



CALIFORNIA

ITS ATTRACTIONS

for the

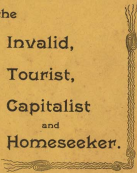
Invalid,

Tourist,

Capitalist

and

Homeseeker.



1890.

JEROME MADDEN,

LAND AGENT S. P. R. R. COMPANY,

CORNER FOURTH AND TOWNSEND STS., SAN FRANCISCO, CAL.



CALIFORNIA.

FOR THE YEAR

INVALID, TOURIST, CAPITALIST AND HOMESEAKER

AND

GENERAL INFORMATION

AND

THE LANDS OF THE S. P. R. R. CO.

JEROME MASON

LAND AGENT OF THE S. P. R. R. COMPANY
GENERAL AGENTS AND MANAGERS, SAN FRANCISCO, CAL.

SAN FRANCISCO

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1880

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THE LANDS

OF THE

SOUTHERN PACIFIC RAILROAD COMPANY

OF CALIFORNIA.

PURPOSE OF PAMPHLET.

The purpose of this pamphlet is to give information about the lands offered for sale by the Southern Pacific Railroad Company of California, their situation, topography, soil, climate, vegetation, value and price, the terms upon which they can be obtained, and the general policy of the company in their sale.

It is impossible in a pamphlet of this size to describe or even to mention each tract, but it is the intention to answer here all the main questions of a general character which the general business of purchasing needs to ask, leaving the details about any special tract to be learned by inspecting at the railroad land office.

RAILROAD TITLE.

The company holds under a grant direct from the Federal Government, and the title is thus free from the dangers that beset all titles that have passed through a number of individuals. No sale will be undertaken against the railroad title on account of minor holes, undivided interests, defective witnesses, judgments, or those common flaws to be found in a long succession of conveyances.

TERMS OF GRANT.

The first Act of Congress giving land to the Southern Pacific Railroad Company of California was passed on the 23d of July, 1868, and provided for the construction of a railroad across the continent on the thirty-fifth

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parallel of latitude, by the Atlantic and Pacific Railroad Company. It gave a right of way of two hundred feet wide, and the land grant is thus expressed:

"That there be and hereby is granted . . . every alternate section of public land not mineral, designated by odd numbers, to the amount of twenty alternate sections per mile, on each side of said railroad line, as said company may adopt through the territory of the United States, and ten alternate sections of land per mile on each side of said railroad whenever it passes through any State, and whenever on the line thereof the United States have full title, not reserved, sold, granted, or otherwise appropriated, and free from preemption, or other claims or rights, at the time the line of said road is designated by a plat thereof, filed in the office of the Commissioner of the General Land-Office, and whenever prior to said time any of said sections or part of sections shall have been granted, sold, reserved, occupied by homestead settlers, or pre-empted or otherwise disposed of, other lands shall be selected by said company, in lieu thereof, under the direction of the Secretary of the Interior, in alternate sections, and designated by odd numbers, not more than ten miles beyond the limits of said alternate sections, and not including the reserved numbers."

Section 18 of that Act gave the same amount of land, ten sections on each side of the road per mile, to the Southern Pacific Railroad Company for a road from the Colorado (Needles) near the thirty-fifth parallel to San Francisco. The plat, authoritatively fixing the line of the road under this Act, was filed in the office of the Secretary of the Interior on the 24 of January, 1887, and on that day the legal title of the Southern Pacific Railroad Company attached from San Jose to the Needles.

On the 1st of March, 1871, Congress passed another Act giving to the Texas Pacific Railroad Company a franchise and land grant for a railroad across the continent on or near the thirty-second parallel; and section 18 authorized the Southern Pacific Railroad Company of California to construct a branch, with a land grant similar to that given by the Act of 1866, from Tehachapi Pass, by way of Los Angeles, to the Texas Pacific road at or near the Colorado river (Fort Yuma). The Southern Pacific Railroad Company filed its plat under this Act on the 24 of April, 1871.

EVEN SECTIONS REMAINED

The minimum government price of ordinary public land is \$1.25 per acre, or \$500 for a quarter section of one hundred and sixty acres; but from the fact that the construction of railroads increases the value of the land in their vicinity, a general Act of Congress provides that, when the alternate sections are granted in aid in the construction of a

railroad, the remaining sections are increased in price to the "double minimum," or \$2.50 per acre, so that the unreserved sections within the limits of the grant of this company can be purchased from the Government, by either sale, at that price.

TRANSFER OF TITLE

The company, from time to time, makes lists of the lands to which it is entitled, lying within thirty miles on either side of the line of its road. These lists, if found correct, are duly certified by the proper United States land-office, and forwarded to the Land Department at Washington, where they are again examined. Upon these the patent is issued.

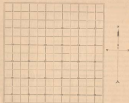
FEDERAL SURVEYS

To prevent any conflict with the manner of surveying the public lands of the United States, it may be necessary to make a brief explanation, as, with an understanding of this, a definite idea will be had of the extent and direction of the company's grant.

The United States divides its lands to be surveyed by its officers into townships of 36 miles square. These townships are subdivided into thirty-six sections of one square mile each, or six hundred and forty acres. Each section is again subdivided into four quarters of one hundred and sixty acres each, and again into sixteen quarter-quarter-sections of forty acres each, which is the smallest quantity sold, except fractions on the location of rivers, lakes, etc. In making these surveys in Central California, Mount Diablo, a prominent peak near the junction of the Sacramento and San Joaquin rivers, was selected by the Government as the initial or starting point, from which lines were run, one north and one south, called the meridian line, and one east and one west called the base line, and from these lines the several townships are surveyed, those north and south being numbered from the base line east, west, three, etc., north or south of the base line as the case may be, and those lying east and west described in the same way, as east or west of the meridian line. Thus, the city of Sacramento is described as being in township eight north, of range five east, of Mount Diablo base and meridian; that is, it is in the eighth tier of townships north of the base line, and the fifth east of the meridian line.

The Federal land surveys are measured from the base and meridian of Mount Diablo, for thirty-two townships or 192 miles northward from the mouth of that mountain. From Tehachapi Pass southward, Mount San Bernardino furnishes the base and meridian of the surveys to the Colorado river. Fort Yuma is in township sixteen south, range twenty-two east, base and meridian of Mount San Bernardino.

The following is a plan showing the manner of subdividing and settling the sections in each township.



This diagram shows all the sections and quarter-sections in a township. The number of each section being placed in its center. If the odd sections, that is, the sections designated by odd numbers, were blanketed, the diagram would look like a chess board. The odd sections touch each other at the corners, and, as a section contains six hundred and forty acres, the railroad company does not receive in its grant any more than six hundred and forty acres in a compact form. Now can the Federal Government sell more than six hundred and forty acres in a body within the railroad limits, but usually the settler cannot get more than two hundred and sixty acres of Government land.

APPLICATION AND SETTLEMENT BEFORE PRESENT.

The company invites persons, under the rule of its land-office, to apply for survey and improve the lands before patents are issued, and intends, in such cases, to sell to them in preference to all other applicants, and at prices based upon the value of the land without the improvements put upon it by the settler. It makes no defense against any

individual upon this basis, but it treats all fairly. It will not sell to somebody else, merely because the latter offers a higher price. It will not sell to any one land that may be required by it for railroad purposes, such as places for depots, stations, etc., or for townships. Any person desiring to settle upon vacant railroad land before it is patented should address a letter to the Land Agent of the company, requesting a copy of a blank application for the purchase of land.

After filing, the Land Agent will send a receipt for the application, and if then the applicant will at once permanently occupy and cultivate the land, he can expect in time preference of purchase at the first price over all other applicants. But his claim will not be entitled to any consideration if he does not show his good faith by occupation and cultivation, or improvement. The company will give preference to settlers over speculators.

An application for land confers no vested right or privilege on the applicant. It is merely a notice that he wishes to buy.

The filing of an application does not vary with it the right or permission to cut wood or timber from the lands of the company, except for firewood for the domestic use of the actual occupants of the tract applied for, or for having and improving it.

Applicants, or other persons, who shall be detected in cutting wood or timber on railroad lands, except for the purposes above specified, or in selling or carrying it away, will be prosecuted to the utmost extent of the law.

LAND POLICY OF THE COMPANY.

The policy of the company has always been, and is now, to encourage the settlement of its lands in small tracts, by persons who will live on and cultivate them. To this end settlers are invited to make application to buy and to occupy and put to use the vacant lands until such time as they shall be ready to sell. If the settler desires to buy, the company gives him the first privilege of purchase at the first price, which, in every case, shall only be the value of the land, without regard to the improvements. It must be understood that the application of a speculator, or of a person who does not improve or occupy the land, will not, although received first, take precedence or priority of that of the settler whose application may, perhaps, be filed last of all. The actual settler, in good faith, will be preferred always; and the land will be sold to him as against every other applicant. The company also wishes it to be known that a mere application to buy land, accompanied by actual improvement or settlement, confers no right or privilege which should prevent an actual settler from taking it, if vacant, into possession, and cultivating and improving it.

When the land is ready for sale, and there are one or more applicants for the same tract, an advertisement of their respective claims will be made by the land agent, upon the notice (thirty days) given in the notice, and the right to buy, at the appraised valuation, will be awarded to the applicant who shall be deemed to have the most equitable claim. Should the applicant, or either of them, pay no attention to the notice, or fail to be present in person, or by representative, at the time and place mentioned in it, they shall be considered to have abandoned their applications, and all right or claim in purchase and the land will then, at the option of the railroad company, be open for purchase by any person to whom the company may choose to sell.

Careful regard is paid to the requirements of the law in every particular, so as to protect the interests of the company against complaints for the past and distress for the future. The cultivation of confidence is necessary for the company.

APPRAISING LANDS.

When lands are ready to be sold, the company sends a man well acquainted with the quality of soil, and skilled in determining the kind of agricultural product to which it is best adapted, as also in determining its true market value, to look at the various sections and tracts. After personal examination, he notes the land as being first, second or third quality of farming, sheep or timber or grazing land, and reports the value of each place. His report is examined, and, if found correct, a price is established. The price is generally that of unimproved land of the same quality in the immediate vicinity at the time of appraising. In ascertaining the value, any improvements that a settler or other person may have on the land will not be taken into consideration; neither will the price of the land be increased in consequence of them. Further, there is but one price, that fixed by the company, and land will be sold at that rate to those who in equity have the land right, even if others should offer more per acre than the amount asked. Settlers are thus assured that, in addition to being accorded the first privilege of purchase at the rated price, they will also be protected in their improvements.

PRICES.

The lands are not uniform in price, but are offered at various figures from \$1.50 upwards per acre. Most of them are for sale at from \$1.50 to \$20. It is impossible to give the prices by sections or minor subdivisions in this pamphlet. Special inquiry must be made as to each place. The purchaser must pay for the acknowledgment of the three signatures to the deed. The law now allows one dollar for each signature.

PAYMENT IN CASH.

All sales are made for gold coin, which may be paid in person or sent by express or by a banker's check on a bank in San Francisco. The company does not deal in exchange or take any risk of loss in transmission. The collection of orders upon business men in San Francisco, or of checks upon banks outside of San Francisco drawn by farmers or country merchants, is often attended with much delay and vexation, and therefore such orders or checks will not be received. But a check drawn by any old-time country bank upon a San Francisco bank, with which it has funds, is good. No paper is sent out till after payment. No contract is made to accept work of any kind as payment. If the purchaser be in the employments of the company, he should get his money and come with it to the land office. It is useless for him to tinker with others to grade, cut road or do something in payment for land. The department has separate accounts.

The company does not give free transportation to persons who have bought land. Nor after purchase does it carry their building material, furniture or outfit free. In this as in other respects, the land and transportation departments of the company manage their business on the cash basis and on separate accounts.

WHEN TIME ALLOWED.

Land is sold on contract allowing time for payment of a part of the purchase money, if the tract is eighty acres or more and it have no timber. If it be less than eighty acres, or if it be covered with timber, no sale will be made except upon full payment of cash before the execution of any paper.

TERMS OF SALES.

Land can be bought as follows:

1. Payment in full at time of purchase with 40-60 money's fee for acknowledgment of signatures to deed. (See Example 1, page 10.)
2. Payment of twenty per cent of total amount, and then year's interest on remainder, at time of purchase; interest annually on said remainder is deferred. The remainder payable at expiration of five years. Should purchaser desire to make full payment before the expiration of five years, he may do so. (See Example 2, page 10.)

The rate of interest in all cases will be seven per cent per annum.

Installments of usual amounts on the unpaid remainder of purchase money will be received at any time; and interest on these amounts will come from date of payment.

No longer credit than five years is allowed in any case.

The land sold under contract, the purchaser must pay no road moneys for domestic purposes of the actual company, or for fencing the tract bought, until he has made his last payment.

If contracts may, with consent of this company, be assigned by the purchaser. Before for that purpose, to be signed by assignor and assignee, are printed on the back of each contract. The assignment must be acknowledged before a Notary Public, or a Clerk of a Court of Record.

When a contract is made, the purchaser must, from that date, see that the land is assessed to him, and must pay all the taxes and assessments of every kind levied on the land for public purposes.

In many instances in which purchases have been made on credit, the buyers have realized enough from the crops of a single year to pay for the land.

EXTENDING TO BORDERING PLATS, AND BARRER BY CONTRACTING FENCES.

Example 1.

100 acres bought at \$5.00 per acre.....	\$500.00
Notary's fee for acknowledgments to deed.....	5.00
Payment in full.....	\$505.00

Example 2.

Purchase January 1, 1898, 100 acres, say at \$5.00 per acre,
\$500.00.

Jan. 1, 1898—50 per cent of \$500.00.....	\$250.00
First year's interest on balance.....	12.50
Net, \$262.50.....	\$262.50
First Payment.....	\$264.50

For other payments see changing terms of sale, paragraph 2.

DEED.

The company gives what is known as a large and well deed, the form customary in California. It warrants to the purchaser that he gets the entire title acquired by the company from the Federal Government.

No deed will be made until after receipt of price and payment of entire purchase price.

SELECT FOR YOURSELF.

No effort of the railroad selects land for another person, nor could such selection be made without exposing the company to numerous complaints. Everybody who intends to buy should, if possible, visit and examine the land; for nobody knows so well what he wants, or at least as one can safely assume the responsibility of deciding for him.

SAN JOAQUIN VALLEY.

From Tulare and Kern counties of southern San Joaquin valley, through which the road passes, there are aggregate areas of 33,500 square miles, or about 14,464,000 acres.

Although the soil of the San Joaquin valley and hills on either side is generally most fertile, its character changes frequently. In some places it is a heavy, rich loam. In others it is an alluvial, a light or heavy clayey



BLACK RASPBERRY.

soil, which produces excellent crops when once under cultivation. The soil of the foothills and mountains is rich and shallow, and is very easily eroded.

The agricultural productions of this section of California are varied, the leading crops of South America, and the luscious fruits and flowers of the mid-temple, being grown here in perfection.

Fresno county is particularly noted for the excellent quality and size of its fruits and cereals. The numerous flowers of this section in winter are the admiration of all visitors.



FRUIT OF ORANGE

SOUTHERN LISTS OF CALIFORNIA.

11

Wheat, barley, oats, rye, buckwheat, Indian corn and brown rice are extensively produced. California as a State is one of the largest exporters of wheat in the Union.

The San Joaquin valley wheat is a fine, full grain, light colored, and being very dry is particularly desirable for export. Barley is of very fine quality, and is highly prized by brewers. Fruit, honey and hides are exported in large quantities.

Garden produce of all kinds is easily grown everywhere,—peas, beans, onions, potatoes, pumpkins, squashes, melons, tomatoes, leeks, carrots, radishes, cabbages, celery, sweet potatoes, etc.

Tobacco and cotton are also grown, and both promise to become important productions.

All fruits, including oranges, lemons, lemons, berries, etc., grow to perfection and in great abundance. It has been demonstrated beyond question that this country is particularly adapted to the culture of silk.

The climate is so mild that all vegetable life in ordinary seasons is almost as active here in January as in July in other States. Trees and shrubs here have nearly twice as much time to grow each year as in the Atlantic States. In Fresno, Tulare and Kern counties, irrigation is general. It is deeply beneficial if not used to excess, and when provided with such is the value of the land, and causes it to produce astonishing crops.

SOUTHERN CALIFORNIA.

From San Fernando to Lancaster, a distance of 120 miles, the road runs through a fertile country on the western slope of the Coast Mountains. This is one of the most productive and beautiful regions of the north. The leading towns are built in places where there is water for irrigation, and, as seen from a distance, are almost hidden by trees.

Much of this valley land has but few trees, and, after midsummer, is dry, but can be irrigated; and, with a good supply of water it would be very productive, even where the soil is sandy. The farmers accustomed to the rich soils in the bottom of the Mississippi basin may suppose that a thin sandy soil will produce nothing, or will soon be exhausted; but it is not so. In 1887 the site of Anaheim was a sand plain, with little growing on it save cactus and desert shrubs, and now the town is surrounded in luxuriant vegetation. The original character of the soil still remains. If a current of water be run through a furrow for ten days, and then stopped, nothing but pure white sand is seen in the furrow so far as it was filled with water, all the other material of the soil having been dissolved or carried off. Magnificent gardens at Los Angeles, San Francisco, and

many other farms, there upon similar lands, and some of them have grown for nearly a hundred years, with no signs of exhaustion of the soil. It is probable that even poor sand would be productive, with abundant irrigation.



SCENE IN SOUTHERN CALIFORNIA.

MOJAVE PLAINS.

The road in its southward course, through Tehachapi Pass, enters the Mojave Plains, part of the isolated American basin which sends no water to the sea. The land here is somewhat sandy, but rich, and produces good crops when irrigated, and water for this purpose is procured from artesian wells or other sources. In many places the water is only six feet from the surface, and can be pumped up by windmills, which can be run at all seasons.

Perhaps no lands of the Southern Pacific Railroad have yielded a greater crop, or filled up more rapidly with settlers, than those of the Coachella valley, a part of what was commonly known as the Mojave

Desert. This prosperous territory was, but a few years ago, a vast, unoccupied plain; it is now occupied by settlers engaged in all classes of farming. The advent of the railroad, the boring of artesian wells, the construction of irrigating canals, and the indubitable energy of its first occupants, have wrought these wonderful changes. The district is spotted here and there with numerous small towns, all having a flourishing trade. This is an illustration of what can be done with these so-called deserts.

There is still plenty of land to be had both from the railroad and Government, and at rates within the means of all. These lands will produce crops of all kinds, will grow all fruits in perfection, and are the home of the grape. The time is not far distant when these lands are yielding at \$2.50 to \$3.50 per acre, will be worth \$500 per acre or more.

COLORADO DESERT.

That part of the valley of the Colorado near and south of the Southern Pacific Railroad, between Green Valley and Fort Yuma, is called the Colorado Desert. The river at Fort Yuma, in summer, is 10 feet above the ocean level; and its water can be led into the desert, which, with a good supply for irrigation, could be converted into a garden.

A few years ago this stretch of country from Los Angeles northwardly towards Yuma contained but few people, and was thought to be a useless waste, not fit for any agricultural industry or settlement. This district now has a great transcontinental line through its very midst, and dotted along the line are many beautiful and prosperous towns. The market on this line is deserving of particular mention. There are grain, trees, fruits, grapes, vines and plants of many varieties, all the more lively from the vivid contrast afforded by the surrounding country. What has wrought this marvelous change, transformed the dreary waste into a garden, and turned the desert to bloom as the rose? Simply water. There is ample evidence that almost all kinds of plants will, with irrigation, grow in this marvelous desert. The soil is decomposed granite, with a large mixture of the richest black vegetable mold. The rapidity of vegetable growth here is something wonderful. Beans have been known to grow six inches in four days from planting. Sugar cuttings have shown a growth of ten feet in four months; a cyprus vine (*Quercus californica*) has grown six inches in a day; and fig trees here grow three feet in a month. Immense crops might be multiplied indefinitely, but it is enough to say that the soil is a veritable hotbed. Every vegetable will grow with a luxuriance unknown elsewhere, and a marvellous succession of fruits and vegetables may be put in the market every month in the year. Watermelons and muskmelons ripen in May; while corn, beans, peas, potatoes, etc., may be harvested every day.

thermometer seldom falls below 32 degrees above zero. Snow can be seen on the mountain tops, but never falls in the valley. December is usually the month of the heaviest rainfall. February is a pleasant month, much like the month of May in the Eastern States. March and April are usually made up of sunshine and showers. Vegetation grows rapidly, and some fruits ripen at this time of the year. Strawberry and vegetable can be



WINTER IN THE MOUNTAIN DISTRICT.

had in some localities the entire year; while cherries and apples are in full in May. The so-called rainy season is now over. In the last of May and June, the grain matures, and the farmer can harvest his crop without fear of storm.

COMPARISON WITH EASTERN STATES.

The minimum temperature of Cincinnati, in January, is 19 degrees below zero, or 43 degrees below the freezing point, or, as we say, 42 degrees of frost; whereas most of the valleys of California do not have more than two degrees of frost. The mean temperature of Cincinnati, in January, is 31 degrees Fahrenheit, indicating that the average day in that month has 11 degrees of frost; whereas the average January day in California is at least 22 degrees warmer than in Cincinnati. At Augusta, Fla., in latitude 32 degrees, as stated in Hodge's Climatology, the thermometer has fallen to four degrees below zero, or 32 degrees below the greatest cold observed in this State at Marysville, in latitude 39 degrees. The figures for the northern coast of California, from Santa Barbara to San Diego, a distance of 180 miles, are nearly the same as those of Los Angeles, though in many places several degrees warmer in winter and colder in summer.

Reverend, in the same latitude as San Diego, has a minimum temperature of 33 degrees in January and 37 degrees in April,—figures considerably below those that prevail in the valleys of California. It is the severity of the occasional frosts that prevents the cultivation of the fig, orange, pomegranate, date-palm, olive, caradelpas, and other delicate plants, in South Carolina, Georgia and Tennessee, though they thrive in the same latitude on the western side of the continent. Again, farther south than any part of California, is much colder in winter than the valleys of the latter ten degrees farther north.

COOL, NIGHTS AND HOT DAYS.

The foregoing does not furnish data for a fair comparison between the climates of the two sides of the United States in the same latitude, as regards the difference in the temperatures of the summer nights, which are appreciably hot in the Atlantic States, and so cool in California as to secure refreshing sleep; or as regards the difference in the atmospheric moisture, which has a great influence upon comfort in hot weather. The air is so dry in California that perspiration is carried away rapidly, and thus the body is cooled. But, on the eastern side of the continent, the abundance of moisture prevents so quick evaporation; and there is more discomfort

with a temperature of 70 at Sacramento than with 115 at Fort Yuma. Some portions of California have hotter summer days than Germany, but nowhere in this State are the nights so hot, nor is there here any of the yellow fever which visits the southern States nearly every year. Malaria is unknown in California.

COMPARISON WITH EUROPE.

Milan is the chief city of Lombardy, a province in which the fig, the olive and the grape are extensively cultivated. Milan is the center of a region considered more salubrious, at least in winter, for consumptives, than any other part of Europe. Dijon is in the champagne district of France. Naples is the typical city of the south of peninsular Italy. These four places are fair representatives of the climates of France and Italy; but they can make no claim to superiority when compared with California. Many of its towns have warmer winters, cooler summers, and less frost in the spring. All the attractions that the coast cities of Greece and Italy have had from remote times for the natives of the cloudy north are possessed in at least an equal degree by California.

The superiority of the climate of California over that of Italy has been mentioned by many noted travelers. The London *Standard* says the climate of California and of Tennessee are "the nearest perfection in the world." C. L. Brown says "it is the most exhilarating." Samuel Butler says "there is a steady tone in the atmosphere like draughts of champagne." Robert von Kellingsmeier says "it is like Italy's climate, except that it is not so overbearing." It is a common saying that no people have so much local pride as the Californians, and none are so distinguished when they have to move to another State or country. Much of their attachment to the country is caused by the geniality of its sky.

Fort Yuma has three hundred cloudless days in a year, San Bernardino has two hundred and seventy-five, Los Angeles and the southern part of the San Joaquin valley, two hundred and twenty; New York, one hundred and twenty; London, sixty.

CLIMATIC FACTS.

The following table presents the climatic system at various stations on the line and south of the Southern Pacific Railroad Company; and also, for purposes of comparison, it gives them in some of the representative cities of the Atlantic States and Europe. The first column shows the latitude in degrees and minutes, so as to give an idea of the relative distances from the equator; the next shows the altitude, in feet, above the sea; the next, gives the average maximum temperature; the next, the

average minimum temperature; the next has the mean temperature of an entire year; and the last, the average rainfall per year.

Location	Lat.	Alt.	Max. Temp.	Min. Temp.	Mean Temp.	Ann. Rain.
London	51.30	100	59	31	51	25.00
Paris	48.50	100	62	34	53	31.00
Amsterdam	52.20	10	57	33	45	60.00
Brussels	50.50	100	60	35	47	50.00
Frankfurt	50.00	200	61	36	48	20.00
Berlin	52.30	200	60	35	47	19.00
Vienna	48.10	200	61	36	48	18.00
Prague	50.00	200	60	35	47	19.00
Warsaw	52.00	200	60	35	47	19.00
St. Petersburg	59.40	200	59	34	46	16.00
Stockholm	59.30	200	58	33	45	15.00
Helsinki	60.10	200	57	32	44	14.00
Oslo	59.40	200	56	31	43	13.00
Copenhagen	55.40	200	55	30	42	12.00
Stockholm	59.30	200	58	33	45	15.00
Helsinki	60.10	200	57	32	44	14.00
Oslo	59.40	200	56	31	43	13.00
Copenhagen	55.40	200	55	30	42	12.00
Stockholm	59.30	200	58	33	45	15.00
Helsinki	60.10	200	57	32	44	14.00
Oslo	59.40	200	56	31	43	13.00
Copenhagen	55.40	200	55	30	42	12.00
Stockholm	59.30	200	58	33	45	15.00
Helsinki	60.10	200	57	32	44	14.00
Oslo	59.40	200	56	31	43	13.00
Copenhagen	55.40	200	55	30	42	12.00
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Helsinki						

ation as a cause of disease, is yearly attracting more careful and discriminating attention. Climate is the sum total of all the influences of temperature, altitude, humidity, clearness, prevailing winds, clouded condition, drainage, character of soil, light growth of vegetation, and extremes in every way, of any particular locality.

California has every possibility conducive to good health and comfort. In many mineral waters, including hot and cold sulphur springs, the famous Ryans Springs and its mud baths, its mountains and seaside resorts, etc., land is made for the natural tourist for the invalid, tourist and those seeking place for homes.

Fever and disease of a malarious character carry off about one-half of mankind, and disease of the respiratory organs one-fourth. Dryness of atmosphere prevents any malarious disease, and is also a great relief to consumption. A comparison of the meteorological tables shows that Southern California from Santa Barbara to San Diego has a better climate for consumption than the famous Riviera or Mediterranean coast near Nice, which is considered the best place in Europe for them. There is not so good as Southern California in the winter, and is much more in summer. Notwithstanding its climatic inferiority, the coast of the Mediterranean from San Juan to Lyons covers a large part of its wealth in the throng of healthy invalids with their friends from Northern Europe. Southern California will be crowded in the same manner.

California has become a favorite resort for pleasure-seekers, and to them it owes a large part of its increase in wealth and population within the last six years. The attractions for such visitors will increase with time, as the orchards of oranges, lemons, olives, figs, almonds and dates, the vineyards and the gardens become more extensive, and as the additional railroads and other improvements stimulate business and provide greater facilities for travel. In Monterey, Los Angeles, Santa Monica, Pasadena, Riverside, San Diego and Santa Barbara, the traveler will see the hotels which have few if any equals in Southern Europe for the convenience of their management and the completeness of their arrangements.

PEECHES.

No State in the Union spends more relatively on its common schools, or has a better educational system, or more competent teachers than California. The common schools are provided with libraries for the use of the children. The people generally are distinguished for their intelligence and civility. Churches and benevolent associations are numerous and California society lacks none of the influences that contribute to the refinement of manners or the enjoyment of life.

WHEAT, BARLEY, CORN, ALFALFA, ETC.

No State in the Union is better suited to cereal growing than California. It is one of the leading industries of the State. The land is well adapted to the growth of these crops, and the average increases yearly from the sowing of new ground, although much of the land that has been long devoted to grain is being used for fruit and diversified farming.

The conditions for wheat-growing are very favorable in California. It is estimated that \$100 per acre will more than cover the cost of plowing, seeding, harvesting, threshing and hauling to a shipping point. A well-known farmer, who has made wheat growing a specialty, informed the writer that his land paid \$100 per acre above every expense; another stated that his wheat farm netted him an annual profit of ten per cent on a valuation of \$1000 per acre, at which price he holds his land. This is above the prices generally the highly improved wheat lands, which can be bought at from \$40 to \$45 per acre. It is quite common in all parts of California, after a crop has been harvested, to let the land lie unworked the following year, when a volunteer crop will spring up. Good land properly worked may be made to realize handsome returns. As much as eighty bushels per acre have been gathered, but this is an extraordinary harvest. Yields of from forty-five to sixty bushels per acre are not uncommon, but it is doubtful if the average is above twenty bushels.

Barley is the second ranking next to wheat in importance. In quality and quantity, California leads all other States. What is not required for home consumption is exported. It grows well in all parts of the State, and ripens with few exceptions than wheat. Two crops have been harvested from the same piece of land in one season, each averaging forty bushels to the acre.

Oats do well, but are little grown in the valleys of California. They are cultivated in the foothills and along the base of the mountains. This is their natural home. A species of wild oats indigenous to that region grows luxuriantly every season.

Rye grows well on both foothill and valley land, but is not cultivated in any great extent.

Indian Corn (maize) ranks next to barley in California, particularly in the San Joaquin valley. It has been cultivated a number of years. It attains great height (from 5 to 12 feet), and the crop is very abundant. The yield is often 80 bushels per acre, but the average is about 50 bushels.

Hen, one of the most important and remunerative crops grown, is particularly adapted to a climate like that of California. It grows best on alluvial soil, and does well in any part of the State. This is particularly so, where alfalfa, a species of lucerne, is planted.

Avena grows better on alluvial soils than wheat or barley, having a long tap-root, which penetrates deep into the soil, below the injurious subsoil. The quantity of alfalfa hay cut in the same acre is that of all other kinds, and the area of land devoted to it increases annually. Wheat, barley, oats, and numerous rye, are not for hay, which brings a higher price than alfalfa.

A well-known gentleman in San Francisco recently, engaged in the dairy business, says: "Fifty acres of alfalfa will maintain eighty cows the year through, and secure a constant and regular supply of rich cream and butter, yielding milk for two months in the year from each cow. But in order to reach these results the land must be uniformly good; the stand of alfalfa must fully occupy the ground; it must be mown and not grazed, and promptly mown as soon as a few scattering blossoms appear, or from seven to nine times a year, according as the soil is by nature warm or cold. Hay of other foreign plants may arrest the flow of milk; but alfalfa hay excites it only to a low measure, than the extraordinary degree to which green alfalfa stimulates it. Alfalfa is green and growing all the year. The dairy season is nearly as long as the year. At nine cents a pound, the present uncommonly low price of cheese, the gross income of our herd of cows averages \$2 cents per cow per day; 60 cents per acre per day from cows in the acre for 300 days in the year; total amount, \$184 per acre per annum. The cost of the dairy is but 10 cents; and the increase of the herd adds to the income. Hence, no man, engaged, pay better with the alfalfa dairy than any other, because the hay cheese on alfalfa alone, obtaining the necessity of going outside of the dairy cost, and of the cheap holder of the dairy cows for hay feed. The infinite possible perceptions of the gross results, in addition to those already mentioned, are first-class cows and the best management. Alfalfa is the most profitable and product of our valley; and by the dairy cow it is most profitably utilized. Alfalfa is so far preferred to other soil products, as much on account of the certainty as a crop as on account of its constant and rapid growth and consequently excellent qualities. It never fails. The increase of alfalfa is as sure and as steady as the increase of interest, and the investment in alfalfa-producing land is as regular in its return as that in United States bonds."

DESCRIPTION.

On account of the wonderful fertility of soil and the variety of climate, a multitude of fruits, berries and natives, are grown. The town here shows young, are wonderfully prolific, the fruit is of excellent quality and fine color, and all kinds are grown, from sub-tropical varieties



SINGLE CALIFORNIA WHEAT HEAD



AN ORCHARD GROVE AND VINEYARD IN THE JOHNSON CANYON, CALIFORNIA.

to those of the north temperate zone. The demand for good fruit has always been more than equal to the supply. A great deal is canned. A large quantity dried is also placed on the market, there being several processes of drying or "evaporating" fruit. No portion of the Union has a climate better adapted to sun-drying than California. There are several other ways in which fruit may be prepared for sale and export.

California already enjoys a wide and excellent reputation for its fruits, prepared by canning, drying, preserving or other processes; and the demand increases from year to year. Large quantities of fresh fruit are now sent from all parts of California to the Eastern States and to the West Indies, and prepared fruits to Europe, China, Japan, Australia, South and Central America, and the Islands of the Pacific. It is difficult to state what net profits may be realized on per acre from an orchard of assorted fruits, owing to the many circumstances that influence the yield and the market prices. From an orchard of three acres of various trees five years old, grown in Fresno county, the fruit was sold on the trees for \$450 net, or \$150 per acre. It has been estimated by fruit growers, taking one year with another, and considering the possibility of late prices and average crops, that an orchard in full bearing and growing 125 trees to the acre will yield a profit of from fifty cents to one dollar per tree, or from \$60 to \$125 per acre.

PEACHES.

Peaches do well in the valleys and foothills in almost any part of California. The trees grow luxuriantly, and bear well. Certain varieties do better in the hills than in the valley, and all ripen sooner in the small warm valleys of the foothills than on the open plain. Too much moisture injures the flavor and also the keeping quality of fruit, and predisposes trees to attacks of various insect pests. The following figures regarding the yield of peaches are furnished from actual experience. Trees five years old, where land is thoroughly cultivated, and, when necessary, irrigated, should bear an average crop of from 100 to 150 pounds per tree. This is an exceedingly low estimate. The rate for peaches two and one-half inches in diameter is one and one-half cents per pound, and an average size, one cent per pound. At one cent per pound and 100 pounds to a tree, they will bring \$1.00, and an acre of 125 trees would yield a revenue of \$125. The average expense of cultivating and picking the fruit will not exceed \$15 per acre, which leaves \$110 as a net return. From this deduct the cost of packing, hauling, shipping, etc.; and at a very low estimate, after allowing for other costs and probable losses, a net profit of \$75 per acre remains. This is for shipping peaches as picked from the

tree. In sun-drying or evaporating, five pounds of fresh peaches are required to make one of dried. The cost of shipping is, of course, much less than for fresh fruit, and the market price ranges from ten to seven-tens cents per pound for packed, and from four cents to eight cents for unpacked. The market for peaches is always good, and a man of energy



PEACH TREES.

with ten acres, planted to a good variety of peaches, and properly cared for, is thoroughly independent and capable of supporting a family with ease and in a comfortable manner.

APRICOTS.

The fruit next in importance to peaches is the apricot. In many parts of the State where orchards have been bearing for five or six years, they have never entered a crop; and in no instance has less than half a

crop being grown. The apricot ripens early, grows to a large size, and is successful in flavor. It is a favorite fruit among orchardists, and especially so throughout the San Joaquin valley, it being a sure bearer in that locality. Dried apricots, as well as those canned or preserved, bring a good price. About five pounds of green fruit make one pound of dried. Profit is about the same as realized from the cultivation of the peach.



CHERRY TREES.

CHERRIES.

There are comparatively few places in California where cherries grow to perfection; and intending planters should exercise great care in selecting land for this purpose. The cherry without a doubt is the best-paying crop grown in California, but requires much time and a great deal of careful attention. There are many varieties, and, where one will grow, all will grow. The Californian cherry is now shipped to many prominent cities throughout the East, and finds ready purchasers.

PRUNES.

The average in prunes is being increased very rapidly. The California prune is now commanding a higher price, and is better fruit than the imported article from France and Germany, and so much so, that great quantities are now being shipped to Europe. Prunes have moderately about the third year, and plentifully the fifth and sixth years and thereafter. The average price for the given fruit is one cent per pound. This pays a handsome profit to the producer. The cultivated prune is a handsome little fruit, and, when properly manipulated, becomes a ready market and good price. It takes about three pounds of prunes to one pound of dried fruit, and it is sold at from five to ten cents per pound.



PRUNES GROWING FROM SEEDLINGS.

TREE GROWING.

Little attention was given to viticulture until a comparatively recent date. On the hill-sides and in the valleys in almost any part of California can now be seen vineyards, both large and small. The vine grown and here well, and there is probably no place in the world that will produce successfully so many varieties of grapes as California. The production of raisins and wines is now one of the leading industries of the State.

The choicest European grapes are grown here in perfection. Fresno county, in the southern part of San Joaquin valley, is exclusively the leading county for the production of raisins. In other parts of the State

the vine does equally well; but there is no one section in California where viticulture has reached such an impetus as in Fresno and adjoining counties, the soil there being particularly adapted to it.

The raisings are generally obtainable at from \$5 to \$20 per thousand according to variety. The cost of planting varies from \$25 to \$40 per acre, including vines and some of some for one year. The large vineyards of Fresno county at three years of age average one ton and a half of grapes to the acre, and when in full bearing (five years) average from five to eight tons. Some prolific varieties have yielded considerably more. Vines planted almost anywhere in California will, at full bearing, produce six tons on an average to the acre.

RAISINS.

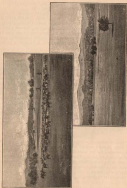
Raisin making is no longer an experiment in this State. That good raisins can be made to pay well is fully settled, and California raisins for some time past have been a standard commercial article. It does not require any great skill to prepare for raisin making. The preparation is within the means of the smallest grower, and the process is simple and easily learned, and may be carried on in a small way just as successfully as on a large scale. Indeed, the small proprietors generally give to the business their honest care and attention, and these are the principal requisites to success, the proper variety of grapes being possessed. In all raisin-making countries, nature furnishes the necessary heat, which man provides the means of exposure of the fruit in such a way as to utilize the heat in the most effective manner. This industry is highly remunerative. The work is so light and pleasant that the labor of women and children can be employed.

ORANGES.

Orange culture is a distinctive industry of California. The profits are large. A small orchard is certain to produce gratifying results, and the possession of a few acres in orange trees is held above the ordinary drudgery of farm labor. There is no possibility of over-production, as the area in the United States suitable for their growth is limited, and the market for California oranges is constantly increasing. An experienced authority says that an acre of land by orange trees, twelve years old, may be relied on for an income of \$100 per year.

OTHER FRUITS.

California is undoubtedly far ahead of any country in the world as a fruit producer. Almost any fruit known to the human race can be grown in



OVER LAND SURVEYING PARTY, CALIFORNIA

this State,—pears, plums, melons, apples, in fact everything. Oranges which were formerly thought unsuited to the climate of the United States grow luxuriantly in any part of California. The olive oil produced in Southern California commands highest prices and is a far superior article to imported oil. Among other fruits grown to a limited extent are the cash-apple, quinces, date-palm, banana, citron, etc.

DOMESTIC ANIMALS.

The same climatic features that favor the growth of vegetation are equally favorable to the domestic animals. The mildness of the winters enables cattle to thrive in the open air throughout the year, with no feed save wild grass; and they reach their full size, and increase more rapidly, than in countries where the winters are colder, and where they must be supplied with chaffs and fed with hay three or four months. In California the sheep generally, and many of the cows and horses, never go under roof or get any feed that has been cultivated or handled by man. Yet, starting in 1855, the State now exceeds any other in the Union in the amount of its wool clip, and the shepherds expect to four a heavy lamb every spring from one hundred ewes. The blood of the lambs generally is good; and it is a common opinion among Californian farmers, that within a century the Atlantic States and Europe will send hither to buy the finest specimens of horses, horned cattle and sheep.

IRRIGATION.

The limited rainfall from Cochen to Yuma, a distance of about five hundred miles, would induce small hope for the agricultural value of that part of the State, if there were no other resource for moisture; but, fortunately, the Sierra Nevada Mountains, with several hundred miles of area on their western slope, more than ten thousand feet above the sea level, the steepness of this dry plain and such vast quantities of snow and ice, valuable and convenient for irrigation. There are no reports of observations of the amount of snow and ice on these mountains; but it may be assumed, after adding one inch for each one hundred feet of elevation,—a figure justified by the observations elsewhere in the State,—that the rainfall is one hundred and four inches in a season. The width of the western slope of the mountains is more than forty miles, giving for an average length of one hundred miles a "catchment area" of four thousand square miles, and the mean elevation being estimated at not less than 8,000 feet, an average precipitation of fifty inches, or more than four feet. One foot of water is considered sufficient for ordinary irrigation.

purpose, so that each acre of mountain catches water enough to irrigate best acres of valley; but a large allowance must be made for evaporation and waste.

The following are the "catchment" areas of the streams flowing down the western slope of the south end of the Sierra Nevada, as given in the



SHOWING THE CATCHMENT.

Federal Irrigation Report, viz.: King's river, 1,600 square miles; Kernish river, 1,000 square miles; Teale river, 440 square miles; Bear creek, 150 square miles; White river, 110 square miles; Fox creek, 500 square miles; Kern river, 1,150 square miles; and Walker's creek, 401 square miles—a total of 7,350 square miles. On the western side of the valley we find the following streams flowing into the San Joaquin valley from

the Coast Range, viz.: San Luis creek, 51 square miles; Shasta creek, 195 square miles; Sacramento creek, 71 square miles; Little Feather creek, 130 square miles; Big Feather creek, 110 square miles; Feather creek, 161 square miles; and Feather creek, 240 square miles—a total of 1,038 square miles of "catchment" area.

American farmers generally have no idea of the value of irrigation in a country where there is not an inch of rain in average seasons from June to December, inclusive, and where even in the other seven months the annual rainfall does not exceed ten inches in some parts of California. In the moist atmosphere, the wet seasons and the cold winters of the Atlantic slope, they have never felt the need of supplying water to their fields by artificial channels. In California \$50,000,000 have been spent in irrigation works with great profit to the country. Lombardy and Piedmont have 5,000,000 acres under irrigation, and owe much of their wealth to their canals. The Federal Irrigation Commission says: "It is estimated that there have been expended for the irrigation of 1,000,000 acres in Lombardy not less than \$200,000,000. This expenditure has been spread over seven hundred years, and has made Lombardy a garden." Lombardy has the best cultivation, the handsomest buildings, and one of the densest populations in Europe. The reader may have seen upon these points by turning to the article on Lombardy in the *American Cyclopædia*.

In Spain, which has a climate and soil similar to those of California, her more rich, and thence, those more people in proportion to area, irrigated land is sold at various prices from \$300 to \$1,500 per acre; while land not irrigated never brings more than one-fourth as much, sometimes not more than one-tenth as much. These facts are derived from the report of the Federal Irrigation Commission. Large districts in Southern California are better situated for irrigation than Italy or Spain.

Land which with wild grass and without irrigation will not support more than one sheep upon an acre, when irrigated and cultivated in alfalfa will support twenty, and if the alfalfa be not used for pasture it can be mown five or more times in a year, yielding two or three tons of hay to the acre at each cutting. If cultivated in grain or common kitchen vegetables, two crops can be gathered in a year. Both facts suggest some of the reasons why irrigated fields command prices so much greater than can be had for dry lands.

Irrigating canals in Kern, Fresno, Fresno, San Joaquin, San Bernardino and San Diego counties, have an aggregate length of not less than 3,000 miles, and considerable additions to them will be made every year.

ARTIFICIAL WELLS

In addition to the facilities for irrigation by conduits from the controlled streams of the Kern River, and from collecting the winter rains in artificial reservoirs, much may be done with artesian wells, of which California has a larger number in proportion to her population than any other part of the world. There are several located in Santa Clara, Fresno, Tulare, Kern, San Bernardino, San Diego, Monterey and other counties.

Wells are used extensively for irrigating fields in those places where water is found within a short distance from the surface of the ground



GRANT FOUNTAIN WELL, KERN COUNTY, CALIFORNIA.

that is, if water will not rise above the surface through artesian borings, which are cheaper in the course of years than waterfalls, even where surface water can be forced to a depth of ten feet.

FEDERAL IRRIGATION REPORT.

The Federal Irrigation Report made in 1894, by General R. S. Alexander, Colonel G. B. Merrill, and Professor George R. Riddison, treating of the Sacramento-San Joaquin valley, says:

"We show here also that the area of the lands which may be readily irrigated is about 7,620,000 acres; and, if we include what are called swampy

or waterlogged lands, this area is increased to 12,200 square miles, or 8,520,000 acres. But, if the low foothills are included, it is estimated that 18,700 square miles, or 12,600,000 acres, are capable of irrigation. In the former case, the area of catchment outside of the lands to be irrigated is between three and three and a half square miles to each square mile to be irrigated, while in the latter case it is about three square miles to one.

"Now, if a monthly average of three inches of the rainfall over the whole area of catchment was delivered during the rainy season by all the streams, they would furnish a supply equal to a monthly average depth of ten inches of water over the whole of the first-mentioned area. Of course, in consecutive seasons of drought, this amount would be much decreased.

"From rough observations of the actual discharge of Kern river, it was found to be equal to a depth of one and a half inches per month from the whole area of catchment of 14,000 square miles. This would give a depth of three inches for irrigation over 1,500 square miles, or 700,000 acres, which is larger than the natural irrigation district. Or, to express the foregoing quantity in other terms, the Kern river is daily discharging a body of water equal to a column of three inches deep over an area of 140,000 acres. The discharge is doubtless much larger from the middle of February to the end of March, when the waters of irrigation are most needed. These partial results are very suggestive and valuable, but, and we are convinced that the whole eastern side of the valley northward of the Kern river will yield more ample supplies of water.

"The soil throughout the great valley is of the best and most readily worked character; but the Commission has not the data to enter into a detailed description of such an extensive region.

"But it will not be the great valley alone which will be filled with people; the valley of every stream, large and small, will be cultivated with part of the water which will subsequently reach the lower lands. — This great basin should in twenty years become the granary of the world.

"The effects of irrigation will be permanently advantageous, because, when the soil once becomes moistened, it will subsequently require the application of less water for each crop; and, when once a thorough and comprehensive system is adopted, the waters could readily be applied, if necessary, before the first rains to soften the ground and make it do for the plow."

STATIONS VIA SOUTHERN PACIFIC RAILROAD.

The following table gives the names of the stations, their distances in miles and fractions of miles from San Francisco to Yuma on the Colorado river, and the elevation of the track at the stations, in feet, above the level of the sea, at mean high tide in the bay of San Francisco:

STATIONS.	STATIONS.	STATIONS.	STATIONS.	STATIONS.	
STATIONS.	STATIONS.	STATIONS.	STATIONS.	STATIONS.	
San Francisco	0.00	77	Los Angeles	261.27	414
San Oakland	1.40	78	Vallejo	268.00	
Emeryville	26.14	80	San Rafael	270.00	415
Marina	26.44	82	Windsor	270.75	
Alameda	26.54	72	San Jose	271.11	
Hayward	26.54	74	Palo Alto	270.00	875
San Jose	27.04	84	San Jose	270.00	1,200
San Jose	27.04	86	San Jose	270.00	1,700
San Jose	27.04	87	San Jose	270.00	
San Jose	27.04	88	San Jose	270.00	
San Jose	27.04	89	San Jose	270.00	
San Jose	27.04	90	San Jose	270.00	
San Jose	27.04	91	San Jose	270.00	
San Jose	27.04	92	San Jose	270.00	
San Jose	27.04	93	San Jose	270.00	
San Jose	27.04	94	San Jose	270.00	
San Jose	27.04	95	San Jose	270.00	
San Jose	27.04	96	San Jose	270.00	
San Jose	27.04	97	San Jose	270.00	
San Jose	27.04	98	San Jose	270.00	
San Jose	27.04	99	San Jose	270.00	
San Jose	27.04	100	San Jose	270.00	
San Jose	27.04	101	San Jose	270.00	
San Jose	27.04	102	San Jose	270.00	
San Jose	27.04	103	San Jose	270.00	
San Jose	27.04	104	San Jose	270.00	
San Jose	27.04	105	San Jose	270.00	
San Jose	27.04	106	San Jose	270.00	
San Jose	27.04	107	San Jose	270.00	
San Jose	27.04	108	San Jose	270.00	
San Jose	27.04	109	San Jose	270.00	
San Jose	27.04	110	San Jose	270.00	
San Jose	27.04	111	San Jose	270.00	
San Jose	27.04	112	San Jose	270.00	
San Jose	27.04	113	San Jose	270.00	
San Jose	27.04	114	San Jose	270.00	
San Jose	27.04	115	San Jose	270.00	
San Jose	27.04	116	San Jose	270.00	
San Jose	27.04	117	San Jose	270.00	
San Jose	27.04	118	San Jose	270.00	
San Jose	27.04	119	San Jose	270.00	
San Jose	27.04	120	San Jose	270.00	
San Jose	27.04	121	San Jose	270.00	
San Jose	27.04	122	San Jose	270.00	
San Jose	27.04	123	San Jose	270.00	
San Jose	27.04	124	San Jose	270.00	
San Jose	27.04	125	San Jose	270.00	
San Jose	27.04	126	San Jose	270.00	
San Jose	27.04	127	San Jose	270.00	
San Jose	27.04	128	San Jose	270.00	
San Jose	27.04	129	San Jose	270.00	
San Jose	27.04	130	San Jose	270.00	
San Jose	27.04	131	San Jose	270.00	
San Jose	27.04	132	San Jose	270.00	
San Jose	27.04	133	San Jose	270.00	
San Jose	27.04	134	San Jose	270.00	
San Jose	27.04	135	San Jose	270.00	
San Jose	27.04	136	San Jose	270.00	
San Jose	27.04	137	San Jose	270.00	
San Jose	27.04	138	San Jose	270.00	
San Jose	27.04	139	San Jose	270.00	
San Jose	27.04	140	San Jose	270.00	
San Jose	27.04	141	San Jose	270.00	
San Jose	27.04	142	San Jose	270.00	
San Jose	27.04	143	San Jose	270.00	
San Jose	27.04	144	San Jose	270.00	
San Jose	27.04	145	San Jose	270.00	
San Jose	27.04	146	San Jose	270.00	
San Jose	27.04	147	San Jose	270.00	
San Jose	27.04	148	San Jose	270.00	
San Jose	27.04	149	San Jose	270.00	
San Jose	27.04	150	San Jose	270.00	
San Jose	27.04	151	San Jose	270.00	
San Jose	27.04	152	San Jose	270.00	
San Jose	27.04	153	San Jose	270.00	
San Jose	27.04	154	San Jose	270.00	
San Jose	27.04	155	San Jose	270.00	
San Jose	27.04	156	San Jose	270.00	
San Jose	27.04	157	San Jose	270.00	
San Jose	27.04	158	San Jose	270.00	
San Jose	27.04	159	San Jose	270.00	
San Jose	27.04	160	San Jose	270.00	
San Jose	27.04	161	San Jose	270.00	
San Jose	27.04	162	San Jose	270.00	
San Jose	27.04	163	San Jose	270.00	
San Jose	27.04	164	San Jose	270.00	
San Jose	27.04	165	San Jose	270.00	
San Jose	27.04	166	San Jose	270.00	
San Jose	27.04	167	San Jose	270.00	
San Jose	27.04	168	San Jose	270.00	
San Jose	27.04	169	San Jose	270.00	
San Jose	27.04	170	San Jose	270.00	
San Jose	27.04	171	San Jose	270.00	
San Jose	27.04	172	San Jose	270.00	
San Jose	27.04	173	San Jose	270.00	
San Jose	27.04	174	San Jose	270.00	
San Jose	27.04	175	San Jose	270.00	
San Jose	27.04	176	San Jose	270.00	
San Jose	27.04	177	San Jose	270.00	
San Jose	27.04	178	San Jose	270.00	
San Jose	27.04	179	San Jose	270.00	
San Jose	27.04	180	San Jose	270.00	
San Jose	27.04	181	San Jose	270.00	
San Jose	27.04	182	San Jose	270.00	
San Jose	27.04	183	San Jose	270.00	
San Jose	27.04	184	San Jose	270.00	
San Jose	27.04	185	San Jose	270.00	
San Jose	27.04	186	San Jose	270.00	
San Jose	27.04	187	San Jose	270.00	
San Jose	27.04	188	San Jose	270.00	
San Jose	27.04	189	San Jose	270.00	
San Jose	27.04	190	San Jose	270.00	
San Jose	27.04	191	San Jose	270.00	
San Jose	27.04	192	San Jose	270.00	
San Jose	27.04	193	San Jose	270.00	
San Jose	27.04	194	San Jose	270.00	
San Jose	27.04	195	San Jose	270.00	
San Jose	27.04	196	San Jose	270.00	
San Jose	27.04	197	San Jose	270.00	
San Jose	27.04	198	San Jose	270.00	
San Jose	27.04	199	San Jose	270.00	
San Jose	27.04	200	San Jose	270.00	

STATIONS.	STATIONS.	STATIONS.	STATIONS.	STATIONS.	STATIONS.
San Jose	27.04	199	San Jose	270.00	—100
San Jose	27.04	200	San Jose	270.00	—100
San Jose	27.04	201	San Jose	270.00	—100
San Jose	27.04	202	San Jose	270.00	—100
San Jose	27.04	203	San Jose	270.00	—100
San Jose	27.04	204	San Jose	270.00	—100
San Jose	27.04	205	San Jose	270.00	—100
San Jose	27.04	206	San Jose	270.00	—100
San Jose	27.04	207	San Jose	270.00	—100
San Jose	27.04	208	San Jose	270.00	—100
San Jose	27.04	209	San Jose	270.00	—100
San Jose	27.04	210	San Jose	270.00	—100
San Jose	27.04	211	San Jose	270.00	—100
San Jose	27.04	212	San Jose	270.00	—100
San Jose	27.04	213	San Jose	270.00	—100
San Jose	27.04	214	San Jose	270.00	—100
San Jose	27.04	215	San Jose	270.00	—100
San Jose	27.04	216	San Jose	270.00	—100
San Jose	27.04	217	San Jose	270.00	—100
San Jose	27.04	218	San Jose	270.00	—100
San Jose	27.04	219	San Jose	270.00	—100
San Jose	27.04	220	San Jose	270.00	—100
San Jose	27.04	221	San Jose	270.00	—100
San Jose	27.04	222	San Jose	270.00	—100
San Jose	27.04	223	San Jose	270.00	—100
San Jose	27.04	224	San Jose	270.00	—100
San Jose	27.04	225	San Jose	270.00	—100
San Jose	27.04	226	San Jose	270.00	—100
San Jose	27.04	227	San Jose	270.00	—100
San Jose	27.04	228	San Jose	270.00	—100
San Jose	27.04	229	San Jose	270.00	—100
San Jose	27.04	230	San Jose	270.00	—100
San Jose	27.04	231	San Jose	270.00	—100
San Jose	27.04	232	San Jose	270.00	—100
San Jose	27.04	233	San Jose	270.00	—100
San Jose	27.04	234	San Jose	270.00	—100
San Jose	27.04	235	San Jose	270.00	—100
San Jose	27.04	236	San Jose	270.00	—100
San Jose	27.04	237	San Jose	270.00	—100
San Jose	27.04	238	San Jose	270.00	—100
San Jose	27.04	239	San Jose	270.00	—100
San Jose	27.04	240	San Jose	270.00	—100
San Jose	27.04	241	San Jose	270.00	—100
San Jose	27.04	242	San Jose	270.00	—100
San Jose	27.04	243	San Jose	270.00	—100
San Jose	27.04	244	San Jose	270.00	—100
San Jose	27.04	245	San Jose	270.00	—100
San Jose	27.04	246	San Jose	270.00	—100
San Jose	27.04	247	San Jose	270.00	—100
San Jose	27.04	248	San Jose	270.00	—100
San Jose	27.04	249	San Jose	270.00	—100
San Jose	27.04	250	San Jose	270.00	—100

The route of the Southern Pacific Railroad to the Colorado, at the Needles, diverges from the line running westward at Tehachapi Junction, 361 miles from San Francisco. The lowest point of the Mojave River crossed by the railroad survey is at the creek of the Mojave river, 141 miles from Tehachapi Junction; its elevation is 300 feet. The highest point is 3,200 feet at the summit of Granite Pass, 185 miles from Tehachapi. The crossing of the Colorado at The Needles is 360 miles from Tehachapi, and the average level of the water in the river there is 475, and then of high water about 440 feet, above mean high tide at San Francisco.

The road running from Tehachapi westward, where it crosses the Colorado desert, passes below the level of the sea for a distance of about 50 miles, commencing about two miles northwest of Pacific station, and descending by gentle grade for 20 miles to a depth of 300 feet, which depth is thence continued for 20 miles. From this point the grade ascends gradually for the 100 miles, when sea level is again reached.

The level of summer water in the Colorado river, at Yuma, is about 110 feet, and high water about 125 feet, above mean high tide at San Francisco.

STATIONS BY SAN BENITO PASS ROUTE

The following are the stations, with their distances in miles and tens of miles, from San Francisco, and their elevation in feet, by way of San Jose, Tres Pinos and Hume from San Francisco to Hume:

STATIONS	DISTANCE (MILES)	ELEVATION (FEET)	STATIONS	DISTANCE (MILES)	ELEVATION (FEET)
San Francisco.....	0.0	0	Elgin Falls.....	47.5	140
Seward.....	45.5	390	Corral.....	52.5	231
French Flat.....	45.5	390	Polio's.....	52.5	295
Palms.....	51.7	375	Madison.....	55.5	447
Baker.....	127.7	39	Madison.....	75.5	247
San Benito.....	140.5	15	Polio's.....	80.5	255
Redwood.....	174.5	5	Corral.....	95.5	300
Oak Grove.....	180.5	11	Elgin Falls.....	100.5	290
San Jose.....	215.5	40	Tres Pinos.....	106.5	315
Belmont.....	255.5	51	San Benito Pass.....	109.5	3,500
Redwood Camp.....	260.5	5	Alameda.....	117.5	455
San Jose.....	260.5	45	Corral.....	124.5	325
Maricopa.....	311.5	54	Redwood.....	130.5	335
Mayfield.....	345.5	45	Hume.....	135.5	335
Mountain View.....	391.5	55	Alameda.....	137.5	411
Mountain's.....	410.5	55	Corral.....	155.5	335
Lawrence's.....	450.5	55	Redwood.....	155.5	335
San Jose.....	474.5	75	Hume.....	160.5	375
San Jose.....	500.5	65			

The right of sale of railroad are not yet constructed between Tres Pinos and Alameda, and as that part there are no stations, but the summit of San Benito Pass, the elevation of which indicates the proposed level of the railroad grade, is the principal intermediate point.

ADVICE TO EMIGRANTS.

1. Buy your ticket for passage on railroads or steamboats only at the proper office before starting. Many of the merchants who offer tickets for sale in the streets are swindlers. If you intend to go in a steamer or ship, learn the rates before getting your ticket, and engage a particular berth or room in a part of the vessel that is clean, well ventilated and just comfortably warm.

2. Never show your money, nor let any stranger know that you have any. Thieves prefer to rob emigrants, who generally carry money with

them, and cannot stop to prosecute them, and have no acquaintance to aid in the prosecution. Do not mention the fact that you are an emigrant to persons who have no business to know it.

3. Never carry any large sum of money with you. You can always buy drafts of banks (and, if you are going in a steamer place, you can give your photograph to the banks to forward in your destination, so that you can be identified without trouble when you want to draw your money).

4. Avoid those strangers who claim to be old acquaintances, and whom you do not recognize. A certain class of thieves claim the acquaintance of ignorant emigrants, whom they want to rob.

5. Do not drink of the solicitation of strangers. The first point of the thief is to intoxicate or drug his victim.

6. Do not play cards for money with strangers. In many cases they confederate to rob emigrants.

7. Travel in company with old friends, if possible, and do not leave them. Thieves prefer to take their victims one at a time.

8. If you see anybody pick up a ball pocket-book, and he offers it to you for a small sum; or if you see some men playing cards, and you are requested to bet on some point where it seems certain that you must win; or if you see an customer willing a fine gold watch for five dollars, don't let them catch you. Emigrants are systematically swindled by such tricks.

9. If, when you arrive in a strange town, you want information and advice, you can always get it by applying at the right place. First, apply at the office of the Immigration Society, if there be one. If you are a foreigner, you will probably find in the large cities a Consular office or a benevolent society of your countrymen, and you can apply there. Usually, there are attorneys and public men at the police office. Public offices generally in the United States are ready to assist and advise strangers.

10. Engage in some business with which you are familiar; and if its conditions are different from those to which you are accustomed, remember clearly, so as to learn at little expense. The agricultural firms Europe or the Atlantic States never learn more money things in his business here.

11. Never lose faith in buying on your own land, if you live economically, work hard, and select your place well.

12. It is better to be very poor for a few years on your own land than to be moderately poor as a tenant for others.

13. In selecting a home, look ahead. Don't count by ultimate than for immediate success. Whenever there is a large district of fertile soil

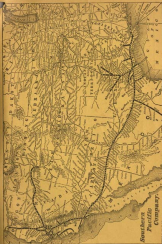
Population 1880, estimated, 1,400,000.
 Total value for Fremont, 1880, 240,000.
 Ranked first State in per capita wealth, census of 1880.
 Ranked ninth State in aggregate wealth, census of 1880.
 Produced State in manufacturing importance, 1880.
 Ranked value of all property in 1880, \$1,307,386,247.
 Increase over 1867, \$211,716,360.
 Increase over 1880, \$283,716,360.
 Deposits in savings banks, 1880, \$77,719,604.
 Increase over 1867, \$7,646,668.
 Deposits in commercial and national banks, 1880, \$73,439,669.
 Total deposits all banks, July 1, 1880, \$151,159,273.
 Net debt of State, \$200,000.
 Value of manufactured products, 1880, \$108,716,971.
 Value of manufactured products, 1880, estimated, \$179,000,000.
 Miles of railroad, 2,364.
 Acres in farms, 59,000,000; woods in farms, 1,647,000 acres.
 Large forests, 7 per cent; no small farms.
 Statute of Limitations: Judgment, 5; notes, 2; open accounts, 2 years.
 Legislature: Biennial Session; 40 Senators; 80 Assemblymen.
 State of State Capitals, 1880, 50.00 cents on \$100.
 Highest altitude, Mount Whitney, 14,937 feet above sea-level.
 City of San Francisco Bay, 400 square miles.
 Public lands surveyed, 1867, 71,254,000 acres.
 Public lands unsurveyed, 1867, 29,004,100 acres.
 United States Land-office: Santa, Independence, Los Angeles, Marysville, Sacramento, San Francisco, Shasta, Redding, Stanislaus and Placerville.
 San Francisco third largest port of entry in United States.
 Value of public school property, \$6,464,160.
 Public school expenditures, 1887, \$6,464,170.
 Public schools and universities of State own lands to value of \$1,664,000.
 Annual expenditures of State for maintaining schools, etc., \$1,000,000.
 Most diversified agricultural State in the Union.
 Fifteenth State in agricultural products, 1880.
 Profitable trade in agriculture in 1880, seventh.
 Largest producer of lemons.
 Leading wine-producing State.
 Only raisin-producing State in the Union.
 The only State in which the olive thrives.
 The home of the orange and the fig.

Leading producer of almonds, walnuts, etc.
 Finest climate in the world.
 Mean annual temperature of San Francisco, 52 degrees.
 Mean annual temperature of Los Angeles, 61 degrees.
 Mean annual temperature of Sacramento, 56 degrees.
 Mean annual temperature of San Jose, 58 degrees.
 Mean annual temperature of San Diego, 61 degrees.
 Mean annual rainfall at San Francisco, 23.52 inches.
 Mean annual rainfall at Los Angeles, 15.56 inches.
 Number of farms, 1880, 35,004.
 Number of farms, 1880, estimated, 38,000.
 Number of acres devoted to vine-growing, 170,000.
 Capital invested in vineyards, \$65,000,000.
 Annual average wine product for five years, 11,000,000 gallons.
 Raisin and dried-grape product, 1880, 1,250,000 boxes.
 Vegetable and nut products shipped East in 1880, 100,000,000 pounds.
 Canned goods shipments, 1880, 25,000,000 pounds.
 Green deciduous fruits shipped out of State, 1880, 25,000,000 pounds.
 Dried fruits shipped East, 1880, 20,000,000 pounds.
 Raisin product of 1880, 70,000,000 pounds.
 Barley crop, annual average five years, 30,000,000 bushels.
 Flour shipments, annual average five years, 1,200,000 barrels.
 Dried-fruit product, 1880, 40,000,000 pounds.
 Fruit and vegetable pack, 1880, 1,320,000 cases.
 Value of annual hay and root crops, \$79,000,000.
 Number of horses, 700,000; value, \$18,551,648.
 Number of mules, 30,000; value, \$1,000,000.
 Number of cows, 544,000; value, \$9,007,000.
 Number of men and other cattle, 600,000; value, \$12,007,000.
 Number of sheep, 6,000,000; value, \$1,675,000.
 Number of calves, 1,807,000; value, \$9,511,400.
 Value of livestock of all kinds, \$27,000,000.
 Cotton culture successfully attempted.
 Root crops successfully raised many years.
 Orange product, season 1880-81 just made, 1,500,000 boxes.
 Hay product, annual average five years, 6,200,000 pounds.
 Wheat product, annual average ten years, 41,650,000 pounds.
 Surplus wheat exported, annual average ten years, 31,000,000 bushels.

ADDRESS OF THE LAND AGENT.

Applications for the purchase of land belonging to the Southern
Pacific Railroad Company should be made to

FERDINE WILSON,
Land Agent S. P. R. Co.,
Corner Fourth and Townsend Streets,
San Francisco, California.



HOW TO

TRAVEL TO

CHOICE OF **3** ROUTES

ACROSS THE CONTINENT

BY THE

Sunset Route

THROUGH NEW ORLEANS, LA.

OR BY THE

Central Route

THROUGH OGDEN, UTAH,

OR BY THE

Shasta Route

THROUGH PORTLAND, OR.

THE

**SOUTHERN PACIFIC
COMPANY.**

CALIFORNIA

R. CRAY,

Gen. Freight Manager.

A. N. TOWNE,

General Manager.

T. H. GOODMAN,

Gen. Pass. & Ticket Agt.