

Wave motor

Has Its Time Come Again?

By DON RIGHETTI
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The energy crisis has struck a persistent note of quiet terror deep in the souls of TV-watching, stereo - listening, gadget - loving Americans.

It has sent scientists scuttling to their drawing boards and brought inventors squirming out of the woodwork — all of them trying to find some efficient way to harness a natural source of power, a source that won't run out like oil.

Windmill sales are booming. They're talking about roofs for houses that gather and concentrate the energy of the sun and about tapping the reserves of heat deep in the core of the earth.

And a part - time schoolteacher in Marina, along with the members of his fifth and sixth grade classes, has built a model of a machine that would turn ocean wave power into electricity.

The teacher, Bren Percival, claims the machine is more efficient than a windmill because it uses the unceasing motion of waves for its power, whereas a windmill — when the wind isn't blowing — isn't much good.

The model uses a float which rises and falls

with wave action, turning a system of gears and sprockets attached to a shaft. The shaft, turn, can be geared to drive a generator.

What Percival may not know is that he was preceded in his idea for a wave motor by two Santa Cruz brothers — more than 75 years ago.

J.E. (Ned) and William V. Armstrong built their motor on the ocean cliffs not far from Natural Bridges State Park, near the point Swift Street intersects West Cliff Drive.

And it worked.

True, the brothers Armstrong used their device only to pump water. But it did pump water, and if it could do that, it could generate electricity.

The summer of 1898 was a dry and dusty one in Santa Cruz. Mayor W.H. Lamb and his fellow city councilmen were plagued with the problem of how to settle the dust on the community's unpaved streets. West Cliff Drive, already recognized as a scenic asset to the community, was a major contributor to the dust problem.

About two years before that dry summer, Ned and William Armstrong had become entranced by the idea of harnessing the power of the sea and putting it to useful work.

Perhaps they were fired by the lack of success of some earlier attempts.

A thing called the Gerlach motor had been set up at the end of Capitola Wharf. Its backers poured \$20,000 into the project, but the Gerlach, with its great balance wheel — largest in the state — ultimately was pronounced a failure.

After preliminary experiments with some crude devices towed into the bay off East Cliff Drive, the Armstrongs selected Black Point near Twin Lakes as the site for their first practical experiment.

Their efforts were rewarded when they finally saw their wave - powered machine pumping a jet of sea water high in the air.

A city councilman was a frequent visitor to the experimental site, and he began bringing other influential visitors with him. Before long, the Armstrongs had a deal with the city to produce water to sprinkle the dust on West Cliff Drive.

They selected a site on a sandstone shelf and drilled a shaft 35 feet deep into it. That put the bottom of the hole below the low - tide mark.

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Energy - conscious engineers now are getting around to an idea two Santa Cruz brothers had more than 75 years ago. They built a wave - action motor situated beneath the structure at

left on West Cliff Drive. The machine pumped sea water into the higher tank for use in sprinkling the city's unpaved streets. Photo courtesy of UCSC Special Collection.

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Weather

MONTEREY BAY AREA — Mostly fair tonight. Increasing cloudiness Thursday with chance of rain. Little temperature change. Highs Thursday in upper 50s to low 60s. Lows tonight in upper 30s to low 40s. Southerly winds Thursday.

Temperatures for the Santa Cruz area for the 24 - hour period ending at 8 a.m. this morning: High 55, Low 31.