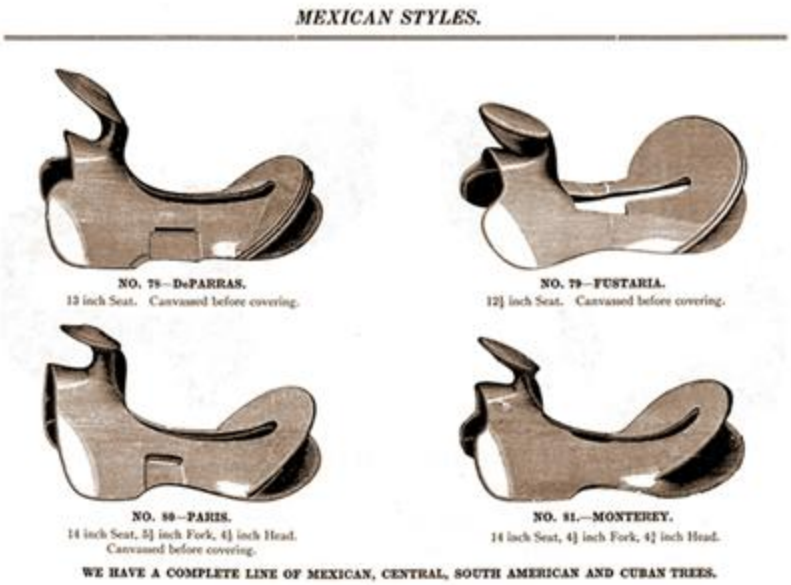
Fitting the Horse

Since fitting the horse is the first priority, the treemaker must have a thorough understanding of equine anatomy, the effects of conditioning (or lack of), the changes incurred by maturing and aging, and the dynamics of the horse in motion.

Informed horsemen should also be aware of these principles and of the consequent limitations of fit possible with any one saddle tree.

The shape and structure of the bars determine how well the tree fits the horses, or type of back, for which it is intended. Apart from immature backs and horses in extreme old age, a fairly wide range can be accommodated with a well-designed tree, and a limited amount of adjustment can be achieved by varying the thickness of saddle pads or blankets. An accurate description, or photographs, of the backs that the saddle will be required to fit, along with a fair assessment of the usual level of conditioning, will provide a treemaker with critical information.

This information is usually communicated through the saddlemaker, who works closely with a treemaker or, in some cases, makes his own trees.



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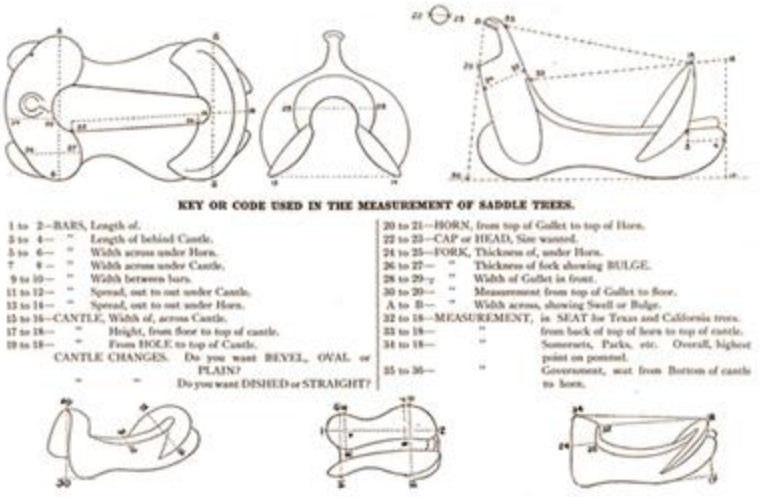


This page from the J.S. Sullivan Saddle Tree Co. of Jefferson City, Missouri, shows measurements being used in 1912.

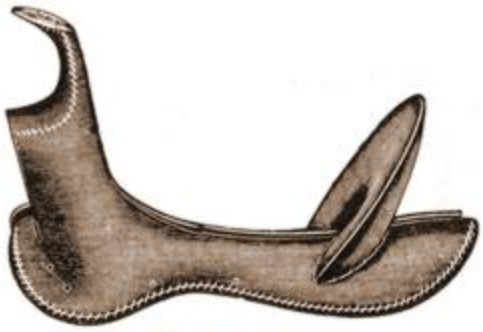
Fitting the Rider

Accommodating the needs of the rider involves choosing the appropriate combination of fork, horn, cantle and seat length from limitless possibilities. The user's height, weight, leg length, riding style and purpose must all be considered.

Seat length is the most critical decision. In combination with stirrup leather placement and, to a lesser degree, fork and cantle choice, seat length directly affects the comfort and balance of the rider.

Briefly, a short seat places the rider too far forward in relation to the stirrup, with a feeling of tipping forward, out of balance with the horse's motion. Trapped between fork and cantle, the rider has no chance of achieving a balanced position.

Similarly, a saddle too long in the seat causes an inability to center the rider's weight over the stirrup, leaving the rider behind the horse and unable to catch up to its movement. However, if the low point of a longer seat preserves the relationship between the rider's position and the stirrup leather, the result can be a classic, balanced seat that simply allows for more freedom of movement. An error in seat length toward longer, rather than shorter, is usually more forgiving.



NO. 2056—NELSON.

Seat, 15 inches; Width across Fork, 10 inches;
Thickness of Fork, 4 inches;
Head Oval, 2 inches.

This is a good example of a California tree copied by a Midwest manufacturer. Style originated by Clarence Nelson, Sacramento, Calif.

The name by which a tree is known refers only to the fork, which includes gullet height (clearance over the wither), thickness front to back and the profile or outline shape. All of the other dimensions of a tree can change without revising the name.

The confusion caused by naming trees originated in the 19th century when certain early trees, particularly well known California designs, achieved such fame that manufacturers throughout the West copied the names (although usually not the tree itself) in an attempt to increase market share.

Later, saddle shops added to the confusion by naming trees after champion ropers and high-profile horsemen (Toots Mansfield, Chuck Sheppard, Buster Welch) and copyrighting names associated with their own designs (Homestead, Packer).

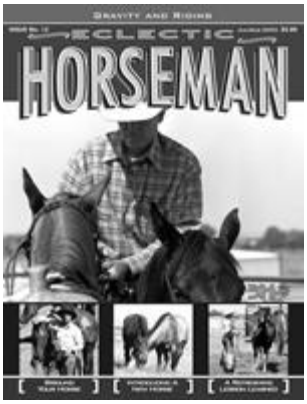
As a result, tree names today are, at best, a rough guide to fork shape, and riders should work with their saddlemaker or treemaker to choose a fork shape and size that suits their requirements.

In modern trees generally, fork width varies from 8 inches to 14 inches, gullet heights from 7 1/2 to 8 1/2 inches and thickness from 3 to 5 inches. The level of support or freedom, related to the job to be done, usually dictates a preference in fork specifications.

Cantle shapes range from tall, round, old-time styles to 'comfort' cantles, which are low at the center with pronounced corners. Most modern cantles fall between these extremes. Heights of 3” to 4 1/2" and widths from 11 1/2" to 13 1/2" cover the current range. Dish, the amount of wood carved out of the face of the cantle, can be next to nothing on a round, period-style cantle or up to 2" in a lower, oval cantle where lateral support is a factor.

The slope of a cantle can change by 10 degrees, again according to its height, purpose and owner preference. Horn height, cap size, pitch and neck thickness present endless combinations. It's likely that no other feature or specification of a tree receives more attention from a rider. Personal preference should be tempered by function, although for many, the main (and legitimate) purpose of the horn is to aid in mounting and dismounting.

It should be evident that anyone considering a custom made saddle should ride as many saddles as possible and consider personal preferences for the specifications of the tree. Fellow horsemen and a competent saddlemaker may offer advice based on their experience, but the customer should be knowledgeable enough to make informed decisions that will affect the saddle's suitability to their needs.



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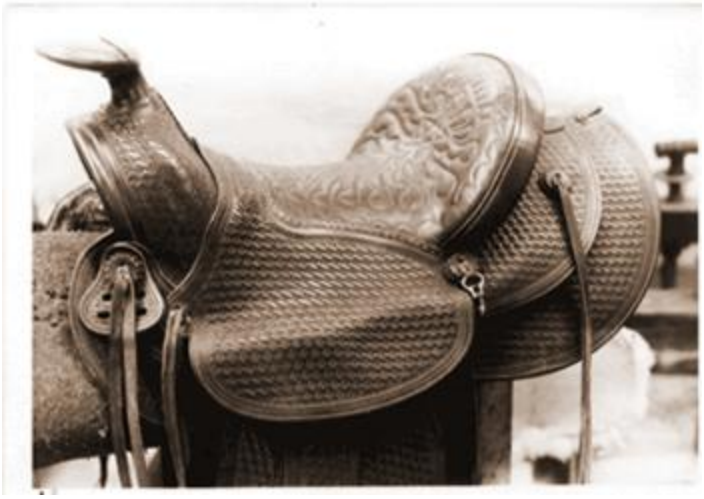
The Elements of the Saddle: The Seat

Written by Chuck Stormes

Many of the nineteenth and early twentieth century saddleries were large firms doing much of their business by mail order. Depending on their market share, they employed from twenty to two hundred workers, including harness makers, strapworkers, saddlemakers and flower stampers.



This seat is typical of the Visalia Stock Saddle Co. in the 1940s.

The reputation earned by these shops was based in large part on the trees they used and the seats produced by their journeyman saddlemakers. Comfort for horse and rider equaled prosperity, even fame. Large numbers of these saddlers were trained in the older, eastern states or emigrated to the West from Britain or Europe, with skills acquired through a rigorous apprenticeship system. As in any manufacturing business, maintaining a high level of productivity was the key to financial success.

Loomis of Santa Barbara c. 1890. Note the similarity to good modern seats.

Saddlemakers typically worked on four to six saddles at a time for efficiency. These were often standard catalog models, possibly customized as to seat length, fender length or decoration. The result was a consistent, well-made, durable saddle with a standardized seat shape that was typical of that firm and required of every saddler in the shop. In the early 1960s, I learned the method and style of seat construction that resulted from those years of more or less standardized practice.

By the late 1960s, I had repaired and studied practically every brand of saddle I had ever heard of, from the legendary, such as Visalia, Hamley and Porter, to the virtually unknown. The best examples, made anywhere from Texas to western Canada, shared a common seat shape, allowing for minor variations.

Modern seat with medium rise, typical of many contemporary saddlemakers.

In a Western Horseman article from the 1950s renowned saddlemaker Ray Holes of Grangeville, Idaho, described the ideal seat shape in these terms: "The low spot here referred to should be in the centre of the place you would actually occupy while riding, or about one-third the distance from cantle to fork. This part of the seat should also be the narrowest looking down on it from the top. It should gradually widen out to blend with the fork in front and also gradually widen out to blend with the cantle in the rear. Looking at the saddle from the side, it should have a distinct curve in the seat, gradually raising both in front and behind this spot."

Modern saddle with old-time features by Chuck Stormes. Note similarity to the Loomis seat.

To elaborate, this is the lowest area (where the rider normally sits when relaxed and settled into the seat) somewhat ahead of the base of the cantle and a few inches behind the center of the stirrup leathers. From this "sweet spot," there is a widening and flattening to the rear, approaching the cantle and narrowing while rounding and rising toward the fork. These compound curves must flow smoothly, distributing the weight and pressure of the rider.

The accompanying illustrations hopefully show this shape more clearly than words. Accomplished saddlemakers, through experience, arrive at a mental image of their ideal seat, modifying it as necessary to suit the client's needs. This seat, with minor adjustments, will suit the majority of riders—just as the standard bar structure fits the majority of horses' backs. Except in extreme cases, custom-made does not mean "molded to the rider's anatomy."

The□ No. 209 - Our version of the old â€œ3Bâ€□ tree is considered by many as the most useful and commonsense roper made today. The fork on this tree sits about 1 1/2 inches higher than the Homestead, which gives a little more security. In addition to this, it comes in any width, from 9 to 12 inches. The cantel can be had in heights from 1 1/2 to 4 inches. with a horn of your own specifications. This tree can be made to fit the requirements of most riders.â€"From a page of the Ray Holes Saddle Co. catalog.

The goal is even, equal contact between rider and saddle from the crotch to the calf, where the horse's rib cage falls away from the rider's leg, with no lumps, bumps or hollows to cause either an excess or absence of contact. While this sounds like a simple objective, it requires an experienced saddlemaker to achieve it while shaping the seat to allow the right combination of freedom versus security and maintaining the proper position of balance in relation to the stirrup leathers. I encourage serious students of horsemanship to be observant and develop an "eye" for the shape that constitutes a useful, balanced and comfortable seat. Variations of the basic seat shape can be made to accommodate physical deformity or injury or specialized horse sports, such as cutting or calf roping or to adjust the width for a woman's saddle. The inside of the thigh is usually fuller and rounder than a man's, requiring a seat that is narrower in the waist to maintain that even contact, beginning with the tree being made slightly narrower in that area. In the post-war years, saddleries employing a crew of journeymen began to be replaced by production-line factories.

Through erosion of saddlemaking skills and hiring cheaper, less skilled labor, the techniques required to produce correctly shaped seats were often lost, ignored or camouflaged with thick foam padding.

Those who took pride in their trade opened one- or two-man shops, spawning the present custom saddle industry. The best assurance of acquiring a saddle with a useful, comfortable seat is to educate oneself by riding a variety of saddles, analyzing their good and bad features and thereby developing an understanding based on experience. With that knowledge, seek out a skilled saddlemaker with a thorough grounding in the mechanics of the trade, who takes pride in the trade and is recommended by satisfied customers.

The Elements of the Saddle: The Rigging

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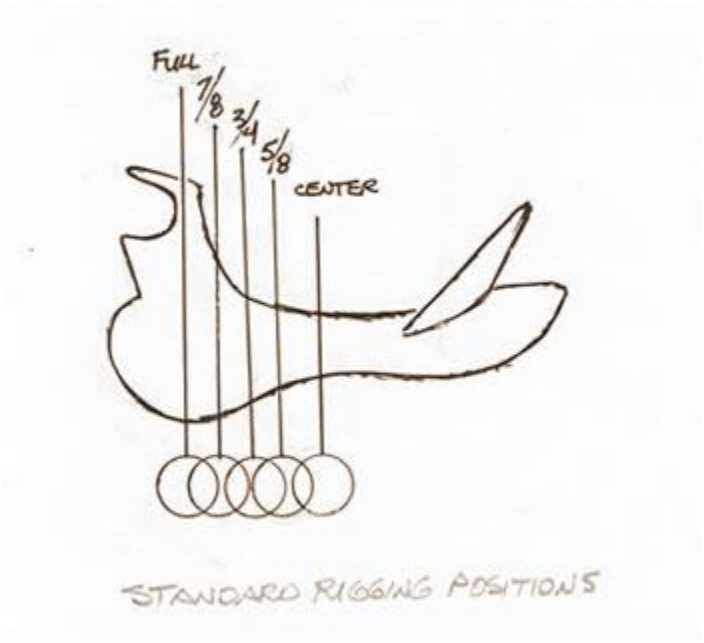
The original "saddle", a simple cloth much like a saddle blanket, and the later pad-saddle version were held in place by a surcingle—a strap encircling horse and pad, secured by tying. The development of the saddle tree offered new possibilities for securing the saddle to the horse, using the tree as an anchoring point for the "rigging." This seemingly simple advance paved the way for the invention of the stirrup and, ultimately, effective mounted warfare.



Standard Rigging Positions

The outward appearance of the modern western saddle retains little resemblance to that of previous millennia, but its strong, rawhide-covered tree, adapted to roping and handling livestock, still provides a sound structure for attachment of the rigging. A strong rigging, positioned for optimum security while minimizing bulk under the rider's leg, is the criterion for designing this crucial element of a stock saddle.

The positions in which the rigging may be mounted vary from centered between fork and cantle

(center fire) to full or Spanish, directly below the fork. As the diagram shows, the designations 5/8, 3/4 and 7/8 simply refer to divisions of the distance from cantle to fork.
Since the tree is placed on the horse in the same position in all cases (where it's designed to fit, just clear of the shoulder blade), changing the rigging position shifts the placement of the cinch and the amount of pull on the front and rear of the tree.

Center Fire Ring Rigging

Center fire and 5/8 are single-cinch positions seldom used today, although they served nineteenth-century California vaqueros well. Centered rigging exerts equal force through the rigging on both fork and cantle. It requires a wide cinch—8 to 9 inches was common in its heyday—to stay in place around the fullest part of a horse's barrel.

Three-quarter position can be used either single or double, although it offers minimal separation between the two cinches. The best choice as a single rig, 3/4 holds the fork well while still stabilizing the cantle.

Seven-eighths double is the most versatile and most popular modern rigging position. It anchors the fork well without placing the cinch far enough forward to interfere with the elbow/armpit area, even on straight-shouldered horses. A rear cinch, mounted below the base of the cantle, stabilizes the rear of the tree.

Full Double Dee-Ring Rigging

"Spanish" refers to the full, or farthest forward, position but used with a single cinch. While widely used on traditional charro saddles, full double is the standard ropers' rigging used in American stock saddles.

Tightening both cinches of a full double rigging gives maximum stability, preventing movement of the tree even against heavy jerks on the horn, making full double the standard for arena ropers. The full double rigging's only drawback is its tendency to crowd the elbow with the cinch on straight-shouldered and overweight horses, generally not a problem for the working cowboys who use them.

Apart from the varied positions, there are three usual methods of rigging construction used in western saddles: round or dee-shaped rings, flat plate, or in-skirt rigging.

Although all three styles can be designed to use in any of the positions, some are better suited to a particular position or to a specific requirement of horse or rider.

7/8 Double Flat Plate

Round ring and dee-ring riggings are made by doubling a strong piece of skirting leather around the hardware and attaching it to the tree with screws. While simple and effective, it can cause extra bulk and restrict stirrup leather movement, especially in positions other than full.

Flat plate rigging consists of two layers of skirting with the hardware sandwiched between the two with rivets and stitching. It can be made in any position, single or double, and overcomes much of the problem of bulk and stirrup freedom while still attaching directly to the tree, isolated from the skirt.

In-Skirt Rigging

In-skirt rigging acquired a bad reputation years ago due to poor design and construction by some of the early makers, especially some of the factory versions. When properly made, it can have the required strength, direct pull on the tree, elimination of bulk and stirrup leather freedom that the concept promised. It can be designed for any position. In-skirt rigging's main drawbacks are inherent. Being built into the skirt, a greater likelihood of rotting out in hard use and greater expense to reline the skirts. As a result, in-skirt rigging has never become popular for ranch work but has found some favor with horse trainers.

I hope this series of brief articles on trees, seats and riggings has been helpful. Further offerings on aspects of the western saddle are being planned for future issues.