

Uncle Sam, Matchmaker.

Our Great Matrimonial Plant Bureau and Some of Its Valuable Offspring.

(Special Correspondence of the Deseret News by Frank G. Carpenter.)

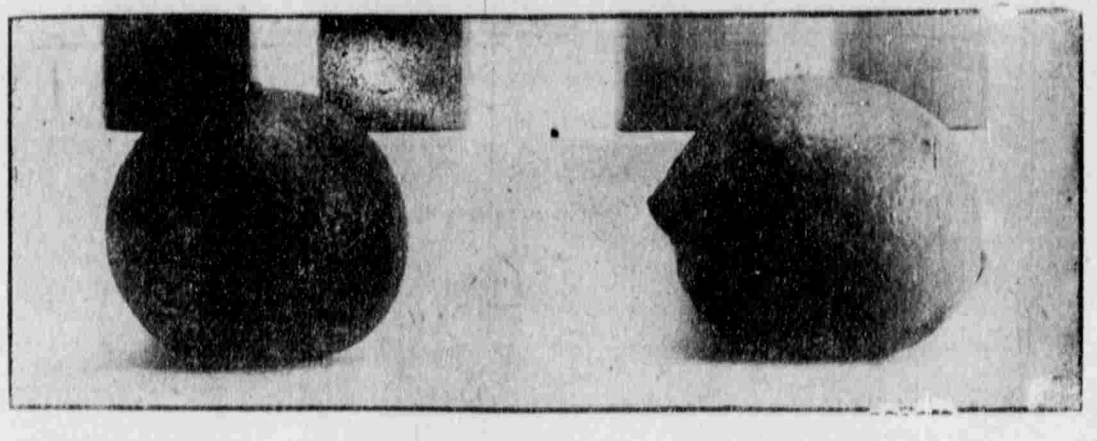
WASHINGTON, D. C.—Uncle Sam has turned matchmaker. The fact need not excite the 30,000 spinners of Massachusetts nor the millions who are pinning for husbands in the other parts of the United States. Uncle Sam's matches have not to do with human beings. Such unions are made in heaven. These Sam's marriages are of the earth, earthy. They are the marriages of plants and fruits, and they are adding to the wealth of the country. I can't tell just how much; but the sum runs high into the millions, and the matrimonial bureau is just beginning to work.

NEW ORANGES FOR THE SOUTH.
I spent today at the agricultural department talking with Dr. Herbert J. Webber, the head of the laboratory of plant breeding, and with other scientists on what is being done to produce new plants and fruits. Dr. Webber has devoted his life to this work, and under the direction of the secretary of agriculture he and his associates are accomplishing wonders. They have pro-

duced new cottons, tobacco and grains, and they have now discovered an orange which will grow about 300 miles further north than any we now have. At present the oranges of the United States are grown almost altogether in the southern half of Florida and in a comparatively small part of California. This will extend the orange region northward throughout Georgia and into South Carolina, the Gulf states, Texas, parts of Arizona and into many other parts of California. It will make it possible for every southern farmer of these regions to have an orange grove in his back yard, and oranges will be as common there as apples are throughout the north.

It took about 10 years to produce this result. How it came about is as follows: In 1894 and 1895 we had a terrible frost which destroyed the orange groves of Florida. The trees were frozen down to the ground, and upon looking back it was found that such frosts had come from time to time and destroyed everything. The department then tried to find a hardier orange which would withstand the cold, and Dr. Webber and Prof. W. T. Swingle, who were then working for the department in Florida, were given this task. After a time Prof. Swingle dropped out, but Dr. Webber continued and prospered in his work, and oranges will be as common there as apples are throughout the north.

New Oranges for the Southern States—The Agricultural Department Makes an Orange-Lemon and Orange Pomelo—The New Kid-Glove Grape Fruit—What Uncle Sam is Doing in New Grasses and Clovers—The Marriages of the Lettuce—The Romance of the Potato—Luther Burbank and his Wonderful Discoveries—The White Blackberry, the Shasta Daisy and the Plumcot.



THE NEW ORANGE-LEMON AND AN ORDINARY LEMON.

picked out the toughest and tried to breed tougher ones by seed selection. This was very slow, and they looked around to see if they could not find types with which they might cross breed.

Among the other things experimented with was a hardy little orange tree which grows as far north as New York. There are some on Long Island and several in the agricultural department grounds. The tree is grown for hedges. It is known as the trifoliolate orange, and it has a fruit about as big around as a baby's fist, but as soon as sliced, a perfect orange in shape, and is really an orange, although not fit for eating. They took this tree and married it to the sweet orange tree of Florida, and after many trials they have now produced the trees which will grow and fruit 300 miles further north.

The new orange is three inches in diameter. It is a good eating orange, although a little bitter. It can be propagated by budding and can be easily spread throughout the southern portion of the United States. Our naval oranges all come from a tree which was sent here from Brazil and grown in the agricultural hot houses. That tree was the father of the seedless orange industry of California. These trees will be the fathers of orchards all over the south.

ORANGE-LEMONS AND POMELOS.

In crossing these trees several other varieties of oranges were produced. The seed from the union had to be first planted, and as it takes about as long for an orange tree to yield fruit as it does for an apple tree, it was several years before the department could know whether it had anything or not. The first fruiting came this year. One variety was the Rusk orange, named after the late Secy. Rusk, of whom I have already written. Another was an orange-lemon of just about the size of the Rusk orange. This orange is as sour as a lemon and it tastes not unlike a lemon, but it is a little different from the lemon. It has more juice than a lemon of the same size, as can be seen by a photograph I give of several tubes showing the amount of juice in each fruit. This

orange-lemon can be grown wherever the Rusk orange can be grown, and it will give orange-lemon orchards to millions of families throughout the south where lemons cannot now be grown.

Another of the trees produced by marrying the trifoliolate orange with the Florida orange has a fruit which might be called the orange pomelo, or the pomelo orange. This fruit is about the size of a large orange, but it tastes somewhat like a cross between the orange and the pomelo. It will grow in these same localities and will make a nice breakfast food. In short, from the union of these two varieties of trees, one little more than a scrubby bush and one a fine orange tree, have been produced three good varieties of trees which will give the greater part of the south oranges, pomelos and lemons.

THE TANGERINE.

Have you ever seen a Tangerine orange? It is a little orange with a loose skin so fastened to it that it is sometimes called the kid glove orange. The skin can easily be taken off and the sections of the fruit pulled apart and eaten. You know what a grapefruit or pomelo, which has a delicious acid flesh but a bitter, tight-sticking skin. With fruits are in the markets. Dr. Webber and his assistants have married this little tangerine orange tree to the pomelo, and they have produced a pomelo which, although not so large as the ordinary pomelo, is of a good size. It has a loose skin, so that you can tear it off with your fingers as you can that of the Tangerine orange. The flesh of the new pomelo orange is more delicious than that of the pomelo itself. It is sweeter than the pomelo, and more juicy and acid than the Tangerine, and it contains the bitter principle of the grapefruit slightly reduced. It might be called a kid glove grapefruit.

UNCLE SAM'S NEW BABIES.

These products are among the most prominent of Uncle Sam's new babies. They are really the output of the agricultural department, and they are healthy infants of this kind is worth more to the country than the cost of that department for a number of years. In the marriage of cottons Dr. Webber has united the long staple sea island

cotton with the short staple upland cotton, and has thereby produced a medium staple cotton which will grow on the uplands. The Egyptian cotton has also been crossed with Uncle Sam's product, and the probability is that we will raise the \$11,000,000 worth of Egyptian cotton which we now import, upon our own soil. I have written as to the excellence of these products in the tobacco breeding and something as to the improvements being made in our corn. In the plant breeding houses of the department here I have examined the excellent tobacco and something as to the Kentucky blue grass, whereby they hope to get a rich sod which will grow all over the south. In the same way they are breeding clovers with alfalfa and also lettuce and different varieties of flowers which have a commercial value.

MARRIAGE OF THE LETTUCES.

One of the strange things is the marriage of the lettuce. There are two commercial varieties in the United States one of which is sold east of the Alleghenies and the other west, the latter being raised chiefly about Grand Rapids. The Grand Rapids lettuce is a loose lettuce with long loose leaves, delicate to taste. The eastern lettuce is a head lettuce and is much better in some respects than the Grand Rapids. The chief of the bureau of plant industry, first figured out in his mind what he thought would be an ideal lettuce for the market, and he then told his experimenters to go to work and see if they could not produce that lettuce by crossing the different varieties. They have married the eastern and western lettuces and they think they are rapidly producing their ideal. Indeed I saw many heads of lettuce today in the plant breeding hotbeds which seemed almost perfect and combined the excellence of both varieties. In talking with Dr. Galloway the other day he told me of some experiments he had made with violets. He wanted to show that money could be made by raising them rapidly. They were properly handled, so he established a commercial hotbed and set out 5,000 plants. As they grew he found that some produced only one blossom apiece and that others had a half dozen or more, that some flow-

ered in the month when they brought the biggest prices and others just when there was the least demand. He made a careful selection of seeds and after a time produced violets which flowered just at the right time and in the largest number per plant. The result was the hotbed paid a good dividend. He had then shown the success of his experiment and sold out. His successor paid no attention to plant selection and in a short time he was making no more out of the seeds than his neighbors.

THE ROMANCE OF THE POTATO.

Among the most romantic stories of plant production is that of the potato. Potatoes are ordinarily produced by planting the potato or cuttings of it. A potato plant, however, sometimes produces a seed which may be planted and may possibly yield a new variety. About 1850 a man named Goodrich experimented with wild Peruvian and Chile potatoes. He grew seedlings from those plants for a number of years and finally from them produced two varieties which were fairly valuable, one of which was known as the Garnet Chili. In 1860 Mr. Albert Breese of Vermont planted some seed of a Garnet Chili plant and one of the results was the Early Rose. When this potato was put on the market it brought fabulous prices, and it is still one of the most valuable potatoes we have.

It was the Early Rose which was the mother of the Burbank potato, which was named after Luther Burbank, who was a schoolboy when he discovered it. Young Burbank had heard what Breese had done in producing the Early Rose, and he had become generally interested in plants of all kinds. One day while walking through a field of Early Rose potatoes he saw a seed pod on one of the plants. He watched it carefully, thinking he would save the seed and plant them. The field was near where he went to school, and he examined the pods from day to day until they should be ripe. He was specially anxious about them, for although such seeds are often found on other varieties of potatoes, they seldom occur on the Early Rose. One morning when he looked for the pod he found it had disappeared. His heart felt, but he got down on his knees and hunted the field over. He cried over his loss and went every day for a week to the field looking for this seed pod. He finally found it about 15 feet away, hidden under another vine. It had evidently been knocked off by someone passing rapidly. He kept the seed pod and the next year planted the seed. From the plants which grew he secured the one which produced the Burbank potato, which is now known throughout the world.

BURBANK'S WONDERFUL DISCOVERIES.

As he grew older Burbank became still more interested in plant production. He worked for a time in the shops of the Ames Plow company in Massachusetts, and there invented improvements in woodworking machinery which were so valuable that his employer offered to multiply his wages twenty-five times if he would stay with them. He decided, however, that he cared more for plant breeding than for shop work and finally went to California where he started a plant-breeding farm. He has this farm, just outside Santa Rosa, Cal., and upon it has produced some of the plant wonders of the world. He has produced new kinds of flowers, vegetables and trees, as well as new varieties of fruits. He has married the plum to the apricot, and got what is known as the plumcot. He has made a white blackberry, and has taken the common field-eyed daisy and made the Shasta daisy, a beautiful flower, many times as large. The Shasta daisy will grow out of doors, and will bloom several months every year. He has originated

new callalilies and a great variety of peaches, apples, pears, plums and nuts, as well as valuable trees, fruits, flowers and vegetables.

GIBTS \$10 AN HOUR FOR PRIVATE TALKS.

I met the other day a man who had just visited Luther Burbank. He tells me that the people who live near by give him as a harmless idiot, who is "sawing thousands of plants and cutting them down without regard to their raising others. They do not realize that he is carrying on a great business, and that he is doing wonders for the world. He is wrapped up in his work and wants to devote himself to it. He is a modest man, and does not care for notoriety. He keeps away from the crowd of sightseers who come to see him by charging for his time. His price to interviewers is \$10 an hour, and I am told that many people are glad to pay him. He is an inventor, and on plant production and on plant raising, the possibilities of which, he says, can hardly be estimated. In a recent paper which I have before me he speaks of the greatest staples of the United States, saying:

It would not be difficult for a man to breed a new rye, wheat, barley, oats or rice which would produce one grain more to each head, or a corn which would produce an extra kernel on each ear, another potato to each plant, or an apple, plum, orange or nut to each tree. Suppose this were done, what would be the result? In the five staples on production and on plant raising, the possibilities of which, he says, can hardly be estimated. In a recent paper which I have before me he speaks of the greatest staples of the United States, saying:

WHAT PLANT BREEDERS MAY DO.

Here is what Luther Burbank says plant breeders may do: "Cultivation and care must be given to do better work temporarily, but by breeding plants which will do better work always, in all places, and for all time. Plants are to be produced which will perform their appointed work better, quicker and with the utmost precision." "Science sees better grains, nuts, fruits and vegetables, all in new forms, sizes, colors and flavors, with more nutrients and less waste, and with fewer injurious and poisonous qualities eliminated, and with power to resist sun, wind, rain, frost and destructive fungus and insect pests. It sees better fruits without stones, seeds or spines; better fiber, coffee, tea, spices, rubber, oil, paper and timber trees and better sugar, starch, color and perfume plants. Every one of these and ten thousand more are within the reach of the most ordinary skill in plant breeding."

FRANK G. CARPENTER.

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A. B. Cushman Chicago, writes March 1, 1903: "Having been troubled with Lumbago at different times and tried one physician after another, then different ailments and treatments, gave it up altogether. So I tried one more, and got a bottle of Ballard's Snow Liniment, which gave me almost instant relief. I can heartily recommend it and will add my name to your list of former sufferers." Dr. W. and H. Sold by Z. C. M. I. Drug Dept.

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A Pioneer Thief Who Abandoned Stolen Gold.

CAPTAINS of industry have come out of the west, as well as the east. And the great San Joaquin valley of California has produced its quota, says the San Francisco Chronicle. One of the best-known of these men was Jasper Harrell, who had his home in Tulare county, but whose business transactions carried him all over the state and into other states as well. No one had a wider acquaintance than Mr. Harrell, for he was one of the very early settlers in that region, and he literally grew up with the valley. He was an exceedingly popular man, and this was probably one reason why he flourished as a rancher and stockman, and amassed a goodly fortune before the close of the nineteenth century. He handled large herds of cattle and was a dealer in and grower of hay and barley to such an extent that he came to be familiarly nicknamed "Barley" Harrell.

One bright spring day, long before the Southern Pacific railroad wound its crooked, double-line track up and over the Tehachapi mountains from the great valley into the Mojave desert, Mr. Harrell and his father-in-law started from their home in Tulare county to ride on horseback to Los Angeles, a distance of 250 miles, at least. But such lengthy journeys were not infrequently undertaken by stockmen and merchants in those ante-railroad days in California. The two men stopped over night wherever twilight caught them, for the country was almost unin-

habited and there was no hotel this side of Los Angeles.

One night, in crossing the Tehachapi range, they made their camp in a grove of scrub-oak and brush. Their horses were staked out to graze, and after a meager meal around the campfire, the two men arranged their bed for the night. Mr. Harrell had around him a strong, wide buckskin belt in which he carried \$1,600 in gold coin. With this he intended purchasing a number of cattle rated as feeders, and these would then be driven back into the valley and prepared for the market. Unbuckling his heavy money belt he threw it on the ground under his saddle, which he always used as a pillow in camping out.

Sweetly and soundly the two men slept out there under the silently passing stars, with no thought of harm or hint of danger.

When morning came they arose early, built a fire, cooked and ate their breakfast with a relish, and then brought up their horses to be saddled and bridled. When Mr. Harrell picked up his saddle he discovered that the bare ground and whistled sharply.

"Where is Lucifer is that belt and my money?"

"Sure enough, it had disappeared. The camping ground and every article on it were carefully searched, and then every foot of ground within a wide circuit was minutely gone over; but not a sign of my belt or money was found. Neither could any tracks of either man or animal be seen. It was a mystery what had become of that money belt, for they were many miles from any human habitation and no one had passed them on the trail for days. Giving up the search with reluctance

the two men went on south to the end of their journey, but they did not buy any cattle.

About 13 months later Mr. Harrell returned to the Tehachapi range, and made the same horseback trip again. They camped not far from the place where the buckskin belt had been lost on the previous journey.

"Right over yonder," said Mr. Harrell, showing his friend, "is where I lost sixteen hundred dollars in gold when I went through here, about a year ago. I'd like to know what became of that pile."

"Let's go over and look around there again, just for fun," suggested his friend.

"They did so. And, strange to relate, they accidentally stumbled right over the very spot where the money had been dropped. For over 12 months that heap of 20-dollar gold pieces had been kissed by the grass and flowers, wet upon by the rain and dew, winked at by the stars, smiled at by the moon, inflamed by the sun and fanned by the breeze; yet there they were, apparently none the worse for their long sojourn. The money had mysteriously disappeared, it was almost as strangely recovered. All of it was found but two 20-dollar pieces.

Here is the explanation: A hungry coyote had passed by the sleeping travelers and had sniffed around till it found the buckskin belt. This was seized and carried off to a safe distance before the animal stopped to chew up the buckskin. On the way two of the coins had dropped from the belt, but the rest of the gold held in place till it was torn from its recesses as the sharp-toothed hungry coyote devoured his stolen tidbit.

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