

**Editor's
Notebook**



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Wide As A Horse's Rear End

The U.S. standard railroad gauge (width between the two rails) is 4 ft. 8 1/2 in. That seems like a very odd number. Why was that gauge used? Because that's the way they built them in England, and early U.S. railroads were built by English expatriates.

Why did the English build them like that? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used.

Why did they use that gauge then? Because the people who built the tramways used the same jigs and tools that they used for building wagons which used that wheel spacing.

Okay! Why did the wagons have that particular odd wheel spacing? Well, if they tried to use any other spacing, the wagon wheels would break on some of the old, long distance roads in England, because that's the spacing of the wheel ruts.

So who built those old rutted roads? The first long distance roads in Europe were built by Imperial Rome for their legions. The roads have been used ever since. And the ruts in the roads? Roman war chariots formed the initial ruts, which everyone else had to match for fear of destroying their wagon wheels. Since the chariots were made by Imperial Rome, they were all alike in the matter of wheel spacing. The United States standard railroad gauge of 4 ft. 8 1/2 in. derives from the original specification for an Imperial Roman war chariot.

Specifications and bureaucracies live forever. So the next time you are handed a specification and wonder what horse's rear end came up with it, you may be exactly right, because the Imperial Roman war chariots were made just wide enough to accommodate the back ends of two war horses.

Thus, we have the answer to the original question.

There's an interesting twist to the story about railroad gauges and horses' behinds. When we see a Space Shuttle sitting on its launch pad, there are two big booster rockets attached to the sides of the main fuel tank. These are solid rocket boosters, or SRBs.

The SRBs are made by Thiokol at their factory in Utah. The engineers who designed the SRBs would have preferred to make them a bit fatter, but the SRBs had to be shipped by train from the factory to the launch site. The railroad line from the factory had to run through a tunnel in the mountains. The SRBs had to fit through that tunnel. The tunnel is slightly wider than the railroad track, and the railroad track is about as wide as two horses' behinds.

So, the major design feature of the world's most advanced transportation system was determined over 2,000 years ago by the width of a horse's rear end!

**In Defense Of
The Farm Bill**

There's a lot that's not right about the recently passed U.S. farm bill. But some industry leaders think it's getting a bad rap. Here's a spirited defense that was recently published in the Wall Street Journal:

Farm supports are essential to keep farmers in business so the food supply can be constant and affordable. Support payments paid to U.S. farmers are about \$49 per acre compared with \$309 in the European Union and \$4,606 per acre in Japan. And U.S. farm exports face foreign tariffs averaging 62 percent, more than five times the average imposed by the U.S., where consumers pay only 11 percent of their income for food. Compare that with 17 percent in Germany and Japan and 25 percent in Mexico.

The alternative to subsidies is higher food prices or farmers going out of business, idling their land and laborers, ceasing to purchase equipment and inputs, sending the rural economy into further decline. Instead of exporting food, we could become an importer, just as we are with oil.

Even with support, profits are razor thin. What other business would even consider investing hundreds of thousands of dollars in land for a profit of about \$175 per acre? Take away the \$49 subsidy, and it's not a living. According to Time magazine, 328,000 farmers and ranchers will go out of business in the next decade, the biggest loss of jobs of any career field in the U.S. So much for getting rich at the public trough. *S. Richard Tolman, CEO, National Corn Growers Association, St. Louis, Mo.*



Vintage Tractor Record

An amazing 1,812 antique tractors gathered recently on a 50-acre field in Ireland to set a new world record for the most vintage tractors plowing the same field. The previous number entered in the Guinness Book of World Records was 730. Organizers of the event hoped to attract 900 tractors but double the number turned up and the record was smashed. The event raised about \$150,000 for charity. *Farmer's Weekly Magazine (www.fwi.co.uk)*

Ag Business Cost Cat

It's no mystery why Caterpillar got out of the farm equipment business. Financial details released following AGCO's purchase of Caterpillar's Challenger division revealed that Caterpillar lost about \$93 million in 2001 on revenues of \$55 million, which was 42 percent lower than the previous year.

AGCO, of course, is hopeful that cost cutting, a favorable purchase agreement with Cat, and cross-marketing with Cat dealers will push sales of Challenger tractors back to the \$100 million mark. Machinery analysts for J.P. Morgan Securities, Inc., write: "AGCO is confident that Challenger will add roughly \$400 million in incremental revenues with good operating margins, which would greatly add to AGCO's overall earnings." *NAEDA Equipment Dealer*

Liberty Quotes

"Restriction of free thought and free speech is the most dangerous of all subversions. It is the one un-American act that could most easily defeat us." *Justice William O. Douglas*

"Liberty means responsibility. That's why most men dread it." *George Bernard Shaw*

"The condition upon which God hath given liberty to man is eternal vigilance; which condition if he break, servitude is at once the consequence of his crime, and the punishment of his guilt." *John Philpot Curran, Irish Statesman, 1790*

"If you love wealth better than liberty, the tranquility of servitude better than the animating contest of freedom, go home from us in peace. We ask not your counsel or arms.

Crouch down and lick the hands which feed you. May your chains set lightly upon you, and may posterity forget that ye were our countrymen." *Samuel Adams, 1776*

"Hold on, my friends, to the Constitution and to the Republic for which it stands. Miracles do not cluster and what has happened once in 6,000 years may not happen again. Hold on to the Constitution for if the American Constitution should fail, there will be anarchy throughout the world." *Daniel Webster, 1851*

Gene Flow Between Crops

Fear of the movement of "rogue genes" between crops is unrealistic. All crop plants have relatives somewhere and some gene flow commonly occurs if two populations are grown close together. Gene transfer is an age-old consideration for farmers. Growing hundreds of crops, virtually all of which have been genetically improved, the practitioners of "conventional" agriculture in North America have meticulously developed strategies for preventing pollen cross-contamination in the field – when and if it is necessary for commercial reasons. In order to maintain the highest level of genetic purity of plants, distinct varieties of self-pollinated crops, such as wheat, rice, soybeans, and barley, need to be separated by at least 60 ft., while certain insect-pollinated crops need wider segregation – a half mile for watermelons and a mile for onions, for example.

Canola – the general term for the genetically improved rapeseed developed by Canadian plant breeders a half-century ago – is a good example. The original rapeseed oil, used as both a lubricant and as an edible oil, was harmful when ingested because of high levels of a chemical called erucic acid.

Conventional plant breeding led to the development of genetic varieties of rapeseed with low concentrations of erucic acid, and canola oil has now become the most commonly consumed oil in Canada. High-erucic acid rapeseed oil is still used as a lubricant, however, so the high and low-erucic acid varieties of rapeseed plants must be carefully segregated in the field and thereafter. Canadian farmers and processors easily and routinely accomplish this.

Gene-spliced plants – crafted with highly precise and predictable molecular techniques developed during the past 30 years – have recently been grown worldwide on more than 100 million acres annually, and more than 60 percent of processed foods in the U.S. contain ingredients derived from gene-spliced organisms. There has not been a single mishap that resulted in injury to a single person or ecosystem. *Henry I. Miller, M.D., The Hoover Institution*

Words Of Wisdom

- The best way to get even is to forget.
- Feed your faith and your doubts will starve to death.
- God wants spiritual fruit, not religious nuts.
- Some marriages are made in heaven, but they all have to be maintained on earth.
- Unless you can create the whole universe in five days, then perhaps giving "advice" to God isn't such a good idea.
- Sorrow looks back, worry looks around, and faith looks up.
- Standing in the middle of the road is dangerous. You will get knocked down by the traffic from both ways.
- Words are windows to the heart.
- A skeptic is a person who, when he sees the handwriting on the wall, claims it's a forgery.

Kids Stuff

My grandson was visiting one day when he asked, "Grandpa, do you know how you and God are alike?" I mentally polished my halo while I asked, "No, how are we alike?" "You're both old," he replied.

After putting her children to bed, a mother changed into old slacks and a droopy blouse and proceeded to wash her hair. As she heard the children getting more and more rambunctious, her patience grew thin. At last she threw a towel around her head and stormed into their room, putting them back to bed with stern warnings. As she left the room, she heard her 3-year-old say with a trembling voice, "Who was THAT?"