

ifornia. Each whaling station is organized upon the same plan as is the crew of the whale-ship, attacking the whale in boats, and having try-works on shore. The boats usually carry a harpoon gun and a gun for firing bombs, or explosive lances, into the game. The whales generally taken are the humpbacks, California grays, and sometimes a right-whale, a finback, or sulphur-bottom.

The aggregate amount of oil taken by the several shore parties, says Captain Scammon in his excellent book on the "American Whale Fishery," since their first establishment to 1872, was not less than 95,000 barrels, of the value of \$1,242,800, during a period of twenty-two years. The business is declining on account of the scarcity of the game and their growing wildness, rendering them difficult of approach.

The sardine, small and insignificant as it seems individually, is, from its fine quality and vast numbers, one of the most important of the finny tribe. The epicures of all sections of the world are familiar with the little tin box containing the favorite minnow-like fish packed in oil, which has been prepared with extreme care on the shores of the Mediterranean, and it is only in this manner that the sardine is generally known. Formerly it has been maintained that the sardine was peculiar to the southern coast of Europe, and found in no other waters, although it was long since proven that the identical species swarmed as countless as the sands of the sea along the coast of California, in fact from Puget Sound to the Lower Peninsula. Instances are related when the entrance to some bay or river would be blackened by the masses of these tiny fish, and hundreds could be dipped up at a single chance cast of a common bucket.

With such a piscatorial resource, it would seem unbusiness-like to send millions of dollars annually to France for the delicacy we have at our hand, also having the price enhanced by heavy duties, freights, insurance, time, damage, etc. But, as with many another inviting field, the fact was doubted, timid capital declined to enter untrodden paths, advocates were derided, and solicitors for aid were snubbed, and thus has California development dragged itself along, enriching its people and the world more through force of circumstances than intelligent design.

Recently, a gentleman of enterprise, T. N. Wand, Esq., after careful study of the subject, has entered upon the undertaking of preparing this delicacy, so bountifully provided by nature, to the uses of man. He has organized the California Sardine Co., which has established itself in San Francisco, and in August, 1874, commenced sending its goods upon the market. The success appears confirmed, and a great enlargement of the establishment is promised. The preparing of sardines implies the using of large quantities of olive oil, and thus aids another resource. The olive tree flourishes in perfection in the warm soil and genial climate of California, and its cultivation will be greatly encouraged by the new enterprise of the California Sardine Co. At present the oil used is the product of European groves, those of California not yet being able to supply the demand. Other interests will also be encouraged, as one great enterprise opens the way and demands the support of many industries.

The salmon of the Pacific Coast have obtained a world-wide reputation. It is one of the most beautiful, as it is one of the most valuable of American fishes, and California and the Northwest Coast is its favorite home. The bays and rivers are at times alive with these graceful and silvery swimmers, and they are caught in seines in large numbers. The demand for them is very large, both at home and abroad, either fresh, pickled, smoked, or canned. Such a delicacy is salmon considered by the wealthy of the East that seventy-five cents to one dollar a pound is paid for the fresh fish carried thither by rail from California, though the price at home is only from six to fifteen cents. Many thousand barrels and cans are put up annually, the principal establishments being at Collinsville, Rio Vista, and Sacramento City, on the Sacramento River; at Eureka, on Humboldt Bay; at Eel River, and at the mouths of several smaller streams on the coast. At many available stations north of the State, in Oregon, Washington, British Columbia, and Alaska, are large packing establishments. The noble fish attains a weight of from 20 to 30 pounds, and is in the best condition when ascending the rivers in the spring and early summer.

Many others of the important fishes of the table and of commerce are found in the waters of and bordering on the State, as the cod, herring, smelt, bass, rock fish, sturgeon, tomcod, flounder, perch, turbot, baracouta, many varieties of trout; and of crustacea and mollusks, are the shrimp, crayfish, crab, oysters, clams, cockles, and mussels. The list of California fishes could be greatly extended, and a visit to the stands of the various markets of San Francisco will convince one of the endless variety. The mountain lakes and streams embowered in evergreen forests and gurgling through deep cañons, sparkling and cold from the snow-covered peaks, are the favorite home of the delicate trout. In no country is this fine sporting fish in greater abundance or of finer flavor. Both in the Coast Range streams and of the Sierra Nevada, but more particularly in the latter, do they abound. Lake Bigler or Tahoe is noted for its peculiar variety of salmon trout, which grows to nearly the size of the largest salmon.

Much attention has of late years been paid to introducing new varieties, and to the breeding or cultivating of fish. The shad, which is such a favorite along the Delaware, Hudson, Connecticut, and other Eastern rivers, has been successfully planted in the waters of the Sacramento, and several propagated from the imported spawn have been caught. A great many other classes have been brought over the continent, some of which had probably better been left, and in a few years we may add the eel, catfish, pike, bluefish, bullhead, chub, lobster, and others to our list.

The oyster was seldom found on the California coast, but north of the Columbia River there are prolific beds of this delicious bivalve. The stinging or gar, an unwelcome fish in our waters, destroys the oyster when it is unprotected, thus necessitating their cultivation in fenced fields of water. At Shoalwater Bay, and other localities on the northern coast, vast quantities of oysters are obtained of a small variety called the California oyster. These are usually planted in the protected beds in San Francisco Bay, where they increase in numbers and size, and are drawn upon for the market. Eastern oysters are treated in the same manner, and as they rapidly improve when planted, it indicates that the conditions are favorable to their growth, were it not for the fish that prey upon them.

#### MANUFACTURES.

No State in the Union, nor any condition of society, present stronger invitations to the manufacturer than does California. The cheap coal from the mines of Monte Diablo and other localities on the coast, also the wood fuel from the forests of the Sierra, and the many rapidly falling mountain streams, furnish an unlimited power for machinery. The principal manufactures of the State, where machinery is used, are operated by steam; but the great water-power of the Sierra Nevada streams will some day be applied to use. These streams are never-failing, and enter the great valley with a rapid fall most easily utilized. The eastern cities of Lowell, Lawrence, Rochester, and others of large population and great wealth, owe their prosperity to the water-power furnished by the rivers on which they stand. But the Genesee, Merrimac, Mohawk or James do not afford more power than do the Feather, American, Tuolumne, and many others throughout the State; and near these, if our State possesses resources equal to those of the East, we may expect equally large manufacturing towns.

The diverse resources and favorable climate of the Pacific Coast give extraordinary facilities and inducements to manufacture. The products of the soil are of every variety, and the mines give forth every mineral requiring the aid of machinery to transform into articles of use, and furnishing the material of which the machinery is made and operated. That the forests require saw-mills and the wheat fields flour mills, the flocks and herds woolen mills and tanneries, is patent to every observer; but the detail of every class of manufacture which wealth and necessity have brought out would be surprising to all. But there