

SOME HARBORS AND PIERS OF SOUTHERN CALIFORNIA.

BY CHARLES F. HOLDER.

Among what may be called the mechanical developments of Southern California the remarkable pier, built by the Southern Pacific Company, at Port Los Angeles stands out as perhaps the most interesting. A glance at the coast line of Southern California will show that it is lacking in harbors below San Francisco, and in five hundred miles there are but two perfect harbors, one at San Diego, the other at Catalina Harbor at the island of that name. The latter is small, but more protected than any on the coast. It lies on the west side of the island and would not be noticed until its entrance was reached, the opening being a cut in the mountains that front the west coast, the harbor then extending in between lofty hills and cutting the island almost in two; in fact, there is good reason to believe that in former days there were two islands here, the narrow passage being filled up.

So peculiar is the harbor that it has caused great speculation among those who have observed it. It reaches in half a mile, has water deep enough to float the navies of the world. At its head a short walk brings one to a protected bay on the opposite side of the island where a town is being laid out and by August, of 1900, will have in all probability, a summer population of several thousand.

In the large harbor there is an extraordinary neck of land that reaches out like a terminal moraine, made up of large and small rocks and shaped in such graceful lines that the impression is conveyed that it is the work of man. From an examination it appears to have been formed by a heavy sea which could have tossed the rocks so high above water; yet the bottom around the peculiar curve or spit is devoid of rocks. This breakwater forms a second complete harbor for small boats.

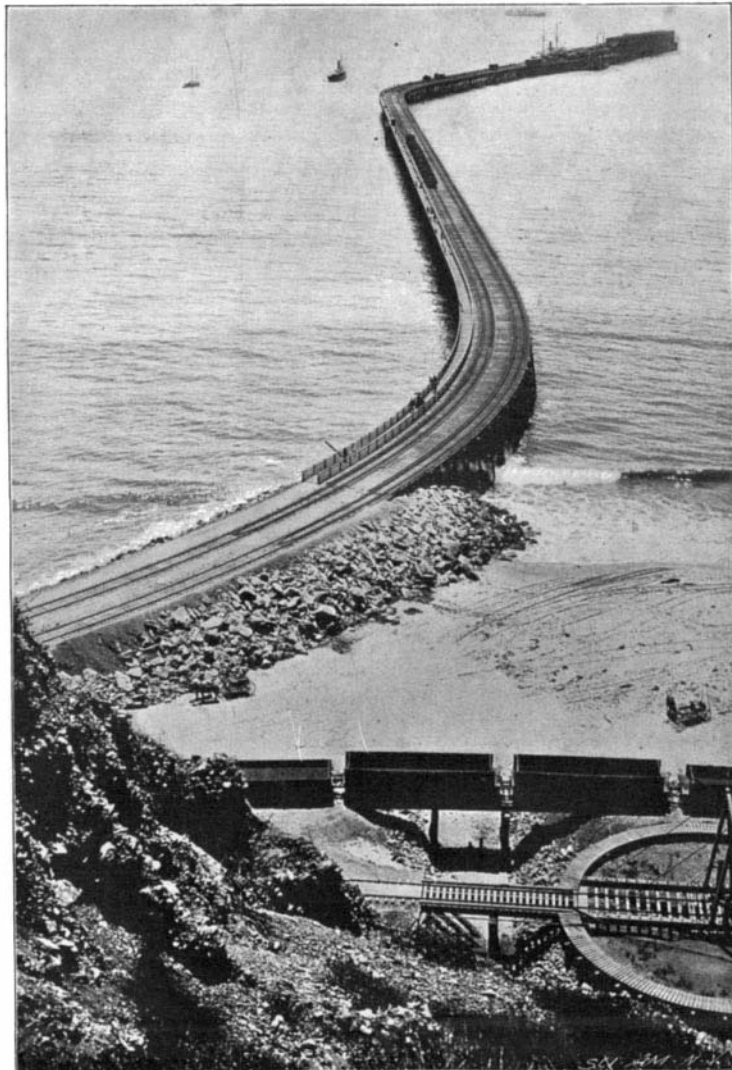
The harbor of San Diego is as perfect as could be desired, the entrance being between lofty headlands on one side and Coronado on the south; then turning to the south it extends several miles, affording perfect protection, Coronado beach lying between it and the open sea.

Between San Diego and San Francisco are the harbors of Newport, San Pedro, Redondo, Santa Monica, Huineme, San Louis Obispo, all these, with the exception of San Pedro, are open roadsteads, affording little or no protection from gales that blow directly in. San Pedro, in Wilmington Harbor, has a long, narrow cut, lined with wharves, into which large vessels are towed but large men-of-war could not enter. It is evident, then, the southern coast is lamentably deficient in protected harbors in the vicinity of Los Angeles, the great railroad center. To remedy this, attempts have been made from time to time to obtain a permanent appropriation and various commissioners have examined the coast and reported in favor of San Pedro. The contract has finally been awarded and the work is being carried on, rock being taken from quarries at Santa Catalina Island twenty miles distant. The Southern Pacific was a pioneer in this movement and though it held the key to the situation at San Pedro as the best protection for its wharves and tracks, it was believed that Santa Monica was the better location, the principal argument being that Los Angeles was naturally growing in that direction and that it would never grow toward Wilmington on account of certain geographical conditions.

Confident in the belief that its experts were right the Southern Pacific Company determined to have a harbor at Santa Monica. A location was selected north of the town and a pier begun which probably has not its equal in the world; and to this spot, which the company has named Port Los Angeles, it is bringing all its commerce, and the result will be, in all probability, that Southern California will have two protected harbors instead of one.

From the mesa of Port Los Angeles the great pier resembles a huge snake reaching out over the water and turning to the right, terminating a mile from the shore, and beyond the breakers which eternally

pound upon the sands. The great wharf is a most interesting structure looked at from any point of view, and it has already become an important factor when the commercial development of Southern California is considered. Approaching it the observer is impressed with the solidity of the work. The approach is 3,120 feet in length, and 28 feet in width, the length of the entire pier is 4,720 feet. The material employed in such a structure and the amount of money expended are enormous. A wooden structure of any kind subjected to the ocean in California is very expensive on



GREAT PIER AT PORT LOS ANGELES.

account of two natural enemies, the teredo and limnoria; the first a mollusk that bores into the wood, grinding and piercing it, replacing the space with its limy tube; and to such an extent do these animals work that they will in a few months completely honeycomb a section of wood so that it becomes a mere shell. Even more of a menace is the limnoria, a minute crustacean that eats the wood, boring a small hole about the size of a knitting needle and completely perforating it. So rapidly do these animals work that the life of a pile protected in the bay of Avalon is not more than three years, the combined efforts of the small enemies of man thus quickly destroying its usefulness.

In making the approach to the Santa Monica wharf 1,500 piles were used; 975,000 feet of lumber and 37 tons of bolts and spikes to hold it together. The main

wharf is 1,600 feet in length, 130 feet and 6 inches wide. In its construction there was used 3,700 piles, each of which had been treated to creosote as a protection against the teredo and limnoria; even this is not a perfect protection, the little animals forcing their way in in time. Besides these, 1,300,000 feet of plain lumber was used and 50 tons of iron; in addition to this are 300,000 feet of 8 by 8 lumber as braces above high water mark and 30 tons of rods and bolts, the sea being very heavy here during a storm.

On this main portion of the wharf there are seven parallel railway tracks, made of the heaviest steel rails. There is also a huge coal bunker 817 feet long, 30 feet high, with a storage capacity of 10,000 tons. Another large building on the pier is the depot offices, etc., 384 feet in length, so that when the number of men and employees are considered there is a little village in itself on this pier out to sea. The wharf is built in gradually deepening water until at the termination there is from 32 to 34 feet at low tide, the fall being nearly 6 feet.

The Origin of the Newspaper.

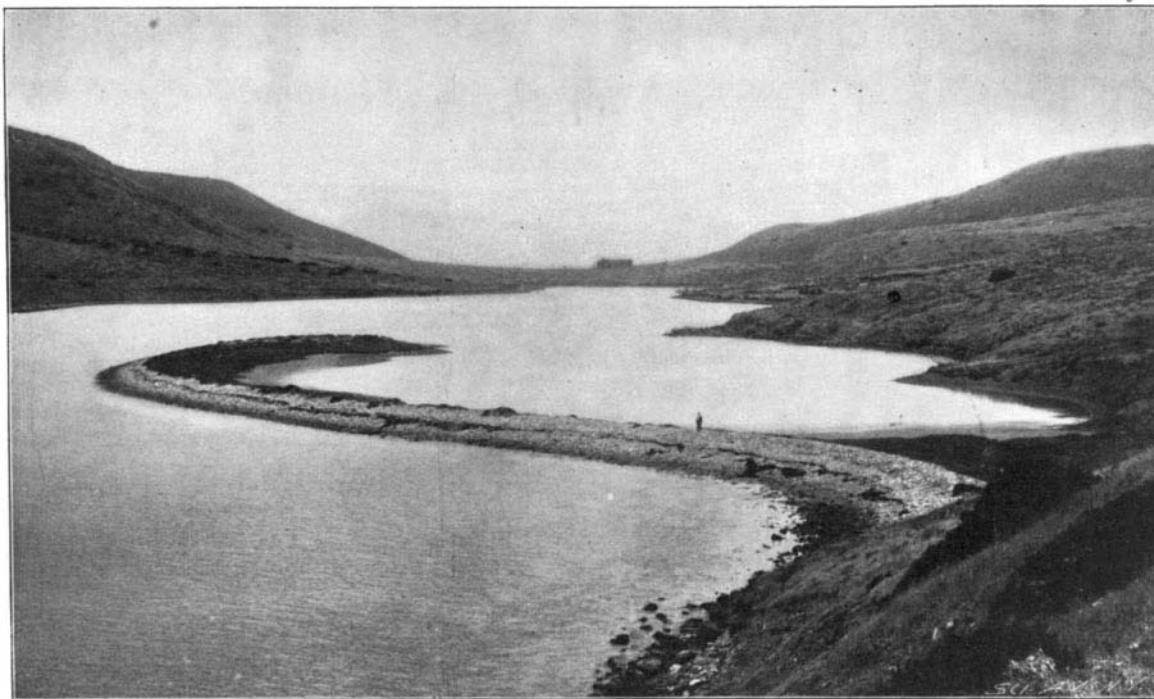
In the Leipzig Daheim, Ernst Niemann has an exceptionally interesting study of the origin of the newspaper, says The Nation. The well-known Acta Diurna in Rome in the time of Cæsar has no historical connection whatever with latter-day newspaperdom. Modern journalism is not of Roman but chiefly of Germanic origin. In fact, what are now newspapers are really only developments of a kind of circulating letters which, as early as the fourteenth and fifteenth centuries, passed between business houses principally in the interests of trade. These "Zeitungen," or "Tidings," were written but not printed. In the greater centers of population were found men who made it their occupation to send out these reports, usually to business houses, but often also to political and other authorities. Of the famous Fugger Zeitung, twenty-eight volumes are preserved in the University library at Heidelberg. These written circular letters, both "ordinari" and "extraordinari," as occasion required, became almost a regular institution as the postal system became generally introduced. Probably the strangest thing in connection with the history of journalism is the fact that it was exceedingly slow to make use of the art of printing for its purposes. Indeed, almost the whole sixteenth century had passed before this innovation was thought of, although, during the Reformation period, questions of public prominence were brought before the people in countless tracts, pamphlets, etc., often with illustrations, but never in the shape of a regularly printed periodical.

The transition to this stage was caused by the publication in 1583 of the Relatio Historica by Michael von Aitzing, of Cologne, the success of whose printed account of a Cologne church controversy first suggested the idea of publishing every sixth month, at the time of the Frankfort Messe, a general report of the news. This undertaking soon stimulated rival enterprises. Niemann is convinced that all efforts to deny to the Germans the honor of having originated the modern newspaper must fail in the light of unprejudiced historical research. The oldest venture of this kind, however, is not, as has been generally supposed, the Frankfort Journal, but a certain Relation, which appeared probably in Strassburg, and fifty-two numbers of which dating from the year 1609, are still found in Heidelberg.

The Journal was not published till 1615, the first English paper, the Weekly News, in 1622, and the first French journal in 1630.

OUR consul, Albion W. Tourgée, of Bordeaux, suggests that it would be advisable for exporters to let the consuls know something about the success or failure of the enterprises in which they engage in their districts. As it is now, they write asking information about dealers, opportunities, etc. The consul writes many letters to get the information the exporters want, and tells them what they must do and then hears nothing more from them.

CEMENT is used in France to protect iron railway bridges from the fumes of the locomotives.



THE ISTHMUS, CATALINA ISLAND.