

CONCRETE ON THE PACIFIC COAST.

Some of the Lessons that the Recent Disaster Has Taught the Building World, and the Plans for the Foundation Work that will Support the Rebuilt Cities.

The accompanying pictures are of timely interest in that they were taken by Frank B. Gilbreth, the New York contractor, in San Francisco, Oakland, and Seattle only a few days before the recent earthquake disaster. They show the effect of the teredo and limnoria on wooden piles exposed to the salt water on the western coast, and offer still another conclusive argument for the use of reinforced concrete for foundation work in the rebuilding of the destroyed cities.



Fig. 1.

Creosoted wooden piles, showing the effect of the Teredo and Limnoria; from a photograph taken at San Francisco a few days before the earthquake.

Figure 1 shows a creosoted wooden pile in San Francisco almost entirely destroyed by the teredo and limnoria. In the vicinity of Puget Sound, Mr. Stewart, assistant chief engineer of the Great Northern Railroad, states that a stick of timber, rough sawed, will last about eight months; a peeled pile will last a year; a pile with the bark on will last a year and a half, and a creosoted pile from fifteen months to fifteen years. Such piles, however, even when driven under the same conditions, will be attacked entirely differently by the teredo and limnoria. All of the accompanying pictures show piles that have been coated with a coal tar or creosote compound.

Referring to the recent disaster, Mr. Gilbreth, who has many large structural enterprises under way on the western coast, states:

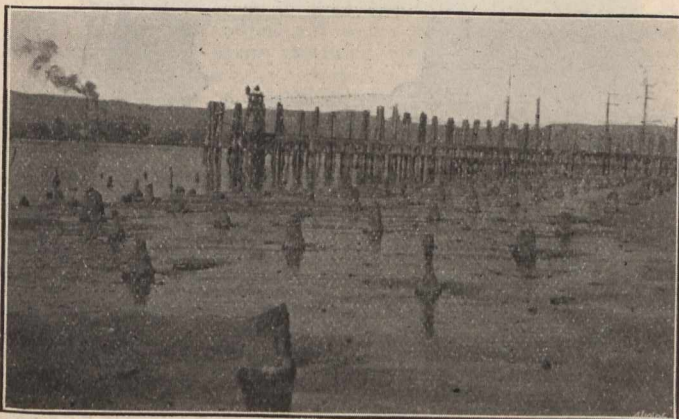


Fig. 2.

The remains of a wharf at Oakland, Cal., destroyed by the Teredo and Limnoria. Concrete piles will hereafter be largely used in rebuilding such structures.

"While it is practically impossible to put up any structure which is able to withstand an earthquake shock of great intensity and varying motion, it is possible to erect buildings capable of weathering a shock such as the recent one in San Francisco. The great devastation resulted more from

the flame than from the earthquake itself, and this fact emphasizes the importance of using reinforced concrete for fireproof structures. It is safe to say that if the business

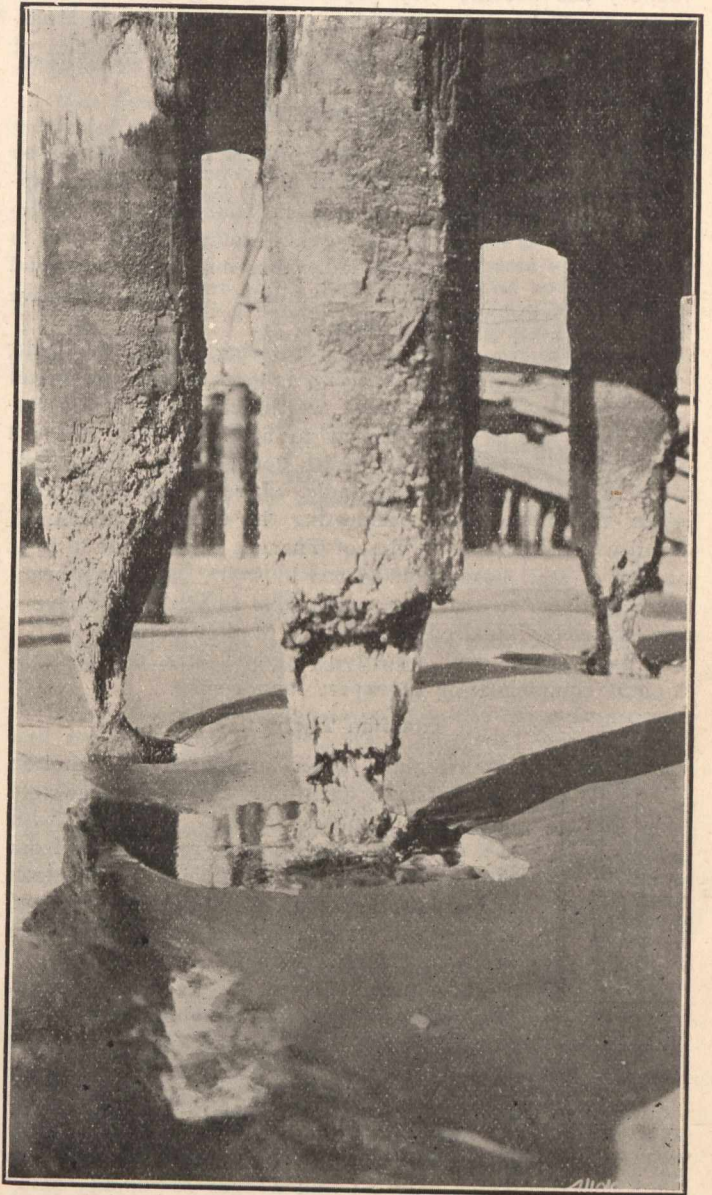


Fig. 3.

Detail of wharf piles shown in Fig. 1.

section of the city had been constructed of reinforced concrete the fire resulting from the upheaval would never have gained headway."

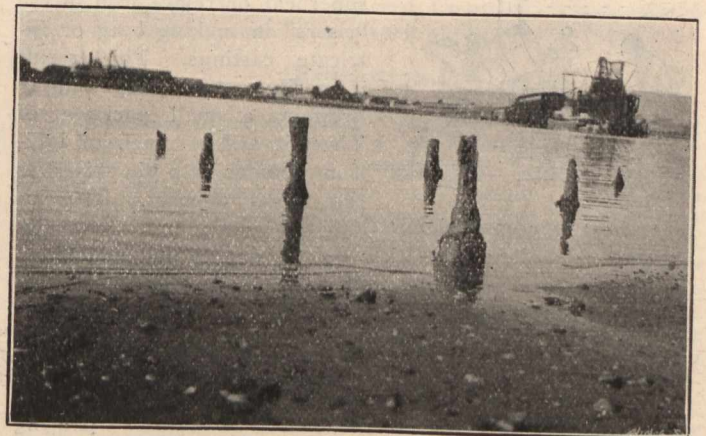


Fig. 4.

Remains of another wharf at Oakland, Cal., showing destructive action by marine insects.

The Columbia Improvement Company, of Seattle, for which Mr. Gilbreth, is building a \$500,000 plant, has already taken warning from the San Francisco cataclysm, and in building a half-million power house has ordered a monolithic concrete construction to ensure the maximum stability.