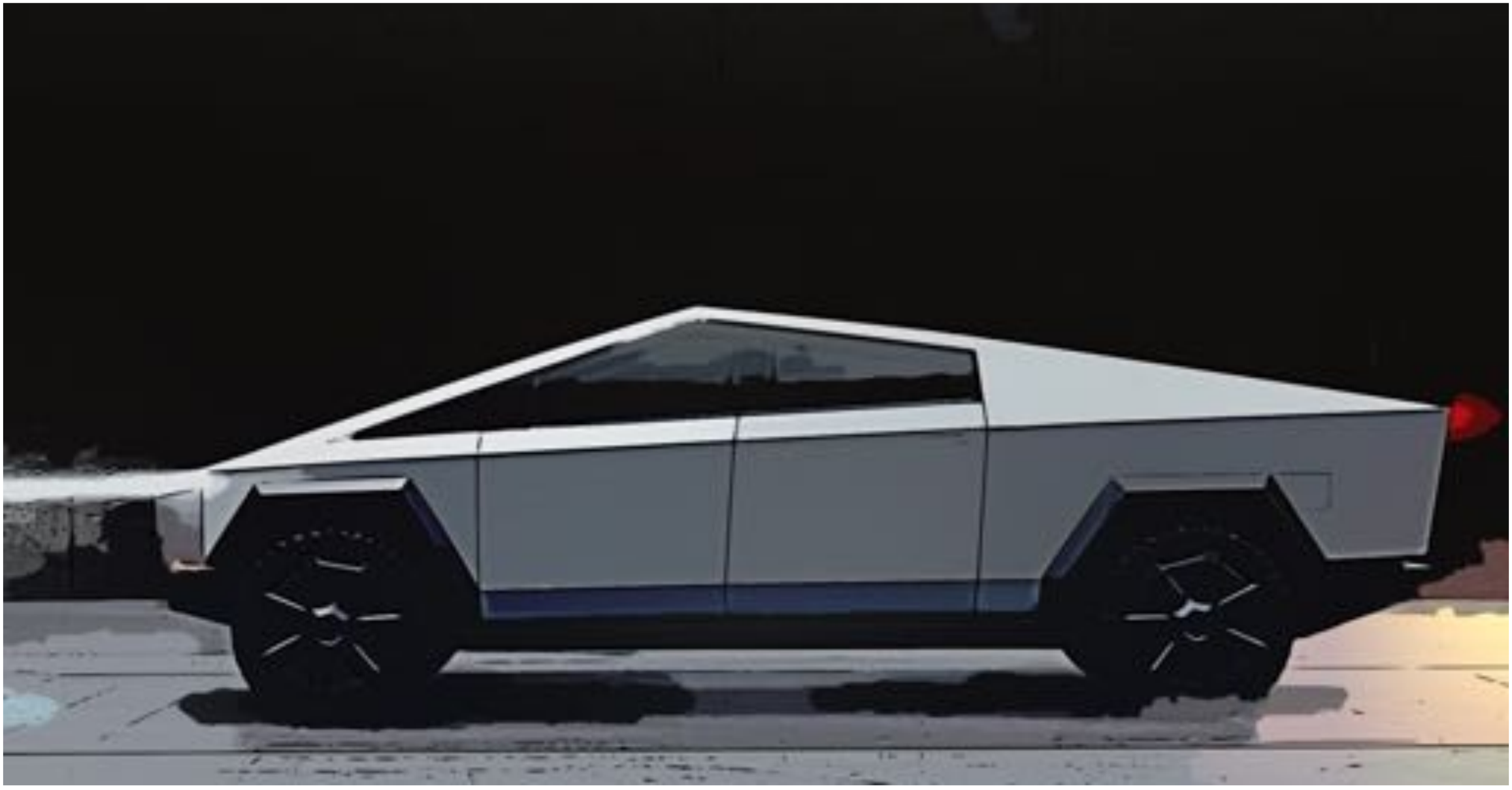


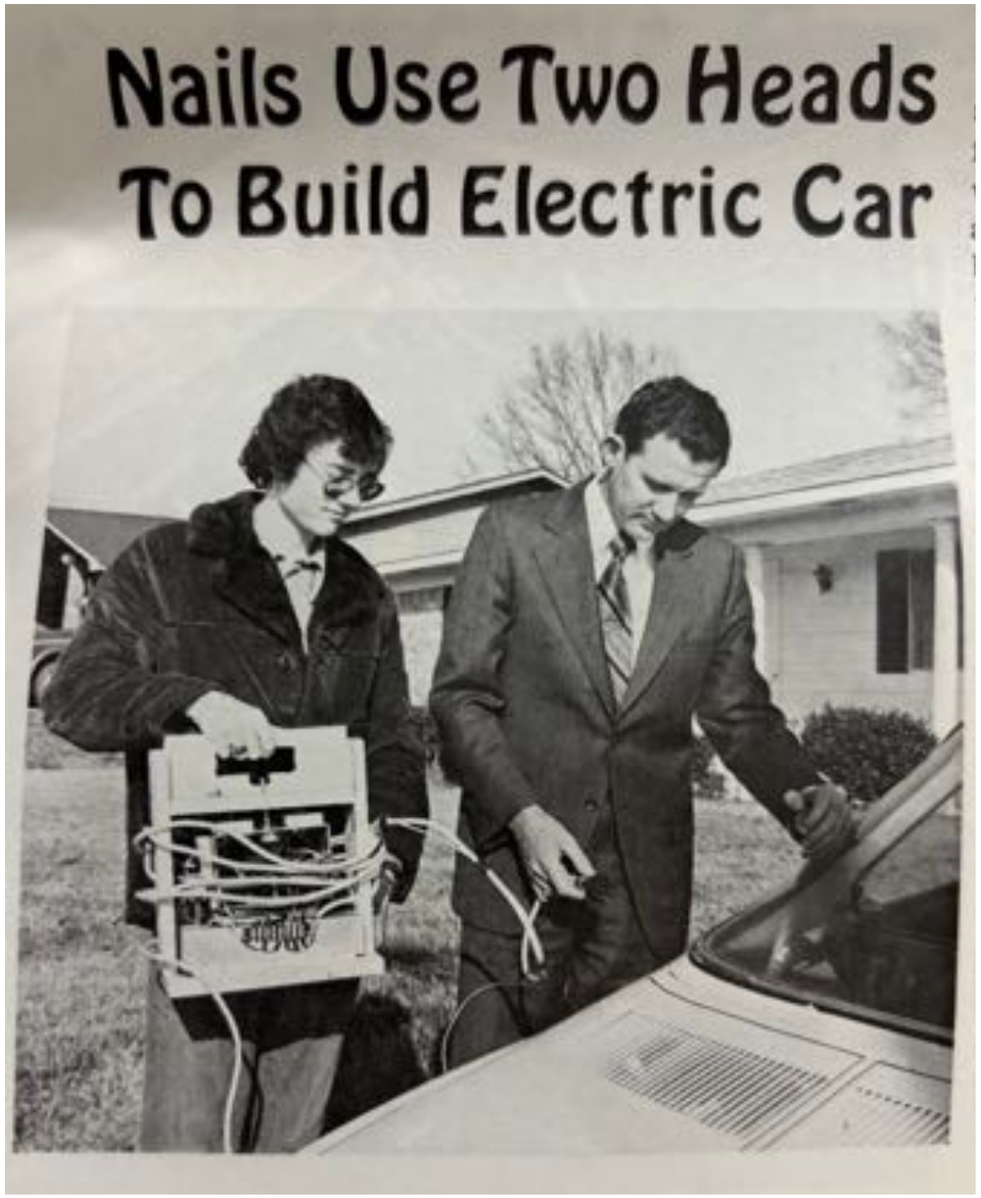
Why Cybertruck? - by Bud Nail

(Part 1- The Smartest Man in the Room)

My Dad - William Lamar Nail Jr. - 05-03-1935 to 05-19-2023

The Smartest Man in the Room

In May 2023, as I sat with my father, waiting out his last few days on earth, a man, my father's friend, entered the room. "Many a time, I've told people when your dad arrived at a meeting, 'Here comes the smartest man in the room.' "

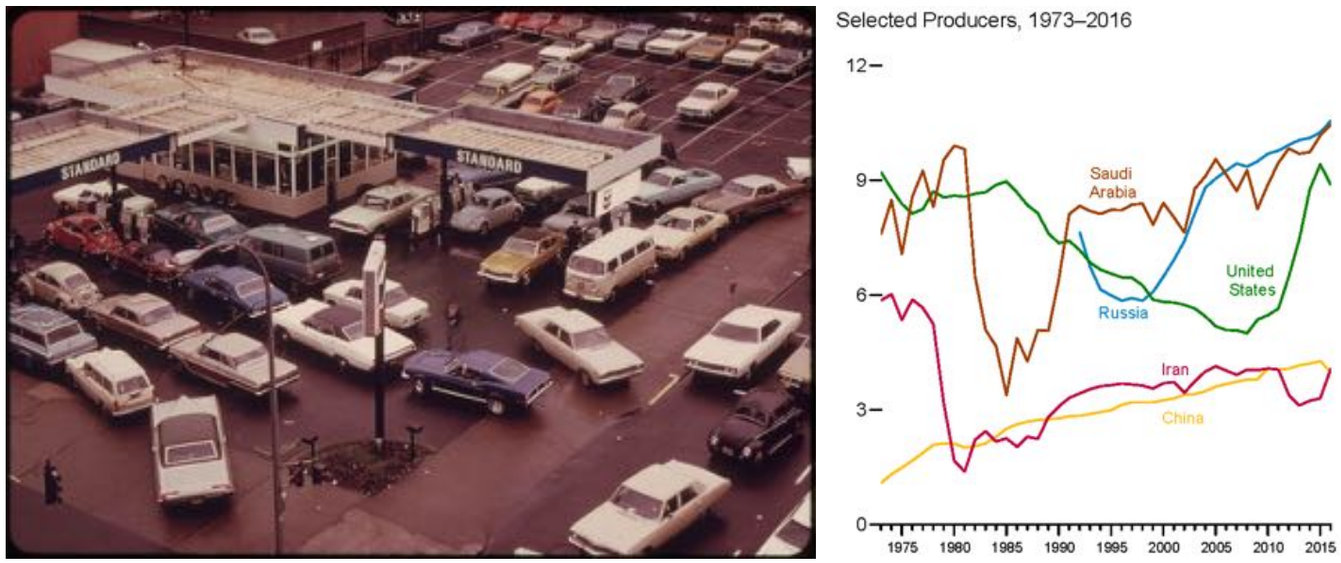


He had only known Dad personally and as a member and officer in various non-profit organizations, not professionally. But he did talk with many people who knew Dad professionally over the years. They all had great respect for his abilities and accomplishments. The one that often gets overlooked is when he designed and helped build my first BEV (Battery Electric Vehicle) nearly 50 years ago.

As a teenager in the early 1970s, I was really into cars. I liked the idea of girls, but vehicles were much more approachable and less scary. I was a subscriber and read front to back every Hot Rod magazine, whose cover always sported a “Hot” car and maybe just happened to sport a lady of similar temperature. I intended to build a hot rod, starting a few years before getting my license at age 15. Once I had a hot car and could drive legally, girls would be a piece of cake.

My Mom, Me and My Dad - Early 1960's

That is not exactly how I described my plan to my parents. Knowing them well, I expressed my desire to learn practical skills, gain experience and save money by starting with a junk vehicle that I would "fix up." Knowing me well, they did not endorse my plan immediately but let me dream and talk.



The Oil Crisis of 1973

My dad, meanwhile, was a Professional Engineer and head of Production Engineering for Mississippi Power and Light (MP&L, a division of what would later become Entergy). He and a few others understood that over-reliance on fossil fuels was not in the best interest of his company, its customers, or the nation. For much of his career, by building newer and more efficient power plants, the cost of electricity was going down, not up, when adjusted for inflation. But while gasoline remained cheap, natural gas fueling most of their power plants was getting scarce at the prices they had guaranteed in long-term contracts. There was significant demand growth for natural gas heating up north, so the producers convinced the courts to let them out of their low-profit contracts with southern utilities in favor of selling at a higher price to northern distributors. As a result, many power plants were converted to burn oil. People like my dad knew an energy crisis was coming.

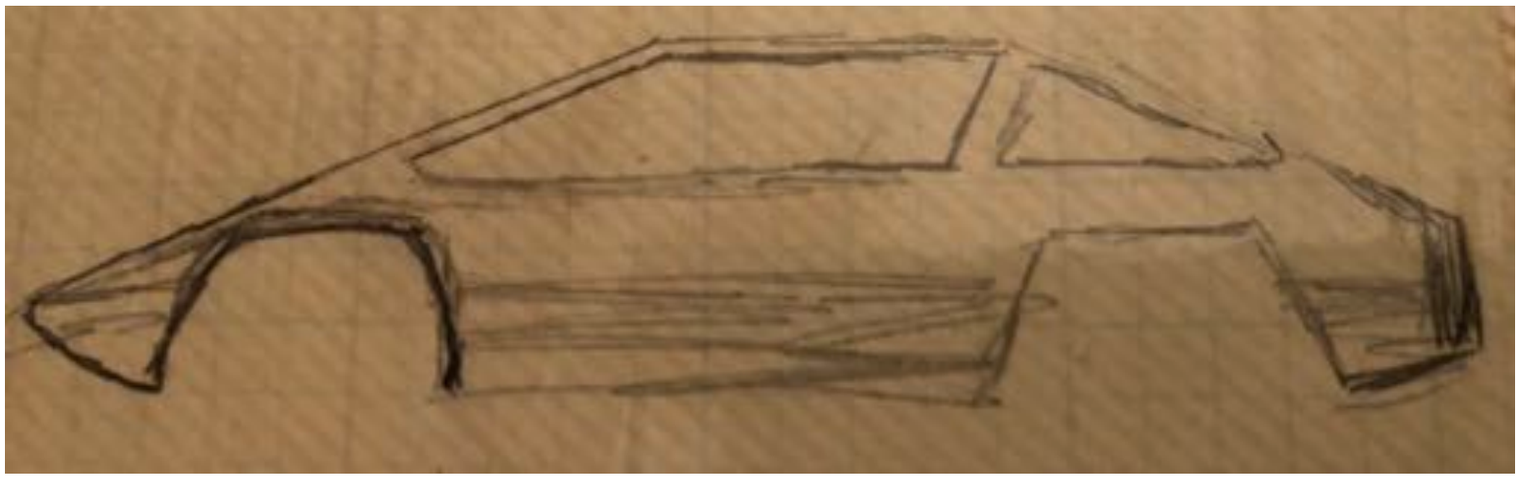
Grand Gulf Nuclear Power Plant

So long before the “Oil Crisis” and “Global Warming,” my dad and MP&L were looking for a solution that, as it turned out, could significantly impact both these issues (unknown at the time) and address the current headline problem “Air Pollution.” Their solution was the Grand Gulf Nuclear Power Plant, eventually built beside the Mississippi River near Port Gibson, Mississippi. He became the project lead and finally the plant’s first Superintendent (That means “the buck stops here, guy.”). Dad was also interested in the idea that cars could be, in essence, nuclear-powered with a breakthrough in battery technology. This technology would mean zero air pollution and dependable energy pricing for drivers.

My Simca Sport Coupe EV Conversion

He had some ideas about making batteries better, including what is now known as flow battery technology and using lighter materials. He talked about these things, and consciously or unconsciously (I don't know.), he steered my thinking from Hot Rods to Hot Technology. I wanted an electric car.

With this change in plans, he had no trouble encouraging me enthusiastically. We struck a deal. I would buy a car chassis with a blown or missing engine, do any necessary repairs, and he would help me design and pay for the propulsion components. We built the car, it worked, and I used it as my primary transportation during high school. I spent less than $100, and my parents spent about ten times that. Adjusted for inflation, that would be about $11K in 2023 dollars.



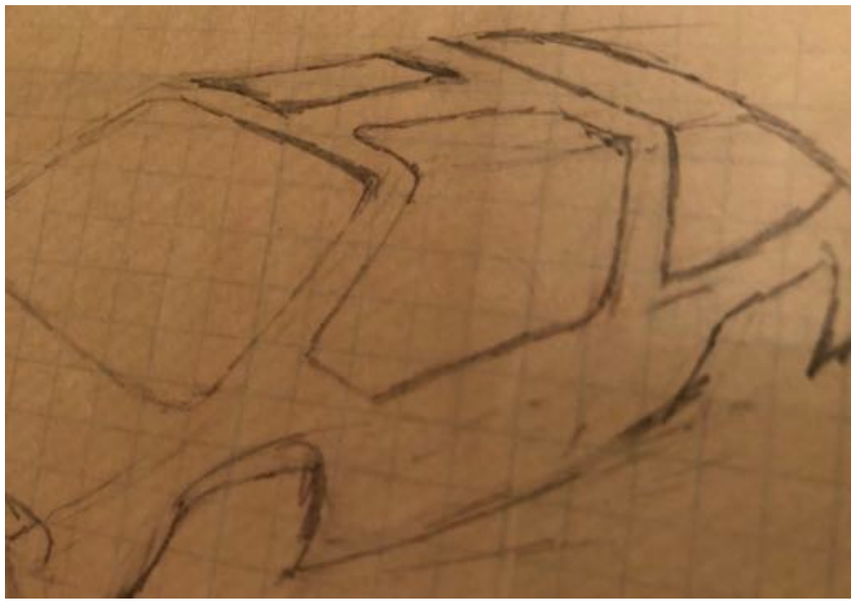
A Sketch of Our Next EV Concept 1976

We learned a lot from building and driving it. Lessons that Tesla and traditional automakers are still learning today. I'll mention a few here:

- EVs are too quiet for people who aren't used to them. People will step right in front of them. Subconsciously they don't believe that something not making a lot of noise is a threat.

- Using a traditional vehicle design is not the best way to build an EV. You need to design the chassis for EV components. EV motors are small and light compared to ICE (Internal Combustion Engines). Transmissions can be much simpler and lighter too. Batteries, which are the fuel tank for EVs, are heavy. The place to put the batteries is low and in the middle of the vehicle, not where the gas engine used to be.

- Vehicle weight, heating, cooling, headlights, radio, or other entertainment systems, as well as aerodynamics, have a significant impact on range.



Another Sketch of our Next EV 1976

These last two findings led us to want to design and build a new chassis. But before that happened, we had our so-called 15 minutes of fame. Local news, magazines, and TV interviewed us. I milked the vehicle for several school and extracurricular projects, winning trips to several desirable locations, and became part of a traveling road show that fed the curiosity of the truly geeky. It did not attract any girls, that I could tell. Nor did it repel them. I was capable of that without any help from my unusual vehicle.

Engineers, car buffs, and hobbyists would enjoy the details of the car coming together, but for now, let's jump to a couple of years later in the story.

One More Sketch of our Next EV 1976

Then came college.

The same summer I left to pursue an electrical engineering degree at Mississippi State University, my parents moved to Port Gibson and took my EV. I could not make the long trip back and forth to campus in such a limited-range vehicle and since you walked on campus it wouldn't be of much use there. So instead, I drove a Dodge Cornet with a 318 V8 for the next two years. It was nearly the same vehicle as the Dodge Charger without the 440 engine and spoiler. It had the same profile as many unmarked police cars and was faster than almost any new car because the oil crisis had hit, and the OEMs downsized their muscle cars into little 4-cylinder

Our Second EV - 1978 - Driver's Side

I had fun with that car, but it was expensive to drive. I joined MSU's Coop program, where you work as a paid engineering intern one semester and go to school the next. For some of that time, I lived at home while I worked in downtown Jackson for the phone company. That is when Dad and I started building our second EV. We designed this one from the ground up based on how supercars looked at the time. It had gull-wing doors foreshadowing Tesla's Model X and a very angular, sharp-edge style similar to the Cybertruck.

Our Second EV - 1978 - Front

My dad and I received Popular Mechanics and Popular Science subscriptions as a reoccurring Christmas gift from my mom. One of those magazines showed how to build a car body from styrofoam covered with fiberglass. We made a test panel with a couple of layers of fiberglass. It was powerful and light compared to traditional metal sheets

I asked for and received a small Lincoln Arc Welder for Christmas. Dad taught me how to cut steel tubing to length and weld it. We would cut pieces to size, tack weld them, and step back to see if they looked like our drawing. If not, we broke them down and started again. After about a year, some of that time away at school, we had a vehicle ready for motor and batteries and to have its fiber and foam skin applied. The coolest EV ever was about to be born.

Me - 1975 (Nerd), 1976 (Geek), 1979 (Babe Magnet), 1981 (Groom) with Mary, 1997 (Dad) with Mary, Christy,& Will

Then a strange thing happened. Girls discovered me. While I'm sure you would find the details of the next few years fascinating, there is this rule about writing, "Don't swap genres in the middle of a book!" So you will have to wait and read my love story in another book. (Mostly joking.) The two EVs just kind of sat there, while this was going on.

Mom and Me, Me, Mom and Grandma (her mom)

While my dad may have been the smartest man in the room, my mom was always the smartest person in the room. She was patient, kind, loving, a great manager and tough.

Two children, three employers, and two homes later, my mom finally made good on her promise to call the scrap dealer. One EV had occupied valuable space in her garage for a decade, and the other was a blight on the neighborhood. It was in the backyard on blocks. We came to visit one weekend, and they were long gone.

These were probably two of the first few EVs ever recycled. I can certainly claim that my cars were the first recycled EVs from Mississippi. These should be the first of many since 90% of EV materials including batteries are recyclable. Maybe some of that metal from my cars will become part of a long-range, high-performance BEV like the Cybertruck.

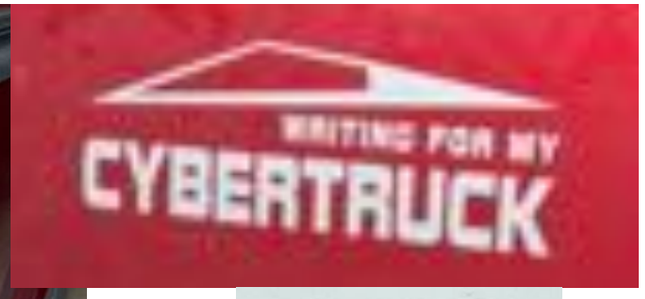
My Rental Tesla Model X - 2018 - San Fransisco

My dad foresaw the day when most if not all, vehicles would be electric. When visiting my son, wife, and twin grandkids in California, I often rent EVs and I would report back to him on my experiences. We would reminisce about our EVs of Mississippi. My mom would say that we were ahead of our time. We would talk about how Elon Musk and his team tackled some of the same problems we had a half-century earlier. I would joke about how even though Elon and I are co-owners and partners at Tesla, he never asks me for advice. (I own a little, and Elon owns most of the stock.) I worked in both the auto and space industries, so I like to think I could have saved Elon some time and money if he had my experience to draw on. I know my dad could have with his ability to motivate and inspire engineers.

Cybertruck Reveal November 21, 2019

Until he passed away, Dad was not only my dad but my friend and my boss. He and his brother (my Uncle Jack, Vice President) worked with me to design and build a number of inventions that significantly benefited our clients. Though they turned over the day-to-day operations of our company to me years ago, he remained president until the day he died, and I kept him informed of all significant decisions.

He wholeheartedly supported my decision to reserve a Cybertruck for our company. This is the perfect vehicle to represent our company. We are both big stainless steel fans and love the functional design and engineering that went into making such an exceptional vehicle. While I'm sorry he won't get to drive or ride in it personally, my uncle and I will be reporting to him soon enough about our experiences.



The Back of My Company Truck 2020-2023, Gideon Bible App QR code

You may wonder if my dad is dead; how is that possible? Well, because he is not. He only died. There is a big difference between dying and being dead.

Remember the man I told you about at the beginning, the friend who called my dad the smartest man in the room? He was also my dad's pastor. He has a full time calling telling people about how God makes that possible. But there is this rule about switching book genres, so I won't go there now. That's for another book. In the meantime, I recommend you read any or all of the first four books of the New Testament, (Matthew, Mark, Luke, and John). Get the free Gideon Bible app in the app store for your device if you don't already own a copy. **This is the first step to you becoming the smartest man(or woman) in the room.**