

# The Fourth Dimension of Balance

by Bruce Daniels

What do you do with a horse that can reach up with a hind foot and mysteriously remove a shoe that was fit tightly and was filed so smooth that you couldn't find where the foot ended and the shoe started? Horses like that have taught me a lot of humility over the years.

I was taught that when horses start to over-reach, they probably need their front feet shortened up and they need to be shod light. Perhaps, if the angle is low, you should roll the toe.

I still think that that method works fine, but I've changed my views on the generally accepted treatment for shoeing the *hind* feet on these horses. I used to think that all you had to do to the hind feet was to get the angle up, shorten the toe, and shoe with a square toe. Sometimes this method worked, and sometimes it didn't. When I was younger, I didn't mind looking foolish, but as I grew older, it bothered the devil out of me. The horses that continued to over-reach weren't lame. They weren't being poorly ridden. They weren't in poor condition. The problem was the shoeing.

I can recall working with two different harness horse trainers. They were both excellent trotting horse men. They knew how to train colts into champions, and they did most things in the same way—except shoeing a trotter so he wouldn't hit his shins.

Both trainers agreed on the shoeing method for the front feet: Get the front foot off the ground quickly and smoothly and shoe it so that it swings inward slightly. This was accomplished by shortening the front foot, lowering the foot slightly on the inside, and nailing on as light a shoe as you dared—perhaps a shoe that was squaring a little to the outside.

The hind feet were different stories to these two trainers. Trainer Number One

would have the hind feet cut as short as they would go. But Trainer Number Two would leave as much toe as he could, and still keep the heel up. The unusual thing about this was that, half of the time, Trainer Number One was successful. The short feet prevented over-reaching. But the other half of the time, Trainer Number Two was successful; the longer foot worked. Why did two different approaches to the same problem share equal success or failure?

The British make a hind forging shoe with a thick toe, which thins to the heel, extending the toe length and lowering the angle. I'll bet it isn't all that successful for the same reason that Trainer Number Two only batted .500.

Why does a long hind foot prevent interference on one horse and cause it on another? I feel that the common denominator between shin hitting, over-reaching, and hind-foot toe length is the ratio between chest width and hind-quarter width.

It has been my experience that horses that travel narrow in the front and wide behind will forge when the front feet get long. If you shorten just the front feet and leave the hind feet alone, they will clear. The longer toe behind makes the hind feet travel even wider than normal. If the horse's hind feet are cut down, this horse will do well with the British swelled toe shoe, which thins to the heel.

But how about a horse that has a nice broad chest and straight front legs but travels close behind? If you shoe his front feet and ignore the hind feet, he will over-reach or forge. When you shorten up the hind feet, they'll clear. I have asked myself why this is and I have to believe that the horse naturally wants to travel with his hind feet inside his front; when the hind feet grow too long, they widen out into the front feet and there is a collision.

If you have a clear stretch of dirt, like a smoothed-off racetrack or show ring, ask to have a horse trotted off over the dirt. Then look at the footprints. You'll see what I mean. When the hind feet are long on a wide-chested horse, the foot prints of the hind feet are right in line with the foot prints of the front feet. When you shorten up the hind feet, they will narrow up.

We all know the theories about toe length, angle, and lateral balance, but

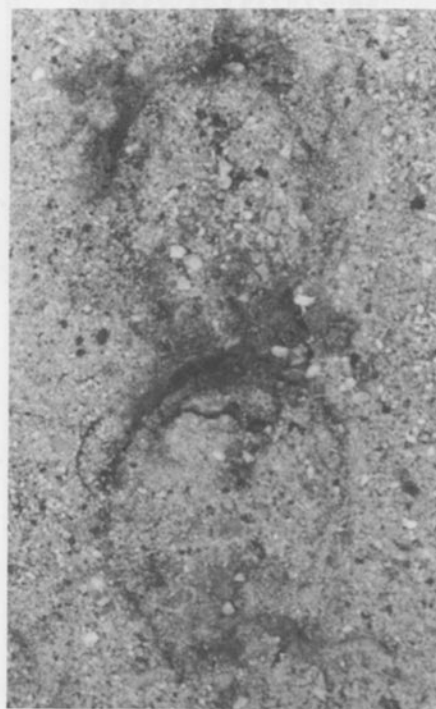


Photo 1. These left front and hind hoof prints are in line with each other. At speed, the hind will over-reach the front and pull shoes, usually by catching the inside heel.

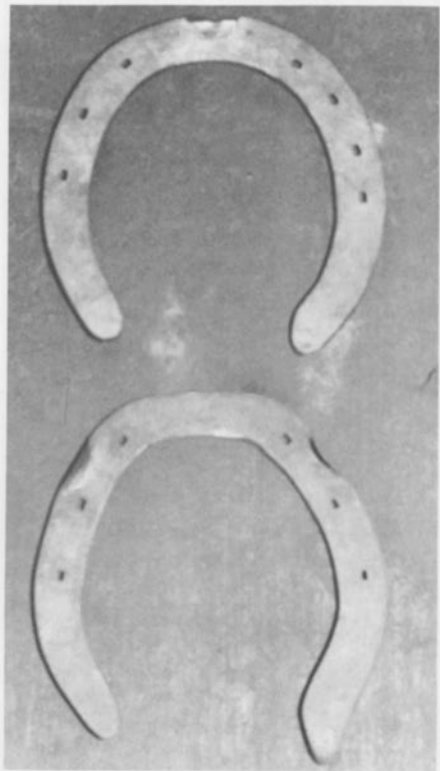


Photo 2. A clearer illustration of an in-line moving horse. This is the hardest horse to clear. A short toe and a natural angle with a light-weight rolled-toe shoe in front and a short toe with a slightly higher than natural angle behind, shod with a square and rounded up toe behind will keep him clear until the feet grow out again.

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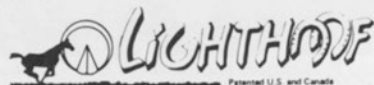
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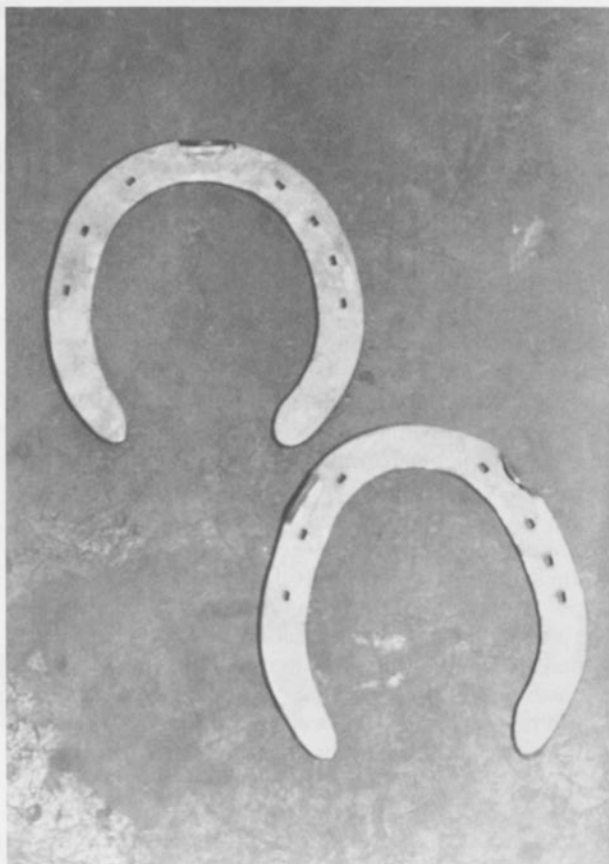


# THAT'S WHERE

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*Photo 3. This is a right front and a right hind. The hind foot prints almost outside of the front. When this horse grabs a shoe, the outside heel will be sprung down.*



*Photo 4. A clearer illustration of the "almost passing" horse. If you shorten the front as in #2 and give the hind feet an extra 1/4" or 1/2" of toe length they will widen out and miss the front. "Safe off" and fit the inside toe of the hind shoes under the hoof.*

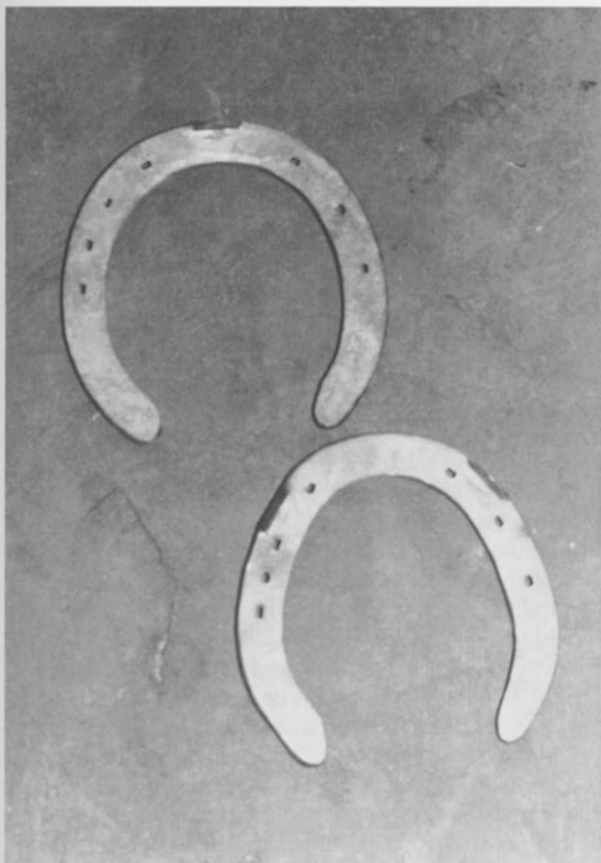


Photo 5. Near (or left) side shoes laid out as they would land and print if the horse was out of balance behind (too low outside). Either lower the inside of the hind hoof or wedge it sideways with a pad.

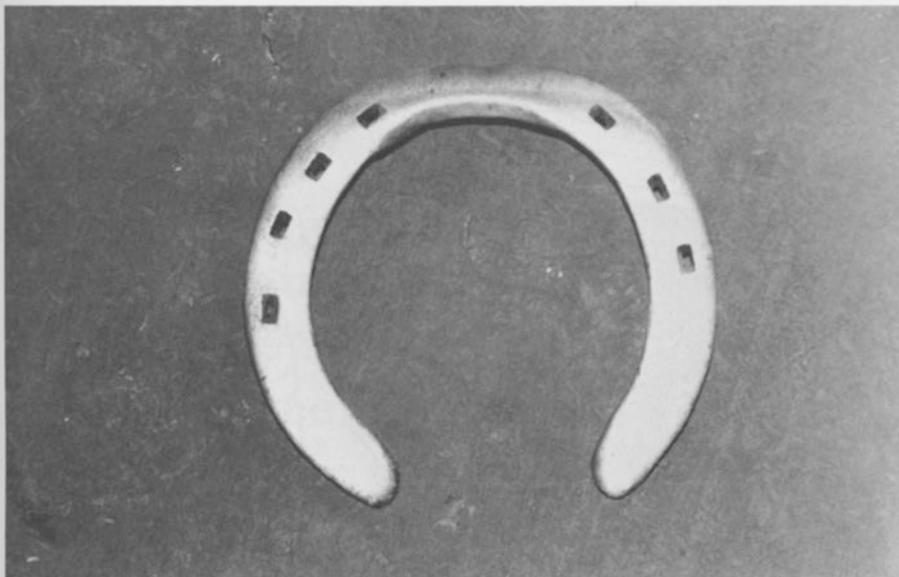


Photo 6. For horses that forge—not overreach—I cut the inside of the front toe out with a creaser to prevent the hind toe from catching the inside of the front shoe. Then I roll the toe. This shoe had been on for two months with one reset.

now I'm talking about the fourth dimension: the ratio between front and hind hoof length.

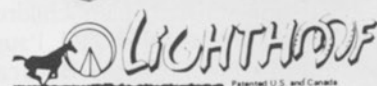
Sometimes I think that someone else must have had these things figured out years ago and forgot to tell me. But I

sure would have been grateful if I had been told about this 35 years ago. **Bruce Daniels** is vice-president of the American Farrier's Association and contributing editor of the **American Farriers Journal**.

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