William B. Neuberg

Naval Aviation Cadet Class

1930-1954

Pilot USNR

7 Yr &7 Mo

Chairman Shamrock Corp.

1972-2026 +

William Birch Neuberg

Born in Hackensack
Poor student
Matured in Navy
Kept father from going broke
Great wife and family

Experience

Shamrock Technologies, Inc.
Worker-President-Chairman
March 1930 – Present (96+ years)
Invented micronized wax - highly copied
Developed use of PTFE in printing ink - highly copied
Discovered epitaxial mechanism of how PTFE enhances performance of wax - unrecognized
Operated a profit-producing corporation

William Birch Neuberg

U.S. Navy
Naval Cadet
Flight Student
Naval Aviator
USNR June 1954 – December 1961 (7 years 7 months)
Flight Instructor
Fighter Pilot
Anti-submarine Pilot
Ferry Pilot

Skills

Joker-Innovator-Salesman-Microscopist-Manager-Leader-Airplane Driver-Having Fun Making Money

Education

Rensselaer Polytechnic Institute

Bachelor of Science (BS), Chemistry

1930 – 1954

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Remembrances and Reflections nearing Christmas 2012

With the approach of Christmas in my 83rd year, I write about myself, contemplating my most absorbing activities. They have been aviation and chemistry or science.

School was tough for me, probably because of parental influence, but Naval Aviation was the beginning of what I have done with life. My personal life has been closely tied to aviation and science. I met Ricki while in the Navy, and she has been part of my journey. It was a mutual interest in horses that brought us together.

I got through college with a degree in chemistry, but I was really saved by Naval Aviation. I am one of the lucky ones who made it this long, serving officially in both the Korean War and the Vietnam War, but I never saw the enemy. Between wars, I did chemistry, drilling mud, consumer product manufacturing, advertising, and sales. I flew fighters and anti-submarine aircraft in the reserves, which led to my recall for the Cuban Missile Crisis. In the ferry squadron, I did a lot of cross country flying and recall how eager the military was to practice warfare in Vietnam.

I got out and made and sold cream of tartar. Purchasing the raw material from the wineries was part of this, but a process change spoiled that business which led me back to wax. That was in my 33rd year. The next 50 plus have been my career, but aviation came into play again, and horses. By my 73rd year, my company was probably the world's largest producer of PTFE/Teflon micropowder. I thought the business had grown too
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big for me to manage and hired someone to do that while I took a sabbatical to build an airplane. The airplane was stolen. The manager lost money, and it was back to business based on chemistry.

The last 10 years have been a time of business growth built on what came before: aviation and chemistry. The horses have been the background of my personal life. Ricki's Nearaway Farm has been my happy home. Our son, Nick, has run a charter boat for over 15 years. He lives within walking distance. His 4 sons visit and horse around. We now have a pony that we drive and is ready for the kids to ride. They will have to be much better students than I was to continue the family chemical business.

Flying Bill Neuberg

1930-1975

I, William B. Neuberg, admit that it is not likely that I was known as a "good boy" growing up. The principal put me into the dummies section in seventh grade for making a stink bomb. So, my parents sent me away to school where I flunked dormitory with another stink bomb while having the highest mark in the class in science. I resented school. In my senior year of high school, I applied for the US Naval Academy and was accepted but later declined because a test that was taken indicated that I should be a salesman. I sold magazines that summer, but had a hard time eating, so I went to a college of my parents' choice. After finally graduating without honors, I applied for Naval flight training.

Rensselaer Polytechnic Institute

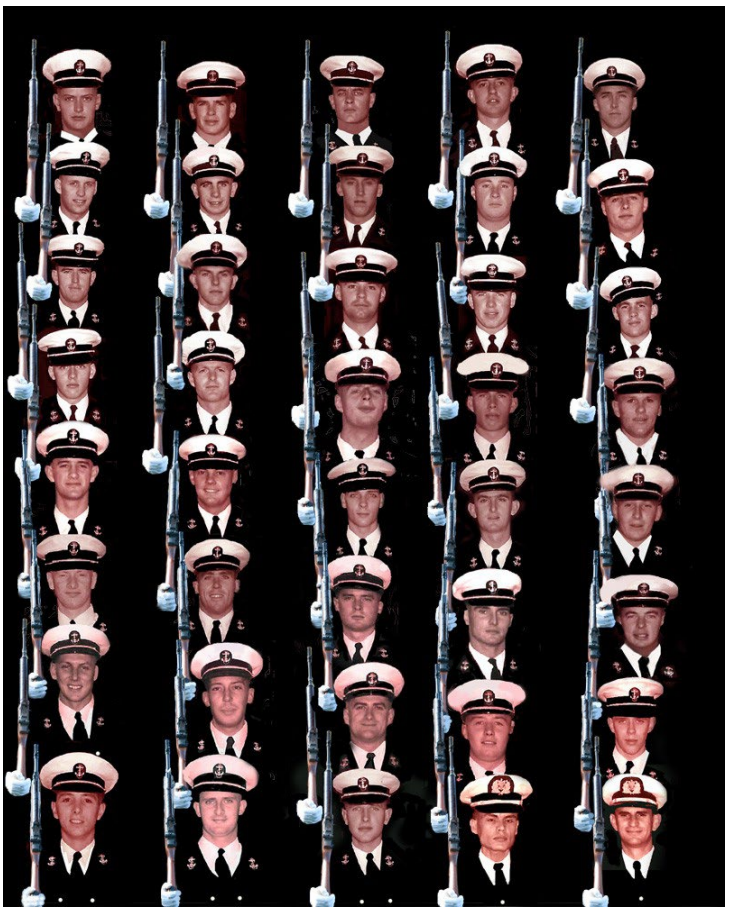
I entered the Naval Aviation Cadet program the summer after graduating from Rensselaer Polytechnic Institute located in Troy, New York. The institute was established in 1824 by Stephen van Rensselaer and Amos Eaton for the "application of science to the common purposes of life" and is described as the oldest technological university in the English-speaking world. Wi kimedia reports that Rensselaer's alumni and current and former faculty represent 85 members of the National Academy of Engineering, 17 members of the National Academy of Sciences, 25 members of the American Academy of Arts and Sciences, 8 members of the National Academy of Medicine, 8 members of the National Academy of Inventors, and 6 members of the National Inventors Hall of Fame, as well as 6 National Medal of Technology winners, 5 National Medal of Science winners, 8 Fulbright Scholarship recipients, and a Nobel Prize winner in Physics. I had to work for the Chemistry degree because my father was a chemical engineer who had taken over his father's chemical importing business.

U.S. NAVAL SCHOOL PRE-FLIGHT

N.A.S. PENSACOLA, FLORIDA

Airplanes and flying had always intrigued me, and I decided to take the flight physical and try for acceptance into the Navy flight training program. I passed the Flight Aptitude Test and the flight physical and soon thereafter received orders to NAS Pensacola, Florida. Upon arrival, I was assigned to Naval Aviation Cadet (NAVCAD) Class 30-54. Class 30 consisted of two units, G and H. Below is the official photograph of my class 30-54G with me as #3 from the right in the second row.

The first two weeks were probably akin to Marine Corps boot camp since we were verbally assaulted continuously during Indoctrination by three Marine GySgt Drill Instructors from previous duty at MCRD Parris Island, SC. They were rough and tough while getting us in physical shape and mentally accustomed to a strict military regimented environment yet preparing us to become officers and gentlemen. They never cursed or humiliated any of us. We were punished regularly for infractions and mistakes in performing drill or other assigned tasks. Punishment meted out was always demerits and hours marching with rifles on the parade decks or other hard surface areas on the Base, referred to as "Grinders." Awards of 2 demerits and 2 hours marching was typical.



After entering the NavCad program summer of 1954, the Marines provided excellent military training starting with Gunnery Sergeants Jones and Callahan. We, cadets, were issued uniforms and told to shine our shoes and belt buckles. Somehow, marching just happened. We marched to and from classes and everywhere we were told to go. I remember Sgt. Jones telling me, "Your other left, you silly clown." We were not to be sworn at. We also attended lectures. I recall a Marine Officer stood at the lectern saying, "My name is Captain Bustard. They call me Bustard the Bastard. These are my medals" (WW-2 and Korean war). We suffered tough physical fitness training, and military discipline was always paramount.

As I recall, 120 demerits would result in discharge from the program and reduction to Navy Seaman and transferred to the Fleet. I admit to spending a couple of hours marching off demerits during the 16 weeks or so of Pre-flight school. I had received no demerits or hours marching until the Navy Captain Dentist extracted three of my wisdom teeth and shortly thereafter I gave a pint of blood to gain an overnight liberty pass which wasn't allowed except for boxing in the weekly smoker or giving blood. I ended up in the Naval Hospital for a couple of days. During my absence the weekly barracks inspection found Bud Smook's name stenciled inside my Barracks Cap. The inspector gave me ten demerits and two hours marching for failing the inspection. I was told later that when section leader Joe Brady's closet door was opened stuff tumbled out on the deck. Sergeant Sterling found me once sleeping on the floor under my bunk during study hours, but he gave me no demerits.

The ground school consisted of all subjects pertinent to aircraft, such as engines, navigation, electronics, weather, Morse code, etc. Military subjects and physical training were stressed daily. As indicated above, Class 30 consisted of two units, G and H. Sergeant Sterling was our class drill instructor. Each section was assigned a NavCad as unit leader who came from the Navy or Marine Corps. Joe Brady (Navy) was unit leader of "G" and Donald Cathcart (Marine) was leader of "H" section. About half of the Class were from college and the other half came from Navy and Marine Fleet Forces. Below are the members of Class 30-54-H. We had four Cuban officers in our Class 30. Two in each section. Cuba was not a Communist Country in 1954. Foreign exchange students attended NavCad and officer flight training programs. Most foreign students during 1954 came from France and England.

Sergeant Sterling always said, "Quass furty is a good Quass!" Sterling had a speech impediment which did not impede his ability as a leader. The entire class graduated Pre Flight after 16 weeks without difficulty and early in December proceeded to NAS Whiting Field for Primary Flight Training in the SNJ 'Texan' tail dragger airplane. The first flight came after bail-out training and completing the careful preflight inspection of the SNJ. Instructors would not tolerate a student pilot missing an item on the checklist. My only problem in the pre solo stage came when I wore a warm flight jacket on an unexpected warm day and the drill was to perform a steep turn stall to the right. When pulling G, which is pulling more positive pressure on the aircraft, to the left, the aircraft would flip to straight and level when the wings would no longer support the weight of the airplane--a stall. To the right it rolled inverted and the pilot had to continue the roll to straight and level flight. Somehow I didn't do it quite right and had to do it again. I was hot and sweaty and about to throw up, but I finally made it through the maneuver.

Solo flying was fun. Precision came next and then acrobatics which I really liked. Formation followed which took us from primary flight at Whiting to Saufley Field. Acrobatic refresher followed in preparation for dog fighting introduction. I drew a bad instructor. At the top of a loop, he pulled hard on the stick and not only stalled but spun the SNJ and then left it to me to recover from the spin. After listening to his telling me how hard you had to pull to get around a loop, he gave me another chance. I braced my elbows against my chest to fight his pull on the stick and we made it. But, he gave me a below average because he had to help me get over the top of the loop. That same instructor was later taken on by four other instructors who replaced the student pilots. The instructor pilots performed all the wrong rendezvous maneuvers possible including rolling over the top of the formation. My "below average" instructor finally herded them back to the field to land. This resulted in all the wrong landing maneuvers including wheels up passes and the instructor" screaming on the radio, "I don't know how to get these guys down! Shoot Them Down!" The flight had prearranged with the tower to make a recording of the below average "screamer" instructor pilot in an effort to "square him away." I never heard what happened to the "below average" pilot, but the recording went all over Naval Aviation and even into Air Force activities. The "below average" pilot had gotten a "Down" by his fellow instructors.

FLIGHT INSTRUCTOR USN

I enjoyed each and every phase of flight training and progressed rapidly through primary, formation, gunnery, carrier qualification and instruments. As it turned out, I finished Primary and Basic Flight Training well ahead of my classmates and was selected for the F9F Panther Jet Program in Advanced Training in Corpus Christi, TX. The only distraction was my untimely marriage to a Georgia girl during USS Monterey carrier qualifications. Although I completed the flight training program without difficulty and received my Wings of Gold in December 1955, two months ahead of many of my classmates, I am sure I would have been a better pilot without that distraction.

FLIGHT INSTRUCTOR

U.S. NAVY

Surprise, surprise! I completed the Navy advanced flight training in December 1955, received Wings of Gold and my commission as Ensign. And, I was given orders to report to Headquarters U.S. Naval Aviation Training Command for duty as a Flight Instructor in the Basic Training program at NAS Whiting Field, Milton, Florida. There goes all that Jet Aircraft training I successfully completed for naught! I'm back to the SNJ Texan teaching primary aircraft flight procedures! But I enjoyed instructing and considered it was the best job in the Navy.

One student I flew with named Artim, did whatever I showed him better than I had demonstrated. I later read in the Goshawk that he had 70% hits in the banner as a student in Gunnery. Then the other side of the equation was a student that was so bad that I recommended him to be dropped from the flight program. The CNABTRA admiral sent him back for another chance and that student crashed and died.

One of the maneuvers taught was a simulated low altitude emergency out of Brewton airfield. As the Instructor in a T-28 Trojan, I liked to recover at low altitude and fly up the river, then climb to pattern altitude for entry at NAS Whiting and roll the aircraft coming out on heading, altitude, airspeed, power setting, with the Cowl Flaps closing. Someone reported my performances and I may have received a Letter of Reprimand. (Better than no mail at all.) The safety officer and training personnel didn't like me getting out of the aircraft before it stopped as my student taxied into the chocks.

In spite of complaints about my shortcuts and spectacular demonstrations of flying and instructing I made Instructor of the Month by flying 163 flight hours in July 1956 which gave me a Letter of Commendation. Additionally, I was allowed to fly the TV-2 shooting Star as a reward. Another fun memory of mine was my first flight in the T34 Mentor. It was a four-plane division takeoff for an Armed Forces Day parade. I got a White Hat lineman to start the T-34 engine.

My flight instructor tour in the Navy gave me great experience in flying while training new NavCads and military officers how to fly and stay alive in a dangerous and exciting profession. I would have been happy continuing in such a rewarding and satisfying occupation that made me a confident and expert pilot. My obligated active duty time was over in November 1957 and I departed the Navy expecting my father to invite me to work with him. When I wasn't asked to come with him I went to New Orleans looking for work. There was one job flying a Lockheed Lodestar and another flying seaplanes out to the oil rigs. I looked into the Navy Reserve.

USNR-FERRY & FIGHTER PILOT

I got out of the Navy in November ’57 and expected my father to ask me to go to work with him. When that didn’t happen, I went to New Orleans looking for a job. There was one flying a Lockheed Lodestar and another flying seaplanes out to the oil rigs in the gulf to check the drilling mud. I interviewed in Houston for that one and they asked me to do research on mud. I did that for a year, the first one in in the morning and the last one out at night. I loved the work but couldn’t take the confinement. They had me fly the company Cessna 195 and their Aero Commander. I didn’t like being an airborne taxi driver and wound up selling insurance after which my father hired me.

During my time in Houston, I flew F9f-8s and FJ-3s in the reserves out of Navy Dallas. I remember a night flight to Key West. We arrived in a thunder storm. I was flying wing. Lightning would light up my leader’s plane, and then all would be dark until my night vision showed his position lights. We held for a long time, and I developed vertigo. Finally came the jet penetration and landing. The rum drink was especially good that night.

I worked for my father in Houston selling his mildew product, Endew, until the Fall of 1959 when I moved to Connecticut to sell wax. I transferred to the reserves at Willow Grove continuing to fly FJs. We did a 2-week cruise in New Orleans the following spring, and my father asked me to come to Miami for a couple of weeks to launch his new milder product, Kildew. After 2 weeks, I was asked to stay another and then another. I missed getting into a jet squadron in Jacksonville because they had just transitioned to A4Ds. I wound up in an anti-submarine squadron. My checkout as co-pilot was interesting. The “instructor” never looked up from the instruments. I read the clearances all the way to landing at Atlanta. Turning off onto the taxiway, he finally looked at me saying, “That wasn’t bad, first time I ever flew actual instruments.” Bringing this guy home alive, they made me co-pilot for the executive officer, “Sears” Roebuck. During a two-week cruise in Key West, half the squadron flew days one week and nights the rest. On my free daytime, I went fishing with some guys. Nothing was biting my line, so I donned my mask and fins. We were anchored in a channel alongside a bank that was filled with lobsters. I started throwing them into the boat and managed to feed the squadron, after which, I became known as “Lobster” Neuberg.

I had Kildew floor displays in department stores and grocery stores, but the stuff just didn't sell. I think it was the driest year in the history of Florida. When the squadron skipper read a letter from President Kennedy asking for volunteers for the Berlin crisis, I stood up and said, "guys, let's go." They all looked at me with wonder. I wound up in the ferry squadron.

Morry Loso was my check pilot. The cross-country stop was El Paso, and the checkout in Juarez started with the Cuba Libras at 25 cents each. The next stop was a slightly more expensive bar that had girls, and from there, the Ice Palace, where it got even more interesting. I finally left on my own as Loso kept drinking. I walked to the border to catch a cab and showed the guard my Navy ID saying "me Americano." The army guy arrested me and threw me into a wire cage. I took down an overhead fluorescent light and threatened the army with deadly poison in accordance with my prisoner of war training. A Navy Lt. Cdr. Reserve school teacher finally came, hopefully to release me. He came to my cage and said, "Son, not only are you in trouble with … blah… blah." An army major released me in the morning and took me to my airplane. After I got out of the Navy, I took pleasure in calling Lt.Cdr Jerald Jarvis and telling his wife I was his son, Not.

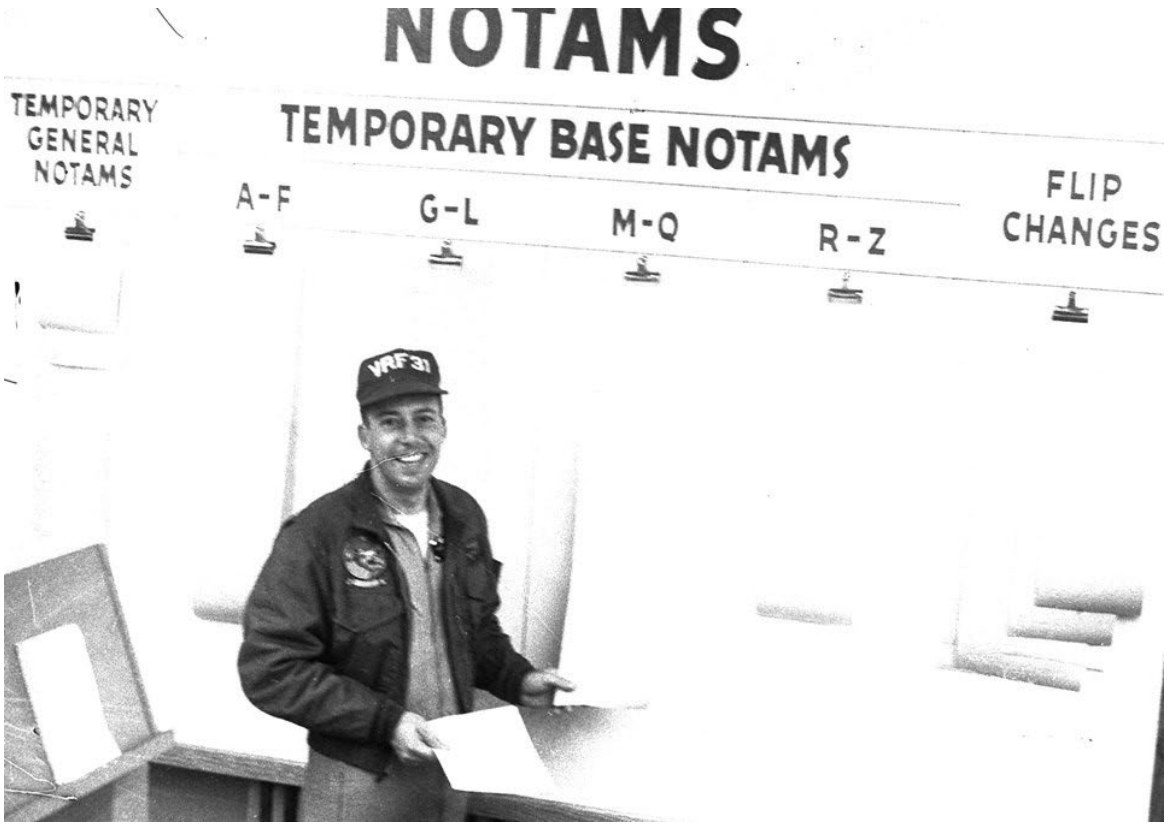
I found no sympathy from the commanding officer of the ferry squadron, quite the opposite. In any case, I put in my time flying lots of different airplanes. A regular destination was NAS Litchfield Park Arizona where planes were put in storage or cut up for scrap. One interesting plane to fly was the F9F drone.
These were painted red and the radios replaced with drone stuff. I remember leaving somewhere in Texas for China Lake. I somehow missed seeing Phoenix, but seeing Lake Meade, I realized I was right of course, corrected and spotted China Lake, no problem. Another drone flight was to Roosevelt Roads, Puerto Rico. I spotted Vieques, but it didn't look like my destination, so I circled and landed at the right field. This was during the Cuban Missile Crisis. I remember the officer's club at Gitmo was near the top of a hill. Just outside were Marines in bunkers aiming at Cuba.

I met Ricki while in the Ferry squadron and took FJ's to Quonset for overhaul stopping at Floyd Bennet to visit her. Fortunately Ricki and I hit it off together, and a Fighter Pilot suddenly found serious romance.

I also stopped at McArthur in Long Island with an AD. One day I left Norfolk in a pretty good rain, and they forgot to pull the pins out of my landing gear. I couldn't climb to the assigned altitude and didn't know my range with gear down, so I got cleared back to Norfolk. I broke out around 500 ft and wanted to stay low, but the GCA controller kept telling me to climb which caused me to add power. I landed hot and blew the main tires and dropped the arresting hook which grabbed the emergency gear and swung me around into the cable which blew the nose wheel tire too. My father had been asking me to help him in a new business venture. You could only get out based on hardship. I applied and the skipper gladly endorsed.

On one of my ferry hops, I took off from Navy Dallas for the AFB near Nashville, I think Dobbins. I called 30 miles out for landing, and they told me the main runway was closed, but they had an open 5000 ft. Calculating my fuel back to Memphis and my weight, I took the 5000, landing in a little over 3. I looked up the Airdrome Officer to ask why they didn't put out a NOTAM. He proceeded to show me their NOTAM board. It had permanent NOTAMS hanging on the right. The AO went on to explain that these came out on the teletype at midnight on Saturday. Nobody had told the Navy and every NAS threw them out when they got the next 12 hour summary. I looked up the Air Force Major in Washington who created this system. Major Metzger had been a Major in WWII, stayed in as sergeant, and made it back to major. He gave me a copy of the Air Force instructions which I took to Cdr. Oas, the Navy guy responsible. He told me his hands were tied and later sent me a letter of commendation.

I proposed at the next all pilots meeting that the ferry squadron was in a perfect position to pass along the Air Force instructions. My fine commanding officer read his official mission statement and told me to sit down. I took pictures and passed out the info to any NAS I went to. Later, when I got out, I bummed a ride from NY to Chicago with a ferry pilot who told me that I should have landed at Oceana, ho hum, and that The Admiral in charge of the reserves, CNARESTRA, commended his operations officer on the nice Notam board. The ops officer explained that he got the official air force instructions from some crazy ferry pilot. The admiral took a ribbing from the General at the nearest AFB and put out a notice for his command and copied to the other three admirals.



Entering civilian life, my father introduced me to a guy from California who was collecting the tank bottoms from the wineries to make Cream of Tartar. I found a company in Philadelphia that made ammonium bicarbonate and could use some of the same equipment for tartar. We got into production and sold all we could make until the next year when the wineries started using an ion exchange process to keep the tartar in solution. The business failed and at the same time, Ed Smith, my father's partner selling wax, died. The wax supplier dropped us as sales representatives, but we imported Cream of Tartar and kept the business alive. I hired Victor Golden who worked with my father trading tartar.

The main wax that we had been selling was used in liquid printing ink. I tried to duplicate it, but it was a complex process, so I developed a micronized wax that worked. Later, my father's business neighbor was dropped as sales rep from a company making PTFE (Teflon) micropowder. I tried using that for rub resistance in ink, but it was not as good as wax. A month later, I tried it in combination with wax, and it worked. It worked so well that once one ink maker had it, the others all had to in order to compete. The year was about 1972.

Meanwhile, the Cream of Tartar business continued until one day we got a cable from out supplier in Spain announcing a huge price increase. My father would not buy. I told him that we had better stop advertizing and advise our customers. He gave in. We bought at 36 cents and when the shipment arrived the price was 50. I guess we sold at 60. No one else had any. This continued until the price reached $2.00 when we quit.

I had a toll manufacturer grinding wax. They couldn't keep up. I found another. They built a loop highway around Baltimore and closed down my second toller. I met Danny Galenkamp. He worked for the toller of the guy who spied on me and copied. Danny came with me. We used the tartar profit to buy a plant. The business grew. On the PTFE side, we were using toll irradiation. Bob Luniewski (ex Air Force B-52 navigator) worked for the electron beam company and came with me. I wanted to use a fluidized bed to irradiate PTFE. Bob made this into a blender. We patented.

Bob quit to go into medical sterilization. This didn't work. Bob built a plant to grind PTFE that his sterilization gut irradiated. I found out. Bob told the judge the patent wasn't valid. The judge asked him how come he signed his name to it. The judgment was 3.2 million for us. Bob couldn't pay. We acquired his plant and business. Bob worked for us for a long time. We installed a beam in our Newark plant. We bought another plant near Bob's first and installed a beam. Now there are 3 there and one in Newark.

Somewhere along the way, I took a sabbatical to build an airplane. I flew it to Sun and Fun Lakeland, FL Fly-In. Taught Ed to fly again. It was a beautiful Navy colored blue and yellow. It was later stolen from my hangar and never recovered. But my Airplane building friend Bob Newman was building one just like mine, and I bought it to recuperate my broken heart from the loss of my pride and joy.

The guy I hired to run the business was losing money, so I came back and righted things. We opened plants in Belgium and China. We keep developing products, processes, applications, sales, people and the rest of what it takes. We keep growing. I hired a new president recently, and he is helping to make the business more efficient. We have five engineering interns this summer. Business never stops being risk. It seems the world has copied us, but we go on. I'm sure that this would not have happened without my experience as a Naval Aviator.