

THE
NATURAL WEALTH
OF
CALIFORNIA

COMPRISING

EARLY HISTORY; GEOGRAPHY, TOPOGRAPHY, AND SCENERY; CLIMATE; AGRICULTURE AND COMMERCIAL PRODUCTS; GEOLOGY, ZOOLOGY, AND BOTANY; MINERALOGY, MINES, AND MINING PROCESSES; MANUFACTURES; STEAMSHIP LINES, RAILROADS, AND COMMERCE; IMMIGRATION, POPULATION AND SOCIETY; EDUCATIONAL INSTITUTIONS AND LITERATURE; TOGETHER WITH

A DETAILED DESCRIPTION OF EACH COUNTY;

ITS TOPOGRAPHY, SCENERY, CITIES AND TOWNS, AGRICULTURAL ADVANTAGES, MINERAL RESOURCES, AND VARIED PRODUCTIONS.

BY

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COTTON.

Cotton encounters the same difficulty as corn, without irrigation; wherefore, it seems hardly deserving a place in the list of our agricultural staples. The time will come when irrigation, as a grand system, will be called for and adopted, rendering the more extensive culture of these articles probable.

FLAX.

The establishment of a mill in San Francisco, and also one in Sutter county, for the manufacture of linseed and other vegetable oils, has had the effect to encourage within the past year a more extensive culture of flax and the castor oil bean than before. Thus far the San Francisco mill, the other having been more recently built, has been

obliged to rely chiefly upon foreign importations for its supplies of linseed ; but a desire having been expressed to take seed of home growth to the amount of five hundred tons annually, our farmers are likely to engage in the culture of the plant more largely hereafter. Flax being native to California, growing wild in some portions of the State, can undoubtedly be successfully and profitably raised on a large scale. Indeed, the trials already made show that there is no trouble in making good crops—over fifteen hundred pounds of seed having been produced to the acre, the stalk of the plant being large and vigorous, and coated with a strong and abundant fibre. The total product of the State for 1867 was one hundred and fifty tons ; though it is believed a home market could be had for four times that amount at remunerative prices, the ruling rates heretofore having been four and a half cents per pound. Hitherto no fabric has been made here from this textile ; but with such an extensive yearly demand for sacking, it seems highly probable that this plant will soon be made to contribute largely towards supplying this important and growing want of the State, this material having heretofore been wholly imported.

SHEEP AND WOOL.

California is, perhaps, the best country in the world, excepting Australia, for the raising of sheep. Nowhere do they so thrive and multiply with so little care ; and no fleeces of similar breeds are so heavy. Here, in the mountain pastures, they roam and feed themselves the year round. Sheep love length of range, and they have it here. A dry soil and climate is their special preference, and in few countries is the dry season more protracted. Great pains have been taken to improve the native breeds by crossing with choice foreign selections. The cost of keeping sheep is so trifling, and the increase is so great, that it is a very money-making business. Most of the diseases common elsewhere are unknown here. Two men and a boy will take care of ten thousand sheep—the chief labor being to drive them into pens at night, to protect them from the coyotes and other wild animals—which, however, are not numerous. Sheep in this climate are at two years, of the same size as they are at three years of age on the Atlantic side. The ewes begin to bear when one year old ; and twins occur much more frequently than is usual in other countries.

One third of the wool of California is a second crop, clipped in autumn. This second shearing, however, is disapproved of by many sheep raisers, as tending not only to shorten the clip of the following spring, but to rob the animal of its necessary protection during the winter. The average quality of wool is now nearly up to half merino, and every year it improves as the breed grows better ; but the condition of its delivery, though improving, is still complained of. Unless

shearing is done rather too early, the burrs of the burr-clover get in the wool, and depreciate its value.

The estimates for 1867 put the whole number of sheep in the State at over two millions, of which fifteen per cent. went to the shambles. For 1868, nearly three millions are counted on for shearing.

The wool product of 1867 was about nine million pounds. The very low price of wool at present gives temporary discouragement ; but sheep husbandry in California will always pay better than in any other State in the Union.

SILK CULTURE.

The mulberry tree thrives wonderfully in our soil. The State of California has offered a premium of two hundred and fifty dollars for every five thousand trees, to be paid for when they are two years old, besides a premium on cocoons of three hundred dollars for every one hundred thousand—the object being to aid silk-making in becoming a fixed industry. Enough has been done on a large scale, in different localities, to prove that our mulberry leaves, our silk worms, our climate, and the silk we make, excel other silk countries in all these particulars. According to the opinions of parties most conversant with the subject, the mulberry trees now set out, and growing in this State, number about four millions—the production of eggs keeping pace with this extensive planting. But the foreign demand for our eggs is becoming so large that it threatens to retard the immediate extension of silk making in this State. In France the worms suffer so from disease that large orders from that country for our more healthy eggs are constantly being filled—a condition of things that promises to last for some time. So long as this call is kept up the manufacture of silk must necessarily be curtailed, as the selling of the eggs will be found more profitable than making the fabric. Italy and Mexico are also sending here for eggs—and while these are more healthful, producing more vigorous worms, the cocoons of California are also larger than those of other countries. The white cocoon worm of Japan, and the yellow of China, are found suitable to our climate.

California has peculiar advantages for silk growing, some of which are here presented, since they are so thoroughly proven as to be reliable in every particular. The white and black mulberry, and every other kind thrives here. But Mr. L. Prevost, of San José, selects the *multicaulis*, (much-leaved), the white, and particularly the Moretti, (large and thick leaves), for the superior silk it makes. In this climate the mulberry tree displays the same instinct as all other trees, its first strong movement being to send down its tap-root to the seat of permanent moisture. It is thought that in seasons of ordinary winter rains irrigation will not be necessary—without it, the worms will be better, and the strength of the silk greater. The mulberry attains a growth here in three years equal to five years in France, and the yield of leaves is much greater. It throws out a vast exuberance of branches, and has such power of recuperation that Mr. Prevost has adopted a new plan for gathering the leaves, which saves three fourths of the labor required in France, and is a very great improvement to the con-

venience of the worm, and in preventing waste of leaves. He does not pluck the leaves, but cuts off whole branches. This gives the worm spacious and cleanly feeding-way, keeps the leaves fresh, and saves them from being soiled. The tree is not at all injured, when judgment is used in limiting the cutting. This is the practice in Japan.

It will scarcely be credited abroad, but it is a fact, that cuttings planted in winter do yield leaves enough in the following summer for no mean amount of food suitable for the younger worms. The shoots from one year's growth are usually ten to twelve feet long—fifteen feet often. In three years from the time of planting the cutting, the mulberry tree in this climate is fit for regular cropping.

COCOONS.

Two crops of cocoons are raised in the year, viz., in May and July, the whole process requiring six weeks. Artificial heat is not needed. There are no interruptions in this climate from thunder storms, or wet and cold spells, which kill so many worms in Europe, shorten the production, and injure the silk. For upon the unbroken continuity of the process depend the amount and the quality of the silk the worms make. Nothing does more damage to quality than cold checks. They are like cold nights upon cotton, making the fibre short and brittle.

The use of kilns for destroying the insect in the cocoon is dispensed with here, the summer sun sufficing. The cocoons are placed in troughs with a glass covering, and exposed for two or three days, which is effectual.

Of all industries, the rearing of worms and reeling silk from the cocoon is the most simple, the least laborious, and least monotonous. It requires in the climate of California the smallest outlay for shelter and for starting. The worm has no diseases, there are no wet spells to injure the leaf, and no cold snaps to check and mar the work. Land here is cheap, and growth is so exuberant that there is no incentive to push the tree into unhealthy bearing, the result of which has been so fatal to the worm and the silk in France.

The extraordinary advantages of our climate have attracted the attention of silk men in Europe, and we are advised that the immigration of such persons in considerable numbers is probable. Everything points to a very early expansion of silk making here, and it is quite clear that California is destined to be one of the foremost manufacturers of silk fabrics for the consumption of the world.

WOOLEN MILLS.

In the making of woollen fabrics we have one of the earliest founded, and now most extensive and prosperous branches of manufacturing yet established in the State—the steady supply, cheapness and excellence of the wool grown here giving great encouragement to this line of business. The fabrics turned out by our woollen mills are not excelled by those of any other country. Up to 1859 the entire wool clip of California was shipped abroad for a market. That year, the Pioneer Mills starting, used a small portion of it—quite a large quantity being now consumed by the several establishments running in the State. At the present time there are in California five of these factories, four of which are running; the fifth, located on the Merced river, though completed and ready for work, not yet being in operation; it is, however, to be started during the spring or early in the summer of 1868. The erection of others are contemplated in different parts of the State, and there will no doubt be several additions made to the present number in the course of a year or two, at furthest. Preliminary steps towards the building of a woollen mill at Santa Cruz, and another at Folsom, have already been taken, and will no doubt result in their early construction.

THE PIONEER WOOLEN MILLS.

The first works of the kind ever put up in the State were the Pioneer Woollen Mills, erected in 1858, at Black Point, in the northwestern part of the City of San Francisco. Though built in 1858, they did not commence work till the following year. The first edifices put up by this company, though spacious and convenient, being of wood, were unfortunately burned up in the fall of 1861. Notwithstanding the loss of the proprietors, Messrs. Heyneman, Pick & Co., was heavy, the buildings being filled with new and costly machinery, selected with great care, and imported from the East, they at once set about rebuilding the edifice, which was made more spacious than that destroyed, being at the same time, for greater safety, constructed wholly of brick. This mill is now owned by a company having a capital of \$450,000. The machinery consists of eighteen sets of cards, six thousand spindles, seventy-two looms, eight mules and fourteen jacks—the whole put in motion by a steam engine of one hundred and fifty horse power. Three hundred and fifty men, a portion of them Chinese, are employed in the various departments. The product of these mills for the year 1866 was 30,000 pairs of blankets, 60,000 yards of broadcloth, tweed and cassimeres, and 375,000 yards of flannel; consuming 1,500,000 pounds of fine wool.

In 1867, there were manufactured 40,000 pairs of blankets, 100,000 yards of broadcloth, tweeds and cassimeres, and 300,000 yards of flannels—1,600,000 pounds of wool having been consumed. Their annual capacity is equal to the consumption of 3,000,000 pounds of wool. Large quantities of flannels are made up into shirts—sixty hands, operating with sewing machines, being employed at this business.

THE MISSION WOOLEN MILLS.

These mills are also located in the City of San Francisco, being on the corner of Sixteenth and Folsom streets. They are very extensive, the buildings pertaining to the establishment occupying, and in good part covering, an area of ten acres. These works, erected in 1861, have the greatest capacity of any institution of the kind in the State—material additions having been made to them recently. Besides the articles designated as being made at the Pioneer mills, they here manufacture cloakings and traveling shawls. This company have a capital stock of \$500,000, and employ four hundred and fifty hands constantly. The mill is driven by a steam engine of one hundred and fifty horse power, and consumes 2,200,000 pounds of wool annually. In 1866 there were manufactured at this establishment 80,000 pairs of heavy army and navy blankets, 125,000 yards of broadcloth, tweed and cassimere, and 500,000 yards of flannel, besides large numbers of shawls, quantities of cloakings, etc.—the gross value of the products of these mills amounting to nearly \$1,000,000 per annum. The wages paid employes for 1867 amounted to \$135,000. For that year the proprietors report no increase of business. For the year ending April 30th, 1867, the value of manufactured goods made by the Pioneer and Mission Woolen Mills, as returned to the Internal Revenue Department, reached the sum of \$816,815. In these returns are not included materials made into garments, and given in under the head of clothing. To the blankets and flannels made here was awarded the premium medal, at the Paris Exposition, in 1867, over all competitors from the United States.

THE PACIFIC WOOLEN MILLS.

The Pacific Woolen Mills, located on Folsom street, between Eighteenth and Nineteenth, San Francisco, spin only yarns, and manufacture knit goods from the same—this being the only extensive establishment of the kind on the coast. The main building is 112 by 52 feet, three and a half stories high, with numerous outhouses and dwellings for operatives attached. These works were originated by Mr. James Roberts, the capital stock employed \$400,000. The works are driven by a steam engine of one hundred horse power ; consume annually 500,000

pounds of wool, all of choice quality, besides 100,000 pounds of cotton—value of goods made, \$400,000 per annum; they are now being enlarged to a producing capacity of \$2,000,000. They employ 24 women, 24 white men, and 42 Chinese, besides from 250 to 300 women and girls seaming the goods at their houses, who now turn out daily 60 dozen shirts and drawers, and 150 dozen of hosiery. Only medium and lower grade goods have thus far been produced, the mills running on short time. With the additions now being made, it is intended to manufacture goods of the highest and finest grade in this line, and to operate the works night and day. The demand for wares of this kind is rapidly increasing, and it is questionable if the establishment, even when enlarged, will be able to fully meet the rapidly growing requirements of the coast.

There was another knitting mill, constructed on a much smaller scale, situated in the southwestern part of the city. It started work in August, 1866, and made nearly every variety of goods, but was burned down the next year. This mill, in addition to the usual carding and spinning apparatus, was supplied with a number of Aitkin's patent knitting machines, and produced articles of unsurpassed excellence.

THE MARYSVILLE WOOLEN MILLS.

These mills, situated in the city of Marysville, Yuba county, commenced operations in September, 1867. They are of limited capacity, containing but seven looms, with corresponding apparatus, and make only blankets and flannels. They are the property of a company incorporated with a capital of \$50,000.

The establishment of even the above limited number of woolen mills, has already had a highly beneficial effect upon a variety of interests in this State, besides giving profitable employment to a large number of operatives and outside laborers, and tending to reduce the prices of the commodities made to the California consumer; it has also, by creating a demand for our home grown wools, protected the sheep raisers of the State against the monopoly of buyers purchasing here for foreign markets, and who, by combining to keep down prices, often depress them below a paying standard. Since the founding of our local mills, the prices of wool have not only remained more steady, but have materially advanced. Of the 8,600,000 pounds marketed in San Francisco city during the year 1866, our home mills purchased 3,200,000 pounds, showing a large and healthful competition, although there were at that time but two mills in operation. Of the 10,500,000 pounds disposed of in 1867, our local establishments took 3,000,000—a ratio of

increase that it may reasonably be expected will hereafter be every year enlarged.

COTTON MANUFACTURES.

The only works in this line on the coast are the mills of the Oakland Cotton Manufacturing Company, situate near Oakland, Alameda county. This company was organized in August, 1865, with a capital stock of \$100,000, and soon after put up a two-story brick building, 90 by 45 feet, with three large brick houses contiguous, for the use of overseers and workmen. The mill, driven by a forty-horse power steam engine, employs about thirty hands, and up to January, 1868, had been confined to making shirtings, sheetings, osnaburgs and drills, with a species of wool and cotton tweeds. At that time the capital of the company was increased to \$200,000, with a view to procuring machinery suitable for the manufacturing of grain bags, which, it is believed, can be made at a profit under the thirty per cent. *ad valorem* duty imposed on the foreign article. The importance of making our own bagging will be the more readily appreciated when it is known that over \$1,200,000 are spent annually in the purchase of sacking for the yearly grain crop of the State—being about seven per cent. of its entire value. At present it will be necessary to import most of the raw material for this branch of operations; but there is reason to believe that in a short time this can be supplied, at least in good part, by textiles of home growth. Flax is now raised here for the seed alone, but with a market for the lint, the latter could, and no doubt would, be furnished in any required quantity; and though, perhaps, not of the best quality, yet sufficiently good for this purpose. So, also, hemp would be grown if this fibre were in large and steady demand at fair prices. Thus it will be perceived how large a variety of economical ends would be subserved by the making at home of the sacking required for our annual grain crop. First, the heavy money drain requisite for the purchase of these articles abroad would be stopped, a large additional number of operatives would be given employment, and the now neglected business of flax and hemp growing, would be likely to receive an impulse that would render it both permanent and profitable.

The Oakland Cotton Mills have heretofore run thirty-two looms. In 1866 they consumed 100,000 pounds of cotton, and in 1867, 125,000 pounds—about 30,000 yards of shirting having been made monthly. The total product for the year 1866 was 100,000 yards of shirting, and 50,000 yards of brown sheeting—the latter mostly for the Mexican

market, besides large quantities of 4-4 cotton cloth for flour sacks. The raw material for this establishment is obtained mostly from the Atlantic States, a little also having been procured from Mexico and other foreign countries. The amount of cotton produced in California thus far has been limited to a few bales of inferior quality, no special efforts having been made to grow it under the low prices lately ruling.

There is but a single establishment for making cotton-wadding in this country, that of J. C. Mayer & Sons, situated on Turk street, San Francisco. At this factory every description of wadding and batting is made, the capacity of the works being 2,000 pounds daily, though only about 10,000 pounds were worked up in 1866, and 15,000 in 1867. The cotton used is mostly obtained from Mexico and the Society Islands.

Some time since a movement was made by certain parties in San Francisco towards organizing a company to put up a carpet factory in that city; and, although the project remains in abeyance, there is not much doubt but that it will be carried to early consummation, as more than a million dollars worth of these fabrics are imported into the State every year.