

## YOUR SALT.

John Barton, of Alameda, is President of a salt manufacturing establishment at Mt. Eden, on San Francisco bay, 22 miles from San Francisco, which is locally known as the

## UNION PACIFIC SALT WORKS.

They were established some 11 years ago on an island formed by the bay and what are known as Eden and Union City creeks. This island comprises about 1,200 acres, and is entirely owned by the company. It is divided by dykes into immense reservoirs, which are numbered, No. 1 being nearest the bay. Upon the termination of the winter rains, and as soon as the weather becomes settled, operations at the manufactory commence. From 60 to 80 men are employed in the yards, they being under charge of a foreman, Mr. A. B. Winegar, who has occupied this position for 11 years, and is considered one of the most experienced and capable salt-makers in the United States. The

## RESERVOIRS

Are put in thorough repair, levees overhauled, and everything put in readiness, and sea-water is then let into reservoir No. 1, through numerous small gates. This reservoir is 300 acres in extent. When this "catch" has remained in the reservoir from 20 days to four weeks, it is then discharged into reservoir No. 2, 250 acres in extent, and a fresh supply let into No. 1. The first "catch" is then, after remaining in No. 2 about the same length of time, transferred into No. 3, No. 2 being filled again from No. 1, and No. 1 from the ocean. In the same manner the brine is discharged into reservoir No. 3, 100 acres in extent, whence it is emptied into the

## LIMING PONDS,

Nos. 4 and 5, where the lime is precipitated to the bottom. When the brine has reached a strength of 17° (hydrometer) all the lime has crystallized at the bottom of the pond, and the liquid then begins to crystallize salt. This process of removing the impurities is only practiced at these works, and is one of the reasons of the superior quality of their salt. In boiled salts, the rapid and unnatural method of crystallization forces the lime to settle with the salt, and thus affects its purity. When the liquid is known to have discharged its lime it is emptied into the numerous

## CRYSTALLIZING PONDS,

As occasion may require. For the finer grades of salt these crystallizing ponds have wooden floors, and when the deposit is completed these floors are "raked," the salt in large crystals being scraped into heaps, shoveled into baskets, transferred on small hand cars to the edge of the yard, where it is dumped into huge pyramids, whence it is sacked and transferred to the company's mills on Sacramento street, where it is dried, ground into various grades, and finally prepared for the market. The salt, from the time its manufacture is commenced until it is delivered to the purchaser, is

## HANDLED

Exclusively by the company. It is transported by their own schooners, hauled by their own drays, put up in sacks of their own manufacture, and its brand printed thereon by their own printing press. This complete business arrangement is due to the sagacity of Mr. Barton, who has given the business his individual attention from the time he first became identified with it, some 16 years ago, until the present time, when it stands without a rival in size and amount of business.

The works have a capacity of 20,000 tons per season, and their average annual production is 12,000 tons.

For a description of the works we are indebted to the editor of the *Alameda Argus*.

They have a man in Bodie, Cal., who, years ago, occupied an \$800,000 marble front building, and did a large business in New York, and who is now working for a livelihood.

## A TROPICAL SCENE.

Luxuriance of vegetation and an apparent stillness and calm are attributes of all tropical scenery, as most people who have seen views of places in low latitudes well remember. Those who have resided in such localities vouch for the fact that this stillness is not apparent, but real, and applies to the people as well as the country. In most tropical countries the inhabitants are comparatively indolent, and a large proportion of their time is passed in idleness. We all know that the effect of a hot day in this country on most people is to cause them to seek some shady nook where they can lie and rest, and doze away the afternoon in contented lassitude. Those of us who have experienced these feelings will excuse in a measure, the residents of Mexico, Central America or the South Sea islands for their idleness, when we remember that a tropical climate, with its many days of warm weather is likely to influence those people as warm days do us. The tropical scene shown on this page is one taken in the interior



A SCENE ON A TROPICAL ISLAND.

of Tahiti, and the place looks like a pleasant one to pass a few idle hours.

**A VENERABLE ROSE-BUSH.**—At Hildesheim Cathedral there is a rose-bush which is believed to be over a thousand years old. In recent years it seems to have been getting into decrepitude, and fears have been entertained that it was going to die. The help of the most renowned gardeners has been called in to prevent this, if possible, and several foreigners have been on the spot for this purpose. Whether it be due to their endeavors or not, the old thing seems to have taken fresh heart again. Out of the root knobs of the bush a new sprout has appeared, which is growing so vigorously that there is good hope that this venerable rose stock may yet "renew its youth."

**MEAN DISTANCE OF WATER MOLECULES.**—Herman Herwig concludes that no two molecular layers in water can be more than 1.86 of a millionth of a millimeter apart, and that the same is true with regard to the mean distances of adjacent molecular centers. Sir William Thomson had previously estimated the least value of the same distances at 0.05 millionths of a millimeter. These two estimates, one being less than four-fold the other, furnish satisfactory approximations to the true value. —*Ann. der Phys. u. Chem.*

## WOOD PULP FOR PAPER.

The scarcity of paper material has of late years led to quite a large employment of wood pulp as a mixture with other fibers in the manufacture of paper. Experience, however, is beginning to show that this addition to the usual paper stock is very prejudicial to the lasting quality of the material. Prof. Reuleaux recently called attention to the subject in a lecture delivered at Leipzig, pointing out that, as the paper used in the German public offices is mainly composed of wood, the destruction from natural causes, of any important official records, may be expected. He limits their duration to about 15 years.

This reference is to writing paper, in which but a small quantity of wood is used. How much greater must be the loss and inconvenience in the case of printed books, into which a very large proportion of wood enters. According to Prof. Reuleaux's authority, all our libraries, if made up of paper so adulterated, will have to be renewed every 15 or 20 years, instead of

lasting for hundreds of years, as is the case with paper made from the usual fibers.

**A LADY** was the mother of a nice little boy about three years old. The whooping-cough prevailed in their neighborhood, and the mother became very much alarmed lest her boy would take it. She had talked so much about it, and worried over it, that she had infected the child with her fears to such an extent that he would scarcely leave her side. One night after the little fellow had been put to bed and to sleep, a jackass was driven past the house, and when just opposite set up his he-haw, he-haw. With a shriek the little fellow was out of bed, screaming at the top of his voice: "The whooping-cough is coming, mamma; the whooping-cough is coming."

**ENORMOUS SUBMARINE PLANT.**—Explorers have recently reported the discovery of an enormous submarine plant in the North Pacific ocean. It is known to botanists as the *Macrocystis pygmaea*, is said to dwarf all vegetable products yet known by its prodigious proportions. It grows sometimes to such a size as to cover vast areas of sea-bed, one specimen having been discovered that occupied by measurement three square miles, while the stem was eight feet thick.