The year was 1953, and Belgian-born rocket designer Karel Bossart had a serious problem. His company, Consolidated Vultee Aircraft (or Convair for short) had been tapped to construct America's first Intercontinental Ballistic Missile. And the competition, it seemed, was already miles ahead.

You see, just a few weeks before, the Soviet Union had announced with great fanfare their first successful test of a new, terrifyingly powerful type of Hydrogen bomb — one that CIA analysts believed would soon be mounted atop their own first generation of ICBMs. Unlike previous long-range missiles like the German V-2, this one would be capable of reaching the continental United States from anywhere in the world. Surprisingly, just a few years after the groundbreaking successes of the Manhattan Project that ultimately ended World War II, it seemed the U.S. had fallen hopelessly behind its primary Cold War adversary, and playing catch-up had just become a national priority.

Several years earlier, before the end of the war, the U.S. Army Air Force had awarded Convair a research contract to study the feasibility of developing huge, powerful missiles capable of performing what seemed like an impossible task — hurling a nuclear warhead from one side of the planet to the other. Unfortunately, with rocket and nuclear weapons technology being what they were in the mid 1940s, even the most powerful rockets available lacked the thrust and range required to carry even the smallest nuclear warheads believed theoretically possible. Since seemingly impossible projects had a tendency to end up being impossibly expensive, and in view of the fact that the postwar world seemed like a relatively peaceful place, the U.S. cancelled the lion's share of its ongoing weapons programs, including Convair's missile contract, in 1947.

Prior to the end of the program, Convair's team, had actually been making steady progress, and construction had already been completed on a total of three test rockets. Naturally, the scientists on Bossart's team all agreed that it seemed a terrible shame to waste three perfectly good rockets, so after some political wrangling, they received permission from the Army Air Force to use the last of the program's funds to launch all three. And launch they did, each one with slightly better performance than the last — which, in those days, meant that each one flew for just a little longer before experiencing some sort of catastrophic failure.

Still and all, the three flights validated a number of brand new technologies that would prove vital during the early days of the U.S.

manned space program, including the use of so-called “balloon” fuel tanks. To save weight, the tanks were built using thin sheets of stainless steel — so fragile that the entire rocket would collapse under its own weight unless the tanks were kept pressurized. Overall, the tanks worked as intended, but the engineers did find one very serious issue. When filled with super cold liquid oxygen before flight, water condensed and froze on the outside of the tanks, eventually leading to corrosion. Needless to say, with the entire structural integrity of the rocket relying on razor-thin sheets of stainless steel, corrosion of any sort was unacceptable.

Now it was six years later, the Soviets had a commanding lead in rocket technology and, shockingly, the U.S. government was once again keenly interested in acquiring ICBMs. Karel Bossart was still at Convair, and still believed he had the right design for the job. But he also knew the fuel tank corrosion issue represented a potentially fatal flaw that would have to be addressed. So, in hopes of solving the problem, he turned to a small startup located in San Diego called the Rocket Chemical Company where founder Norm Larsen had created a number of solvents and degreasers intended for use in the aerospace industry.

Norm, a self-taught chemist with only a high-school education, was more than willing to help, but coming up with a product that could displace that much water over such a huge surface area turned out to be a correspondingly huge challenge. Nevertheless, the little Rocket Chemical Company with its three employees stuck with it, concocting formula after formula until they found exactly what their customer was looking for. So by 1953, with the solution for his corrosion problem in hand, Bossart was able to include the revolutionary balloon tanks in the final design for the new Atlas rocket, America’s first intercontinental ballistic missile.

Since most of his work was and still is highly classified, you may never of heard of Karel Bossart, but his achievements were every bit as important as those of Wernher von Braun or Sergei Korolev. His Atlas rockets went on to launch ten missions associated with Project Mercury, including the one carrying John Glenn on the first U.S. space flight to orbit the Earth. Since then, Atlas has lofted everything from GPS and spy satellites to space probes on their way to explore Mars, Mercury, and Venus into the heavens. None of this would have been possible without Karel Bossart … with a little help from Norm Larsen’s plucky little Rocket Chemical Company and their water displacement formula, of course.

You probably never heard of the Rocket Chemical Company before either. That's because Norm Larsen sold out — lock, stock, and barrel — for just $20,000, shortly after his product's first industrial sale to Convair. A few years later, the company — now renamed after its only product — realized their formula might prove handy around the house. So they came up with the idea of packaging it in aerosol cans for consumer use. To say that it caught on from there is a bit of an understatement, since the familiar spray can now be found in an estimated four of every five homes in the U.S. Over the years, homeowners have used it for everything from silencing squeaky doors to removing adhesive labels and protecting tools from rust.

As to why Norm Larsen sold out so soon and so cheaply, some say the poor guy was just burned out and ready to move on to something else. Norm and his small team had been forced to work day and night in the mad rush to find just the right formula for their water displacement product. In the end, there had been a total of thirty-nine frustrating, time-consuming failures before the team finally achieved success on attempt forty. In fact, that long process of trial and error is what led to the original, rather uninspired name they assigned to the product: Water Displacement Formula 40.

As for the new owners, they thought the original name was a bit long for the can, let alone a business card. So after buying out Mr. Larsen on the cheap, they shortened the name of the company and the product to the one you can probably find in your cabinet: WD-40.

Anyway, that's the way I heard it …