

Early Santa Cruz was home to renowned lot of tinkers and engineering pioneers

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WHICH OF the following were not invented in the county or the Santa Cruz Mountains?

Technology: Motion pictures, an acoustic telephone, portable telephones, tide-activated electric generator and tide-activated pump.

Transportation: Airplane flight, the monorail and the dotted line on roads. **FOOD:** the candy bar, and snow cone.

Munitions: Standardized gunpowder cartridges, cartridge-filling machine, smokeless shotgun powder, misfire-proof shotgun powder, a streamlined cannon shell, and submarine radar-jammer.

If you answered that all of the above are local, you needn't read more. If you suspect an early April Fools' Day joke, read on.

Technology: Gov. Leland Stanford wanted photographer Edweard Muybridge to prove a horse had all its legs off the ground at once during a full gallop. In 1878, at Stanford's ranch in the east foothills of the Santa Cruz Mountains, Muybridge used a bank of cameras, and invented the first automatic shutter. A galloping horse broke a thread to each camera as it passed, capturing a sequence of images proving Stanford's theory. Stanford found flipping a pile of these photos created the illusion of motion. Muybridge invented a simple projection system, and the world's first projected motion pictures were seen in San Francisco in 1880.

Alexander Graham Bell saw a host of inventors patent improvements on his 1876 telephone. Fred Parshley and his nephew, Fred Swanton, patented the 1882 Parshley and Swanton Acoustic Telephone, forming pioneer telephone systems in Santa Cruz and Watsonville. In January 1889, the Surf



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 THEN AND NOW

newspaper (Pacific Avenue site of New Leaf Market) found its telephone was needed during the day in the business offices downstairs, but at night in the newsroom upstairs. Surf telegrapher J.M. Fairchild and Western Union man J. Howard Bailey invented a wall-mounted caddy to which the wires attached, thus inventing the first portable telephone.

Scientific American hailed Santa Cruz as the only city to successfully harness tidal action. The Wave Motor was built in 1898 on the cliff at West Cliff Drive and Getchell Street. Its tide-activated pump collected seawater into a watertower for sprinkling unpaved dusty streets. Capitola wharf housed Gerlach's 1895 tide-activated electric generator, to run a Bicycle Railroad (electric monorail) between Capitola and Santa Cruz. But the failure of the generator doomed the monorail.

Transportation: The theory of aviation was published in 1893 by Santa Clara resident J.J. Montgomery, who collaborated on inventions with Santa Cruzan John Leonard. They conducted experiments with Montgomery's two planes on James E. Leonard's Aptos ranch in 1896. The world's first manned glider flight occurred that year from the railroad trestle above Manresa Beach, with further flights experimenting with steering methods.



The Wave Motor was built in 1898. Its tide-activated pump collected seawater to spray on dusty city streets.

Experiments with larger planes used a cable-launching method at the Aptos Ranch from 1898 to 1900. In March 1905, a year after the Wright Brother's first flight at Kitty Hawk, Montgomery did the world's first high-altitude flights in Aptos, launching a glider from a balloon 3,000 feet up.

In 1919, when Highway 17 was the narrow Glenwood Drive, motorcycle officer Amos Beauregard noticed the trail of a leaking oil truck, and got the idea to paint dotted lines on the roads. Originally he used black paint, and only painted center lines on the curves. Around 1925, local fireman Jack Rhien patented a street-marking machine.

Food: In 1907 Frazier Lewis was unable to sell his Victoria cream candies because no candy cost more than a penny and his would stick together in glass bins. So Lewis individually wrapped them and manufactured

them himself at Pacific and Soquel avenues, inventing the world's first nickel candy bar.

A.O. "Goldie" Goldstein opened concession stands at the Boardwalk and river mouth in 1917 called "Refreshrestaurants," selling sodas and dairy products, including his own concoctions. He gained nationwide sales of machinery invented to make his products. When customers asked for something to drink, vendors could sell his patented soft drink, called "Somethingtodrink!" Other products were "Ice-Ci-Cle" frozen juice bars, and his world famous invention, the "Snoko" ice-shaving machine with syrup topping dispenser.

Military: The California Powder Works (1862-1914), now Paradise Park, was for years the leading supplier of gunpowder west of the Mississippi. Plant superintendent William Peyton invented a machine to load shotgun shells, and a gunpowder measure to make each blast uniform. Peyton also pioneered smokeless powder, and misfire-proof powder, winning U.S. military contracts.

During four years in the Navy, James Leonard realized a need for faster 16-inch gun shells. The 27-year-old designed a streamlined shell, which attracted British government interest in 1940 after the U.S. government declined it.

Kenneth Kitchen's odd brick home at 519 Fair Ave. included a home-made "anti-submarine device" in 1942. Historian John Chase wrote that Kitchen was told to turn it off as it was interfering with U.S. navigation.

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