

Santa Cruz Yesterdays



THE WAVE MOTOR, 1898

(From the Preston Sawyer Collection)

Just fifty years ago Santa Cruz was experiencing a dry season much like that from which this area is now emerging. Mayor W. H. Lamb and the city councilmen were beset with the problem of laying the dust on the streets. The Cliff drive, one of the great scenic and popular assets, before the day of surfaced roads and pavements, was an important contributor to the dust dilemma.

About two years earlier the Armstrong brothers, J. E. (Ned) and William V., fired with the idea of harnessing the energy of the sea and putting it to some practical use, had begun experiments with a wave motor of their own design. They were local residents of long standing. Will for some years managed lumber camps in the Santa Cruz mountains; was a Civil War veteran. Ned was for years the chief of police here. The brothers were both sturdy; Ned was noted for his unusual feats of strength and weight lifting.

Earl at Black Point

The Armstrongs were prompted to engage in their experiments by the failure of prior efforts, notably the Gerlach motor, attached to the sea end of the Capitola wharf. It was said some \$20,000 had been poured into that project before the device, with its great balance wheel—largest in the state—was declared a "signal failure." After preliminary experiments with crude apparatus towed into the waters of the bay off the east cliffs, the brothers finally selected Black Point, almost off Twin Lakes, as the place to make their first practical test. Their efforts were finally rewarded when they saw their wave-power pumping apparatus shooting the sea water high into the air.

Among the viewers who crowded to Black Point was a city councilman. He became most interested and was a frequent visitor, bringing other prominent citizens.

Cliff Drive Installation

Early in 1898, having made an agreement with the city, the Armstrongs set to work installing, on the West Cliff road near the then Moore's (now Swanton) beach, the picturesque structure shown above.

The actual motor was under the framework to the left, where a circular shaft was sunk 35 feet into the lower rocky shelf. The inventors thus carried the well to below low tide, thence ran a tunnel to connect with the sea. In the hole, six feet in diameter, was an upright hollow iron column in which operated a plunger attached to a 600-pound float.

The waves, dashing against the cliff, forced water through the tunnel. The float, rising as the well filled, actuated the piston of the pump, a valve opened and the pump filled. As the waves receded the water in the well fell, and with it the ponderous float. The valve at the base of the pump closed, and the piston descending under the weight of the float forced the water through a pipe upward and 60 feet into the air.

Test Is Successful

This was what an elated group of city dads and interested localites witnessed on a Friday morning in June in a demonstration at the cliff site. It was believed that here was a source for at least sufficient water to care for all street sprinkling in the city.

A few days later Carpenter J. B. Brazelton began building a 6000-gallon tank to hold the water pumped into it by the wave motor. Five thousand feet of lumber was used in erection of the 60-foot frame tower surmounted by the tank (11 feet in diameter; 10 feet high). Base of the tower was 24 feet square. Owing to the depth of the pump and height of the tank the water had to be pumped up about 100 feet. The project was pronounced complete near the end of July.

Paved Streets Came

Oldtimers say that, although the wave motor never produced the

volume or steady flow of water supply anticipated, it really was of great benefit, particularly in sprinkling the Cliff drive, for a number of years. The thin film of salt deposited helped to hold dust more effectively than fresh water.

Ravages of time and changing modes, plus the arrival of surfacing and paved streets, took their toll. In 10 or 12 years not much more than memories remained of the picturesque landmark so widely pictured and written about in its heyday. But even now the round shaft in the solid cliff and part of the old tunnel remain. Some of the foundation pedestals to the tank frame are still also to be seen, near the West Cliff drive opposite the former Wilson home not far from Swanton Natural Bridge beach.