

STEAM CAUSE OF ERUPTIONS

Accumulation in Layer of
Molten Rock Held To
Force Upheaval

SAN FRANCISCO, Calif., July 6.—Volcanic eruptions are due to steam accumulating in the layer or molten rock beneath the crust of the earth, usually by leakage of the ocean, according to Captain T. J. J. See, U. S. N., government astronomer at Mare Island navy yard, near here, in commenting upon the cause for the recent volcanic activity of Mt. Etna and Mt. Vesuvius in Italy. Captain See's statement follows:

"That the cause of volcanic activity is steam accumulating in molten rock under the crust of the earth, from sea leakage, is proved by the fact that 999 parts in 1,000 of all vapor issuing from volcanoes is steam; and, by the observed geographical fact that all active volcanoes are within about 100 miles of the sea shore. In the interior of every continent the volcanoes which were once active are now quite extinct. Thus Arizona has a number of extinct volcanoes, but none of them will ever become active owing to the dryness of the region and its distance from the sea.

"Mt. Etna was formed originally in the sea, by a small uplift; in the course of millions of years the mountain has been lifted to a height of 10,800 feet. Many cities cluster about its base and are endangered by the lava flows. When the eruption has taken place a period of calm will ensue. In the case of both Vesuvius and Etna the period is about 20 years; both are very near the sea. Although the leakage of the ocean goes on slowly, so much steam finally accumulates that relief becomes necessary.

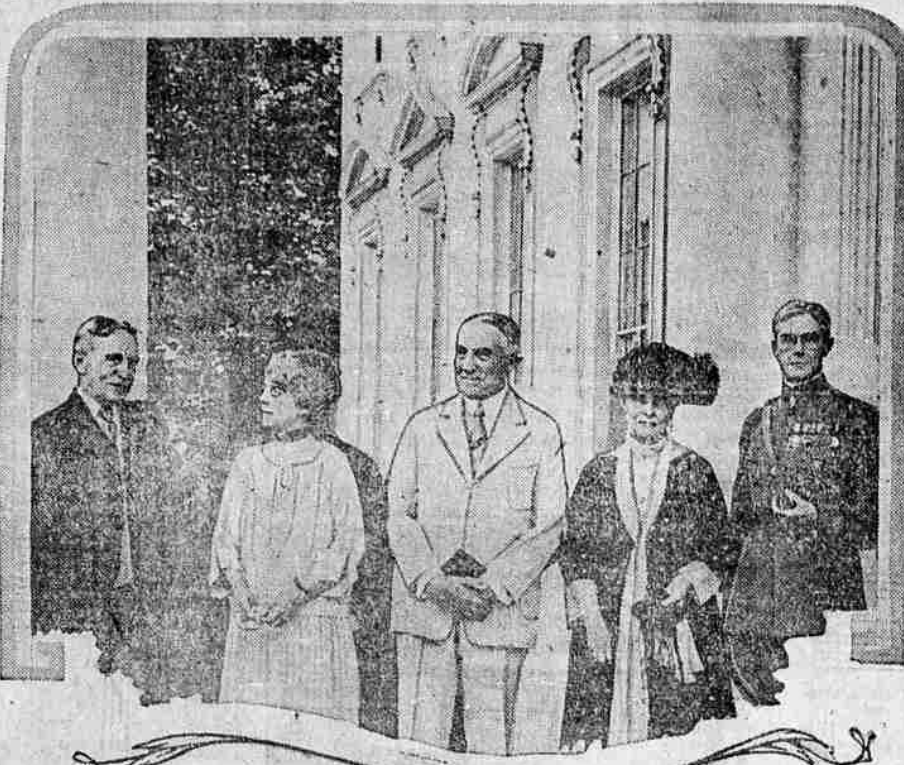
"When Vesuvius first broke forth violently in the year 79 A. D., as described by Pliny, the volcano had been extinct for some five centuries, and the armies of the rebel Spartacus had camped in the crater. But in 63 A. D., severe earthquake disturbances began until in the year 78 they finally opened up the throat of the volcano, and a vast eruption followed, burying Herculaneum and Pompeii in ashes, debris and lava.

"Some of the ancient philosophers believed the sea to be the cause of these outbreaks, but the proof has not become complete until the last twenty years, largely by my own researches on earthquakes and mountain formations after the California earthquake in 1906. Thus, Trogus Pompeius in the time of the Emperor Augustus says: 'For many hundred years Etna and the Eolian Islands have been burning, and how could this have continued so long if the fire had not been fed by the neighboring sea?' Trogus alluded to the volcano Stromboli which had been in incessant activity since the days of Homer, 3,000 years ago, and is often called the 'lighthouse of the Mediterranean.'

"It is now demonstrated that all mountains and volcanoes are uplifted by the power of steam which causes a swelling of the lava in which the steam accumulates, but it is only occasionally that the earth's crust is so rent by the underlying lava that a vent opens to form an active volcano. The afflictions of Italy have gone on for more than 2,000 years, and they cannot be abated, except by human fortitude and adaption to the laws underlying the operations of nature.

"The final proof of the origin of mountains was discovered after the great earthquake of 1906, by the careful study of the Andes of South America. The chain, the largest in the world, is parallel to the sea-

Roosevelt and Hamilton Linked in Impressive Medal Presentation at White House President Harding Calls Roosevelt "Sentinel on the Ramparts of the Republic"



Left to right: Dr. Osborn; Mrs. Harding; The President; Mrs. Hopkins (representative of Miss Schuyler); Colonel Kilburn.

Three notable Americans received national recognition for their public services when President Harding, with impressive ceremony, recently presented the Gold Medal of Honor awarded by the Roosevelt Memorial Association to Miss Louise Lee Schuyler, Professor Henry Fairfield Osborn and General Leonard Wood. The bestowal took place in the East Room of the White House before a distinguished audience which included Mrs. Harding, Mr. J. P. Morgan, the French Ambassador, Secretary Hughes, Secretary Wallace, Secretary Hoover, Ambassador George Harvey, Ambassador Henry B. Fletcher, Senator George Wharton Pepper, and Will H. Hays, former Postmaster-General. The recipients of the medals were chosen for this honor by the trustees of the Roosevelt Memorial Association because of their service to the American people in three different fields of activities intimately associated with the career of Theodore Roosevelt. Miss Schuyler received the medal for "the promotion of the welfare of women and children," Professor Osborn for "the promotion of the study of natural history," and General Wood for "the promotion of the national defense." Miss Schuyler,

who is eighty-six years old, is the great granddaughter of Alexander Hamilton. On account of illness she was unable to receive the medal in person.

Links Roosevelt with Hamilton. "I think I should have felt an especial satisfaction," said President Harding, "in bestowing a mark of recognition upon a great granddaughter of Alexander Hamilton. How curiously and impressively the fact of her descent and this mark of recognition, connect up the outstanding founder in the making of the Republic with one who later became a sentinel on the ramparts, ever ready to defend its ideals and its liberties. There is nothing in life comparable to the inspiration of service, and I would like you to say to the recipient of this medal that it has been a very great pleasure not only to transmit it, and to echo some of the ideals of the great Roosevelt, but to pay to her the tribute of doing that which to my mind is the greatest thing in the world."

The medal for General Wood, who is at present in the Philippines, was received in his behalf by Colonel Charles L. Kilburn.

President Laude Wood "Like all Americans," said the

President in presenting the medal, "I know of the contribution of General Wood to the national defense. I know of his spirit of devotion which has been an inspiration throughout America. I know of the notable service he has already done. And I have peculiar reason to know of the most distinguished and patriotic service which he is now performing. As in the other cases, I can understand how the spirit of Theodore Roosevelt would rejoice in this bestowal of honor to his intimates, whom he greatly trusted and very highly admired. Surely, it is a becoming offering on the part of the Roosevelt Memorial Association, because it conveys in another form the thought of the mindfulness, the earnestness, the readiness of Colonel Roosevelt to be of service to his country. I wish you would convey to General Wood this medal, with an expression of my rejoicing that he has thus been honored, and, with it, a word of very cordial congratulations."

In bestowing the medal on Dr. Osborn, the President remarked on the "very rare distinction" which it was "to have so pursued one's activity as to earn the devoted and trusted friendship of the late Theodore Roosevelt."

coast for more than 4,000 miles. It is in fact a great wall which the mighty Pacific ocean has erected along its own border, by the expulsion of lava from beneath the bed of the sea. The process is fully verified by the researches on the contours of the sea bottom around the Aleutian Islands in Alaska, which

are in fact a mountain chain just rising above the sea."

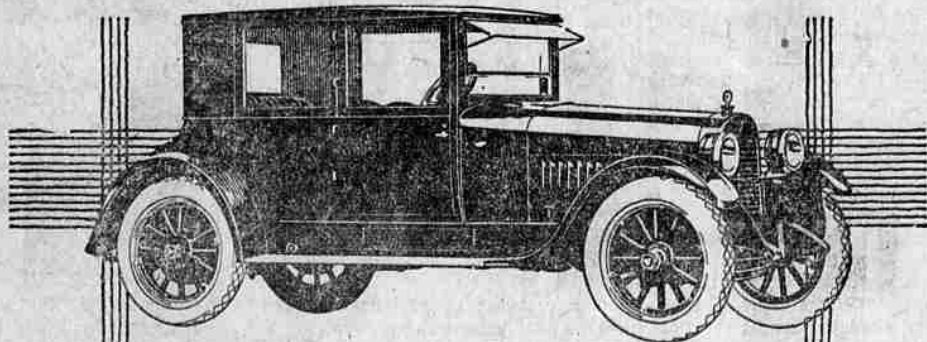
METAL MINING GROWS

RENO, Nev., July 6.—Nevada produced gold, silver, copper, lead and zinc during 1922 valued at \$15,705,609, compared with \$12,187,538 in 1921, according to gov-

ernment statistics received here. Silver production increased 1,535,805 ounces, while gold declined 743 ounces.

NEW MASONIC TEMPLE

SALT LAKE CITY, July 6.—Local Masonic bodies are raising \$400,000 for the construction of a new Masonic temple here.



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210 COYOTES KILLED

RENO, Nev., July 6.—Government hunters in Nevada during May killed 240 coyotes, fifty-one bobcats, two badgers and one fox, all classed as predatory animals, according to a report issued here.

Kodak finishing at Simpson's, 317



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