THE IRRIGATION QUESTION.

ITS IMPORTANCE TO THE PEOPLE OF CALIFORNIA.

A Matter-of-fact Consideration of a Leading Legislative Problem—The Present Situation.

[Written for the New Year's RECORD-UNION by State Engineer Wm. Ham. Hall.]

We have a great question pending in California—one which has hardly a rival in local importance in any quarter, and certainly no equal in the scope of territory in which it is making itself felt as a home problem of the first order, pressing for settlement. This is the irrigation question, now becoming prominent in every State and Territory west of those bordering immediately on the Mississippi. Broadly stated, this question is: What shall be done for the promotion of irrigation?

There is much misapprehension abroad as to the answer to this question, which has grown from the bitterness of personal strife over one point of the many involved. The conflict between the appropriators of water and the riparian rights claimants has been made so prominent, and the partisans on either side of the struggle have so persistently urged their views, that the observer is led to look upon this conflict as embodying the whole question which the State has to consider. Such is not the fact, however, for, no matter which way this present question of personal rights might be settled, there would still remain a great interest, necessary to our prosperity as a State, impossible of full development because of the absence of system to guide such development. There must be a settled condition of affairs, and a definite policy established under which irrigation enterprise may be carried forward, whether the riparian land-owner is to control the situation as to the right to use water, or not.

LET US VIEW THE SITUATION.

The territory embracing California was purchased by the United States from Mexico, and by that purchase all lands not held in private ownership became part of the public domain of the United States. There never was a Territorial organization of California, but the rapid influx of people occasioned, after the consummation of the treaty purchase, by the discovery of gold, created a demand for a local government, and, after due demand, California was admitted into the Union as a State. By the act of admission, it was stipulated that she should not interfere with the management of the public lands of the United States within her borders, and should not do anything which might interfere with commerce—should not deteriorate the navigable streams.

The search for gold was the cause of people coming to the country. In this search it became necessary to use the waters of streams, in such large quantities as often to lay the stream channel below the point of diversion, entirely dry. These streams were altogether on public lands of the United States; their waters were otherwise useful to no one, and all present in the mining regions had an interest in their diversion and use. The only question was as to who might divert and use them in each instance. The United States was the owner of the stream's banks below and raised no objection to the diversions above. The State Courts under this condition of affairs, when questions came before them, as between different appropriators of water, recognized the right of appropriation, and established the rule that the first appropriator should have the first right to the use of the water. This ruling was followed by many others on collateral points, but on the same principle, and these were substantially followed and added to, in the same general line of policy, by decisions of the United States Courts. Thus

THE RIGHT OF APPROPRIATION

Of water on the public domain of the United States was established, and this right was afterwards recognized by Acts of Congress. Soon after the admission of California as a State her Legislature made a law declaring that in the absence of statutory laws to the contrary the common law should be the rule of decision in the Courts of the State. Now, the common law is the law of England, which has been gradually evolved from the decisions of her highest Courts, on points upon which no statute existed. Under this law, it is held, the right to use the waters of a stream was attached to the lands which bordered it. The owners of these riparian lands each had a right to have the stream come to his estate in its natural volume and purity. Respecting this right, each owner above might do with the stream as he chose. If this was the rule of the common law at the time this law was made the rule of decisions for Californian Courts, there was created here by that act a propertyship in the right to use the waters of streams, as an appurtenance to the lands bordering them; and, hence, wherever these lands pass into private ownership, the right to the use of the waters touching them becomes a private property, subject to which all subsequent appropriations must be made. This is the claim of the riparian land-owners, and is substantially the view held by a majority of the members of the Supreme Court, in a recent notable decision.

THE PRESENT SITUATION.

As the case now stands, then: Waters cannot be diverted from a stream for irrigation without the consent of the owners of its banks, except where the right to divert has been already established by prescription, or use for five years without opposition or protest. The right of opposition is one held by each owner. Neither the stream nor the waters are a property held in common by all the owners along the banks, and of which each may claim his share and take it. That is not the nature of the right. It is a right in each owner along the bank, to have the *stream* come to his water-front property; so the owner lowest down on the stream commands its full flow.

If this is the law, then it is perfectly evident that water cannot be taken out of the stream for irrigation so long as any one riparian proprietor objects and his right of objection is not removed. Not even all the rest of the bank-owners on a stream, though their holdings constitute almost the entire water frontage, may divert any material portion of its water, if there be the one objector below. If this be the law, then there

MUST BE SOME SYSTEM ESTABLISHED

By legislation, whereunder the riparian proprietors themselves may use the waters in irrigation, or, if they do not chose to do so fully, then, that the owners of back lands may take them and use them so far as consistent with public interests, and not directly to the detriment of rights or properties not indemnified for losses occasioned by such use. Certainly, we are not to suppose that, for the want of some such system, and because of the existence of petty personal rights and jealousies, the great interest of agriculture is to remain undeveloped in a larger part of our State. I do not think that the most tenacious advocate of the riparian-right view of the matter contemplates any such outcome as this. The fact is, that those who are making the great contest in favor of the common-law ruling, are themselves among the largest appropriators of water in the State, and, being the lower riparian proprietors, their point is to get control of the streams by virtue of their rights as riparian proprietors, and then to divert their waters, or so much as they want of them, for irrigation. They say: "Give us our share of the waters as riparian proprietors, for us to use in irrigation." Thus, it is perfectly clear that if the present ruling of our Courts is to stand as the law, legislation is absolutely necessary, or the extension of irrigation must cease.

ON THE OTHER HAND.

Now, it is contended, on the other hand, that the adoption of the common law by the State did not saddle upon our water rights system the riparian rights rule as I have above transcribed it. One point made in this connection is, that such was not the rule of the common law at the time of its adoption here, but that the right of appropriation had been recognized by the English Judges, and engrafted on the English system; and another point is, that on this subject another rule of common law has grown up in our country by the decisions of our Judges; and still another claim is, that legislation—State and Federal—has set aside the old common law doctrine, and still another assertion is, that the law of nature forbids the application of the riparian rights doctrine in the greater part of our State; that the common law was adopted because it was flexible, and could be applied by the Courts to suit our physical surroundings, and that, hence, the Courts should now declare that riparian rights can have no existence—at least in the parts of our State where irrigation is necessary. For the purposes of this article it is unnecessary to rehearse the arguments by which these points are supported, or to accord to their claims any definite measure of weight. They all go to the same end—the establishment of the right of appropriation as against that of riparian rights. Let us assume that this right of diversion and use exists, and then see what system we have for the promotion of irrigation.

OUR PRESENT SYSTEM.

In 1854 the State passed a law providing for the appointment of Water Commissioners in the several counties and the issuing of water-rights or privileges for irrigation. Other laws for the several irrigation counties, drawn upon the same general plan, have from time to time been passed. In 1872 the Civil Code was adopted as the law of the State. Title 8 of this Code provides for the acquirement of right to use water by appropriation. It is in pursuance of privileges extended by these laws that the appropriators of water and the irrigators are now advancing in the development of irrigation enterprise. Although there is a law called one to promote irrigation, in the statute books, it is a dead letter, and in no way availed of. This is all the legislation there is bearing on the main question.

These are the laws authorizing or recognizing the right of appropriation and use of water in irrigation, and there the legislation ends, and the irrigation system set up by the State ends. Although the right of appropriation is recognized, there is no provision whatever for the registration or recording of rights perfected under the law, such as it is.

THE RECORDING REQUIRED

Is a mere preliminary declaration of intention to appropriate water. The fact of appropriation and use, upon which alone, under the law itself, all subsequent right is based, is not required to be recorded at all. No knowledge is had in any irrigation county in the State of the extent of actual appropriations and the good faith that has been used in following out the law. All these matters, except where some facts have been brought out in the trial of individual cases, remain unrecorded and unknown to the public. Even the records of intention are unintelligible, for the most part, in the individual recordings, and often these are almost impossible of identification and application to any particular existing work of diversion. The water-right claimants may know which are their claims in each case; but no stranger, no matter how intelligent or well versed in such matters, can go into any irrigation county in the State and tell how much water is claimed on any stream, from the records, much less tell what claims have been made good and what is the actual state of water-right matters. This is a point of the gravest character. Under such a condition of affairs the irrigation interest cannot prosper, whether the riparian-right doctrine is applicable here or not. There must be some definition and recordation of the extent and dating of each claim to water, just as there is to each ownership of land, else litigation over water rights will reign supreme in this country forevermore; and this is exactly what it is necessary to prevent in order to promote irrigation. Assuming that rights to water by appropriation exist and are to continue to be acquired, there must be some other law for their protection from each other than we now have, and some system whereby the public generally may know their extent and dating at any period of time.

GOING A STEP IN ADVANCE.

Going a step further, let us suppose that all existing rights by appropriation were properly of record. What system have we for the protection of the interests of future appropriators, of the interests of the people at large, as against the appropriators? Are we to go on, as now, with the waters of the country gradually passing into private hands, without provision for any regulation of or accounting for their use? without provision for the protection of navigation and other interests which the desired modification of the riparian right cannot sweep away? Let it be known that it is only the existence of this struggle, made on the riparian right standing ground, against appropriation, which has held back very many enterprises for the diversion of waters from the streams, and which has prevented appearance in the foreground of other contentions quite as alarming to appropriators and to the public generally as is that which now occupies attention.

The fact is, that California has pursued the very worst policy imaginable with respect to her streams and waters, at least in so far as their use by irrigation is concerned. She has tried to apply a make-shift policy, adopted to meet the requirements of a mining population in an unsettled country, to the necessities of a great and wide-spread interest striving to grow up in a settled land. There is no precedent for our water-right laws. The unrestricted right of appropriation does not and never has existed in any irrigation country. Neither Italy, France, Spain nor Mexico, much less Egypt or India, have ever admitted such a principle. Waters in these countries may be used in irrigation, and, with few exceptions, riparian claimants cannot prevent such use. But the right to use is in every case acquired only under a definite permit issued by some government authority, except in the case of diversions insignificent in amount made from non-navigable streams and torrents in Spain and Mexico. We have frequently heard it asserted that the laws of Spain and Mexico recognize the right of appropriation as we have established or sought to establish it here in California. This is not the case. There is positively no precedent for our system.

THE METHOD IN FRANCE.

In all other countries there is a government of the streams by administrative officers, and the diversion and use of water is the subject of special grant and general regulation. In France the riparian right exists on streams neither navigable nor floatable for rafts or timber, and none save riparian proprietors can acquire the right of diversion until all such claims by riparian proprietors are satisfied. But even these proprietors cannot divert waters from their bordering streams until their project has been sanctioned by Government authorities, after due examination of the whole case for the stream; and waters sufficient for domestic purposes must at times be suffered to pass on down the channel. The floatable and navigable streams are public property. Rights to use their waters are subjects of special grants; to such grants are attached conditions governing the diversion and use of water under them; and they are all subject to general regulations and executive rulings concerning the streams, as administered by authorities specially charged with such duty.

RIPARIAN RIGHTS IN ITALY.

In Italy there is no such thing as riparian rights on any streams, except on insignificantly small rills and streams rising wholly on private lands. Yet there exists no right of appropriation on the part of anyone. The system is substantially that outlined above for France, only more strict in the matter of conditions and regulations.

THE LAW IN SPAIN.

In Spain a riparian right exists on streams rising on private property; and riparian proprietors on such streams have the right of usefully employing the waters in irrigation, commencing with the one whose land is highest up on the stream; that is to say, the privilege of acquiring a right to use, by diversion and use, is accorded to the upper riparian proprietor first, and thence on down in the order of situation on the stream; with this exception, however, namely: that the owner of both banks of such stream (of an estate which is crossed by the waters) has the privilege in precedence of the owners of only one bank, situated above him. Rights acquired in pursuance of such privileges, are respected in the order of their perfection, and are all subject to general regulations and special regulations as administered by the Governors of provinces or the Alcaldes of communes.

All the streams except those rising on private property, as above spoken of, are public property, and rights to use their waters, except in insignificant amounts less than one-third of a cubic foot per second, or except as pumped out by machinery not run by steam, can only be acquired by special grant, made after due application, and extended advertisement and inquiry, and all such rights are subject to special conditions attached to each one, and to general regulations administered by Government officials.

THE MEXICAN REGULATION.

In Mexico, except in the case of outstanding regions away from the neighborhood of communal settlements, and where such settlements or private rights will not be affected, the law is substantially the same as in Spain. In all of these countries the interests of navigation are reserved and protected; the sanitary interests of the people at large are considered; the domestic necessities of dwellers on river banks are considered and provided for in the issuance of permits to divert waters from the streams above; and the interests of the irrigators and land-owners generally are protected as against the oppression of water-right holders or canal men.

WHAT IS NECESSARY FOR CALIFORNIA.

The provisions of law which effect these purposes are the outgrowth of bitter and disastrous experiences which we should have the good sense to appreciate and avoid. It is necessary for the continued prosperity of California that the largest possible measure of liberty consistent with the public interests and private rights, be accorded for the acquirement of right to use water in irrigation. The State might, to the great advantage of all her people, following the example of Spain, France and Italy, directly encourage irrigation enterprise. But there is much else to do first.

There must be a proper ascertainment and recordation of existing rights to water.

There must be provision for the annual correction and posting of such records.

There must be provision for the issuance of water rights in the future, upon some other plan than that now existing.

There must be provision for the administration of rights on each stream, as they exist from time to time, without everlasting appeal to force or stratagem or the Courts, as is now the case.

There must be provision for the formation of irrigation communities or districts, such that these may have the power to regulate their affairs and acquire by the right of eminent domain—condemnation, assessment and payment, by process of law—the rights of private parties which are necessary for the purposes of the community in each case.

There must be provision for an annual accounting of all waters used in irrigation from public streams, to be published and to serve as a basis of future prevention of waste.

And, lastly, there must be provision through some executive organization, for the protection of the streams themselves, and the interests of the public, from the unregulated but perfectly natural and praiseworthy enterprise, of water appropriators.

CONCLUDING REMARKS.

In saying these things must be, I mean that the best interests of all parties concerned demand them; and experience in other countries proves the fact of the necessity for them. It matters not how the riparian rights question is settled; the above measures are necessary, and, in my judgment, were they in existence a great step forward would be had towards the settlement of that question also.

In establishing a proper system for the regulation and promotion of irrigation, it will not be necessary to maintain a big State establishment and cover the State over with officials exercising surveillance of water appropriations; nor will it be necessary to call on the State for any pecuniary aid to irrigation enterprise. But it will be necessary to exercise patience, and take time in perfecting the laws, and to provide for the continued publication of the results of their working in detail, so as to afford data for their correction, from time to time, and for their administration by the district organizations. Nor will it be necessary to form irrigation districts, except where a majority of the people owning a majority of the land demand such formation.

TIME WILL BE REQUIRED.

This subject cannot be fully legislated upon in any one session of Legislature; and it will not be exhausted in the next ten sessions. France, Italy and Spain have been struggling with it for many years, and only quite recently have they apparently got towards a settlement of difficulties. I fail to see how any difference there may be in our form of government or social organization, from those of these European States, can exempt us from the necessity for the same care and thoroughness in the establishment of system that they have been guided by. The personal freedom guaranteed citizens of our States is not that kind of freedom which allows any citizen to do as he chooses with public property, and interfere with the private rights of others, any more than the enterprise which our institutions stimulates and fosters is that kind of enterprise which is going to sit still and allow the waters of our streams to waste because some riparian proprietor asserts his right to have them do so.

It is for the people of the State at large to see these points, and, through patient and thorough legislative work, provide that system of laws on the basis of which alone our agricultural interests can be fully developed.

PROMPT LEGISLATION NECESSARY.

Legislation should be shaped for the best interest of the State, upon a study of the whole subject. If the State is to wait until quarrels over private rights are settled, before establishing some system under which this interest may develop and be guided, the time will never come for legislation. Conflicts of many sorts and shades will multiply far faster than they can be decided. There can be but one outcome of this development, namely, disaster to the people at large and the State.

One would suppose that California had had in her debris experience a sufficient lesson on the do-nothing policy with respect to streams and water. Had there been a proper water-rights system in the State, the hydraulic mining troubles would never have developed. Capital would never have gone into mining in the shape it did, and then been obliged to fight for its existence. The same policy of letting people do as they choose in irrigation matters, until they get into a lawsuit, will bring a parallel result—disaster.

AIR CASTLES.

[Written for the New Year's RECORD-UNION, by Clara H. Bradner.]

I.

A girl is standing with careless feet
At the point where the brook and the river meet.
In her eyes there gleams a lambent fire
As the castle she's building towers higher.
"I will earn," says she to herself, "a name
That will make the world acknowledge its fame.
On my head shall be placed the laurel crown,
That the Muses wreathe for their favored own.
I will visit the lands of story and song.
In the palace of Genius I'll tarry long.
There will come to me a lover as bold
And as strong as the fabled princes of old;
And in his brave heart the first I'll be,
For true beauty and grace in me he'll see.
Thus smooth shall I weave my web of life
With love to untangle its cares and strife."

II.

In a vine-wreathed casement stands a bride.
Her brown eyes shine with loving pride
As afar she sees the manly form
Of the one whose heart for her beats warm.
And she dreams a dream as she waits him there
Which more than a poem is even a prayer.
And the angel sandalphon wafts it on
Till it reaches up to the Great White Throne.
"I care not for princes of olden story
Nor for palaces grand nor for fame or glory.
But give me a cot with its vine-clad door
And the glinting sunshine warm on the floor,
With the dear ones' voices when day is done
And its duties are ended one by one.
All these will be dearer by far to me
Than the castles I dreamed of once *could* be.
And may a crown come to me unsought
That by love's labors shall be wrought.
This sphere in life is the one I would fill—
A faithful wife through good and ill."

III.

A mother is sitting with busy hand
At the door where the bride's fair face was fanned
By the long ago breezes that came thro' the vine
Which had clambered there, and doth still entwine
The door, where now children with busy feet
Pass in and out; and their voices sweet
Ring loud and clear on the evening air
To greet the mother who toiletch there.
The work drops out of her hands so worn
And a far away look in her eyes is born
While her thoughts go back to the time passed by
When her girlhood's castles loomed so high.
With a sigh she says to herself, "For me
No crown awaits from the laurel tree,
But in my children my life I live,
And 'tis sweeter far than fame could give."
Her eyes grow bright again with joy
As she dreams of a crown for her darling boy.
And she murmurs, "Ah, me! 'tis better so,
That the web of my life such a pattern should grow."

IV.

The grand-dame sits in her easy chair
With the sunlight soft on her silver hair,
And thus she speaks to the bonny throng
Of maidens fair, and youths so strong,
Who have gathered about her to heed the thought
Of wisdom, that comes to a long life fraught
With happy faith, and with loving deeds
For each whose path such comfort needs.
"In the days of our youth our dreams are bright,
For life is filled with spring-time light,
And we build gay castles with towers grand
With Self as the monarch to rule the land.
But, my children dear, our lives grow on,
And the castles fade out of them one by one.
But if we obey the commandment golden,
That is told us in language sweet and olden,
Their places will fill with thoughts like beams
From the sun, and we'll know our castles were dreams.
And our lives will grow wider and still more wide,
Till we reach our home on the 'other side.'"

V.

The sweet voice stops and the dim eyes close,
To the tired mind comes a dream of repose;
'Tis a dream of Heaven so clear and bright
That the earth life is filled with its glorious light;
And it brings the sweet call of "Peace, well done,"
To the life whose web for self was begun,
But whose pattern changed as the years rolled on,
And was woven for others at set of sun.

MANY medicines now on the market owe what virtue they possess to the presence of powerful and poisonous drugs. HUNT'S [Kidney and Liver] REMEDY is purely vegetable and will not injure the feeblest and most delicate person.

IN 1850 "Brown's Bronchial Troches" were introduced, and from that time their success in colds, coughs, asthma and bronchitis has been unparalleled.

THE SILK INDUSTRY.

REVIEW OF ITS PROGRESS DURING THE PAST YEAR.

Present Condition and Extent of Silk Culture and Silk Manufacture in California.

[Written for the New Year's RECORD-UNION by C. A. Buckbee, President of the State Board of Silk Culture.]

The production of raw silk in this State is now an assured fact. The quantity is not large, but there is a healthy increase, and the quality, when carefully reeled, is classed with the best in the world. A hank of this year's growth and reeling has been sent to France by the Silk Culture Bureau at Washington for examination, and the report says: "It compares favorably with the best French and Italian silks." This is very flattering to our State. A part of last year's product was put into spooled silk by Messrs. Carlson & Currier, silk manufacturers of San Francisco. The testimony of this firm is all that could be desired, when it is considered that the portion worked was reeled by pupils, who had never before even seen a reel. Another portion was sent East by the same firm. It was exhibited at Philadelphia, and then was made up into ladies' silk hose by Messrs. Belding Brothers, at Northampton, Mass. These gentlemen testify that it turned out much better than they expected, and that the manufactured hose are equal to the best imported article, sold at wholesale in the New York markets for $48 per dozen. Some of these manufactured articles are now on exhibition at the New Orleans Exposition, and reports just received from that city assure us that they are a chief attraction in the California department of the National Fair.

THE PACIFIC SILK FACTORY.

Of this year's product a quantity of raw silk reeled at the State filature has been tendered to Messrs. Sauffrignon & Van de Casteete, the proprietors of the Pacific Silk Factory at San Jose. These gentlemen purpose, if their looms and other appliances will permit, to put the product into fancy dress patterns of the latest styles, and hope to be able to have the goods placed in the stores at a price not to exceed $1 50 per yard. It may not be known that the Pacific Silk Factory is now employing a good force of skilled operatives, running ten looms, and making black silk dress goods, of a heavy and durable kind, which are sold by the dealers at $2 per yard. We have recently examined several pieces of these goods at Keane & O'Connor's, in San Francisco, and this firm declares that our California-made silks are pure dye; that they will not crack, as many of the imported goods do, and there are no articles that they can more honestly recommend than those now made in our own State. Several orders for these goods have been received from the East.

The silk factory of Carlson & Currier in San Francisco is a splendid triumph of skill and energy. A large number of persons, chiefly women and girls, are here employed in making gimps, fringes, cords, tassels, nearly everything in fact, except silk dress goods, and their product finds a ready market.

These two silk factories stand ready to take all the raw silk that our State can furnish for some time to come. At present, however, they are dependent upon Japan, China and Europe for their supplies of raw silk, for which they pay from $4 50 to $7 50 per pound, according to the grade of the article and the condition of the market. They would much prefer to pay the thousands of dollars spent annually for raw silk to our own people rather than send it abroad. It is to bring about that desirable result that the promoters of silk culture in the State are putting forth their best endeavors.

LADIES' SILK-CULTURE SOCIETY.

We are indebted to the generous efforts of a large number of intelligent ladies for the present advanced condition of the silk-culture industry in California. Of these ladies, Mrs. Senator T. H. Hittell is the most advanced in her far-seeing and patriotic views. Her clear presentation of the subject, about four years ago, won the sympathy of many others, and led to the organization of an association, which has voluntarily distributed thousands of mulberry trees and cuttings, and aroused a widespread interest among the wives and daughters of our farmers in all parts of California. In fact, it has inspired many in other States to begin the work of raising silk by the planting of trees. The association has just incorporated under the name of the "Ladies' Silk-Culture Society of California," with the following Directors: Ex-Governor George C. Perkins, ex-Senator T. H. Hittell, Professor George Davidson, Charles Walcott Brooks, Laurence Gottig, Mrs. Eliza C. Hittell, Mrs. Mary E. Williams, Mrs. Ellen C. Sargent, Mrs Martha P. McLellan, Mrs. Margarettie Hentrich and Mrs. Mary E. Barclay.

The Society anticipates receiving as a donation a valuable tract of land at San Rafael or elsewhere, to be used as a silk-culture station. The Silk-culture Bureau at Washington has generously offered to cooperate with the promoters of the industry here, for the benefit of the Pacific coast, and will undoubtedly furnish the means needed to erect a cocoonery and plant the trees on this land; the funds for the purpose being a part of the $15,000 appropriated last year for the promotion of silk culture in the United States.

STATE BOARD OF SILK CULTURE.

The State Board of Silk Culture, organized by the Legislature, is composed of the following persons: Professor E. W. Hilgard, R. J. Trumbull, W. B. Ewer, C. A. Buckbee, Mrs. T. H. Hittell, Mrs. H. B. Williams, Mrs. E. B. Barker, Mrs. Jaenne C. Carr and Mrs. Flora M. Kimball. During the last two years the State Board has distributed many thousands of mulberry trees, cuttings and seeds to farmers' families. It has supplied silk-worm eggs to beginners in the enterprise, bought all the cocoons offered to it by our home producers, taught twelve girls the art of reeling, and has obtained for the coming season all the silk-worm eggs that will be needed, and between 20,000 and 30,000 young trees and cuttings for new applicants.

PRODUCT FOR 1884.

It is too early to report a large product of cocoons, for the reason that the trees planted three years ago will only be of use next season; but the best information at hand would justify an estimate of not less than 2,500 pounds during the year 1884. Nearly 1,000 pounds of this product was received at the State Filature. Many beginners used their cocoons for the production of eggs, which can be sold for $4 and $5 an ounce.

SWISS-ITALIAN COLONY.

A very encouraging outlook for this new industry is a recent resolve of the Swiss and Italian members of the colony in Sonoma county. They have just decided to add silk culture to their other farm products. Sixteen families have applied for trees and cuttings. Each family will receive one hundred. These people have been brought up to the industry in Europe, and the facts that they know what it is, and that they wish to include it among their family industries, is a sufficient answer to those who tell us that silk culture will not pay in our State, or that its profits will be so small that it will degrade the labor bestowed upon it.

A FAMILY INDUSTRY.

This is a family industry. The work required for women and children. There are thousands of women who are anxious to earn a little money. Some of them are forced to do so; for they have no husband or brother to provide for them; others are brought up to be industrious, and prefer to do something useful for themselves. No honest, useful and appropriate work is degrading. Silk culture is light, attractive, instructive and beneficial. The women and children in any ordinary family, with a few trees planted around the homestead, when these trees are four or five years old, can earn $50 or $100, and even more, in the six weeks' work required to raise silk cocoons.

This industry should be looked upon somewhat as we regard the butter and poultry product of the State. The making of butter is hard work compared with the labor in silk culture. With a few cows women and children make the butter for the family, and sell perhaps $20 worth a month. Are they degraded because they earn so little? Is it degrading to the industrious wife and children of the former to earn $10 or $20 a month by caring for poultry or making butter? Is it not rather honorable? And equally honorable is it for these members of the family to earn a still larger sum in the spring of each year by raising silk cocoons?

SPECULATION TO BE AVOIDED.

The trouble with many of our people is that they do not take kindly to any industry in which there is not an immediate fortune. They want to make thousands or millions by speculation, or a kind of labor that yields immense profits. The time has passed by for making fortunes in California without honest and patient labor, and the sooner our people understand this the better will it be for the State. Diversified industries, where soil and climate are favorable, make prosperous our happy States. There is no soil in the world, and no climate beneath the sun, where better silk cocoons can be produced than in California. It is believed by the promoters of this enterprise that we will soon be able to produce a variety of silk cocoons that will excel all others, just as our fruits are now known everywhere to be larger and more prolific, and our grapes more wonderful than the same products elsewhere.

STOCK COMPANIES TO BE DISCOURAGED.

The disposition of some of our people to promote silk culture in any other way than as a family industry should be discouraged. Some of our friends have been urged to join in the organization of stock companies, and have been promised very large dividends for their investments. I feel certain that the dividends will never come. People who put their money into such companies will be disappointed. There would be as much sense in organizing companies to make butter or raise eggs. Even if such companies succeeded in this new industry, the profits would go largely to stockholders at the expense of the real workers, the women and children of the State. A little patience on the part of our State Government in providing for the reeling of the silk, the instruction of our girls, and the necessary fostering of the industry in its infancy will be richly rewarded. When the product reaches 100,000 pounds annually, private enterprise will then relieve the Legislature of the need of its present fostering care, and the small sum it is now giving will be returned a hundredfold in the increase of its taxable property, and the enlarged comfort and independence of its citizens.

THE OUTLOOK FOR THE FUTURE.

The product for the coming year will be two-fold or three-fold greater than last year. When the trees now planted begin to be of use, the annual product should reach a quarter of a million dollars. The industry is making fair and healthy progress. In many of the counties of California there are persons who will make their first experiment next season. From all we hear it would seem to be easy for almost any family in any part of the State to succeed in raising good cocoons.

As an illustration of what can be done, take two or three examples: At San Raphael, in May last, three young ladies made an experiment under the instruction of the Superintendent of the State Board. The product was 120 ounces of silk-worm eggs and nearly 100 pounds of cocoons. The work was done in a rented house. A large portion of the food for the worms had to be purchased. But the enterprise netted fully $200 over all the expenses. This is certainly a fair return for the labor bestowed. Had the trees and house been their own the amount for their work would have been doubled.

OAKLAND PUBLIC SCHOOL EXPERIMENT.

Another illustration is the public school experiment in Oakland, which, by consent of the School Board, was conducted by B. H. Carter in the Tompkins school building. It was this gentleman's first experiment, in which he was aided by his family. The pupils of the schools of Oakland also here took their first lessons in silk culture, and became thoroughly enlisted. Some of them have already started trees around their homes, in order to raise silk themselves. Mr. Carter spent a large sum for lumber, which will be useful hereafter. He purchased his leaves and had them sent by rail from Antioch, nearly 100 miles distant. But, notwithstanding all disadvantages, he raised between 100 and 200 pounds of excellent cocoons, worth from $1 to $1 25 per pound. If he had not been obliged to buy the leaves, pay for their being picked, and pay for freight, there would have been a nice little sum to be credited to his industrious girls and boys.

A UNIVERSITY STUDENT'S EXPERIMENT.

A lady student of the State University, at Berkeley, Mrs. Louise Rienzi, raised several pounds of beautiful cocoons, in her own room in the Ladies' Club House, on the University grounds. Some of the food had to be procured from a distance. The attention required did not interfere with her studies. No attempt was made to do a big thing, but the result was a complete success. Several ounces of choice eggs were obtained, for which she was offered $5 per ounce by parties wishing to send them to Europe, where California silk-worm eggs are highly prized.

A THOUSAND FAMILIES.

When the thousand families in our State whose trees are now growing will be able to begin a work like that in these three experiments, the sum realized will be worth a quarter of a million annually. And that time is evidently in the near future. Then the industry will expand to such proportions as will make it worth twenty millions a year to California, or even more. It is worth forty millions a year now to the small districts of Piedmont and Lombardy in Italy. With our area of land, four times greater than that of the provinces named, it is among the possibilities that the silk industry may become as profitable to us as the present entire wheat product, and twice as great as the present gold product of the State.

If this article awakens the desire for further information the State has provided for it. A letter of inquiry on the subject of silk culture will be promptly answered, if addressed to Mrs. S. A. Raymond, Secretary of the State Board of Silk Culture, room 7, No. 40 California street, San Francisco.

FIGURE 1—Shows the Food-leaf, the Moth laying eggs, and the Worm feeding.

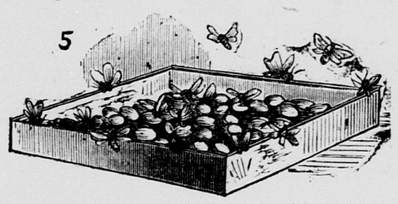

FIGURE 5—Shows a tray of Cocoons with Moths emerging.

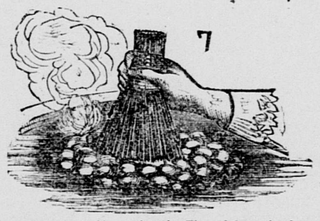

FIGURE 7—Illustrates the method of loosening the Thread from the Cocoon Envelope as spun by the Worm.

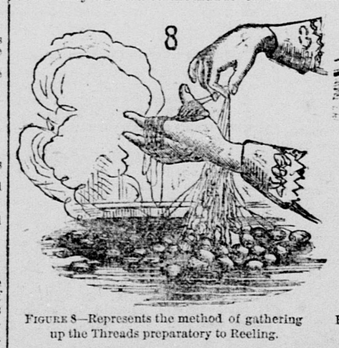

FIGURE 8—Represents the method of gathering up the Threads preparatory to Reeling.

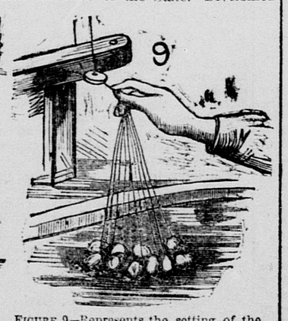

FIGURE 9—Represents the setting of the Threads into the Reels.

NEW YEAR'S EVE.

Ring out, wild bells, to the wild sky,
The flying cloud, the frosty light;
The year is dying in the night;
Ring out, wild bells, and let him die.

Ring out the old, ring in the new;
Ring, happy bells, across the snow;
The year is going, let him go;
Ring out the false, ring in the true.

Ring out the grief that saps the mind,
For those that here we see no more;
Ring out the feud of rich and poor,
Ring in redress to all mankind.

Ring out a slowly dying cause,
And ancient forms of party strife;
Ring in the nobler modes of life,
With sweeter manners, purer laws.

Ring out false pride in place and blood,
The civic slander and the spite;
Ring in the love of truth and right,
Ring in the common love of good.

Ring out old shapes of foul disease,
Ring out the narrowing lust of gold;
Ring out the thousand wars of old,
Ring in the thousand years of peace.

Ring in the valient man and free,
The larger heart, the kindlier hand;
Ring out the darkness of the land;
Ring in the Christ that is to be.

—Alfred Tennyson.

FRENCHMEN can properly be called "The Knights of the Table." They are good judges in all its refinements and delicacies. In order to stimulate the appetite and keep the digestive organs in good order they give pre-eminence to Angostura Bitters. When you try them be sure it is the genuine article manufactured by Dr. J. G. B. Siegert & Sons.

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CURES ALL DISEASES OF THE KIDNEYS LIVER BLADDER AND URINARY ORGANS DROPSY GRAVEL DIABETES BRIGHT'S DISEASE PAINS IN THE BACK LOINS OR SIDE NERVOUS DISEASES RETENTION OR NON-RETENTION OF URINE.

By the use of this REMEDY, the Stomach and Bowels speedily regain their strength, and the blood is purified.

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The coming year we shall put forth our best efforts, and use all the means at our command to give still better goods at still lower prices.

In buying for our Five Houses—all located on this Coast—we are enabled to purchase in larger quantities than any one Retail Firm can handle to advantage. The consumers are reaping the benefits derived from large Cash Buying direct from Importers and Manufacturers.

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YOU WILL FIND COMPLETE LINES:

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Fancy Goods,	Cloaks,
Hosiery,	Clothing,
Underwear,	Gents' Furn'g Goods,
Gloves and Hdkfs,	Hats and Caps,
Domestics.	Boots and Shoes.

Our stores now occupy 80 feet plate glass front on K street, with side entrance on Ninth.

We believe it stands well in hand for every purchaser of the West to obtain our prices before buying.

WE WISH ALL

"A Happy New Year!"

AND TRUST THE COMING YEAR MAY PROVE ALIKE SUCCESSFUL TO EACH AND EVERY ONE.

Country Orders Receive Prompt and Careful Attention.

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