



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

The Western apiarian, and ranch and range. Volume 2, No. 6 May [1890]

Placerville, California: McCallum Brothers, May [1890]

<https://digital.library.wisc.edu/1711.dl/ZVTAEHKNXG4R38K>

<http://rightsstatements.org/vocab/NKC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

VOL. II

M. C. 6.

THE WESTERN APIARIAN,

◁ AND ▷

✦ RANCH AND RANGE. ✦

◁ PLACERVILLE, MAY, CALIFORNIA. ▷

McCallum Bros. Publishers.

Subscription,

75 Cents a Year.



Italian Bees and Queens.

FRIENDS: I expect to pay my undivided attention to the rearing of queens during the season of 1890. I solicit your patronage. Send for prices to

H. G. FRAME, NORTH MANCHESTER, INDIANA.
REFERENCE FIRST NATIONAL BANK.

WHEN YOU ANSWER

any advertisement in the "WESTERN AP-PIARIAN AND QUEEN BREEDER'S JOURNAL," be sure and mention this journal. All advertisers like to know where you saw their "ad."

This will be a benefit to all parties, your self included.

J. FORNCROOK & CO.,

Manufacturers of the

"BOSS" ONE-PIECE SECTIONS
PATENTED JUNE 28, 1881.

Will furnish you, the coming season, ONE PIECE SECTIONS sand papered on both sides, as cheap as the cheapest, and better than the best.

Write for prices.

Watertown, Wis., Jan. 1, 1890.

Mention the "APIARIAN" in answering.

Dr. Tinker's

Queen-Rearing Chamber!

The only practical invention for rearing and securing the mating of a number of queens, and getting them all laying at once in full colonies of bees. It does away with all nuclei at all seasons, and also with laying workers. Patented July 15, 1889. For full particulars address with stamp,

Dr. G. L. Tinker,

New Philadelphia Ohio.

RUBBER PRINTING STAMPS, FOR BEE-KEEPERS

Send for Catalogue.

G. W. Bercaw, Fostoria, Ohio.

Mention the "APIARIAN" in answering

W. E. CLARK ORISKANY, N. Y.

Keeps a full line of Bee-keepers' SUPPLIES makes the Best Smoker in the World. Send for his Illustrated Price-list, and buy one of his Perfection Hinged-Nozzle Quinby Smokers.

Address: W. E. CLARK, Oriskany, N. Y.

PATENT WIRED COMB FOUNDATION

HAS NO SAG IN BROOD FRAMES.

THIN FLAT BOTTOM FOUNDATION!

Has No Fish-bone in Surplus Honey.

Being the cleanest, it is usually worked the quickest of any Foundation made.

J. VANOUSEN AND SONS,

Sole Manufacturers,

Sprout Brook, Montgomery Co. N. Y.

THE AMERICAN SCHOOLBOY

FINELY ILLUSTRATED.

ONLY BOYS' PAPER IN THE WEST.

Just the thing to keep boys at home.

Well-written stories; simplified science games and amusements; exploration and travel; entertainment and information.

Serials, short stories, history, geography, electricity, botany, natural history, etc.

SAMPLE FREE.

McCALLUM BROS., Placerville, Calif

QUEENS! EARLY! QUEENS!

Italian queens promptly shipped after April 1st.

March 1 to June 1. After June 1

Tested queens \$ 2.00 \$ 1.75

Untested \$ 1.0090.

Three Untested \$ 2.75 \$ 2.00

Two-frame nucleus with Untested Queen after April 1st, \$2.50. We use the Simp. frame and guarantee safe delivery. Circulars free.

Make money orders payable at Clifton.

Address:

COLWICK & COLWICK,

Norse, Bosque Co., Texas.

Mention the "APIARIAN" in Answering.

For Imported Carniolans

Address,

FRANK BENTON,

Krainburg,

Upper Carniola, Austria.

A. WENTSCHER,

—DEALER IN—

BEEWAX & HONEY, SAN DIEGO, CAL.

Mention the "APIARIAN" in answering.



BEE KEEPERS

Should send for my circular. It describes the best Hives, the best Cases, the best Feeders and the best Methods. Address,

J. M. SHUCK,
DES MOINES, IOWA.

Men in the "APIARIAN" in answering.

Apiarian Supplies for Sale

Foundation Mills, Wax and Honey Extractors, Knives, Smokers, Veils, Gloves, Foundation, ONE AND TWO POUND ONE-PIECE SECTIONS, ETC.

Mrs. J. D. Enas,

Box, 306. Napa City, Ca

SEND FOR HEDDON'S

LAST CIRCULAR

— ADDRESS —

JAMES HEDDON,

Dowagiac, Mich.

13,000

One Pound Sections for Sale.

I will deliver on the cars, at Kings City, Monterey Co. Cal., in lots of 1,000 or more, these sections at \$5.00 per 1,000. They are the Eastern White Basswood, All-one-piece, V-grooved, One Pound Sections, 1 15-16 wide, A. I. Root's make. Cash must accompany all orders.

For 5,000, and upwards, write for special terms to: C. K. Ercanbrack Jr.

Loucak, Monterey Co. Cal.

Payne's Business Letter Writer and Manual of Commercial Forms.

Containing specimen Letters on all possible business topics, with appropriate answers. Containing general information with regard to business matters, the rules for punctuation, the abbreviations most used in the mercantile world, a dictionary of mercantile terms, a table of synonyms, and other information which may be of value to the business man. New edition, revised and enlarged. 216 pages, extra cloth, 75 cts. Boards, 50 cts.

For sale by McCallum Bros. Placerville, Cal.

THE WESTERN APIARIAN,

◇ AND ◇

RANCH AND RANGE.

◇ PLACERVILLE, MAY, CALIFORNIA. ◇

A 16-PAGE JOURNAL.
SUBSCRIPTION PRICE, 75 CENTS

CLUBBING RATES:

Two copies, \$ 1.25; 3 copies for \$ 1.80; 5 copies, \$ 2.50; 10 or more, 45 cents each.

Please write the names and post offices plainly.

Advertising rates on application.

Editorial Bee Lines.

So many of our subscribers and correspondents have written to us advising us to put a department of general agriculture in the "W. A." that we have decided to comply with their requests, believing that we can meet a large and growing demand for an Apiarian—Agricultural-Home Magazine at a low price.

We see no reason why our magazine should not meet the wants of the farmer and beekeeper as well as supply him with a reasonable amount of matter for the home circle.

We have no intention, of course, of reducing the amount of space devoted to bee culture, and have changed the form of our magazine with a view to future enlargement, as the pages were so small that we would require a number sufficient to make the volume clumsy by its thickness.

We will add to the "Western Apiarian" a name that will indicate its general agricultural character, and will discuss subjects and present ideas of the greatest importance and interest to the general farming public.

Our new departure will make this paper of

special value to the man who keeps a few stands of bees and who at the same time engages in fruit growing, gardening, or general farming.

We also place ourselves in a position to harmonize the pursuits of fruit growing and honey producing that too often conflict. We invite communications for either apiarian, agricultural, or our home departments, and anticipate your cooperation by which we will be enabled to make this magazine the best of its class.

The price will still remain at the extremely low figure of 75 cents a year and we will improve and enlarge it as rapidly as the demands shall require.

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.

There are a good many men among our subscribers who are capable of writing first class articles upon the subjects of bee-keeping and agriculture, who never write a line for their journal. We would like to increase our correspondence and would be pleased to receive more letters on these two subjects.

The best thing you can do after reading this, is to at once write us a few lines, and by so doing you will greatly benefit and help us.

OUR PREMIUMS.

We will send to every new subscriber to the "Western Apiarian and Ranch and Range" the following as a premium:

Fifty 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's pencil, our price 10 cents; store price 15 cents. One fine rubber-tipped lead pencil, 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, postpaid and absolutely free, to every new subscriber to this journal at 75 cents.

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 confidential cash terms to agents.

We have received this month more than twenty five communications that could not be answered.

Some had no name signed; some had no post office; some gave a name that was not a post office at all and so on. These contained subscriptions, orders, and many of them were well written and the mistake evidently an oversight.

I suppose many of these men will blame us when they fail to receive their goods or paper, when they themselves are solely to blame.

The lesson from this should be; use printed stationery. We can send you well printed note-heads, with your name business and address, nearly as cheap as you can buy the blank paper. The man to whom you write will then always be sure of your address, and no mistakes can be made on that head.

See our special offer on first page.

We have received a number of letters from our correspondents, speaking very hopefully of the prospects of a large honey crop this year. This is very cheering, especially after the failure that characterized the industry last-season.

We trust that the Coast will again win the preminence that it held as a honey producing country.

This seems to be a year that will long be remembered on the Pacific Coast, on account of its rainfall. Last week we had a rainstorm here in the Sierras, that gave us several additional inches. The entire fall for the season reaches, at this point, the enormous amount of about 78 inches. This is unprecedented, even in the Sierras, where vast rainfalls are expected.

The last storm cleared up finely, followed by bright sunshine and warm weather. We think the California farmer and beekeeper can congratulate himself on his prospects; for we are confident that the benefits of the heavy rains of the past winter, will not be restricted to a single year; but will extend themselves to several seasons at least.

This paper is published in the interests of the beekeeper and general rancher. Give it your support.

If a "carpenter may be known by his chips," may not a beekeeper be known by his filled sections and honey cans? Neatness in appearance usually indicates thrift and enterprise.

The wealth of a state depends, not on its resources, but upon the development of its resources. This saying is particularly true of the state of California, for with her vast forests we find her importing from the east almost the entire amount of supplies used in the bee-industry of the coast. It seems strange that the capitalists of this country will allow the vast sums of money, that are annually spent in this industry to go into the pockets of the eastern manufacturers, when, as a general thing we find them ever ready to invest their money in any business that promises success.

The statement has been made that we have no wood adapted to the purpose of making sections. This statement is without foundation, as we have growing in the mountains, a wood capable of being made into as good, if not better sections than the basswood sections imported from the east.

Mr. S. L. Watkins stated in our office a few days ago that the silver fir of the mountains, which grows in great abundance, is unsurpassed for the purpose of making sections, and that he knows from practical experience the merits of this wood for that purpose.

This wood makes whiter sections than the basswood of the East and is just as easily worked. It grows within easy reach of the market and can be manufactured and sold as cheaply as the basswood sections of the East.

The honey producers of the West should be deeply interested in this, and we would be glad to see a move made toward putting this matter in shape so that the Pacific Coast may utilize this supply of valuable wood and at least make her own sections, ev-

en if she does not export.

A statement of this description coming from such a reliable source, ought to have due weight with the thinking men of the country.

It seems strange that while the beekeepers in the Eastern States are well organized, and hold their conventions at regular periods; that California and the west should be behind them in this particular.

While it is generally acknowledged that - for all around - beekeeping, the West and South possess advantages superior to the East, nevertheless it is very evident that the Eastern beekeepers are more united in their efforts and more systematic in method. Therefore the bee-keepers of the west and South learn the fact that union is strength, the better it will be for their interests.

DEFORMED BEES.

Experiences of Value.

FOR THE WESTERN APIARIAN.

By M. BRAY.

In a back number of the "Western Apiarian" Mr. Keating, of Almaden, speaks of his bees being deformed. He also says that Mr. Harbison attributes their deformity to working on buckeye. As I have had some experience with bees in this line I will try to tell the readers of the "Western Apiarian" how and when it happened to me.

This was in 1884. Owing to the late and heavy rains the honey-flow in his section continued well into July. This brought the close of the harvest into extremely warm weather. With a large amount of bees and brood on hand, I took off the last of my surplus just before the commencement of a few days of extremely hot weather. I was indiscreet enough not to ventilate or put on empty supers or otherwise help them through these hot days. At the end of three days the weather turned cool and

I noticed the larvae lying at the front of the hives. I then opened some of the hives and found that the eggs and larvae were all taken out, excepting a portion of the brood that had cells nearly closed, with the edges of the holes turned out. Only a few of the larvae were alive. The brood which was so far developed as to have rudimentary wings, was emerging from the cells deformed in all shapes.

When these deformed bees were four or five days old they commenced leaving the hive and seemed to want to get away, as I never saw them returning to the hive.

During this heated term the mature bees were all clustering on the outside of the hives, some in the direct rays of the sun. These seemed to have been overheated, as the hair came off of one-half of them, and they appeared like so many shiny, or robber bees. These were short lived, for in about two weeks they all lay dead in front of the hives.

The queens stopped laying for about two weeks, and then commenced laying and extended the brood the same as in early winter, and on account of the weeds yielding honey freely they got in good condition for winter.

The hives were shaded and not a comb melted during the season. Now I am ready to assert that there was no disease nor was it on account of the bees working on the buckeye.

As a clincher to this assertion I produced the same condition in regard to the brood and larvae with cold. It happened in this way: I was in October; I cut a large bee tree, rich in honey, with a large amount of bees and brood. I transferred the brood to the hive and had the bees nearly all in. It being late, I could not take them that night, but returned the next morning and found that the bees had deserted the brood and were clustered with the queen outside. That night there was a light frost. The larvae was all taken out. The nearly mature bees came out deformed, as when injured by the heat. The mature bees were injured and were soon in normal condition and proved to be a fine colony.

A GOOD REPORT.

FOR THE WESTERN APIARIAN.

By JEFF WILLIAMS.

I will give you the result of my work with the apiary. In the spring of last year I started with 65 colonies; increased to 170; took 8 tons extracted honey; sold 50 colonies in the fall, left me 120 to start with last spring. The apiary is in the same place it was a year ago. So you see the difference in the two years. My bees are in fine condition at present. There is a good prospect for a large crop of honey. Bees are carrying in pollen every day except when detained on account of rain. It has been raining for three weeks.

ROBBING.

Report From Fresno County.

FOR THE WESTERN APIARIAN.

Apiarists in this locality are having more trouble than usual, this spring, from bees robbing. We began with 115 colonies this spring and have had 18 swarms to date, all strong ones. We depend on alfalfa for the greater portion of our flow.

J. C. McCubbin, Selma, Fresno Co., Cal.

Water for Bees.

Bees require a larger quantity of water than many suppose. Dr. Miller says he uses crocks, filled with water, and puts in wooden floats.

Our western beemen are sometimes quite a distance from water and we suggest to them to use a goo-sized trough with floats in it and see that it is always filled.

"As Others See Us."

A Few Statements, Selected From Many.

As for the make-up of the "W. A.," I like it and would rather you would double the subscription price than to see it discontinued.

M. Bray, Box 1040, San Jose, Cal.

You undoubtedly stand third among bee journals.

S. L. Watkins, Pleasant Valley, Cal.

I like the Journal first rate, and wish you success. I shall take pains to gather the statistics in this locality the coming season. I run for extracted honey alone.

Jeff. Williams, Tustin City, Cal.

It is better adapted to our style of beekeeping than journals published in the East. I read it with pleasure.

H. Knight, Littleton, Colorado.

I am well pleased with your magazine. It is just what we want.

W. H. White, Lonoke,

It is my opinion that a first class bee journal will live in this climate to a good old age, and I trust that your endeavor to make the "Apiarian" a success will meet with a hearty response from all the beemen of this state. The sentiment here seems to favor a monthly publication instead of a weekly or semi-monthly, as suggested by our Elsinore friend: the reason being that you will have more time during a month to get up a complete, full, and fat number, thereby fulfilling all necessary information wanted by live beemen.

W. B. Gunther, San Bernardino, California.

I consider the "Apiarian" well gotten up for a new journal and wish you success in your undertaking. I get the Eastern journals, but they are of no use to me. What I want is home news. There are a great many beemen in parts of California who would be glad to have an opportunity to get the "Apiarian."

P. Keating, New Almaden Hill, California.

Bees To Japan.

Method Of Packing For Shipping.

FOR THE WESTERN APIARIAN.

By Wm. STYAN Jr.

Bee-keepers in the A B C class might like to know how I fixed up two hives of Italian bees to go to Japan last week.

My father is away from home, and I had the whole business to do myself.

I had to get two hives made [by my fathers orders] to hold three frames each. They were rabbeted 2 1/2 inches down, and 1/2 in, for the frames to rest on, and to give a space of 2 inches above the frames for the bees to cluster without being crowded.

I then went to work on them myself, and nailed strips of wood between each frame, onto the end of the hives, to keep the frames from moving sideways. When I had nailed the hives together, I put wire cloth on the bottom, and nailed strips of half-inch wood on top of this, and put in three frames of brood and honey wired to the frames.

I had to find good laying queens from hives that had pure workers, and put a queen in each hive with the frames of honey and brood, all taken from the same two hives, so that no workers would fight or ball the queen.

My father had instructed me to give each hive a good supply of bee-candy, and put a bottle of water in each one to last them to Japan, and I was to fix them up the best way I could.

I made a good lot of candy and gave it to them in small boxes, which I made with three sides and open at one end so the bees could eat out the candy, and I filled a bottle with water and made a hole in the cork, and put a cotton string through the hole into the water, and left about three inches hanging out side the cork. The string keeps wet all the time, and this is the way we give them a drink, and when I fixed the bottle on the frames and nailed strips of wood at the ends of the hives over the frames, to keep them from moving up or down. I nailed wire cloth on the top and then strips of half inch wood over that to keep the wire cloth from getting broken, and then I nailed a leather strap across each hive for a handle, and sent them off on their long journey.

We sent four others done up like this about two months ago. My Father says if I get lots of this kind of work, I may make a very good apiarist when I am twenty one years of age.

We have received a number of letters from our correspondents, speaking very hopefully of the prospects of a large honey crop this year. This is very cheering especially after the failure that characterized the industry last season, and we trust that the Coast will again gain the preminence that it held as a honey producing country.

Practical Queen-Rearing.

A Simplified Treatise.

FOR THE WESTERN APIARIAN.

By S. L. WATKINS.

CHAPTER II

It is a good idea to feed our drone colonies early in the spring to secure early and desirable drones. The best method to secure drones is to take drone combs and place in the centre of your most desirable colonies; if the comb contains honey so much the better, as the queens will commence to lay in them sooner. Place good feeder in the hive every night, containing some, thinned, warmed honey, and if pollen is coming in plentifully, you will find drone eggs in the comb in a few days; plenty of pollen should be coming in, in order to secure desirable queens; for it is a fact, that when pollen is coming in rapidly the bees prepare chyme for the brood in abundance, and it is this chyme that should be fed to the queen larvae liberally to raise fine queens. Go to the colony that you wish to raise queen cells, and remove the queen; in three days remove all the brood, filling up with empty comb and honey.—I forgot to mention that in the meantime you should place an empty worker comb in the colony that you wish to breed from. Do not place a comb containing any amount of drone cells, for it is an extraordinary fact that bees sometimes start queen cells over drone larvae. Such cells are smoother than the others and are worthless.— Go to your choice colony and take out the comb containing larvae not over 46 hours old; next, cut a few V shaped strips lengthwise of the comb in order for them to start queen cells, and to have them so they can be removed easily; then place your larvae in the broodless hive and they will commence queen cells immediately. Place your combs containing honey and pollen on either side of the larvae. The bees thus having an accumulation of

chyme on hand, they give the queen larvae an abundance of this food, which is necessary to secure good queens.

On the fifth or sixth day, remove the queen cells and place in a nucleus which is made as follows: Go to the different hives in the apiary, and remove one or two frames, according to the strength of the colony; take the adhering bees that the combs contain, and be sure the queen is not among them, for it would be pretty expensive work — to be sure of it you had better find the queen first.

With L. frames, three frames of brood and bees make a fair sized nucleus; but with smaller sized frames, three or four will not come amiss.

It is a bad plan to have three or four different styles of frames in use in an apiary; such special articles are costly and inconvenient. I do not think it pays to make special hives for nuclei, when, with a division board and a full sized hive you can accomplish all that is required. It is best to close the nucleus for twenty-four hours, to keep enough bees at home to keep the brood from chilling.

Twenty-four hours after forming the nucleus, you are ready to insert your queen cell. By using the Doolittle queen cell protector it is possible to introduce the queen cell immediately on forming the nucleus, without having it destroyed. When cutting out queen cells, it is best to have a thin, sharp pointed knife, and be very careful when cutting them out, that you do not compress the cell. When placing them in the nucleus, cut out a V-shaped piece in the middle frame of the nucleus, furnishing sufficient room that the cell will not be compressed. See that they fit snugly without falling down.

When the queens are hatched, and have become fecundated, remove them to where you want them, and place in another batch of cells.

Some beekeepers recommend and successfully use, a "queen lamp nursery."

This is nothing more or less than a tin hive, enclosing a water tight space, an inch wide, which is filled with water from the top. It is made to hold from four to eight frames. The combs containing the queen cells, are placed in

the nursery, and by the use of a kerosene lamp, the temperature must be kept at from 80 to 100 degrees, F.

When the young queens are first hatched they can be introduced immediately to queenless colonies and nuclei without danger of being destroyed.

It is claimed for this nursery that when no food is placed in the nursery, that the young queens after hatching, will not attack each other; but I think this is somewhat doubtful. The Peet queen cage is quite handy for hatching queen cells in. Place one cell in each cage and they can be placed in any kind of a hive.

A great many bee-keepers believe that cells constructed at swarming are superior to artificially raised cells; they believe that the queens are more prolific, and are longer lived. In my experience I never saw any difference in artificially raised cells, and those constructed at swarming time, as regarded the age and prolificness of queens.

By the use of perforated zinc honey boards and perforated zinc partitions, it is possible to raise any number of queens in the upper stories of colonies, and have them mated there doing away entirely with the nucleus method.

To successfully rear a number of queens, the queens must be kept apart by the use of double partitions with a bee space between them of perforated zinc, and each queen must have a separate entrance. About this new system of cell management, Dr. Tinker says. "The bees of the colony to which cells are given will complete and care for them. I have yet to find the first one torn down, whether in swarming time or not; nor does the presence of the cells incite to swarming, as the queen is unaware of their presence."

If I wish to supercede the queen in the lower part of the hive, I leave one of the cells to hatch, and do not disturb the hive unless they swarm, till about the eleventh day. I then go to the hive and I will nearly always find the young queen on the honey board trying to get

below. I place her below and the work is done, as she will at once destroy the old queen.

In preparing cells to hatch in upper stories Doolittle's plan is best. It is as follows: Go to the colony containing the best queen, and cut out a small strip of comb containing larvae not over thirty six hours old; care must be taken so as not to have chilled. With a goose quill tooth pick with a curved point, the little larvae are lifted from their cells and deposited in embryo queen cells, which are fastened to the cells

These embryo cells are cells picked up at random, while working in the apiary, and are fastened to the comb with hot wax. All cell building colonies must be prospering at the time of caring for the cells. Certain races of bees are far in advance of others for constructing queen cells. The Cyprian, Holy Land, and Syrians especially.

— The Queen —

The queen bee is the mother of the entire colony. On her depends the very existence of the colony; for not only does she lay all the eggs that produce the future queens, workers and drones but if she happens to be lost and cannot be replaced her subjects lose all interest in life, quit working for the general good, and seem to take the motto: 'Let us eat and drink for tomorrow we may die.' A maxim they utterly oppose in their ordinary habits of diligent industry. The queen is distinguished both from workers and drones by her more elongated form of body, shorter wings. Her legs are of a lightish brown color and differ from those of the working bee by having no pockets in the thigh for carrying pollen.

Of course she does no work in the way of gathering honey or pollen, therefore she has no need of the pockets and for a similar reason has no hair brushes on her limbs for sweeping pollen.

The sting of the queen is curved, thus differing from the workers; her head is

also rounder than theirs. Her head is furnished with yellow hairs, except in the forehead, where it is nearly black.

Her abdomen consists of six segments which are usually colored according to the race of the bee. As princess, less honor and regard are shown her; as it is only when the egg laying process begins that she has acquired her full dignity. If the queen is removed or lost, great excitement at once ensues, and if there is no hope for a successor the colony relapses into anarchy and dwindles out of existence; but if any of the queen cells contain larvae, they are carefully guarded and tended, and in due course a young queen emerges. If worker brood of the right age exists in the hive they can manufacture a queen in a short time.


Important differences in structure, between the queens and workers have already been mentioned; yet by placing a worker larvae in a cell of particular size and shape, and feeding a special quality of food, a complete series of differences in structure is brought about and a workers egg transformed into a queen.

When we consider what is implied in this, we cannot help but regard it as very wonderful. The eggs of the queen are about the size of those of the butterfly. Generally speaking, only one egg is deposited in each cell, but if from any accident or circumstance, more than one is introduced, the prudent workers remove all but one.

The laying of eggs in newly made combs, commences as soon as the cells are ready for their reception.

The number of eggs laid by a queen is said to vary from 500 to 2,000 in a day; and the total amount deposited in a season, has been estimated from 50,000 to 150,000.

The only time a queen leaves the hive, is when she is out on her wedding flight, or when she leaves with a swarm.

 Continued.

FLOWERS.

Should be Generally Cultivated.

FOR THE WESTERN APIARIAN.

The importance of flowers can scarcely be overestimated. One can almost gauge the culture, moral condition and social standing of a community, by taking a look at its lawns and flower beds.

A well kept lawn and flower garden is like a coat of paint that renews itself annually, at very small expense, and is ever an index, both of culture and thrift.

But some will say: "We have no place suitable for a flower garden," others, "we have no time to bother with them."

The first difficulty, in some instances, may be insurmountable, and yet the cases in which room for a few flowers cannot be found, are exceedingly rare; and in the country we venture to say, this objection is never valid.

Under almost any conceivable combination of circumstances, you can have a little spot of emerald green, beautified by a few modest flowers, that will afford you a source of constant entertainment and delight.

As to the objection that no time can be spared to attend to the flowers, we have usually observed that it is a mere pretext. The man is to be classed among the extremely selfish who has not sufficient regard for wife and family, to spend an odd hour in making beautiful the place that they call home. His work may mainly be in the field or orchard, it is true, but if he can have thought for nothing else, he "is of the earth, earthy."

A flower garden, like a clean collar and well polished boots, is a source of self-respect.

The man who enters his premises through a well-hung gate in a well-built and well-painted fence, and approaches his door by passing through a well-kept lawn with tasteful flower-beds, will find himself raised health-

fully in his own estimation, and will be a superior being to the same man under conditions of unthrift and amid surroundings of carelessness.

Care of Honey.CAREFULLY RIPEN BEFORE
PUTTING IN MARKET.

FOR THE WESTERN APIARIAN.

By Wm. ANDERSON.

It is of no small importance to properly care for honey, after it is stored. I think few honey producers pay sufficient attention to this most important matter. It is the bees' work to make the honey and the beekeepers' work to make it salable.

Shall we ask: what makes honey salable?

It must be in attractive packages and must be brought to the notice of customers. Every honey producer must make his own market, and to do this as it should be done requires experience and judgment. We doubt the advisability of peddling; but there are many other ways of creating a market for honey. Secure regular customers, and when you once secure the patronage of a family, be sure you keep it.

This can only be accomplished by making honey one of the most desirable foods that enter the home of your customer, and this can only be by proper care of the honey.

It is the quality of honey that sells it after all; and quality depends upon a multiplicity of conditions.

Store your honey in a suitable place. Do not put it in the cellar or any other cool place. Keep your butter in the cellar; you want to keep it cool, and it is not at all essential that it be dry; but keep your honey where it will be dry and warm. Honey can be properly ripened only under such conditions. It is possible to combine the qualities of whiteness and flavor in the highest

degree.

Many beekeepers ripen their honey in the hive.

Repeated experiment seems to show that the best conditions are not then obtained; and while the results satisfy many, there is a better method, simple in its working, and giving most excellent results.

A tight honey house with a single wall, for ripening honey, seems to be the most desirable; and, if painted a dark color, it will add to its utility.

Put your honey in boxes, in the middle of the room, and let the sun shine fall upon it at some time during the day. Prop your boxes up off the floor. Do not leave sections out of doors as they seem to gather dampness.

— STORY OF A —

HIVE OF BEES

In the Mountain Top, That Stung

— THE OLD DEACON —

And Made Him Pop.

There was Deacon Brown of Placerville Town,

A real good man both honest and true;

A widower he for the last ten years,
Making love to the ladies—as widowers do.

He owned a good store, and he owned something more:

For he gave to the poor whatever he could spare,

And many did bless him, and the children caress him,

For the gifts of his bounty that lessened their care.

On a hill near the town, where the cross roads come down,

Lived a dear little lady—by name,
Widow Gray.

And she owned a small farm and she thought it no harm

To keep a few bees and to make the

<p>thing pay. But the widow was lonesome—oh, bless her dear heart!— 'Twas a man that she needed to com- fort her life; For women need some one to boss 'em—that's certain— They're never so happy as when they're a wife.</p> <p>And the deacon thought, as a new wig he bought: 'Twas a shame that the widow should live all alone. And his heart it did thrill as he walked up the hill: For he stubbed his big toe on a mighty big stone, And he said to himself: "In the great road of life There are stones we see not that cause us much strife; And I'll do my best, if the widow is willing, To guard her from pain if it takes my last shilling.</p> <p>When the Deacon had passed up the big hill at last, And stood at the gate of the widow's dear home, He saw near some trees—he knew nothing of bees— A strange-looking box sitting near a large stone. And the Deacon he pondered and stood there and wondered: "What the world is the use of a box on the lawn? And as I don't fear it, I think I will go near it;" And when he had reached it, he cried out: "I swan!"</p> <p>"'Tis a home for the house fly," the deacon did softly sigh, 'A home that the widow has built here apart. She's too kind to kill them and with fly poison fill them; This dear little widow has such a kind heart. Just look at the thousands of flies</p>	<p>humming round it, And see them glide in at the cute little door; And I wonder so much how the little flies found it; And still they are coming like folks to my store."</p> <p>So the Deacon he stood there, and pon- dered and wondered At the kind, tender heart of the dear Widow Gray; And he thought, like a sinner, to woo her and win her, And comfort each other on life's rugged way. But the Deacon was canny, as he thought of the money 'Twould cost him to marry and live on together: So he said to himself: "She's a dear little elf; But I'll not marry yet, it's too 'all- fired' hot weather."</p> <p>While the Deacon was pausing and in- wardly praising The wonderful home for the common house fly, He thought: "After marriage I'll buy her a carriage, And a patent I'll get for this thing bye-and-bye. And now as I'm here and the widow's not near I'll take a good look, for I'm sure it's no sin To admire such a beauty I think is my duty, So I'll lift up the cover and take a peep in."</p> <p>So the Deacon he walked very slow as he talked, And took a firm grip of the top of the hive; And said he: "You bummers, you all seem to be hummers, So I'll take a good look if you all are alive." And he lifted it high—bless your heart! what a cry Rang over the woodland and valley and plain— Then he dropped the box quick, for</p>	<p>the Deacon was sick Of the wonderful fly house that gave him such pain.</p> <p>For the bees in a cluster so quickly did muster, And stung the poor Deacon all over the face. So he formed a procession—without asking a blessing— And the bees and the Deacon struck off for a race. But he lost his new wig and he yelled like a pig As he made a beeline for the widow's front door; And he thought as he run, that there wasn't much fun, For the needles these house flies had got made him sore.</p> <p>But the widow had seen him come run- ning and screaming, And opened the door as the Deacon popped in; And he looked in a plight as he danced a hornpipe Like a real Irish laddie filled full to the brim. Then he gave such a yell that the dear widow fell Right back in the corner, and bumped her poor head. But the Deacon danced on without music or song, And slapping himself till the last fly was dead.</p> <p>Then he begged Widow Gray that she nothing would say Of the way he had danced, as he thought it a sin. And she told him right there that she never would dare To tell how her bees the poor Deacon did sting. So he called her a beauty, and thought it his duty To ask her to marry, right then on the the spot. And of course she said "yes," as you quickly will guess. And this was the way that the Deacon did pop.</p>
--	---	--

FOUL BROOD.

MAY BE PREVENTED.

FOR THE WESTERN APIARIAN.

By A SUFFERER.

A great deal of attention has been given to foul brood as a destructive disease, but not more than the importance of the subject demands.

There are but few apiaries that have not been more or less affected by it, and in many instances the ravages have been so great that the bee-keeper has been driven from the field.

Our bee journals have given great help by publishing the many articles containing the experiences of practical and successful men, but while the disease has thus been checked it has not been annihilated, nor do we think it is yet under control.

It would seem that the ne plus ultra of a preventative and cure for foul is not yet reached, and so there is both opportunity and necessity for experiment and discussion, by our practical apiarists on this question that threatens the life of our industry.

Foul brood will frequently secure a firm hold upon an apiary before the beekeeper is aware of its presence. Its effects may be readily seen; but the apiarist often fails to attribute them to the true cause.

In an apiary run for extracted honey the disease will make very rapid progress, and by changing the combs etc. may be spread by the unsuspecting owner, throughout his entire stock.

Feeding back is also a means of spreading the disease with wonderful rapidity.

This disease is in my estimation, very difficult of eradication, and no general formula that will be a guarantee of cure has yet been presented to the bee keeping world.

The "starvation cure" is not an invaluable success; nor does Muth's "salicylic acid formula" give relief in all cases.

To my mind, the best plan yet suggested, and by all odds the simplest yet proposed, is to put the affected colony into a new, clean hive, taking away from them all old combs, and indeed everything that could possibly be infected with the disease, and giving them foundation.

It will be immediately perceived that the success of this plan will be greatly endangered if feeding has to be resorted to, as there is great danger of honey being fed that in some degree has been infected with the disease. At least a moderate flow of honey, that will preclude any necessity of feeding, will insure success in a marked and encouraging degree.

It seems to me that a combination of the various methods presented will yield the best results in the treatment of foul brood.

Feeding bees with medicated honey and spraying with salicylic acid or phenol, are not entirely useless, but serve a very important purpose at times. A colony may be kept in trim so that it will be useful for the production of honey by such methods. The disease can be more readily kept under control thereby, and the entire system of "doctoring" becomes a sheet anchor that will hold your vessel of hope and enable you to outride the storm that threatens with destruction.

Of course each beekeeper will have modifications of working the plan outlined above, inasmuch as local differences will affect the problem, but I am confident that this is the best method yet given us, of overcoming this justly dreaded scourge.

If your bees are affected with foul brood, do not jump to the conclusion that your apiary is ruined and that you might as well give up the business. The disease is preventable, controllable and curative, and, while it demands

attention and labor, these may well be bestowed and you may work cheered by the hope of ultimate success for its complete eradication.

I do not think the disease is contagious in the usually accepted sense of that term, and a colony standing near an affected hive is not any more likely to take the disease than it placed at a distance.

It will most probably be conveyed to the other colony by robbers who carry the infected honey, and if proper care is taken in the early stages of the disease, this may be wholly prevented.

Foul brood will reveal itself to the watchful apiarist in many ways.

When the colony is badly diseased, it will reveal itself by the disagreeable odor emitted by the hive, which can even be detected by one standing near without opening the hive. If, however, you fail to apply any remedy until this stage has been reached, you have a very difficult, if not hopeless task on your hands.

The apiarist will do well to watch for indications of the disease on the outside as well as upon the inside of the hive. If your colony is not as active and prosperous as you would have reason to expect from a consideration of the circumstances, you will do well to make a careful and minute examination of the hive for internal indications of foul brood. When this is done the disease can be readily controlled.

Even mature bees will die of this disease, and it will be indicated by an undue accumulation of dead bees on the outside of the hive. Bees are frequently weakened by it and become unable to fly; they are still able to get away from the hive and may be seen crawling through the grass in considerable numbers.

Foul brood is an evil, unquestionable, but it is an evil that can be met and in most instances, overcome. It seems in many cases to bite out of itself where proper precautions have been taken to prevent its spread.

Ancient and Modern Bee Culture

FOR THE WESTERN APIARIAN.

By S. L. WATKINS.

CHAPTER IV.

The Italian bee or *aphil ligustica* was first brought to notice by Spinola in 1805. In 1843 Captain Balenstein carried a swarm over the Alps. They were soon introduced into Germany where they were soon extensively known. A few years afterward they were introduced into America by S. S. Parsons, of Flushings, L. I., who imported a swarm direct from Italy. The Italian bee, sometimes known as the Ligurian, especially in England, is indigenous to the mountainous districts that lie in the north of Italy round about Lakes Magiore and Como. They are better honey gatherers than most races of bees, more hardy and prolific, and very courageous in defending their hives against intruders of their own kind. Especially are they noted as being excellent fighters of the wax moth which sometimes causes great trouble in apiaries composed of black bees.

The Italian bee is distinguished by its three bands of yellow. This beautiful gold-colored bee was known by Virgil—fourth book of his *Georgics*—as possessing superior advantages over the dark races of bees. In fact the records of olden time prove that the gold-colored bee was given the preference.

SYRIAN BEES.

The Syrian bees are natives of Asiatic Turkey—that portion which lies north of Mount Carmel. They resemble the Cyprian closely in temper and size. In color they show less yellow, and, viewing them from a distance, their whole bodies seem to be of a grayish color. Some people claim that they are the Holy Land bees, but the Holy Land bee is quite a distinct race. The queens of this variety are exceedingly prolific and they are an excellent race to cross with other bees.

HOLY LAND BEES.

The Holy Land bee is a native of

the Holy Land south of Mount Carmel. They are the smallest of all domesticated honey bees and are beautifully striped with yellow. They are wonderful breeders and are excellent bees for the tropical regions where the honey flow comes in November, December, January, and February. They are very active and far-flying, and wonderful cell builders. I have known colonies to build upwards of one hundred queen cells. They are also wonderful stingers and become furious at the least smoke and run off of their combs when the frames are lifted from the hive. They have been tried pretty extensively in California, but from some unaccountable reason Italians and other races have been introduced in their stead. In this climate they breed too much out of season, making them difficult to winter, as they use all of their winter food for feeding purposes.

CYPRIAN BEES.

Cyprian bees are natives of the Island of Cyprus, Mediterranean Sea. They are a yellow race in color, in size quite slender and wasp-like, and smaller than Italians. Their distinguishing mark is a yellow shield mark on the back between the wings. They are very easily excited and are most revengeful stingers; they are the most persistent bees known; they would die rather than retreat; the crossiest hybrids are turtle-doves compared with Cyprians. They are strong, excellent honey gatherers, winter better than most races, and are proof against being robbed by other bees, for it is death to the robber that dares to venture within the precincts of their well-kept dooryard. A colony of Cyprian bees owned by B. F. Carroll of Dresden, Texas, gave upwards of 1000 pounds of extracted honey in one season—the largest amount of honey ever taken from a single colony of any race of bees.

—BLACK BEES.—

The common honey bee, called by way of distinction the black or brown bee, from being almost a universal brown-black color with slight indications of paler bands on the abdomen and clothed with grayish-brown hairs. They are natives of Germany and are

so universally known that further description is unnecessary.

—EGYPTIAN BEES.—

The Egyptian bees somewhat resemble Syrians. They are famed for their good honey-gathering qualities and are without exception the most ferocious bees known outside of India.

—CARNIOLAN BEES.—

The Carniolan bees are natives of Upper Carniola, Austria, Europe. They are the largest domesticated honey bees. Their color is a dark brown, nearly black, while each ring of the abdomen is clearly marked by whitish-gray hairs, giving the bees a beautiful silvery appearance. They are the ne plus ultra of all bees for honey-gathering, prolificness, and hardiness, and have a remarkably gentle disposition. They are the whitest comb builders known. Being natives of a cold and windy climate, they are admirably adapted to all parts of the country.

SOUTH AFRICAN BEES.

South Africa possesses an excellent race of bees, both wild and domesticated. They resemble the Italians somewhat, except that they are somewhat grayer and have a more gentle disposition. The queens are enormously prolific. The bees are excellent honey gatherers and when honey is to be obtained they keep at it early and late.

CONTINUED.

FLORIDA LETTER.

Heavy Frosts Destroy Bloom.

FOR THE WESTERN APIARIAN.

By JOHN CRAYCRAFT.

We are not so bouyant as we were in February of a bountiful crop of honey. We are scarcely in as good a condition for a crop as we were the last week of February. The frosts of March 1st, killed most of the orange blossoms then in bud and bloom; and the cool dry weather since has kept back the bloom until now. The bloom is coming out very fast again and will give us a fair flow of honey, but we will be un-

able, I fear, to get honey this year but what will be mixed. The wild grape is opening and the bees appear to delight in it almost as much as the orange bloom. The season will be very late. Palmetto was put back several weeks and the butter ball was injured so that it will not be out until a month or perhaps later. Our bees are very strong at this time, but have very little stores ahead, yet within a few days they will be storing a surplus.

There are very few persons in this state who make beekeeping a specialty, and the honey resources of a locality can only be brought out by specialists. There is not a person along the St. Johns River who has beekeeping as his first interest; but from what I have learned, there are but few if any better places than here. The natural resources are varied and many, and for profitable honey producing within easy transportation to the market, with no winter to contend with, success can be attained by the right man.

A Simple Interchangeable Bee Hive.

FOR THE WESTERN APIARIAN.

BY E. L. PRATT.

A bee hive adapted to all-around work and at the same time giving good results in honey together with safety in winter, has long been sought by progressive beekeepers.

We are now recommending what we call "an interchangeable simplicity hive" with closed end frame spaced $\frac{3}{8}$ to the 8 frame size and $\frac{3}{8}$ to the 9 frame size. Thus we can suit two different men with the same hive by simply adding or taking away from the comb surface. The frames are fixed and of such perfect construction that brace combs are not at all bothersome. They are easily removed as the brood chamber is separable, and when the top

half is thrown off you get at the ends and side with ease. No wiring need be done as the frames can be reduced at will, thus completely filling them with comb. Foundation can be fastened firm enough to have a heavy swarm in less time than it takes to tree it. I am of the opinion that wire on brood frame will take a back seat in the near future along with porticos, glass and the like.

The body to hold the above frames is in two parts coming together with narrow bearings. Each part has convenient hand-holds and thumb-screws that clamp the frames tightly and at the same time make the body shell or rim fast. The super shell to hold extracting frame, shallow frame, or honey boxes, and the body shell, are all cut from the same pattern. Two shells will make one body to hold brood frames and one body will make two supers to hold boxes or shallow frames. Thus time in construction and manipulation is saved, expense and complication lessened, and we are always ready for any emergency, and there is never any idle furniture.

A loose bottom board is used, but it can be made fast to the tray in a twinkling and we are always ready to move without splitting our hives all to pieces with hammer and nails. Entrance can be opened up at both sides with wire cloth coverings for ventilation in hot weather, and in spring small colonies can be contracted to one of the side entrance, and built up rapidly by simply jumping a thin division board one comb at a time. The small colonies can be wintered in the same hive with a side entrance to each, or three queens can be bridged over in one hive by the use of two division boards and all three entrances. The cap is made with a telescope rim or not, and is held fast by two screws when being moved. When wintered without an outer case we prefer the telescope rim to the flat board, as the bees are safer from wind and rain.

For cold climates we furnish an outer case made of thin wood to admit of packing in spring. There should be no packing put about the brood chamber until breeding commences, but

there should be plenty of absorbent material over the frames all winter.

In summer the winter case can be taken apart and stacked away or the sides used as shade boards. It is not very often in the way if left the year around. If a person makes one of these hives to try, they can use the super shell they have on hand, and if they do not like it there is nothing lost but the time. We think it splendid and the simplest and most complete hive we ever saw.

A WOMAN SPEAKS.

CAN THEY BEAT THE MEN?

FOR THE WESTERN APIARIAN.

By Mrs. SARAH BURNETT.

In this age of rapid progression and enlightened thought, we find the women of our land taking their places in many of the professions and occupations, which a few short years ago were closed to them on the grounds that they were women,

And now, among the many occupations in which women excel, I doubt if there is any work at which they would be better adapted than that of beekeeping. Now, although I am willing to grant that a man possesses more courage, a qualification that is sometimes very useful in facing a hive of angry bees, nevertheless a woman possesses a larger degree of tact, patience, two gifts that will carry her further on the road to success than courage; and as a general thing you will find that a woman's courage is equal to any emergency that may occur in beekeeping.

But outside of the direct management of the bees, in the preparation of honey for sale, such as straining, canning, labeling, etc., we find that women are superior in every way to these wonderful "lords of creation" called men, who sometimes think that a woman is only fit to cook his food and act as

wet nurse to his children.

Facts are very stubborn things to deal with, and the authentic fact that there are a number of very successful beekeepers in the state of California who are women seems to be a very strong argument in their favor. Now if you were to ask ten women if they would like to go into beekeeping, you would find that nine out of the ten would tell you that they were terribly afraid of bees, and it would be quite correct, and the very same fact is true of the men. But because a woman is afraid of bees is no reason why she should not become a successful bee keeper.

A little fear has a tendency to develop those truly feminine qualifications: tact and patience.

There seems to be a very strong prejudice among a certain class of men, in opposition to women as bee keepers, and they will tell you that "taint work for women any way, they're too easy scared," and a lot of stuff like that. Then he goes on to tell you "that he aint afraid of bees," and in fact, according to his own story, he is not afraid of anything, while, if the truth of the matter was known, the chances are that the big overgrown puffball is afraid of his own wife. Perhaps some of the male readers of this letter will say that no man is afraid of his wife, and they would like to see a man of that class. Well, they can see one if they want to very bad. All they have to do is to take a peep in the looking-glass.

It is getting to be a generally acknowledged fact, that bees can be spoiled by careless handling, just the same as a horse, or any other animal can. It is estimated that three-fourths of the balky horses in the country were made so by improper treatment while being broken in, the same fact is partially true of bees, and like the colt, it is a wise man that takes into consideration the peculiarities of their dispositions and treats them accordingly.

ORCHARDS.

They Should Be Carefully Cultivated.

FOR THE WESTERN APIARIAN.

We are greatly surprised to see so many young orchards left utterly uncultivated and uncared for, especially in the mountain regions.

If you wish to secure a crop of apples or of peaches, you must give your orchard somewhat of the care and attention that you would expect to give to any other product of your land.

The orchard should be thoroughly cultivated, especially when it is young.

We have seen young orchards that have been well planted in good locations, and that for the first year or two did well, that have been let run wild, and the ground allowed to go to grass and weeds, to the utter annihilation of hope for any future returns in fruit.

We hear so frequently that fruit-growing will not pay.

That kind of fruit-growing certainly will not; but we are convinced that when the rancher acts rationally, and gives his orchard the care that it demands, and does not expect an effect without a sufficient cause, fruit will be an important crop, and its cash returns an important item in the economy of nearly every ranch on the great western slope of America.

Where do the dandelions come from. We are informed by the older inhabitants that dandelions are a new institution in the mountain districts of California, and now the question arises whence do they come. A short time ago they were unknown and now they are to be seen in a great many of the lawns in the towns, as well as on the mountain sides in some localities. Are they the result of importing seed from the east, or are they an illustration of the theory that—certain conditions of the soil produce certain results. Let us hear from our readers on the subject.

AGRICULTURE.

It Must Supersede Mining.

FOR THE WESTERN APIARIAN.

By GEORGE ELSON.

On Saturday, May 3rd., was unveiled at Coloma, El Dorado county, the monument of James W. Marshall, the discoverer of gold in California. And when we look back over the brief space of forty years, we think of the country as it then was, in its primeval state, and look at it to day with its vineyards and orchards, its fields of waving grain, its mighty cities, we are filled with astonishment and admiration at the wonderful energy of the American people who in this brief space of time could transform a new country into this wonderland of comfort and beauty.

But now that mining is comparatively a thing of the past, and agriculture, fruit-raising, and honey-producing, are the industries upon which will depend our future prosperity, it will be wise on our part to study well the great problem of the development of the resources of this country, and thus be enabled to retain and increase the wonderful prosperity, which has characterized the history of this beautiful, sun kissed, flower strewn land.

In California, I think I would be safe in saying, that the resources are superior to any other state in the Union, for when we take into consideration its incomparable climate, diversity of its fruits, its wonderful stock-raising capabilities, and its honey industry, which when developed will be a source of vast wealth and prosperity, then we have some idea of what we may hope for, within the short space of another decade.

I suppose there are some people who think that all the resources of California are being developed to some

extent at the present time: but this is mistake, as we undoubtedly have the climate and soil for a number of important productions that have never yet been attempted. And as we learn this fact, the far seeing man that grasps the thought and develops the idea will be the man that reaps the harvest.

PAMPAS GRASS.

Worthy Of More Attention.

FOR THE WESTERN APIARIAN.

By ED. E. McCALLUM.

In this land of quick conceptions and rapid development, it seems strange that the subject of the cultivation of Pampas Grass as an industry has not received the consideration of which it is undoubtedly worthy.

Pampas Grass -*gynerium argenteum*- is perennial, and a native of the plains of South America.

A fully developed specimen of this grass presents an enormous tuft from four to six feet in height and as much and often more across, with very narrow curving leaves which make it highly ornamental as a shrub.

It flowers at different times in different localities, and yields from thirty to fifty flowers, although we have instances in this section of a yield as high as seventy eight perfect plumes from one plant.

This grass was first introduced into England in the year 1842, by seeds received from Buenos Ayres, and is now quite common. This grass is easily raised from seed but as it possesses the peculiarity of the female plant being much more ornamental than the male, and as there is no way of distinguishing the sex until they flower, it is generally propagated by a division of the old plant, the sex of which is known.

And now I wish to take up the subject of its usefulness. In the first place it is very ornamental as a shrub and is very hardy, two facts that should make it a general favorite.

In the second place it can be made a source of revenue, as there is an unlimited demand for the plumes in the Eastern States and Canada.

Particular care is required in attending the plumes, as it is necessary to cut them at a certain development of the plant, otherwise they will lose the feathery sprays that constitute their beauty. If properly cared for they will last for a number of years, and can be dyed any color desired.

They can be used not only for decorative purposes as plumes, but also used when separated, in lades fancy work etc and in fact there is a hundred and one uses to which they may be advantageously put. While traveling in Canada a year ago I saw the plumes sold at twenty-five cents apiece and the demand was far in excess of the supply although they were of very inferior quality.

Already the industry has developed to a small extent in the southern part of the state, but it is worthy of far more consideration than it has yet received.

BROOM-CORN

A Successful Limited Industry.

FOR THE WESTERN APIARIAN.

The rancher ought, not only to get up in the morning with his eyes open, and look after his ranch and do his work with them open, but he ought to open them to the fullest extent in the evening, when he settles down to read his agricultural paper.

He will find many suggestions in it of great practical value, and, if his eyes are open and his mind clear, he will perceive many ways by which he can add to his income.

The rancher who does not secure at least an addition of \$ 100.00 to his income, the result of ideas that would not have come, had it not been for his agricultural journal, must be reading it in a doze, with his eyes half shut and he exploring the borders of dream-land.

Among the many secondary crops that at present promise returns to the

wide awake rancher, broom-corn may be given prominence.

It will grow wherever Indian corn will, and is in demand at good prices.

Most of our large towns have a broom factory, and any one living within reasonable distance of such town can raise broom corn with profit.

If few in your vicinity grow this staple, you will do well to investigate.

Farm Fertilizers.

Is Our Land Really Inexhaustible?

FOR THE WESTERN APIARIAN.

How few ranchers there are in the west who seem to have any idea of the value of the various fertilizers that will accumulate around the farm buildings.

Many of them utterly disregard the fact that they are doing their best to take all the strength possible from the soil and are returning nothing to it.

A reservoir may be very large, and hold an enormous quantity of water, but if there is a continual demand upon it, and no stream flowing into it to replenish its supplies, it must of necessity finally run dry. The western ranch is like the reservoir. It is usually very large and its soil deep and rich and it would seem to contain almost inexhaustible resources for future crops but if heavy demands are continually made upon it, and nothing given back to supply the essentials of soil of which it is thus deprived, it will undoubtedly grow sterile and unproductive.

We do not believe it would be economical, at least not as yet, to put upon it the expensive manufactured or imported fertilizers that are successfully used in many of the older sections of the country; but the farmer will be wise, and future returns will vindicate his course, to carefully husband his fertilizing resources, value his straw as a hidden treasure that will add to his wealth and to the wealth of his children, and

spend a portion of his many unoccupied hours in giving back to this land the refuse of his ranch.

The wise man always plans for the future, and the future of the ranch needs looking after as the future of any other business.

Home Circle.

A Hunting Episode.

FOR THE WESTERN APIARIAN.

By ED. E. McCALLUM.

Any person making pretensions to the position of a Nimrod, is supposed to have some particular incident to relate in which he figures as a mighty hunter. Now as it happens, I have no aspirations for the high position of a slayer of animals, nevertheless I have a little incident to relate in connection with the subject of hunting, that may prove either interesting or amusing to the many lovers of the gun.

The incident of which I wish to speak occurred eight years ago in the vicinity of Rock Lake, Manitoba.

The reader must bear in mind the fact that the country was not as thickly settled then as now, and what at that time was the *primaeval* prairie, today is dotted with the homes of tardy settler, filled with peace and plenty, — bed bugs and mosquitoes. — Now for my story.

We were travelling, and by we I mean a half dozen young fellows and myself, near Rock Lake in search of land for homesteading, and were travelling in that good old fashioned style — on foot — although we had a horse attached to a red river cart with camping utensils etc.

And now strange to relate, among a company of seven there was not a gun of any description, and as the meat in our larder was getting very low we be-

gan to regret our stupidity, especially as the ducks were as plentiful as applicants after a fat government appointment.

But one morning we came to a small pond covering about two acres and I think the ducks were holding a camping or convention for such a flock of ducks in one place I never saw before or since. As we stopped our horse in some willow bushes a short distance

from the pond we were enabled to get comparatively close without disturbing them. As we were looking at the ducks an Indian walked out of the bushes near us, and we proceeded at once to interview him, in the hope that he had some means of killing us some ducks. But it was vain hope, as the old fraud was armed with nothing but a bow and arrow. One of our party sketched him, he was such a beauty, and he said his name



PRAIRIE WOLF.

Prairie Wolf, and I think it was, as he carried a sample of the prairie on his face and looked hungry enough for a wolf.

He said he was a mighty hunter, and I think that was true also, for he seemed to be hunting all the time—in his head with his hands—and finding game too.

He also stated that he was at one time Governor General of Canada, but this last story we did not believe. The only information that we received from him of any use, was to the effect that a settler's cabin was about a quarter of a mile through the scrub.

The proposition was at once made: go to the cabin, borrow a gun, and then return and massacre as many ducks as possible. As all hands had been boasting of their exploits as hunters, — when we had no gun, — and as perhaps I had been a trifle louder than the rest, they appointed me by unanimous decision to act as a committee of one, to visit the house, borrow a gun and kill as many ducks as possible, while they remained in the shade and watched the performance. Well, I have been on a good many committees, but never on one where I felt so much out of place; for to tell the truth, I knew no more about a gun than a politician knows about angels. As I could not decline the position without my abilities as a hunter being called into question, I made the best of the situation, and with the Indian as a guide, went on a borrowing expedition to the cabin.

Upon my knocking at the door, it was opened by a middle-aged woman who greeted me cordially and asked me to come in and sit down, which I did, leaving the Ex-Governor-General of Canada outside.

After a few minutes' conversation with her upon the momentous question of the weather, I broached the object of my visit, and asked her if she would lend me a gun for a short time. (And I must tell you that the lady was a native of Cornwall, England, and pos-

sessed that peculiar dialect characteristic of the Cornish people. The way she mixed up her genders would have driven a grammarian crazy.) And when I asked her if she had a gun, she replied with:

"Yes, we have got one shure enough but him's a proper big one;" and she further informed me that, "Her kicks proper bad."

I couldn't think how in the world a gun could kick when it had no legs (but I found out afterwards what it meant.) With her last remark she went into another room and returned with what I at first took for a small sized cannon, which she informed me was a musket that her husband brought from "the old country." As I could not do any better I shouldered the old smooth-bore. I felt like a gunboat in charge of the Suez Canal. As I was leaving the house, the old lady stopped me for a moment to tell me that, "Him's been loaded a proper long time;" a fact that struck me at the time as being of no importance.

After leaving the house I tried to persuade Prairie Wolf to carry the gun; but he remarked: "Heap too much gun for poor Indian."

After some careful maneuvering I succeeded in getting within about twenty yards of the ducks as they were sporting in the middle of the pond. Poor things! how little they were thinking how near they were to death! (But, goodness! they were not half so near death as I was, as I found out afterward.)

After using considerable caution I succeeded in shoving the old cannon through the bushes and resting it on a log without disturbing my game, and then laying down on the ground I drew back the hammer, and then running my eye along the barrel until I got the proper range, I pulled the trigger; "Oh, thunder and lightning!" Just as soon as I pulled the trigger I started for the house, feet first through the air. As I went crashing through the bushes

into the midst of my friends, I had presence of mind enough to exclaim, "Look out! the gun will be here in a minute!"

After a minute of breathless expectation we come to the conclusion that the cannon had taken another trial, and therefore sallied forth in search of the "confounde!" thing. I succeeded in finding it about half way between where I had landed and where I had fired it off. I suppose its immense size would prevent it from going as far as I did, and I suppose sending me on ahead would retard it some also.

Prairie Wolf picked up the gun with the remark, "Heap good gun: make white man jump big;" a remark that was very poor grammar but full of truth.

I wanted one of our party to go and bring up the horse and cart to put the dead ducks in; but they said with a laugh that they guessed that they could carry all the ducks I had killed.

By this time we had reached the edge of the pond again, and strange to relate not a single duck, either dead or alive, was to be seen. All hands had a hearty laugh at my expense. The only way that I could account for the absence of a dozen ducks was, that the charge in the gun was so tremendous that it blew them to "blazes." But I had one consolation, even if I didn't kill any I made them leave out of that.

Since the above episode, I have made guns a careful study, and come to the conclusion never to fire off an old-fashioned musket, especially if "him's been loaded a proper long time."

THE HERMIT OF THE FOOT-HILLS.

FOUNDED ON FACT.

FOR THE WESTERN APIARIAN.

By CHARLES E. UPTON.

CHAPTER I.

The inky blackness of a stormy December night was settling over the canyon as, with gun on my shoulder, I clambered up the steep hillsides, in a vain search for a path to guide my footsteps. Above me the dim outline

of gigantic pines and spruces appeared, bending like twigs in the grasp of the wind; below, the river rolled, an angry, seething mass of foam, growing every moment larger and larger as the dark clouds poured down their watery contents. Far off in the distance I fancied I heard the cry of some wild animal, making only a faint echo in the roar of the storm; the manzanita bushes looming up darkly on all sides, seemed to my excited imagination to have been suddenly endowed with life, and were watching me with a thousand glittering eyes. The occasional flashes of lightning, descending in zig-zag lines of fire, while the thunder growled ominously overhead, served but to magnify the terror of the scene.

Suddenly, as I took a step forward, the ground, as if by magic, gave way beneath me; I felt myself hurled downward; then followed a chilling sensation, and a confused ringing and buzzing in my ears; in another second I was struggling with a fierce torrent of water which was dashing madly over the rocks on its headlong course to the river, threatening at every plunge to bury me in its depths.

At first the icy water almost stupefied me; but, gradually collecting my senses, I struck out wildly for the shore. Again and again I made the attempt, only to be torn away the instant I touched terra firma.

My rifle, which I had retained in the struggle, was a great hindrance to my progress, for it left me with but one hand free. However, I at length succeeded in gaining the bank, safe and sound, it is true, but in the most pitiable condition imaginable.

The storm was still raging furiously, and as I stood there, drenched from head to foot, the driving rain poured down upon me, and the cold blasts of wind, whirling around with their shrill moaning, cut like thrusts of a keen-edged knife. Indeed, the situation was far from being a pleasant one.

But, to quote the old saying, "it's no use to cry over spilt milk." Adopting that as my motto, I began to grope about for some means of starting a fire. After repeated stumbling over unseen

rocks and hillocks I came upon what I took to be a large pine tree, but it was so dark I could not tell for a certainty. The crackling of pine needles under my feet soon removed all doubt, and I hurried to put my plan into execution.

Having collected a sufficient amount of the dry needles by digging below the wet surface, I hastily gathered an armful of the dead pieces of the manzanita bushes, then, piling the whole together, drew out my match safe, which was of rubber and waterproof. Opening it, I ignited a match and applied it to the straw.

The flame caught with a cheerful little sputtering noise, grew brighter, until finally I had the satisfaction of seeing a large blaze shoot upward.

To one who has never been in such a situation as just described, it would be a difficult matter to give even a very faint idea of the comfort that fire afforded me after my experience at the creek. As I sat in its grateful warmth the steam arising from my damp garments floated upward like a thin veil of mist until, combining with the smoke, it vanished into the upper regions of night. The glowing flames, darting their fiery tongues from side to side, and again, climbing higher, sending a bright line of sparks away above the ground, as if challenging to combat those noisy elements which were filling the air with their clamor, beneath which the earth rocked like a time-worn vessel in the midst of a tempest; while the light, stealing through the forest, made a weird and fantastic picture of the shadowy groups of trees and bushes, the bleak hillside with its ledges of rocks, the rain pattering drearily on the leaves, the impetuous torrent rushing onward with its sullen murmurings, and the wind, accompanying the scene by its mournful tone of warning and sorrowfulness, telling, as a seer of old, forebodings of evil in times to come.

Gradually, as I looked, my eyes grew dim, and I was vaguely conscious of feeling a sudden shock as if the ground had sprung upward to meet my head; all seemed to become confused and indistinct; objects of countless shapes flitted past; flashes of every im-

aginable color intermingled in wild chaos. After a moment everything grew more ethereal; the various tints changed to a sombre mass of black, dark and impenetrable as the walls of that mythical house of death in the immortal old Norse legend, "The Story of Siegfried;" the other appearances were fast swallowed up in the general gloom; and the tumult of the storm sounded faint and still fainter, the echo of the water died away, and then came a period of dreamy unconsciousness. Strange visions, mystical, turbulent, as befitted the situation, came to me; savage balls of fire glared from every side; startling cries rang in my ears; fierce animals bounded forward with threatening looks. There burst forth another yell, a loud, terrifying shriek, almost inhuman; an instant of silence, again it came, higher and shriller, with piercing distinctness, as the screeching of a child in pain. Once more, yes, four and five times, it was repeated. Then the dream left me; I was brought back rudely to reality, all my faculties alive and active, my whole being trembling with fear. Fully five minutes had flown before I dared to open my eyes. Only a few smouldering coals met my gaze; the rest was hidden in shadow. The rhythmic beating of the rain still continued, but, save that, silence reigned everywhere.

To Be Continued.



JOB WORK.

Circulars,
Price Lists,
Bill Heads,
Letter Heads,
Note Heads.
McCALLUM BROS
Placerville, Cal.

Subscribe for the
WESTERN APIARIAN

JOB PRINTING

Finely Executed,

At prices that will astonish you, and completely

DEMORALIZE

COMPETITORS.

OUR CATALOGUE

WITH A FULL LINE OF

SAMPLES,

Printed in Colors and Splendidly Illustrated,

WILL BE SENT TO ANY ADDRESS, FREE.

Send for an Assorted Dozen of Our Pens, 10 Cents.

For Paep, Pens, Pencils, etc. Send to This Office

And Save Over Half Your Money.

BEE HIVES

LALNGSTROTH, SIMPLICITY, HARRISON and MERRIAM Hives \$1.50 to \$1.90 each. Sections, brood frames, or hives of any description cut to order at S. F. mill rate. CASES and CANS for Extracted Honey. All kinds of SUPPLIES. W. STYAN and SON, San Mateo, Cal

Ritter's Book of Mock Trials.



—An entirely novel idea. The trials are very amusing take-offs of actual scenes in court and daily life; containing sixteen complete trials—adapted to performance by amateurs or professionals. Cloth.....50 cts. Paper cover, Price..25 cts.

Carpenter's Manual.



—Instructs in the use of tools and the various operations of the trade, including drawing for carpenters, forms of contracts, specifications, etc., with plain instructions for beginners, and full glossary of terms used in the trade. Also gives plans and specifications for building a number of frame houses. Illustrated. Price.....50 cts.

Cushing's Manual.—Revised Edition, with



Additions and Corrections. No one who wishes to take part in the proceedings of any organized body can afford to do without the help of this little volume; knowledge of its contents alone is a valuable education, and the price is so moderate that no one need deprive himself of its teachings. Also containing the Constitution of the United States and Declaration of Independence. Containing 200 pages. Paper cover, Price.....25 cts. Cloth gilt. Price.....50 cts.

Rowton's Complete Debater.



—Containing nine complete Debates, Outlines of Debates, and 108 questions for Debate. The most perfect work of its kind published, and especially adapted to Literary and Debating Societies. No person should be without this great literary work. We are sure that those who purchase copies will declare it well worth ten times the amount spent. Containing over 200 pages. Boards, Price.....50 cts. Cloth, Price.....75 cts.

¿ Habla V. Español ?

Spanish at a Glance.

A new system arranged for self-tuition, being the easiest method of acquiring a thorough knowledge of the Spanish language ever published. Bound in boards, cloth back.....35 cts. Bound in paper cover, Price.....25 cts.

All the above books for sale by:

McCallum Bros.,

Placerville, California.

Subscribe for the
WESTERN APIARIAN

AFTER 10 YEARS

Owing to fine workmanship and first class material used in the manufacture of our goods our business has reached that point where, without boasting, we can justly claim to be the largest manufacturers in the country of all kinds of

BEE-KEEPERS SUPPLIES.

The reason of our constantly increasing trade, notwithstanding the great competition, is that when we get a customer we keep him, as we furnish superior goods at lowest prices.

We wish also to state, that we are sole manufacturers of the

Arthur C Miller Automatic Foundation Fastener,

[See description in Mar. 15 th. Gleanings.] If you need any

BEE-HIVES, SECTIONS, FOUNDATION ETC.

Send for Catalogue and Price List. Address,

THE W. T. FALCONER MFG. Co., JAMESTOWN, N. Y.

Guaranteed Absolutely Pure.
FROM MANZANITA.

CHOICE

Extracted Honey,

From the Apiary Of

PAT KEATING. NEW ALMADEN HILL, Cal.

HOLY LAND QUEENS A SPECIALTY.

Bees by the pound; also by frames.

BEE-KEEPER'S SUPPLIES.

GEORGE D. RANDENBUSH

425 Chestnut St. Reading, Pa.

Mention the "APIARIAN" in answering

CHARLES H. GORDON.

PROPRIETOR OF THE

Colorado Apiary.

Dealer in

BEES, QUEENS, and HONEY.

Italian Queens a specialty.

ALTON. — COLORADO.

The honey label, found in the middle of this page is ONE of the MANY different varieties we issue.

PRICE, - 250 - 75 cts 500 \$1 25.

AGENTS WANTED.

We want an agent in every county in the United States, to take orders for our specialties.

Every body wants something that we handle and our agents make rapid sales.

Our terms are the most liberal you ever heard of. A postal card will bring you full particulars and terms.

Address:

McCALLUM BROS.

Placerville,

California.

If you want job Work, send to the Apiarian office.

COODELL & WOOLWORTH

Rock Falls, — — — — — Illinois

Manufacturers of Bee Hives, and White Bas-wood V Groove Sections.

No 1 section, 3.50 per M. in 500 lots.

For larger Orders.

Mention the "APIARIAN" in answer.

ITALIAN QUEENS.

ITALIAN QUEENS from bees bred for business, beauty, and docility—business first. One colony without increase in one season gave me \$24 in cash for honey alone. I think I can furnish as good queens as can be produced. Ready, untested, after May 15th. If you prefer, order now, and pay when queens arrive. Single queens, \$1.00, six, \$4.50.

W. H. LAWS,
LAVACA, SEBASTIAN CO., ARKANSAS.

Mention the "APIARIAN" in answering.

F. A. SNELL,

Milledgeville, Carroll Co. Ill.

Italian Bees, Beehives, Sections, Extractors, Veils, Smokers, Comb Foundation, Etc.

Mention the "APIARIAN" in answering.

SEED Catalogue for 1890.

TRUMBULL REYNOLDS & ALLEN

Will be mailed free to any address. Contains full descriptions of vegetable, flower, tree, grass and field seeds; with full instructions for planting.

1426 - 1428 St. Louis Avenue,
KANSAS CITY, MISSOURI.

Tested Carniolan Queens.

We have just purchased all the tested Carniolan queens John Andrews, of the firm of Andrews & Lockhart, has now wintering in his 100 colonies. These queens are to produce no bees showing yellow bands, and are to be shipped in May. Anyone in want of a fine breeding Carniolan queen early in the season should address:

"THE BEEKEEPER'S ADVANCE,"
MECHANICS FALLS, MAINE.

UNTESTED ITALIAN QUEENS AT \$ 1,
and 4-frame nuclei at \$ 3.50 after
May 1st. Send in orders now.

S. J. WAKEFIELD, Autreville, S. C.

Carniolan Bees and Queens.

Bred from Pure Imported Stock.

"Pratt Bee Farm," Marlboro, Mass.

"Pratt's new method of nuclei management," nicely printed and illustrated, 10 cents. E. L. PRATT.

Mention the "APIARIAN" in answer.

Carniolan Queens & Bees.

Tested Queens, \$ 2.00. Untested, \$ 1.00 each.

Full Colonies, in 8-frame "L" hive, \$ 5.00.

Italian Queens and Bees at same prices.

Write for special discount on large orders.

Thin Surplus Foundation at 50 cents per pound.

F. H. McFARLAND, ST. ALBANS, VT.

Mention the "APIARIAN" in answer.

LEAHY'S FOUNDATION,

Wholesale and Retail,

Smokers and Sections,

Extractors and Hives,

Queens and Bees,

R. B. Leahy and Co.

Higginsville, Missouri

Mention the "APIARIAN" in answer.

PURE ITALIAN BEES & QUEENS.

Full colonies and nuclei, per frame, 60c. Tested queens, \$ 2.00; after June 1, \$ 1.50. Untested queen \$ 1.00; after June 1, 75c. Remit by postoffice money order, registered letter, or New York draft.

For any information, address:

C. W. JONES & Co.,

Bryant Station, Maury Co., Tenn.

Mention the "APIARIAN" in answering.

A SUCCESS AT LAST.

JOHN T. McELFRESH has patented a very simple device which is a complete

PROTECTION TO BEES

Against the ravages of the Bee Moth. It is a simple attachment to the platforms upon which the Gums rest.

The Miller, as all beemen well know, is seldom or never seen until after sunset, and from that until dark. They are small insects with small heads, and have an innate dread of Bees; and if they can find an aperture or hole, near the entrance of the Bees, under which they can dart to lay their eggs, rather than come in contact with the Bees, there is where they will go every time.

Now, my device is so constructed that the Bees pass in and out of the Gum through a spout which projects about four and one-half inches from the Gum; about two inches below this spout is affixed the apparatus or holes for the Millers' entrance. As the spout is always full of Bees, the Millers will dart through them into a box of water, and are thereby destroyed.

All who have examined it say that it is the most note-worthy improvement in this line which has ever been produced.

All communications addressed to

M. LAMMERS,

Gracy, Cal.

Will receive prompt attention.

For perfect draft, simplicity, and durability

Bingham Patent Smokers

and Bingham and Hetherington Uncapping Knives

Are Without Question

THE BEST ON EARTH

Send for descriptive Circular and Testimonials to,

Bingham & Hetherington,

Abronia, Michigar.

No. 1, white sections, only \$3 per thousand. A complete hive for comb honey Only \$1.30. Shipping Crates and Brood-Combs very low. Send for price list.

J. M. KINZIE,

Rochester, Oakland Co., Mich

Mention the "APIARIAN" in answer.

Langstroth Revised.

"Langstroth on the Honey-Bee," revised by Dadant, is the latest and most complete work on bees in print. It is a thorough treatise, well adapted to beginners, and is comprehensive and practical. The revisers of this famous work are not theorists, but practical apiarists who own hundreds of colonies of bees and who every year harvest large crops of honey. Their crop of honey for 1889 amounted to 45,000 lbs. They are also manufacturers of comb-foundation and dealers in divers bee-supplies. Their catalogue, together with sample pages of the L. book, is sent free to all enquirers. Address: Chas. Dadant & Son, Hamilton, Hancock Co., Illinois.

Mention the "APIARIAN" in answer.

SIERRA NEVADA APIARY,

COVER & HOOVER,

54 Colonies. Downieville, Cal.

MALTBY & GALE.

STONEWALL APIARY

Port Angeles, Washington.

E. A. MOORE,

NEVADA APIARY,

Reno, — — — — — Nevada

GEORGE M. BLANCHARD

BEE KEEPER,

Ashby, — — — — — Mass.

ARTHUR F. BROWN,

LIVE OAK APIARY,

Huntington, — — — — — Florida.