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## **The Western apiarian, and ranch and range. Volume 2, No. 7 June [1890]**

Placerville, California: McCallum Brothers, June [1890]

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VOL. II

NO 7

THE WESTERN APIARIAN,

AND

RANCH AND RANGE.

PLACERVILLE, JUNE, CALIFORNIA. 1890

McCallum Bros. Publishers.

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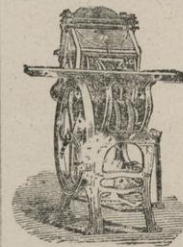
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# THE WESTERN APIARIAN,

◁ AND ▷

✿ RANCH AND RANGE. ✿

◁ PLACERVILLE, JUNE, CALIFORNIA. ▷



**A 16-PAGE JOURNAL.**  
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Two copies, \$ 1.25; 3 copies for \$ 1.80; 5 copies, \$ 2.50; 10 or more, 45 cents each.

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## Editorial Bee Lines.

A very large swarm of bees passed over our office yesterday in the direction of the mountains.

There must be a vast number of bee trees in the higher altitudes, as every swarm lost is the foundation of future colonies.

We are in receipt of a sample box of Thompson's seedless raisen, which for quality are excellent. We also publish a short article on the subject, and will probably have something more to say in our next issue. As the majority of our readers are fruit growers, as well as apiarists, the subject of the raisen grape is of great interest.

## TO ADVERTISERS.

In soliciting your advertising patronage we would call your attention to the fact, that in the past we have allowed our advertising space to be used ONLY by those engaged in the Bee industry.

But now that we have added an agricultural department, we intend increasing its advertising space, and will insert "ads." of an agricultural nature.

We would further state, that our Journal circulates among the most advanced Beekeepers, Fruit growers and Agriculturists in the country, and these are the most desirable class to be reached by those who deal in supplies.

We wish also to say, that we will admit no "ads." of a doubtful nature, neither have we space for Patent Medicine "ads." Society Notices, or in fact any ad." that is not of direct interest to the Beekeeper or Agriculturist.

Our Journal goes into the hands of thousands of Bee men, Farmers and Fruit growers, who would be your best patrons, and who cannot be reached by any other journal.

We guarantee a circulation of at least two thousand copies per month, and as our subscription list is growing with great rapidity, we will undoubtedly be issuing five thousand copies monthly in a short time.

Under no circumstances will we allow our advertisements to encroach on our reading matter.

## OUR PREMIUM.

We will send to every new subscriber to the Western Apiarian the following as a premium:

Twenty five sheets fine linen note heads, nicely printed with your name and address; our price, 30 cents; printers' rates, 75 cents.

25 envelopes neatly printed with name and address, our price 30 cents printers' rates 75 cents. Six fine steel pens, our price 5 cents, store price 10 cents. One blue and red Dixon' pencil, our price 10 cents; store price 15 cents. One fine rubber-tipped leapencil, good value for 5 cents. One Rancher's Scribbling Book, our price 5 cents; store price 10 cents.

At the store or at any printing office you would pay \$1.90 for the above assortment of goods that will be purchased and used within six months by every family in the land. We offer them, packed and absolutely free, to every new subscriber to this journal at 75 cents.

Postage on the above, when sent as a premium, 10 cents extra.

We have had a number of articles of great interest to the beekeepers, that were crowded out for want of space, but will appear in our next issue.

In 1878, William Thompson, Sr., of Yuba City, received from Rochester, New York, three grape cuttings. He grafted these into old vines, but only one grew. "I got a few cuttings from him which I grafted and extended the culture as soon as I perceived the merits of the fruit. As the grapes seemed to be unknown, the Sutter County Horticultural Society named it the "Thomson Seedless."

This grape will take the place of the dirty Corinth grape, known as the current of commerce. It is larger than the current and more meaty, approaching in this respect the Muscat, and having the same color as the latter grape. It is perfectly seedless. In drying 3.27 pounds of ripe grapes make one pound of raisins; and it dries rapidly in a room or shade, as well as in the sun. Moreover it does not burn on the vine.

The writer's vines were planted eight feet apart and pruned to a long spur, tied to stakes and received the usual culture and are not irrigated.

The product of the first vine which took the graft, I have weighed for four years with the following result: First year, 50 pounds; second year, 68 pounds; third year, 70 pounds and fourth year, 106 pounds; making an average for each year of 74½ pounds. In 1886, this vine was pruned to short spur, by mistake, and only produced 15 pounds.

In 1888, nine vines produced an average of 89 pounds each. In 1889 the vines were pruned short for cuttings, and twelve vines produced 361 pounds, an average of 30 pounds of grapes. Even the latter yield is sufficient to satisfy the most exacting.

The economical handling of this grape must command growers. It can be stemmed at once by machinery, does not need to be faced in packing and can be put on the market either in sacks or boxes.

We offer the most liberal cash premiums to those who will work for us. The above wonderful stationery premium, such as has never before been offered, causes it to be readily taken in every home. All that is required is to show the paper and premium and they subscribe at once. Send for our liberal cash terms to agents.

In order to prove to our patrons the value of printed stationery, knowing that if you once use it you will always have it, we make the following extraordinary offer:

We will print your name, business and post office address on 50 sheets fine linen paper, making a neat and attractive note head postpaid for only 30 cents. This is really less than blank paper of the same grade would cost you.

Fifty envelopes printed with return to name and post office address, 30 cents postpaid. Just what they would cost you at the store, blank.

Any printer would charge you \$1.50 for the above goods.

Why not have an apicultural department in connection with the State University of California? We believe such a department would be of great benefit to the beekeepers of this state and that, by increased enthusiasm in and knowledge of beekeeping would add largely to the wealth of the state. It is a fact that very few know anything of the magnitude of the present honey production of California, and perhaps fewer still have any sufficient idea of its possibilities.

Almost every branch of agriculture receives more attention from the public press than apiculture does; and yet, as beekeepers, we are not content to be humbly thrust back among the insignificant, that some other agricultural interest may be paraded in false colors: bought, borrowed, or stolen; when, in reality, it is far inferior, either in present accomplishment or future promise, to the honey industry.

Are our beekeepers bashful? How is it we so seldom hear from them at our large fairs? How is it honey production is so seldom used as an incentive to induce immigration? How is it honey is not considered as staple a necessity as sugar and butter? Beekeepers in California, wake up! Neither you, your bees, nor your honey are occupying the prominent place among California's producers that you could and should.

Mr. L. E. MERCER, of Ventura, reports his honey crop, so far as 50,000 lbs. extracted, and 11,000 comb. This, he says is only about half a crop. We have a very interesting article from him, that will appear next issue.

S. J. Weymouth of this place is the possessor of a queer colony of bees, or rather, a queer queen. The colony, to all appearances, is as prosperous as the rest. In this colony fertile workers are at work and the colony raises and continues to raise queens as though on the dawn of a swarming period. What becomes of all these queens that hatch, is a question, as they do not swarm.

Has any apiarist noticed anything similar in his experience in bee culture? It is a well-known fact that all prosperous colonies do not tolerate such a thing as fertile workers, and this seems to be an exception.

We call the attention of beekeepers and fruit growers to the large label on the last page of this journal. This will be suitable for large cans and for crates. With a change of wording, it makes a splendid label for fruit boxes, cases, etc. No fruit should be allowed to leave the orchard without a label, bearing the name of the orchard and of the grower.

We get up an almost endless variety of labels of all sizes and suitable for all purposes. We print either in black or in colors, and our prices are exceedingly low.

Try our labels on your fruit boxes, honey cans, etc., and we are sure you will never be without them.

Tell us what you would like, and we will give you an estimate of the cost that will surprise you.

A personal letter from Mr. C. H. Gordon of Altona, Colorado, a valued friend and correspondent of this journal, gives us particulars of the painful and all but fatal accident that befell him in the winter.

He was carrying the mail from Boulder to an adjoining office, and was caught in a severe wind storm that overturned his cart, and hurled him among the rocks. He was terribly hurt, and is now in Chicago for treatment.

We proffer sincere sympathy and hope that he may have a speedy and complete recovery.

**Practical Queen-Rearing.***A Simplified Treatise.*

FOR THE WESTERN APIARIAN.

By S. L. WATKINS.

## CHAPTER III

The drones are the male bees of the hive, and are about one fourth larger than the workers. In general form they are almost cylindrical, and are easily distinguished by their clumsy motion and loud buzzing.

In this part of California they make their appearance about the latter part of March or the first of April.

Only one drone is selected for the royal consort; the only office the rest perform, is in keeping up the heat of the hive. The number of drones found in a hive varies from one hundred to several thousand.

As only a few are required for fertilizing the queens, it is a good idea to remove most of the drone comb in early spring, and fill up with frames of foundation.

The age of the queen sometimes, has considerable to do with the surplus of drones raised. When the queen's egg laying power is declining, a surplus of drones is the result; such queens should be removed at once and young queens inserted in their place.

A young queen sometimes when first commencing to lay, will lay quite a number of drone eggs to start with.

The beekeeper, if a beginner, will think that his queen has not been mated, as it is a well known fact that unimpregnated queens lay nothing but drone eggs. The chances are that he will destroy her, and insert another in her place. It is best to wait a couple of weeks, and if the queen still persists in drone laying, the sooner she is removed the better. In examining an apiary one can tell

almost the age of every queen in the various hives by the amount of drone comb and the area of the brood nest. I once owned a colony of bees, the drones of which were quite phenomenal. There was quite a diversity of color among them—some had white heads, some lemon color, some yellow, and others variegated, presenting a singular combination of adornment. Such sporting or freaks of nature do not occur very often. I raised young queens from this queen to see if the drones would hold their markings. The queens were mated in an isolated location away from all other bees, by drones from their own colony, but the drones from the new queen were of the ordinary coloring. I suppose it was just a transient outcropping that would not occur again probably in a thousand generations of bee life.

At certain seasons of the year, when honey is beginning to get scarce, the workers destroy the drones. Some colonies, though, have drones all the year around. At the Silver Fir Apiary I had three colonies that retained their drones the entire season. All three colonies were the best in the apiary for honey gathering; and I suppose having an abundant supply of late pasture, giving employment to the bees, and the season for killing drones had passed, they concluded to let them live. In olden times various conjectures and opinions prevailed as to the use of the drone. In "Harbison's Bee-Keeper's Directory" he mentions a case where an aged bee keeping friend of his gave his opinion as to the use of drones. "The drones," said he, "are for the purpose of tramping the mortar for the worker bees to build combs of." An original opinion, surely. Sometimes when there comes a check in the honey flow the bees may be seen carrying out the immature drones rapidly. If no more honey comes in

they continue at this work until every drone is removed. If a new source of honey is opened to them they stay proceedings, begin enlarging the brood nest and make other necessary preparations for the prosperity of the colony. Impregnation of the queen always takes place high in the air, usually during a warm, sunshiny day. The capulatory act is fatal to the drone. The queen is only mated once in her life time.

## —FERTILE WORKERS.—

When a hive has been long queenless and they have no means to command the rearing of another queen the workers develop upon themselves the act of egg laying. When we consider what is implied in this we cannot but regard it as very wonderful. A worker bee without being mated or fertilized, laying eggs, and what is more wonderful still, these eggs will hatch and produce dwarfed drones. Once in a great while the bees will build queen cells and try to rear queens from these fertile worker larvae. These cells are considerably larger than the ordinary queen cells. The larvae will grow to a pretty good size but before becoming a pupa, dies

The colony will not last long when it contains fertile workers. A good plan to get rid of fertile workers, is to remove their hive to a new location, and place a nucleus colony with a queen where they stood; all the bees except the fertile workers will return to the old location; all the bees remaining in the old hive should be killed. This method is the easiest to get rid of fertile workers that I know.

## —WORKER BEES—

The workers are the smallest and most numerous of the colony. Some writers on bee-culture have divided the worker bee into several different classes, according to the different kinds of work done; hence we read of builder bees, nurse bees, wax makers, etc.

But it is very doubtful if there exists any definite set, organized by the bees themselves.

It is an interesting fact, and worthy

of notice that when a bee starts on a honey-gathering and pollen-collecting trip it will confine itself for that journey to a particular variety of flower; if it begins with clover, it will visit only clover blossoms; if it selects sunflower or mignonette, it will keep to that sort of flower, thus proving the old nursery rhyme about the little busy bee, "gathering honey from every opening flower."

The worker bees are possessed of a long and easily extended tongue with which they lick up the nectar of the flowers and other sweet substances. The worker bees are also furnished with two, short, stout mandibles used principally for gnawing hard substances. Drones and queens are also possessed of a pair of mandibles but not so large as those of the workers. Honey bees have two stomachs. The first stomach serves a purpose similar to the "crop" in birds. It retains the unripe nectar for awhile, and no change occurs before it is put in the cells. By a sort of muscular contraction the sweet liquids that it contains may be thrown up by the bee for storage in the combs. The stinger of the bee is a straight and formidable weapon ending in a sharp point and containing two barbed darts. One of these darts is longer than the other and is first thrust out when the insect uses his stinger, the other immediately follows, and the two become more and more imbedded in the flesh. To some persons the sting of a bee occasions severe pain and inflammation. As the poison of a sting is acid in its chemical nature the best remedies would therefore be a solution of potash soda, or ammonia.

A good colony of bees should contain between 40,000 and 80,000 bees during the working season. The worker bees comprise the most important part of the hive community. On them develops the manufacture of wax; construction of combs; the gathering of honey, pollen, and propolis; the tending of the young brood; the ventilation of their hives; the guarding against and doing battle with robber bees and other enemies. Bees are of various colors, according to the variety. All bees are light-colored when first they emerge from the pupa or chrysalis state, and become considera-

bly darker with age. The abdomen of the worker bee has six segments and the wings reach nearly to the end of the last segment. Pollen is collected by the hairy body of the insect being rolled among the anthers of the flowers. The fine dust which adheres to the body of the bee is taken off by means of brushes on the legs. If you watch a bee closely while working on some pollen-producing plant you will notice that the bee dusts itself pretty freely with the pollen dust, then rises on the wing and by a slight-of-hand performance deposits the pollen in the pockets on the middle joint of the hind leg. Surrounding these pockets are hairs in rows pointing upward and outward, which prevent the load of pollen from tumbling off. If you go to a colony in the working season and watch the bees entering the hive you will observe them carrying pollen of many different colors—some will have yellow, some white, others carrying red and blue. This is due to the fact previously noted—that each bee confines itself strictly to working on one variety of blossom.

The eyes of the bee are compound. There is one on each side of the head. By compound eyes we mean an organ having many distinct entrances for light, each of which has a separate thread of nerve matter for receiving and conveying to the brain impressions received from external objects. If the eyes of the bee be observed under a high power microscope there may be seen on the outer coat of their eyes hexagonal divisions termed by scientists "facets," and all eyes so constructed are described as "facetted." Whether insects possessing such a multitude of lenses for admitting light have increased power of vision is unknown. No doubt insects having such compound eyes have very acute and far reaching sight.

Considering also that they work in the dark and that quite a number of moths and beetles are nocturnal in their habits, we may reasonably expect that the compound nature of their eyes, gives them increased power of vision.

Bees also have in addition to the compound eyes, three single ones, termed by some scientists "caronets" and by others "stemmata." No doubt the office performed by these eyes is to give distinctness of vision upwards.

The antennae are feelers of bees situated in the front of the head and are organs of vast importance.

Some scientists have considered

them to be the seats of hearing and smelling.

It has been demonstrated to a certainty, that they are made use of as instruments of touch. Recognition of friends from strangers or foes, undoubtedly takes place by means of the antennae. To prove this, go to the entrance of any populous hive where guards are on the watch for intruders, and see how quickly they take hold of all strange acting bees to see whether they are friends or foes. That bees can tell friends from foes by the antennae, has been well established by Huber.

On one occasion, wishing to find out whether the bees discovered the loss of the queen by smell, touch, or some means unknown to man, he first divided the hive into two compartments by a network grating which prevented the bees, on either side, from getting at each other. In that part where there was no queen, the bees soon began to act wild and strange. The network grating was placed in such a manner that the bees could not reach one another with their antennae.

In that part where there was no queen they immediately commenced the preparation of queen cells. He next made a small separation through which the antennae of the bees could be passed, but not the whole head. As soon as they had this way of communication established they quit making queen cells and showed no more agitation and commenced attending to their domestic duties. By means of their antennae they assured themselves that their queen was near at hand and they kept up a constant communication with her.

Repeated experiments have proved that the removal of one antenna did not make any sensible difference, but removing both produced striking effects in their actions. They seem to lose all instinct and wander aimlessly about without any apparent motive. It has been ascertained that if two queens thus treated meet in the same hive they do not show any spirit of hostility that would have been manifested if perfect. Removing the antennae of worker bees causes them to leave off their ordinary duties, leave the hive, and never return. From these facts and observations it is concluded that it is by these antennae that bees recognize each other and tell friends from foes

**A VISITOR,**

AND

**SOMETHING HE SAID.**

FOR THE WESTERN APIARIAN.

We were pleased to receive a visit at our office a short time ago from Mr. Schaeffle, and in conversation with him respecting his apicultural experiences, we learned several facts that are well worthy the consideration of our beekeepers.

In discussing the advisability (under certain circumstances) of placing hives on the ground, Mr. Schaeffle told us his experience, which, to say the least, was peculiar. He said that one time he allowed one of his hives to remain on the ground for a few days, and when he went to it with the intention of placing it on its stand, he found the bees apparently well satisfied with their position; so he decided to allow them to remain there. He gave the subject no further consideration; but one morning a few days after, while walking in the vicinity of this particular hive, he noticed a lump of strange-looking material in the path, which, on closer examination, proved to be dead bees. This incident repeated itself a number of times, until Mr. Schaeffle became alarmed for the safety of his bees, as he attributed the destruction to a fox or skunk, and as he did not raise bees to feed foxes and skunks with, he resolved to put a stop to their depredations.

While he was considering the best way to get rid of the fox or skunk, and stop the destruction of his bees, Mr. S. received a visit from an old Frenchman, and of course the conversation turned to the subject of the dead bees.

After hearing the story, the Frenchman said that he did not think it was either fox or skunk that was doing the mischief, but suggested that it was

more likely to be a toad.

This set Mr. S. thinking and at sundown he went out to the hive he had placed on the ground, and closely watched the entrance; and true enough, in a short time up hopped a large toad, and took his position as near the entrance as possible.

The game was now getting interesting, and Mr. Schaeffle watched the performance of his toadship, with more attention than he generally gives to his minister. As the bees arrived at the hive, laden with honey, occasionally one would come within the radius of his toadship's grasp, and quicker than a flash would pop the toad's long tongue and the bee population of the glorious state of California would be reduced by one.

Mr. Schaeffle watched the performance until it got monotonous, and then pulled the string that lowered the curtain on the stage of the great gobble-up drama; or in other words, he kicked the toad into his neighbor's ranch and lited his hive of bees to their stand.

**RATTLESNAKES.**

FOR THE WESTERN APIARIAN.

By W. W. BLISS.

Most apiaries on this coast are situated in or near the mountains, and it is there one often meets with rattlesnakes. Domestic animals and sometimes persons are bitten by them. The object of this article is to give a remedy for their bite.

Twice, since I have been in California, I have had cause to try the effect of this remedy: once on a dog, and within the past two weeks, on a cat.

About half past nine o'clock, in the year 1882, my dog was bitten on the neck by a rattle snake, but I did not know it at the time. The next mor-

ning, his head and neck was a sight to behold, being swollen to twice their normal size.

I took a pint bottle of spirits of turpentine and saturated his hair in wherever the body was swollen. The result was, that by four o'clock in the afternoon of the same day, the swelling had all disappeared, and the aforesaid dog is alive and well to day.

Our "Thomas H. Cat" has a great dislike for snakes, and will kill all of the "varmints" that cross his path.

About two weeks ago he was bitten on the front paw by a rattle snake. When I found him, his paw and leg was swollen to about the size of his body, besides his body was badly swollen. Turpentine proved as effectual in this case as it did when the dog was bitten.

Apiarians frequently have trouble in moving bees from one location to another, or from one stand to another.

The bee, when released in his new location, comes out of the hive with a rush; and without observing that it has been moved, or noticing in any way its new surroundings, goes out about its business; and when it attempts to return to the hive is all at sea as to its location, and, having nothing to guide it, is lost.

A simple remedy for this is to tack a piece of canvas from the outer edge of the alighting board to the top of the hive. The bee is startled by this when it comes out; is compelled to go out sideways; observes the change in the location of the hive; takes its bearings by a few circles; and returns laden to its new location as surely as it did to the old.

Honey salve, recommended for running sores of long standing, boils, or sores with proud flesh, may be made by taking two tablespoonfuls of honey the yolk of one egg, and flour enough to make a thin paste.



## LAWYER BEES.

### Are worse than Fleas. Enough to Make A Dutchman sneeze.

By ED. E. McCALLUM.

One morning a short time ago, a gentleman walked into our office and asked us if we understood bees. Of course we said at once that we did. I might have added that we knew the whole alphabet, for what would be the use of trying to edit a paper if we did not know the difference between A and B.

He further informed us that he had taken a contract to paint a certain house in town, and learned that a colony of bees had been living in the garret for the last ten years—rent free. This seemed very strange—especially as the house was owned by a judge—but when he informed us that the bees had entered a pointed protest against his painting the house we were not at all astonished, as we thought that nine years of daily companionship with a California lawyer would have a tendency to demoralize something stronger-minded than a colony of bees.

Our painter friend wanted us to act as a sort of deputy sheriff and eject the bees by main force; but our junior editor said he thought he would have no trouble in securing the swarm and removing it from the house. As we were busy at the time he thought he could manage the affair alone, and would go the next morning, box the entire swarm and remove it.

The next morning the junior walked off with the remark, that he would bring the bees back with him. I saw nothing more of him until noon, and then he slipped into the office by the back door, looking a trifle serious, and when I asked him if he brought the bees back with him; he replied that he had brought the tail ends of a good many.

He further informed me, they were the most vicious, vindictive, disreputable swarm of bees that he ever saw, and the only way he could account for the fearful moral depravity into which they had fallen, was, their nine years social intercourse with a lawyer.

We talked the matter over and decided that we would both go in the afternoon and finish the job, as our

painter friend was anxious to get at his work. And so after dinner we went to the house, resolved that we would make short work of these degenerate honey suckers, who presumed to insult the dignity of an editor of a bee journal, by acting in this outrageous manner.

When we reached the house we were met at the gate by the painter—in fact by two painters,—as the first one had recured the assistance of another to help him.

The second painter was worth two of the first,—that is for soap grease,—as he was double the size.

Painter No. 2 was a large man, in fact he was a very large man. I do not know his weight as he had outgrown the town scales, and the railway company had refused him the use of the scales they used to weigh their loaded cars on.

My readers may think that I am hard on him—but he laughed at me when a bee stung me on the cheek and my mouth went on an excursion half way to the nape of my neck.

After we had prepared ourselves for battle by putting on a veil, gloves, and a lovely smile, we went up stairs where the bees were. Bless your heart!—they were like Pat Keating's moths—there was a million of them. I thought at first they were Italians, but after a couple had got inside my veil I knew they were only common mongrels, as they had stingers nine inches long, wound up inside of them, driven by hydraulic pressure.

We first attempted to smoke them, but found it no use—in fact they rather seemed to like it, and amused themselves by proding us in any part of the body that suited their fancy.

As the smoke was getting very dense we adjourned to the yard for consultation, and joined our painting friends in the rear of the house. We carried a number of bees in our clothes, and when we reached our friends they reached some too. Painter No. 1, proved himself the most polite man I ever saw, for he took off

his hat to them, made a most elaborate bow, swung it around his head at a great rate. I saw some more coming and said: "Hello! here comes some more," he yelled—"hello" also, only he said his "hello" backwards—and immediately disappeared.

After a brief consultation we resolved to make another attempt to capture the lawyerized stingers, and managed by prying off a few boards, to get at the comb. We did not succeed in finding the queen and consequently could do nothing with the bees. The queen was off on a trip somewhere; this fact we were sure of, as the queen doesn't sting, and every bee that was at home stung us. I knew there would be some legal technicality to beat us out of our rights.

There was a vast amount of brood comb, with each cell stamped with the date the egg was laid (lawyer-like again, you see) and also a good deal of wax—mostly sealing wax. As to the honey, there was really none of any consequence.

Of course for the the next few days we felt pretty big over what we had done, in fact we were big, in every sense of the word, for the junior was a genuine bloated aristocrat, while I was a howling swell.

Look out for the bee birds: they are very destructive to bees, and a half dozen in your vicinity will do a good deal of damage to your apiary.

They may be seen near sunset at their destructive work, as they will then be found on the tops of the trees that the bees are forced to fly over to reach their hives, and as the bee is somewhat exhausted in making the rise—laden with honey—he is an easy prey for the hawk.

They do not eat the bee for himself, but for the cargo he carries, as they disgorge as soon as they have squeezed the honey out of him. The best plan to get rid of them is to fill them full of bird shot.

**How I Commenced  
Bee-keeping.**

FOR THE WESTERN APIARIAN.

By WILLIAM STYAN.

When I first commenced beekeeping about ten years ago I had the bee fever very bad. I read up all the bee books I could get hold of and studied hard the theory of the art and mysteries of beekeeping. Having crammed myself with all the bee literature I could get hold of, I finally decided to launch out as a practical apiarist. I did not begin in a large way, as I had very little spare cash at that time, but I bought one pound of bees and a queen for which I paid the modest sum of one dollar.

I had an empty box about 10 inches square into which I cut a round hole large enough to admit the neck of a 4 pound fruit bottle, and having made a door at one end, I fixed a piece of glass into it and cut an entrance on the opposite end. I then put my bees in the box and placed a 4 pound jar of syrup (made with sugar and water) on the top, and as I wanted to make it a kind of observatory hive where I could study the habits of the bees night or day, I cut out a strip of glass from the bottom pane of one of the windows in my house. I fixed the hive on a shelf inside the window in such a manner that the bees could go in and out through the opening in the window pane. Several of the neighbors thought I had either gone or was going crazy, and people would stand and gaze in astonishment to see the insects hurrying in and out of the house (as they imagined) through a hole in the window pane, and many wondered why the "nasty things" were not routed out and annihilated.

Well, my bees were getting along finely; they built beautiful white

combs, and these they filled with the syrup which I fed to them liberally, when lo! one fine afternoon a strange swarm appeared on the scene and alighted on the window sill. The two colonies at once became friendly and entered into a mutual partnership. They worked harder than ever and almost filled the box with comb, syrup, and honey; but alas! the increased number of bees raised the heat of the small habitation to such a pitch that with their extra weight on the combs they broke them all down and buried the queen and greater part of the bees in the syrup. As soon as I found out something was wrong I turned up the box, and imagine my dismay on seeing my pets in such a plight. I did my best to restore the queen to life, but my efforts were of no avail. The bees dwindled down and finally died.

My friends congratulated me on my "success in bee-keeping," and my fever slightly abated; but I had learned a great deal of the habits of bees during my short experience as a practical beekeeper, and I was determined to persevere in my efforts to become an expert.

To Be Continued.

**Fresno Correspondent.**

The fifty note heads and fifty envelopes with our "ad" printed on them as ordered, were received yesterday, and I must say that for neatness of design and promptness of delivery that you deserve great credit. Having examined them closely I find that they are as nice a thing of the kind I have ever seen, and the price is so low that I can't see how anyone in business could have the knowledge of your liberal terms of advertising, and not take advantage of the opportunity.

We would be greatly pleased were you now established in your new quarters in San Francisco, and prepared to furnish supplies; for we would certainly give you an order - - but judging from your success up to the present, I feel confident that you will establish a business that all Pacific Coast apiarists may well feel proud of, a place where we can get our supplies without having to pay such enormous freight, and besides waiting until our patience has been taxed beyond endurance.

Wishing you success,

I remain

Yours Truly,

J. C. McCubbin,

Selma, Fresno County, Calif.

**Los Angeles Report.**

FOR THE WESTERN APIARIAN.

By W. S. RITCHE.

Bees are doing well in this locality and the prospect of abundant pasturage is good. Some new swarms have at this date already filled both stories, the honey being capped and ready to extract.

Swarming has been going on lively for the last six weeks. We have about 80 hives all told. Some swarms came to us from lower down the hill side.

Our apiary is located at the base of the mountains in a white sage district. This is fast now being attacked by the bees. The black sage has furnished the bulk of honey so far, also a plant called the fillaree, I think, or wild alfalfa, but I am a stranger in California and hardly know the plants.

We have taken off some very nice comb honey, and also extracted a little. We are enthusiastic bee men and are taking a deep interest in everything pertaining to bees and honey.

**Nebraska Report.**

FOR THE WESTERN APIARIAN.

By G. M. WHITFORD.

The prospect at present, for a large crop of honey is splendid; bees are strong and healthy, and are working on white and Alsike clover, raspberry and honey locust bloom.

Some of the stronger colonies are working in sections.

I have had ten swarms.

My bees were wintered in a cellar and came through in fine condition, only two colonies perished, and they were very weak in the fall, when put in the cellar.

But I believe the winter problem does not worry apiarists on the Pacific coast.

I should like very much to engage in the business there, as my locality is not a first class bee country, although some portions of the state are adapted to bee culture, but in our section we lack pasturage for our bees.

## TO ONE BEGINNER.

FOR THE WESTERN APIARIAN.

By J. P. ISRAEL.

In a recent visit which my bosom friend, Mr. James Heddon of Do-away Jack Mich., made to my pallace home, here in the hills, we made a contract, as unalterable as the laws of the Medes and Persians. "Now Jim," says I,—I always call him Jim — 'when a man gets to be an old vet-e-an in beekeeping—when he can sit in his pallace home, perfectly independent, on what the bees and the neighbors bring in—when he is plumb, chock full of bee wisdom until he can hold no more—as we are—then he should let it out in a flood, to beginners.'" So we made the contract—Heddon and I—that is me and Jim. He is to have the territory east of the Rockies and the *head* of the bee. I am to have the Pacific Coast—including the Rockies—and the *tail* of the bee, from its extreme end—which anyone can easily find—to the waist, where it ties on its apron. Each is to give a scientific exposition of all the good and bad qualities of *his end* of the "critter." If it is necessary to barbecue the beasts, for that purpose, why all right. I shall only take *one* beginner. Jim can do as he pleases, but my opinion is that if he takes *more* than one, his knowledge box will be empty before he gets half through.

## TO ONE BEGINNER.

To begin right, you must know the nature of the bee. It is not a bird of paradise, to play with. It is the most earnest seeker after truth and a soft place to get into business, that I ever saw. But I cannot do better than to quote to my beginner a few lines from a beautiful and instructive poem that I wrote some time ago, and which took the highest premium and gold medal at the Paris Exhibition—in the department of embicitivity—what does that mean,

Mr. Editor?— I think it was the highest department in the whole exhibition.

"A bee is not a buzzard, you remember,

Neither in June, July, nor in November—

Soaring aloft—observing from the sky

—On sluggish wings—the game at which to fly!

The bee—"a flash of lightning—there's another!

Oh! ah! oh! have I no friend or brother

To take my part? twenty? Yes, a thousand more

Have struck me—face and hands and heart are sore!"

This was a beginner too. It is the way they all begin. You see it is as well for you to understand *before* you begin, that an infuriated bee is as unreasonable as an angry man! You can't argue with him; he will kick you with his tail if you wink at him! There is no method in their madness. They will strike the hand that feeds them as quickly as that which molests them. They make no friends of their own kind—nor any other kind. When they shake the dust from their feet and rush from the door of the old homestead, that makes the inhabitant of that house their eternal enemies. Their hands are against that house forever. It contains maybe father sisters, and brothers—much that the heart clings to—but from that hour they are enemies. There is only one pure love—one high-hearted devotion—one undying tenderness in their nature. This is their love for their mother—or she who may stand in the place of a mother. For her they will fight—fight a regiment—fight the world in arms! For her they will rush into the jaws of death, or dash into consuming fire! They make no feasts—invite no friends to visit them—have no Thanksgiving turkey dinners—no gatherings on All-Hallow Eve—and do not give a snap for the 4th. of July! This last

point would indicate that they are not good citizens of the United States. I shall always speak of the bee in the masculine gender. Although it is neither male or female—a good deal of one and very little of the other—she is always a male to me. It is all man full of meanness and de eption and sneaking ways. It is true that some of them will boldly attack you in front and banter you to open war. But this only proves their meanness and their deception, for while they are at this their allies and co assassins are creeping up your pantaloons to strike you in the rear! They are all man. They have none of the purer, higher nature of women—none of her gentleness, tenderness, and mercy, and therefore he is male and nothing else, to me. He is an unreliable bird at the best, and is not one that you can trust—not even with a small amount. His whole argumentative power lies in his tail. When he gets mad, he won't give you time to apologize or explain! This is because his brains also reside in his tail! This is a self-evident fact which has been proved on many occasions by Mr. Heddon and I—that is, me and Jim.

The most ferocious beast that walks the forest can be tamed. The lion will lie down at his master's feet as gentle and obedient as a dog. But who—who in all the wide world ever tamed a bee—tamed it and took it into his bosom, as he would any other little pet that he loved? No, no, their hands—no, their tails are against every man, and every man's hand is against them—to despoil them of their treasure.

The bee has another bad trait of which I must warn my beginner. He is the greatest thief and robber that ever went unhung! Just think of a single female producing three thousand robbers a day, for weeks and weeks together! The bee is no re-

specter of persons. He would as soon rob his brothers and sisters, his grandmother, his great-grandmother, great-great-grandmother, as Mr. Heddon and I would—that is, me and Jim. He is beyond redemption. (I don't mean Mr. Heddon and I—that is, me and Jim—I mean the bee.) There would be no use in sending him to the reform school; nor to jail; nor to imprison him for life. He would turn up his toes the very first day—just to spite you. Some have proposed to send missionaries amongst them. But they would not respect a missionary any more than they would a mule! They would not give the missionary time to argue the case! With them, every question and every difficulty is decided by the sword! The mule would do better than the missionary. When he would hear the tocsin of war, and that the battle had actually begun, he would "kick the stuff" out on 'em," and leave for home! The missionary—being a non-resistant—would paw the air wildly—kick himself with his head, and run—aye, keep "running on forever." *Continued.*

## FLORIDA LETTER.

### Apiaries Situated Along Streams.

FOR THE WESTERN APIARIAN.

By JOHN CRAYCRAFT.

Advantages of having apiaries located along the streams and small rivers is of great importance, especially to establish out apiaries.

We made a move of forty colonies of strong two storey hives, a distance of fifteen miles the first week, without breaking a single comb.

All was prepared ready to close the entrance when all the bees were in for the night, which was done, and by nine o'clock P. M. all were loaded on four small row boats, and started for their new location, which we

reached at three A. M. and all were on their stands and opened before sunrise.

They lost no time in surveying their fields, and before the sun was half an hour high, they were coming in laden with honey and pollen.

When a person desires to locate an out apiary, he will generally find the banks of a stream or small river give the best results, as it furnishes the cheapest and most satisfactory method of moving them from one locality to another—by boat.—

Another strong recommendation in favor of the water side locality, is, that the bees remain very quiet during transportation, and go to work immediately upon their arrival at their destination; neither is there the same proportion of accidents attending water transportation, that generally follow the moving of bees by wagon.

A small boat built flat, such as are generally made for lighters, with a capacity of about fifty colonies, is the most suitable for the purpose.

Such a boat as described can be built for a small amount of money, and would handle all the bees there would be in four or five out apiaries.

This may set some of our beekeepers thinking, and perhaps relocating their bees, as there certainly is no safer method of moving them than by water, in small boats as described.

## GOOD IDEAS.

### FROM A PRACTICAL MAN.

By PAT. KEETING.

Bees are doing splendidly in this locality and honey is flowing in very rapidly at present.

My bees have made a large amount of manzanita honey and I consider it finer in quality and flavor to the white sage honey, but it is very difficult to extract, and I am forced to keep a pot of hot water near me while ex-

tracting to heat my knife to prevent it from sticking.

If any of the many readers of your journal want a cheap smoker, let them take an old coffee pot and fill it with ashes, then take some dry material that generates a large volume of smoke, place it in the pot and light it, and they will have a very serviceable smoker. Any beekeeper having too many drone combs, can get rid of them by opening the hive, and brushing the bees off the comb and then cutting off the heads of the drone bees; this method will clean them out in a short time.

Any beekeeper dividing hives can introduce queens in the following way: select the hive that is strongest, and if they are building queen cells, so much the better. Take two hives exactly the same and place them side by side. Now put half the frame brood and combs in each. Do this on a fine day when the bees are flying, and both hives will catch the bees coming in. They will build lots of cells in twelve days; in two days you can see the queenless hives building queen cells. You can go to the first hive and get cells and put them in the last divided hive and the will have queens in fourteen or fifteen days after dividing.

I have introduced queens that hatched in my hands, and the bees have accepted her two days after dividing or swarming, without any difficulty.

It is a good plan to make sure that you have uncapped brood combs in the hive, as bees are apt to swarm during the absence of the queen on her wedding trip.

I have noticed some deformed bees, but not a great many. The bees tear them out of their cells. I also notice that some are uncapped in the combs.

I have taken honey from boxes; but they are a nuisance, as the moth can play havoc among them. I found in one case a colony deserted their quarters and built in bottom board of the hive; and I cleaned a million of moths out of the hive, and cut combs and transferred them back to the hive.

There are plenty of men who can handle bees some, but the trouble is they get nervous and the bees sting them. Some people swell *awful*; but when handling bees you must be careful not to jar or shake them, as this irritates and annoys them, and they sting. That is where most men are beat handling bees; and I might also say that bees are not so apt to sting bare hands as when gloves are used.

Mr Eversault of Placerville, stated in our office, that his bees were doing extra well, and all the colonies were very strong and active.

## CARNIOLAN BEES.

### Pros and Cons Fairly Considered.

FOR THE WESTERN APIARIAN.

By Wm. GLENNON.

A race of bees found in the mountains of the Province of Carniola in South Western Austria. Mr. Benton says: "They are noted for their great gentleness. They rarely resent a manipulation, and need very little smoke to subjugate them.

They show decided traits peculiar to themselves, accompanied by distinctive markings, and are as justly entitled as any bees found in Europe, to be called an established race.

The workers are a silver gray in color, large of body, and have a strong wing. Queens are of a bronze color; thorax thickly set with gray fuzz; are larger on an average than those of any other race, having especially broad abdomens. Some queens are quite dark and others are met with which are yellow as the Italians, yet they invariably produce workers and drones which are distinctively Carniolans. The remarkable size and bronze color of the queens in contrast with their progeny makes it easy to find them on the combs. The queens are exceedingly prolific.

Mr. S. Simmons, Rottingdean, England, said to be one of the best authorities in the world, in the A. B. J., Vol. 22, page 808, says:

"They are the most easily handled of all, are not surpassed by any in defending their homes against intruders of their own kind. As regards their working capabilities, they are superior to either the Italians or natives. They are extremely active when anything is to be obtained, while in dull weather and during winter, they are particularly quiet. I find them longer-lived than any other variety. They are not given

to robbing."

J. B. Mason says: "They can be handled without smoke at all times; they gather no propolis as other bees do, but use wax instead. They defend their hives as well as any bees we have ever seen. They cap their honey the whitest of any bees we have ever had, and the queens are the most prolific."

Mr. T. J. Dugdale, West Galway, N. Y., in the "Bee Hive," Vol. 4, No. 4, says: "I give a few points in which they excel, so far as my experience teaches.

- 1st. Gentleness in handling.
- 2d. Prolificness of queen in building up colonies.
- 3d. As superior honey gatherers.
- 4th. Wintering well in our severe climate.
- 5th. Not inclined to rob.
- 6th. Capping honey white.
- 7th. They do not gather so much propolis."

Lest some one say "an ax to grind," I would say I have neither bees or queens for sale.

In the same number of "B. H." George A. Walrath, Norwood, N. Y., says: "I have Carniolans, Italians, and natives, and give the preference to the Carniolans of my queens. They have all proven uniform in size and color, good layers, with workers well marked with conspicuous white bands."

Mr. C. H. Chapman, Cohoctah, Mich., in "Review," Vol. 2, page 204, speaks highly of them as comb builders. "The Carniolans produced the first half ton of comb honey in my apiary in 1889, and fully three fourths of the 3800 lbs. of comb honey I harvested last season, was started by the Carniolans. For extracted honey, I can see but little difference in the two races, and think the Carniolan more readily shaken from the comb than the Italian.

Mr. C. L. Fisher of Mass. says: "I have had many swarms of Carnio-

lans build up numerous enough to occupy a three story hive, and work like Leavers the whole season.

H. D. Cutting, of Michigan, says: "They are good honey-gatherers and are excellent comb builders." He had one colony, in one season, to fill a hive, four stories high, with comb from ½ sheets of foundation.

Thus we have many giving testimony in their favor, after, in all probabilities, a fair test.

All seem to agree on a few essential points, as follows:—

- 1st. Gentleness in handling.
- 2nd. Hardiness. Wintering well in this climate.
- 3rd Superior as honey gatherers and comb builders to many other races.
- 4th. Prolificness of queens.
- 5th. That they use little or no propolis, but use wax instead.

Who, in our bee-keeping fraternity, would object to possessing a race of bees with all these characteristics?

With them we may be able to solve the winter problem; and, owing to the prolificness of the queen, we can build up our colonies in early spring for the white clover harvest.

On the other hand we find many who urge objections against them: that they are excessive swarmers; that they rear a multitude of drones; that the capping of their comb is too thin to bear shipping to market; that they resent handling, and sting furiously; that they run about on the combs like the natives, and that it is difficult to find the queen; that in crossing with other races, they seem to lose their energy.

I believe it to be a positive fact that many have been duped in ordering pure Carniolans, and have received crossed or impure queens. If such is not the case, why the great difference of opinion among observing apiarists?

One reports them very gentle; another very cross. One, that they rear no more drones than Italians, or natives; another, that they are excessive drone breeders. One, that they stick to the

conbs well, and the queens are very easily found, another that they are wild and run around equal to our natives, making it very difficult to find the queen."

It must be a difference in the characteristics of the bee brought about by careless breeders who would rather have the money than a good reputation for Carniolans, and who perhaps keep other races in the same yard or close by.

I have aimed to give both sides of the question so far as I have met with such information. I am not a breeder of Carniolans but wish to learn something of their superior and inferior characteristics. I have been making inquiries for some time and I am not yet entirely satisfied as to their superiority, therefore I shall be glad to hear the experiences of some of the readers of this journal in regard to the race.

### Santa Barbara Letter.

FOR THE WESTERN APIARIAN.

By ROBERT BEETON.

The beekeepers in this county do not take as much interest in the bees as they did ten years ago. Some of them have lost the principal they invested. I would need a fast horse and buggy and a week of time to collect statistics in this county. The crop along the coast will be cut down by the heavy fogs that have come this month, but I will not send an exaggerated report. I think I will put money into my hives same as the Reno man did. I don't think organization would raise the price of honey.

Bees wintered fairly well where they had plenty of stores of early honey or were fed with good sugar, but those dependent on late gathered stores did not fare so well as the honey candied. We had a very mild winter for this locality, but since the spring opened it has been cold most of the time, with wind and rain. Unless the weather is warmer soon our prospect for a crop of honey is slim.

Bees in the southern part of the state are only good for half a crop of honey and hardly that. Cause—we had no late rains.

J. P. ISRAEL, Olivenhain, California.

### PECULIAR SEASONS.

By FRANK McCALLUM.

There is probably no product of the field or farm that is more at the mercy of the season, than the honey crop, and peculiar fluctuations of the weather may be marked in the sections and frames of the hive, with almost as much accuracy as by the thermometer or barometer.

With the opening of the spring, (or whatever represents spring in his locality) the honey-producer prepares for the coming crop; but he enters on his work with somewhat of fear and trembling, for the weather may take freaks and render of little avail all his work.

There may be heavy rains just at the time when his bees should be doing their best; and the busy little distillers of the harvest of nature's choicest, most delicious and healthful sweet, may be compelled, for lack of their delightful, sunny working hours, to remain inactive in the hive, and allow the perfumed and honey-laden blossoms to disappear.

Then again, the rains may refuse to come, even to accommodate such vigorous industry as is displayed by the golden banded gleaners, and insufficient bloom may blight the hopes of the anxious, veiled smoke-puffer.

The wrinkled face of mother earth, especially her right cheek that we call America, will not always wear an inviting smile, even to please these daughters of the sun-bathed hills, that lift their summits to the eternal blue of the Italian skies.

We have had a succession of these peculiar seasons, and the result has been that many honey producers have become discouraged, and some have gone out of the business entirely; but this cannot last forever, and we predict that the change is near at hand. We firmly believe that the

man who can keep up his faith in the future outcome, and "screw his courage to the striking point"—the bee has no difficulty in doing the latter—will be rewarded with abundant ultimate success.

### BEE NOTES

FOR THE WESTERN APIARIAN.

By G. W. COVER.

The past winter has been hard on the bees in the High Sierra. I can't count twenty colonies in all this section for miles around here. I went into winter quarters with fifty four colonies, and up to the present time have lost all but nine: six of them strong and three week ones.

A neighbor lost fifteen colonies out of twenty, and a second lost twenty-four colonies out of twenty five, while all the rest of the bee keepers in this vicinity lost in the same proportion.

My neighbor and myself kept our bees in the good old box hives, and so there is nothing to score for the box hive in this case.

I had Italians, Carniolans, blacks and hybrids. The Italians all went to the other shore. One colony of blacks remains to perpetuate their fathers, and hand their name down to the future ages of bee posterity yet unborn. The Carniolans came out bright and in good condition, in fact they were the only ones that looked like living. I might also state that my bees wete on summit stands, that being the way I always have wintered them here.

They were under fifteen feet of snow at one time, and were about ninety days without a fly.

There was about sixty feet of snow altogether, at my place the past winter, and the season is very backward, the hill tops are still covered with snow, and very little honey coming in at the present time.

# Agricultural.

## BEANS.

### A Food for Calves.

FOR THE WESTERN APIARIAN.

By ARTHUR A. SHERWOOD.

It is very often the case that the farmer desires to raise more calves than he has milk to properly feed. The result is that his calves become stunted in their growth and never reach the same size or weight that the well fed calf does.

To overcome this scarcity of milk food, the farmer very often substitutes barley meal, oats, linseed meal, and oil cake, and generally with very indifferent success.

Now I have had a good deal of practical experience in the rearing of calves, and have tried all the above mentioned articles of food, with very little satisfaction to myself and less to the calves; and the only substitute that I found for milk was boiled beans.

A few years ago I had occasion to raise at the rate of three calves on the milk of one cow, and did so with very gratifying results, using beans in place of milk as an article of diet. My calves never received a quart of milk from time of calving. As I was making butter at the time I used the creamer, which gave me the milk sweet, and to this I added about two quarts of thoroughly boiled beans (two quarts after being boiled) to each pail of milk. The calves soon learned to like this food and seemed more anxious for the beans than the milk.

I used the common white bean, and I found no difficulty in purchas-

ing them of a slightly lower grade, at rates that made my calf raising a financial success.

I might also say that I have tried ground bean meal as a food for stock and consider it about as poor a food as one can use; while beans well boiled I consider to be the best possible food that can be used for stock, especially for calves.

## POPCORN, AND PLEASANT WINTER EVENINGS.

FOR THE WESTERN APIARIAN.

There are many things that a farmer may have that his "city cousin" will have to buy, and it is the little buyings that run away with the cash. Among the pleasant little luxuries of the farm, we may speak of popcorn as one of the most important. Who has not enjoyed sitting around the roaring blaze on a winter's evening, and listening to the merry sound of the popping corn that serves as a suitable accompaniment to the pleasant conversation and joyous laughter of the company.

There ought to be a corner in every farm set apart to furnish the material for pleasant winter evenings, that will make the home life of the farm more agreeable to young and old. The orchard will of course furnish rosy cheeked apples; walnut trees should be planted to furnish this desirable addition to the good things; a few hazel bushes may be left to furnish variety in the nut line; and above all a good supply of popcorn to fill the popper with the flaky whiteness of the opened kernel.

Add to these a good supply of suitable reading matter for each member of the family, and a winter evening in the farm house becomes one of the greatest pleasures that man can have.

## THE HOME MARKET.

Now that the season has arrived for the placing of the honey crop on the market, the apiarist does well to pause and consider the best method by which he may build up a home market. The fact is very evident to the thinking man, that although the foreign demand is far in excess of the supply [as a general thing] nevertheless it is very desirable that we should build up a home market for our honey.

And we think the best way to accomplish this very desirable end is for the producer to be very particular in the class of honey which he allows to go on the grocer's shelf and into the homes of his future patrons. Generally speaking, you will find that the beekeeper who makes the best local reputation is the man who takes sufficient pride in his product as to place it on the market in an attractive form, and labels his honey with his own name.

We are glad to say that there seems to be a strong tendency at the present time to use an attractive label and make the producer's name a guarantee for the quality of the honey.

## PRUNING.

FOR THE WESTERN APIARIAN.

Experience is the great teacher in this, as in all other matters connected with either agriculture or horticulture. To lay down any rule to guide the orchardist in his work of ridding his trees of superfluous wood, would be to simply say: use the knife freely.

Of course some trees need pruning much more severely than others. For instance quinces need to be pruned in a manner that will surprise the average fruit grower; and he would think the tree all cut away and spoiled. In many cases the tree should be relieved of from one third to one half, and even more than that will in extreme cases, be found advantageous.

In this country, where the tendency to run to wood is so great, great care is needed in pruning trees. By great care, we do not mean that the pruner must be careful not to remove too much; but his care must be to

cut away plenty or he will find that his tree will be all wood and will bear little or no fruit.

There is perhaps no subject of greater importance to the orchardist than that of pruning for on it more than on any work he does, will depend the success or failure of his orchard.

Perpetual vigilance must be exercised by the orchardist, to keep it from being overrun with pests; and if the trees are allowed to run to too much wood, this most important work becomes vastly more difficult.

In spraying, it will be found a decided advantage to have the trees well and sufficiently pruned. The neglected tree becomes a nursery for all kinds of pests. It is an eyesore and a blemish in the orchard; is at least comparatively unfruitful; its fruit is of inferior quality; it impoverishes the ground by unprofitable growth.

The wise orchardist will keep under control the growth of his trees; and experience will soon teach him to correctly modify his methods of pruning, according to the peculiarities of his climate, altitude, soil, and the variety of his fruits.



## ZEBRAS.

### POSSIBLE DOMESTICATION.

#### FOR THE WESTERN APIARIAN.

The number of animals that are made subservient to the use of man is ever on the increase.

When the Spaniard first landed in America, the horse was unknown, and the conquest of Mexico, was in a great degree attributable to the lack of knowledge of the Aztecs; who for the first time saw mounted men.

The horse speedily became a fully naturalized citizen of America, and has kept pace with his cousins on the old homestead, who were not trans-

ported to the new world.

We observe that the humpbacked cattle are being introduced and successfully reared in this country, and for them are claimed many advantages in their adaptation to certain localities.

The ostrich has come to reside among us, and has become a welcome guest of Uncle Sam, who has given him a home in the ever sunny south, beyond the sunset peaks of the Sierras, amid the orange groves of Southern California.

So we might speak of other animals and birds that have come to contribute to the wealth and luxury

## THE ZEBRA.

and comfort of the American people.

When we consider the facts given above, we need not be incredulous when it is proposed to introduce and domesticate any animal from any land.

We expect, and hereby predict, that the zebra, of which beautiful animal we give an illustration on this page, will in the near future be introduced and domesticated among us. It is a very graceful animal. Some have stated that it is untamable, but facts contradict this. It has already been used as a beast of burden.

We believe it would adapt itself to



the climate of the Pacific Coast and perhaps in time, would spread through out the east. It will cross, successfully, with the horse, and might add value to that animal. It is very fleet, and would be excellent for saddle purposes.

The Quagga, which runs further north on the plains of South Africa, is more like the horse, especially in the ears and tail, and their symmetry of form.

The power of man over the lower animals can conquer the wild quagga of the African plains, and make it serve in saddle and in harness.

## Home Circle.

### THE HERMIT OF THE FOOT-HILLS.

FOUNDED ON FACT.

FOR THE WESTERN APIARIAN.

By CHARLES E. UPTON.

#### CHAPTER II.

I arose and threw on some more brush. The fire seized with avidity upon the fresh fuel, and I was about to resume my former station when there broke upon the air a sound that glued my feet where I stood and rendered me motionless as a statue. I was not dreaming this time; too often had I heard that cry to be mistaken; it was the long-drawn wail of a panther, or California lion, one of the fiercest animals of the Sierras.

For a moment I was undecided; but a second sharp cry out of the darkness warned me of the imminence of my peril. I took up the rifle, and allowing the water to run from the barrel, held the weapon downward over the blaze, and waited. A few seconds sufficed to remove all appearance of moisture. Plucking a cartridge from my belt, I found, to my surprise, that

the powder was uninjured by the dampness. Slipping it into the breech, I drew back the hammer, and then stood listening and watching intently.

The stillness that ensued tried my nerves more than could the mingled howling of a dozen animals. Being a devoted admirer of and a sincere believer in the woodcraft of J. Fenimore Cooper's "Leather-Stocking Tales," I felt that such intense quiet was but the forerunner of some great danger. And I thought truer than I knew, for all at once, as if to confirm my fears, again rang out that savage cry, this time not twenty feet from where I stood, and a pair of fiery eyes gleamed angrily from under a clump of manzanita.

Instinctively I raised the rifle. After a long, deliberate aim at the glittering orbs, my finger pressed the trigger. With a hum the bullet sped forth on its mission, and a cry of pain and rage told the success of my shot. But ere the reverberations of the report had died away I heard a sudden crackling of brush and twigs, a large object darted quickly into view, and I dodged aside just an instant before a flying leap brought the panther on the very spot I had vacated.

Before the animal could gather itself for a second spring I moved to the opposite side of the fire, dropped the yet smoking shell from the rifle, and sought a fresh one. My hand found but the empty belt; not a single cartridge remained!

As the appalling truth flashed upon me a momentary feeling of hopelessness seemed to sap my whole strength and leave me weak as a child; but a threatening movement of my fearful adversary drew my attention in that direction. The brute was preparing to jump. Not a second was to be lost; flight was my only alternative.

I hesitated no longer. Grasping my rifle tightly, I turned and ran regardless of the slippery and broken hillside. The splashing of swollen waters soon arrested my footsteps, and I realized that the creek was again before me. A repetition of my former mishap was by no means an agreeable thought; but who would stop for such a trifle when it was a matter of life and death to be decided?

I plunged in instantly, and impelled by fear, as well as hope, hurriedly reached the other side. Casting a look behind, I saw the form of the baffled panther moving back and forth on the bank I had just left, his eyes shining like beacons amid the darkness.

Thinking to elude its pursuit in case the creature should succeed in crossing the stream, I changed my course and began to move down, instead of across, the side of the canyon. Step by step, slowly and carefully, I journeyed, fearing every instant to drop into some hidden chasm or to slip and fall on a treacherous rock. Once, after nearly breaking my neck climbing over an unusually rough place, I chanced to glance backward, and an involuntary exclamation escaped my lips. Right there, almost under me, appeared the bright gleam of a fire, as if coming from the earth itself.

#### CHAPTER III.

WHEN the first feelings of fear created by an appearance so strange and unexpected had passed away, I ventured to inquire more closely into its origin. Upon retracing my steps, I found myself at the mouth of what seemed to be a small tunnel, or more properly speaking, a shallow hole that had been drilled diagonally into the ground, giving it an aspect half cave and half shaft-like, extending several feet under the surface, when it abruptly drifted off in an almost horizontal line. Two huge, overhanging rocks, their dark outlines indistinctly defined against

the flickering light, stood, one on either side of the cavern, forming an effectual barrier against wind and rain; while a third of yet greater dimensions, reclining in the background constituted a part of the roof of this strange habitation, if such it was. The black clouds of smoke, coming at intervals from within, gave the whole scene a mysterious, not to say ghostly, appearance.

Anxious to know who could be the occupant of so novel a dwelling, and moreover wishing to find a covering that would afford me shelter until the day broke, I proceeded to ransack my brains for some method of effecting an entrance. On a closer examination of the cavity before me, I perceived an irregular series of steps or notches cut in one side and descending into the depths below. Stepping upon the first and finding that it sustained my weight and appeared firm and solid, I began to move slowly downward. A few steps, and I found myself confronted by a sudden blaze of light and heat and everything seemed reeling before me; the next instant my vision became clear and I started back in amazement.

The place in which I stood was a small, irregularly shaped apartment, its very ruggedness denoting that man, and not nature, had been the architect. The ground beneath was strewn with white sand and minute pebbles to the depth of three or four inches; while, on the other hand, the sides were strengthened by a neat wall of carefully selected flat rocks, which in turn were smoothly covered and cemented with yellow clay. The top or ceiling was the only part that remained unchanged, but it was so low that only with great difficulty could I stand upright. In one corner, almost encircled by a rough stone fireplace, a fire of dead manzanita sparkled with a home-like cheeriness, flashing its rays of brightness and warmth throughout the tunnel, whose walls seemed to catch the glitter and reflect it with intensified splendor, until the whole cavern was aglow with light.


But the queerest object of all, the one on which my principal interest was centred, lay in a corner just opposite the fire. To me it assumed a shape, unmistakably that of a human being, reclining upon a low couch; and for a moment my fear of seeing a dead body in so lonely a place kept me from gratifying my curiosity. At length, however, I strove to overcome so absurd a feeling, and trembling convulsively, yet at the same time nerving myself to bear any sight, I advanced cautiously and stood over the image of my interest.

A single glance was enough to dispel all apprehension. Before me, on a ragged pallet, lay the figure of a man. He was evidently nearly seventy years of age, for his face, though kind and expressive looking, was marred and furrowed by innumerable wrinkles. On the forehead, which was high and prominent and in itself a guarantee of the owner's character, an ugly scar drew a deep red line that formed a marked contrast to the long hair of snowy whiteness that formed an appropriate frame work about the toil-worn visage of the old recluse. His nose and ears were large and require no further description; but the mouth, with its tightly-compressed lips and rigid muscles, told a story of its own. It bespoke promptness and decision, force and energy, backed by a stern strength of purpose, an iron will that would acknowledge no defeats, but instead would rise above each misfortune better prepared than ever for the struggle, with an increased confidence in the maxim, "every failure is a step to success:" a truth that all of us must learn by bitter experience before we can see our ideals in life realized.

Behind the head of the sleeper an old slouch wool hat lay where it had fallen during the old man's slumber. Even it showed a tattered aspect that spoke of hard service and

long-continued usage. A large, heavy coat slightly tinged with a hue that might have once been brown, but which now, like the wearer, was faded and colorless, adorned the upper part of his person. Beneath, a vest of similar appearance, though still retaining some of its original tint, could be seen, reminding one of a half-blown flower that had been nipped by the frost, and then had lain for years among the dust and cobwebs of an ancient garret. A pair of dingy brown overalls, grimy with dirt and worn by ceaseless exposure to all kinds of weather, was held in place by a stout leathern belt. A pair of thick calfskin boots, reaching nearly to the knees, completed the equipage.

Suddenly I became aware of the fact that the attitude of the old man had changed. He began to throw his arms about, and I saw his eyes slowly opening to a sense of their surroundings. Then, without warning, he arose to a sitting position, and for an instant gazed straight before him with a dull vacant stare. Soon, however, the look changed to one of terror as he began to realize that he, who had sought this subterranean retreat in order to avoid all intercourse with the outside world, was alone with a fellow being.

 TO BE CONTINUED.

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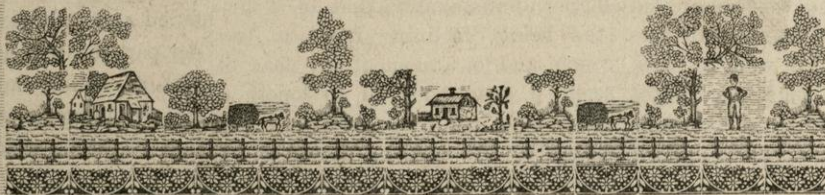
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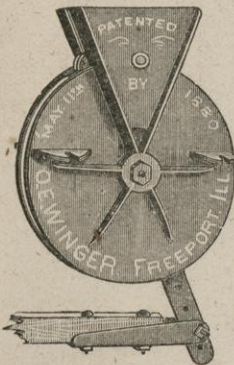
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