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The PRACTICAL

BEE-KEEPER

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T. N. LEIGH, EDITOR.

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A QUARTERLY JOURNAL DEVOTED TO APICULTURE

PUBLISHED BY C. A. OUELLETTE, TILBURY CENTRE, ONT

T. N. LEIGH, EDITOR.

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W. L. COGSHALL, West Groton, N. Y., Oct, 17, '93.
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C. A. OUELLETTE,

TILBURY CENTRE

The Practical Bee-keeper.

VOL. 1.

TILBURY CENTRE, ONT., FEBRUARY, 1894.

No. 2.

Mr. Ouellette will be in Ottawa during February and will be pleased to meet the delegation and assist it in any way in his power to obtain the necessary legislation to stamp out the "sugar" honey fraud.

A partial report of the meeting of the O. B. K. A. at Lindsay appears in this issue and is responsible for the delay in publishing this number, as we were unable to secure a copy of the proceedings at a sufficiently early date.

We are very thankful to our friends who have sent us so many kind wishes. Launching a new publication on the sea of bee-keeping journalism is a venture not always attended by success. We have been successful to an extent equal to our anticipations and expect to have still more encouragement after the present issue is placed in the hands of practical bee-keepers.

A large number of our friends have deprecated the fact of our appearing only quarterly at present. To them, and to all, we would simply say that it rests with the bee-keepers of Canada as to whether the PRACTICAL remains a quarterly or becomes a monthly. Nothing but a good large subscription list will warrant us in incurring the risk. This Journal is not to be conducted as a side issue to a manufactory but rather aims at being a Journal for bee-keepers, devoted to their interests, and to be used by them for the advancement of their industry. We hope to have 2000 names on our subscription list before the present year is out, and considering the very large number of bee-keepers in Canada we do not think we ask too much.

—La Revue in one of its numbers, cites an instance, as given by a correspondent of a colony constructing combs during the winter season. This unusual activity was caused by an accident to the hive by which more than half the combs had been broken and fallen to the bottom. The bees immediately set to work to restore the damage although the outside temperature was as low as 2 to 4 above zero. The Editor, Mr. Bertrand, relates an analogous experience which he had in feeding sugar some fifteen years ago. "In spring the sugar had been consumed and replaced by comb with large cells. There is no doubt that even in winter bees can produce wax if they are more or less forced to build up a vacancy in the centre of the cluster."

Among the many friendly criticisms received the most complete and witty is that of Mr. E. E. Hasty, in Bee-keepers' Review. This criticism is published in full on our last page. The publisher's name is comically but not correctly hit off. Instead of 'Willet' it should be pronounced 'Oo-let' with the accent on the 'let.' The translations are the editor's own and he believes he has struck a good thing particularly as some of the other journals are rapidly following suit.

Remember, that for One Dollar you receive the PRACTICAL BEE-KEEPER for one year, and also a purely-mated 5 banded Italian Queen. This offer is unprecedented. Subscribe now. A list is kept as received, and the Queens will be sent in the same order as early in Spring as it will be safe to send them.

ONTARIO BEE-KEEPERS

Annual Meeting of the Association in the Town of Lindsay.

Many Prominent Honey Men From all Sections of the Province are Present — A Number of Practical and Valuable Papers Read by the Members.

The annual meeting of the Ontario Beekeepers Association, opened at the council chamber on Tuesday, at 11 o'clock a. m. The morning session was taken up with routine business, the officers and directors only being present.

THE AFTERNOON.

The afternoon session opened at 1.30 o'clock, with President F. A. Gemmill Stratford, in the chair, while Mr. S. Corneil, Lindsay occupied the secretary's seat. Among the other officers and prominent bee-keepers present were, Messrs. A. Pickett, Nassagaweya, vice-president; W. Emergh, Halbrook, treasurer; Wm. McEvoy, Woodburn, foul brood inspector; R. F. Whiteside, Little Britain and T. J. Webster, Oakwood, auditors; W. J. Brown, Chard; J. K. Darling, Almonte; Allan Pringle, Shelby; Wm. Couse, Streetsville; F. A. Rose, Balmoral; R. McKnight, Owen Sound; E. A. Jones, Kertch; Jno. Myers, Stratford; R. H. Smith, Bracebridge; D. Chalmers, Poole and J. B. Hall, Woodstock; M. B. Holmes, Athens, directors; R. F. Holterman, editor Canadian Bee Journal, Brantford; W. M. Robson, Lindsay; Thos. Beall, Lindsay; Warden Hopkins, Lindsay; Jas. D. Shaver, Brantford; Jno. Culver, Walsh; W. C. Wells, Phillipstown; J. B. Aches, Poplar Hill; A. E. Sherington, Walkerton; J. H. Myers, Stratford; Jno. Pirie, Drumquin; I. Overhold, South Cayuga; J. Alpangh, St. Thomas.

WELCOMED TO TOWN.

Mayor Ray was introduced to the meeting and said that he had great

pleasure in welcoming such a representative body of gentlemen to the town of Lindsay, and he hoped that their meeting would be instructive and successful, and that all the delegates would carry away with them golden opinions of our town and people. He pointed out our many important industries and advantages and said that the County of Victoria is the finest, from an agricultural standpoint, in Ontario and he was pleased to know that the bee industry was a prominent one in this section. On behalf of the citizens of Lindsay, he bade them welcome. A vote of thanks was passed unanimously to the mayor for his kindly address.

ANNUAL REPORTS.

The annual report of the treasurer showed that the receipts during 1893 were \$783.04 and the expenditure of \$744.98, leaving a balance on hand of \$48.06.

The secretary's annual report showed the number of members to be 193, a satisfactory increase over 1892.

The auditors report was satisfactory, and on motion all the reports were adopted.

PRESIDENT'S ADDRESS.

Mr. F. A. Gemmill, Stratford, President, delivered his annual address. He congratulated the association on the progress made during the last year, in spite of many drawbacks. He was pleased to see the great interest in bee-keeping taken by the people at large and also by both parliaments, and at the next session the Dominion House will pass an act to stamp out the sugar honey fraud. He congratulated Ontario on the grand show made at Chicago. He urged that the members of the association should work together with a will and interest as many as possible in the industry. He pointed out that home consumption of honey must be encouraged, as the profit was small on shipments made. In conclusion he referred to the "foul brood" pest and

was pleased to learn that it was being stamped out.

FOUL BROOD.

Secretary Corneil brought up the matter of foul brood. He complained that the inspector of foul brood did not properly disinfect himself after visiting infected hives. Considerable discussion took place and the matter was laid over.

HE FELL FOUL.

A long, and in some instances, a rather wrathful discussion took place regarding a letter by the Rev. W. F. Clarke, published in a Montreal paper falling foul of the bee-keeping industry. The question was laid over.

EXTRACTED HONEY.

Mr. R. H. Smith, of Bracebridge, read a paper on the above subject. Whether comb or extracted honey is produced, there is very little difference in management up to the commencement of the honey flow. Good broods are in booming condition by the time the clover season opens and supers must be put in to prevent swarming. Two supers should be provided for each strong colony, filled with comb. Before the bees get crowded, take out one or two combs, with a little brood, being careful to leave the queen and fill up the space with empty combs. The combs with brood are placed in the centre of the extracting super and a perforated metal board is placed on the centre of the hive, when the bees will want but little attention. If the flow is good another super may be placed in about ten days. The supers hold 100 pounds each. The clover honey is now well ripened and sealed, and room is left for the linden honey. He opposed extracting from the brood chamber. Artificial ripening he would not advocate. If properly extracted and covered tightly it would retain the flavor and aroma of comb honey and will create a market for itself.

EVENING SESSION.

When the president called the meet-

ing to order quite a number of ladies were present, and the proceedings were somewhat of a different character from those of the afternoon.

Before the opening of the regular programme, Miss Walters, at the request of the chairman, favored the audience with a solo "Dear Home Land." The vocalist acquitted herself admirably and in response to a vigorous encore, she sang "The Angel Came." Miss Emma Dingle played the accompaniments in a finished manner.

A talk on "Honey," by Mr. R. McKnight of Owen Sound, followed. He said that honey is a translucent, syrupy substance, the basis of which is sugar and of which all children and many grown up people are very fond. He claimed that it came from the carbon in the atmosphere and underwent three changes to starch, sugar and honey. He accounted for the larger flow of honey in some years than others, by the fact that plants can store up more carbon than is required for their immediate wants and when this occurs, there is a large flow of honey. He concluded an interesting talk by stating that in his belief all plants with green leaves produced honey in a greater or less abundance.

Mr. J. Petty was next and "Ennis-corthy," "Come down Mrs. Flynn," "He Never Came Back", and "Learning McFadden to Waltz," brought down the house and "McCarthy" as an enthusiastic bee man dubbed him was given a rousing vote of thanks and the same was tendered to Mrs. Roberts, who presided at the organ.

A long and spirited discussion took place on the advisability of using old comb. The consensus of opinion appeared to be that it was not wise to do it.

The meeting then adjourned after singing "The Queen."

WEDNESDAY MORNING.

The attendance was good and the interest was well kept up.

Mr. R. F. Holterman read a lengthy

and carefully prepared paper on "How to make beekeeping profitable" which we propose to print in full next week.

The paper created much discussion which lasted until the time of adjournment.

The annual reports of the thirteen affiliated societies were read and adopted.

The deputation of last year were reappointed to wait on the Dominion Government to secure legislation against "Sugar" honey.

AFTERNOON SESSION.

Mr. Allan Pringle, who had charge of the Canadian honey exhibit read an admirable paper on "Agriculture at the Chicago exhibition." Honey was shown by 20 foreign countries and 17 states of the union. The largest exhibits were from New York, Illinois, Ontario, England, Ohio and Michigan, in the order given Ontario captured 17 awards, 15 for individuals and two for provinces. This province won twice as many prizes as any state or foreign country and more than all the foreign countries combined. The Canadian honey was far superior to that of any other country in color, appearance and taste and all the honey on exhibition was sold at from 7 to 8 1-2 cents for extracted, and from 13 to 15 for comb. There was a great demand for the Canadian article, and it sold for a higher figure than the United States product. The Yankee comb honey is all right but the strained honey is all wrong, for the reason that the dealers adulterated it, consequently the consumers fought shy of purchasing, but as long as Canadians produced only a first-class and pure article they could market all that the country would produce and sell at remunerative prices.

ELECTION OF OFFICERS.

The election of officers resulted as follows:—President, A. Pickett, Nasagaweya; vice-president, R. F. Holterman. Auditors, J. Alpaugh, St.

Thomas, S. T. Pettit, Belmont.

Foul brood inspector, Wm. McEvoy Woodburn; F. A. Gemmill, sub-inspector, Stratford.

DIRECTORS.

District No. 1 W. J. Brown, Chard
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 " 10 R. McKnight, O'een Sound
 " 11 Jno. Myers, Stratford.
 " 12 E. A. Jones, Kertch.
 " 13 R. H. Smith, Bracebridge
 NEXT MEETING.

It was decided to hold the next meeting at Stratford, in January 1895.

The meeting then adjourned.—Lindsay Watchman.

A LINWOOD LETTER.

DEAR SIR, - I am in receipt of a sample copy of your Journal "THE PRACTICAL BEE-KEEPER, and am very much pleased with it.

I accept your offer of Journal and one five-banded Golden Italian Queen for one dollar, and as I want the Queen as early as possible in the spring, I send the dollar so as to have my order in a good position for being filled early in the spring.

I have 74 colonies all packed outside and mostly in first-class condition. All weak colonies I have marked so that I can watch them and feed them by giving them combs of honey the first warm spell that comes in the spring.

I have no full combs now or I would have given them sufficient this fall, but have some about 1/4 full which I think will do if given in March or April.

I had an average surplus this season of 97 1/2 lbs. per colony and nearly doubled my stock.

Yours truly,
 A. Boomer.

Friend Boomer evidently understands how to make bee-keeping a success. We will be pleased to hear he has been as successful this season as last and we will be still further pleased to hear from others in similar vein.

**Do Bees often depart from what
we consider Fixed Habits or
Principles.**

GEORGE MORRISS.

About the year 1855 or 1856, I was living with Rev. Wm. King, of Buxton, and having some experience with honey bees, I was one warm, sultry morning awakened by the hum of bees swarming - this would be about half-past 3 in the morning. I listened for a few minutes, and so sure was I that I got up and went to the hive just below my window, and sure enough they had commenced to cluster. I then went and rapped on Rev. King's window, and he asked, "Who is there?" I told him his bees were swarming, when he told me to go back to bed, that I was crazy, that he supposed I had common sense, and that bees never swarmed in the night. After I had declared in the most solemn manner that they were swarming he dressed and came out, and there on the nearest apple tree, hung a very large swarm. There was no hive to put them in. I suggested a salt barrel, and after boring holes, &c., putting two sticks through I hived a fine large swarm of bees before daylight, and then went back to bed. I might add that the barrel was about two-thirds full in the fall. The cattle upset the barrel and I took the honey as the combs were all fallen down, and as we had no smokers in those days, you bet I shall never forget it.

Notes from Linden Apiary No. 2.

C. D. DUVALL.

This is the time of the year to prepare for the coming season.

What mistakes did you make last year, and how are you going to remedy them this?

What a difference between this winter and last; at this writing, Jan. 8th, we are having unusually warm weather, and for the past two weeks we have had very few days that were not warm enough for bees to fly; bees are in a splendid condition and are wintering nicely. I am trying several experiments in wintering and will give a re-

port of them in the spring.

Mrs. Jennie Atchley has put herself on record as preferring cross bees for honey gathering. Most honey producers want the bee that will store the most honey, and we can get gentle strains of bees that will store as much honey as any cross bees, and they are much more pleasant to handle, for instance, I have bees in my apiary that I can go to their hive and manipulate them at any time without using smoke, and these gentle bees will gather as much honey as any.

The Progressive Bee-Keeper "guesses" there were about 40,000 queens raised by the American breeders in '93. American Apiculturist puts the number sold at about 10,000. If both are correct there was a large stock left on hand.

Mrs. Atchley in the A. B. J. states perforated zinc is useful in the apiary in the following ways: In preventing weak colonies from swarming out and being lost; as a remedy for robbing; preventing hives from being invaded by mice in the winter; and the perfect control it gives you of the drones. I have used it in all these ways and can endorse all she says.

The report from the Michigan Experiment Station on the best foundation for the use in sections brings out some good points, and shows that foundation which has been kept for some time is nearly as good as that freshly made. That made on the Given Press is better than that which is made on the roller mills. That "extra thin" foundation has a very slight advantage over the "thin."

Most of our Apicultural editors seem to be putting forth an extra effort to make their papers just a little better for 1894: they are all worth their subscription price.

An Accomplished Insect.

The bee is an artistic upholsterer. It lines its nest with the leaves of flowers, always choosing such as have bright colors. They are invariably cut in circles so exact that no compass would make them more true.

PEN AND SCISSORS.

Is a bee an animal or an insect? The question seems to be yet unsettled.

Each copy of this journal is worth the year's subscription.

Bee-keepers will read with benefit to themselves the advertisements in this journal. They are no fakes but good faith announcements from reliable people.

Read our list of Bee Books in this issue.

Jaques Balmot, a guide of Mont Blanc, writing to H. A. Gosse, under date December, 1809, gives the following method of treating bees for diarrhœa as practiced by the bee-keepers of Chamonix:

"When we perceive symptoms of diarrhœa we take a flat plate of iron about the thickness of the blade of a knife, which we heat in the fire, making it very hot but not red; then we raise the hive and pour on the iron some good vinegar so that the fumes may mount well within the hive whilst taking care that the bees do not fly. It is necessary to be very active to perform this work."

Have you paid your subscription? A genuine 5 banded Italian Queen and the "Practical" one year for one dollar.

Have you induced a friend to subscribe? If not, do so now, and gladden the heart of "ye editor."

One cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this you will greatly oblige us, as we use more one-cent stamps than the three-cent kind.

Bro. Hutchinson, in the Review, gives very interesting descriptions of his trip to Chicago, and the honey exhibits at the World's Fair, a few of which he pictures having photographed them himself. There is very little in the Review these days that could be criticised, which shows that Bro.

H. is working hard to make his paper worth all it costs. But then, that wouldn't be hard to do, for where is the bee-paper published, a single issue of which is not worth a whole year's subscription? For this reason, it will pay every wide-awake bee-keeper to take several of the best bee-periodicals, and not stop with only one. Also, all the best bee-books should be found in the bee-keeper's library. These are what might be called "reading times," and bee-folks should not permit themselves to fall behind the rest of the world in being posted in their calling. American Bee Journal.

Mrs. Jennie Atchley, in The American Bee Journal, in speaking of Foul Brood, says: "Should I be so unfortunate as to get Foul Brood again among my bees, such as I had in 1893, I would at once burn lock, stock and barrel, and send off and get new hives and bees." She also scores foul brood Inspector McEvoy, for saying that "foul brood started from common dead brood." The sting of this latter criticism is removed by the thorough lady-like manner in which it is made. If we remember rightly Mr. McEvoy would also IN CERTAIN CASES burn lock, stock and barrel, but not in all, holding that in the most of cases it may be thoroughly eradicated.

A Cure For Diphtheria

(Scientific American.)

At the first indication of diphtheria in the throat of a child, make the room close, than take a tin cup, a quantity of tar and turpentine, equal parts. Then hold the cup over the fire, so as to fill the air with the fumes. The little patient, on inhaling the fumes, will cough and spit out all the membranous matter, and the diphtheria will pass out. The fumes of the tar and turpentine loosen the matter in the throat, and thus afford the relief that baffled the skill of the best physician.

Don't miss the next number: it will contain among other good things, a practical sensible article on "How to Transfer."

HOW TO SUCCEED IN BEE-KEEPING.

JAMES HEDDON.

Whew? But you have given me a subject this time, the scope of which is boundless, and the field it presents exhaustless. Well, I will try my hand at it, if you will furnish the space, and I will endeavor to crowd my few, from among the endless number of thoughts relevant to this subject, into as few words as possible.

There is such a thing as a man being a success on general principles; that is, he may possess elements which guarantee success in any pursuit in life. I will name some of them, that while they are as necessary to successful bee-keeping, they are needed if we look for success in any calling. First, integrity. Now, you think I mean honesty? Yes I do, and a good deal more. If the reader will please stop right here and go and consult his unabridged, he will find that this great and grand word covers an immense ground outside of morality. Now you know what I mean by integrity to yourself and your inanimate relations.

Second, system or order. This is one of the greatest essentials to success in any business. It is not only an economy, but a perpetual invoice. The business man who possesses and practices this happy faculty, knows all the time just "where he is at."

Energy; this is the male parent of order, and outside of its splendid parentage as above stated, is the mother of enterprise, executiveness and industry.

Analysis; this is the child of casualty and comparison. Coupled with the before mentioned faculties, this great parent of talent becomes the author of tact, and for worldly success tact lays it over talent ten to one. How many unlettered and talentless people have we met who possessed the tact to pass in the race of life far more intelligent competitors who knew a great deal, but could accomplish almost nothing. Possessing the above named element, the one who embarks in bee-keeping will make few mistakes in choosing his field of operation, variety of bees, style of hive, as well

as other minor implements and fixtures. Before making the first move, however, he will consider the business of honey production in the following light:

Rather than desiring to hear about how many pounds of surplus honey a colony can produce, or what average number of pounds surplus can be secured from an apiary throughout, he will ask, "Where is the best unoccupied field, how many pounds of nectar secretes in its flora each season, on an average, what will be the probable price of honey, and how much will it cost me for capital and labor to secure this honey and get the surplus into money?" He will decide that about 200 colonies of bees (spring count) is the most profitable number to keep in one place. He will raise comb or extracted honey, or both, according to which one he can sell with the least effort at a price consistent with the cost of production in the markets which he has chosen. The kind of bees he will keep will depend upon his flora and whether he raises comb or extracted honey. Unless he produces extracted honey entirely, he will not keep pure Italian bees. He will use his reason and tact in selecting, constructing and arranging his yard, buildings and all minor implements. As far back as the oldest reader can recollect it has been supposed that the style of hive used by a bee-keeper, was of most importance because it effected his success to a greater degree than any fixture or other implement connected with the pursuit. But more recently, since nearly all practical apiarists were using Langstroth hives, of some modification, some called the "simplicity," or the "Jones," "Smith" or "Davis," and all these hives having some strong and some weak points, bee-keepers have come to believe that the style of hive used is of minor importance; such is not the case however. The rapid decline in the price of honey which has steadily taken place during the past 15 years has proportionately reduced the price of bees, a decline disproportionate to that of labor and most other productions. Now it is found necessary to reduce the LABOR COST in raising honey, for with this production

us with all others whoever produces at maximum cost will fail, and whoever produces at minimum cost will succeed. As the hive is closest connected with the laborer, so much of his time being spent in manipulating it, it still holds true that in this implement far more than in any other, and perhaps I might say more than in ALL others combined, we must arrange it for economy of labor.

Over a quarter of a century, as almost a specialist, has taught me the following: It is a mistake to use double-walled hives or heavy hives of any kind, One-story hives, deep frame hives, or hives with slide doors, movable sides or observatory attachments, are a great mistake.

We are now using hives so constructed that almost every needful manipulation, such as are essential to successful honey production, can be performed in from one-half to one-tenth of the time heretofore required, besides decreasing risks, such as robbing and stinging, to a minimum. While each and every comb is readily removable, nearly all useful operations can now be performed without the waste of time necessitated in moving single combs. This is accomplished by the use of extremely shallow, close-fitting frames, in a horizontally divisible brood-chamber. With this construction we have all the advantages of a deep hive, a shallow hive, a large hive, a small hive (or brood chamber I might better say) with none of their disadvantages. We can practice contraction in its best possible form, without lessening the top surface of the brood-chamber. The quantity of honey, brood and bees, can be almost instantly ascertained with almost no exposure to robbers and with least danger from stings; queens can be found, queen cells destroyed, nuclei formed, artificial swarming practiced, etc., with less than one-fourth the time needed by the old methods, because all can be done without the removal of a single frame, and all of this because of a twelve-inch brood chamber being made divisible, in two cases containing two separate sets of extremely shallow frames, while readily removable, still solidly screwed to position. Shallow ex-

tracting supers (a favorite with practical beekeepers, and used by me for over 20 years) with this hive, and this hive only, can be made a fac simile of the brood-cases. This hive construction is the only one with which we may expand the brood-chamber in the most natural manner and with which we can at all times keep our brood closely up to the break-joint, bee-space honey-board upon which the surplus cases rest. In consideration of the above advantages, together with many others we will omit for want of space, several of which are experienced in wintering, every bright and successful honey-producer will sooner or later be compelled to adopt this style of hive or be left behind in the race.

The successful honey producer will not use cloth covers in summer, nor enamel cloth at any time of year; he will use nothing but a well-cleated, flat board hive-cover, which will be used to cover the surplus receptacles. He will make his hives of lumber less than $\frac{3}{4}$ in. thick, in no case having the cover or bottom boards more than $\frac{3}{4}$ in. thick.

The bearings of the different parts, as they come together, will be as narrow as possible, never exceeding $\frac{3}{8}$ inch, materially aiding in manipulating, with safety to the little workers. The successful honey-producer of the future will use the break-joint, bee-space honey-board, and usually made queen excluding. A board is the best thing for shade, so necessary in the heat of summer. All hives should be painted dull white, so as not to accumulate heat from the sun, and yet not reflect his rays in the form of a glisten, so tormenting to the eyes of the bees and bee-keeper. When wintered outdoors these hives should be packed in outer cases, not to exceed two or three inches space between the two and this should be solidly packed with sawdust and the outer case painted dark red. This dark color and the solidity of the packing, together with not too extensive space, will furnish your bees with much beneficial solar heat throughout the winter. Oh! I mustn't forget to mention the Reese bee-escape. You may call it the "Porter," or the "Davis," or "Smith,"

or "Brown," but I say it is wrong to ever mention this useful device with the name of some one who modified it leaving out the name of the inventor, or as we know, its first advocate and introducer. Use the Reese bee-escape by all means. It works not so well with any other arrangement as with shallow fixed frames. You will be astonished when you come to confront the innumerable advantages of the divisible brood-chamber hive for the production of extracted honey.

Well, there are 40 other things which I am sure are important, which I might mention, but this essay, which is already too long, must end somewhere, so I will stop right here with the promise of more, and also further explanations into the details of what I have already said, in a future essay, if desired.

Dowagiac, Mich.

HOW TO RAISE COMB HONEY.

N. H. SMITH.

Another year has passed away, gone to join the vast array of its predecessors, and another year is born to take its place. *Le roi est mort; vive le roi!* At this time we are, prone to review the events of the past year and look forward hopefully to what 1894 has in store for us. For, fortunately or unfortunately, as the case may be, we are not always able to realize our anticipations or compass our desires.

The tendency of the age is to advance morally, mentally and physically. Dealing only with our own particular industry, 1894 should find us improved in matters pertaining to bee-keeping, and better all round apiarists than we were before. "Whatever is worth doing at all is worth doing well." Bee-keeping is an occupation which calls for our best efforts, and in no other industry can we meet with reward more proportionate than in that of apiculture. Raising honey is the gathering of the choicest of Nature's sweets, called by the poets "the nectar of the gods." It is given to us by the same hand who so gorgeously decked the lily and it behooves bee-

keepers to study well the means by which they may best avail themselves of this great bounty and appropriate it to the use of mankind. Nothing is created without a purpose and it seems to me a great pity that thousands and thousands of pounds of this delicious nectar are literally allowed

"To waste their sweetness on the desert air,"

Instead of being utilized by man according to the self-evident plan of an all-wise Creator.

The essential elements of success in bee-keeping are location and qualification. When either is lacking failure is certain. The first of these is less important than the second: locations are plentiful and honey is free, but to be fully qualified to keep bees is no small attainment. To obtain the maximum of honey at the minimum of expense, always considering the necessities and comforts of our little friends, the bees, is to make bee-keeping successful. This requires a patient study of the laws that give their instinctive actions.

There have been greater changes in methods of bee culture during the past fifty years, than for the previous five thousand. From the time long since, when the bees, so we are told, made a hive out of the dead body of a lion and Samson robbed them of their honey without the aid of a smoker or extractor, there have been many changes and improvements, not only in that particular style of hive, but in many other bee-keeping appliances.

In our time, among others, we have the movable frames and one pound sections, both aiding materially in making our market exhibits such a success. To raise comb honey profitably and successfully, the style of hive must be considered. Buy an inexpensive one, the cheaper the better, if it only answers the purpose. A good hive with a good super, so that the bees cannot soil the sections - this is a necessity. The Langstroth hive has been my choice for the last twenty years. I use the Hoffman frames and thick top bars since they have come on the market. This makes the best hive for comb honey on the market to-day. Supposing your bees hived as above, th

next thing to do to secure a large crop of honey is to see that your bees are strong in the spring and have lots of brood. When white clover is in bloom, and honey is plentiful, spread your brood. If the queen has no brood in the outside racks take two racks of brood from the centre of the hive and place one on each side, and take the two outside racks of honey and place in the middle filling up the places from which you have just taken the two racks of brood. Now, if your hive is strong in bees, your super is ready to go on. Put full sheets of Foundation Comb in each section, and as soon as the bees have half filled the super, raise it up and place an empty one under. Keep up this system of "tiering up" as long as the honey flow lasts, always keeping the empty super next the hive. I have had seven supers on at once, but if the top super become sealed take them off as soon as they are sealed. Some hives will require seven supers at once, others three, others five. All depends on the strength of the swarm and the queen. Young queens, not over one year old, are the best. By this method your bees will not swarm much.

Out of a large number of colonies handled by me in 1893, only three hives swarmed. I keep only the 5-banded Italians and find them great honey gatherers and but little inclined to swarm. They also keep the honey very white, making it command a better price:

If your bees swarm always hive on the old stands, taking out two or three racks of brood to make a nucleus, and filling the vacancy with racks of foundation comb, always keeping the brood at the outside of the hive. By following the above directions you will always keep your colonies strong, get all the surplus possible and leave your bees in splendid condition for the winter.

HONEY AS A FOOD AND MEDICINE

The following recipes are taken from a 32-page pamphlet entitled, "Honey as Food and Medicine," by Thos. G. Newman. THE PRACTICAL BEE-KEEPER will furnish these

pamphlets, post-paid, on receipt of the price, five cents (stamps). Address, THE PRACTICAL BEE-KEEPER, Tilbury Centre, Ontario.

HONEY AS A FOOD.

HONEY CAKES.

Three cups of honey, four cups sour milk, half cup butter, soda to sweeten the milk; mix rather stiff.

MILK AND HONEY.

Take a bowl of milk, and break some white bread and also some white comb honey into it. This is delicious—the proverbial "milk and honey" of the ancients.

HONEY GINGER SNAPS.

One pint honey, $\frac{3}{4}$ lb. of butter, 2 teaspoonsful of ginger, boil together a few minutes, and when nearly cold put in flour until it is stiff, roll out thinly and bake quickly.

CHEAP HONEY TEA CAKE.

One teacup of extracted honey, one-half teacup of thick, sour cream, two eggs, one-half teacup butter, two cups of flour, scant half teaspoon of soda, one teaspoon of cream tartar; flavor to taste.

HONEY PUDDING.

Three pints thinly sliced apples, one pint honey, one pint flour, one pint cornmeal, small piece butter, one teaspoonful soda, the juice of two lemons and their grated rinds; stir the dry soda into the honey; then add the apples, melted butter and a little salt; now add the lemon rind and juice and at once stir in the flour. Bake one hour. Serve hot or cold with sauce.

HONEY TEA CAKES.

Three pounds and a half of flour; one pound and a half of honey, half a pound of sugar, half pound butter, half a nutmeg grated, one tablespoonful of ground ginger, one teaspoonful of salcratus, or carbonate of soda. Mix the sugar with the flour and grated ginger, and work the whole into a smooth dough with the butter beaten to a cream, the honey and salcratus, or soda, dissolved in a little hot water. Roll it a quarter of an inch thick, cut it into small cakes, and bake them twenty-five minutes in a moderate oven.

HONEY AS A MEDICINE.

GARGLE FOR SORE THROAT.

Very strong sage tea, one-half pint; extracted honey, common salt and strong vinegar, each two tablespoonsful; cayenne pepper, one teaspoonful. Steep the pepper with the sage, strain, mix and bottle for use. Gargle from four to eight times daily according to the severity of the case.

FOR ASTHMA.

Honey is an excellent remedy. Mix 1 oz. of castor oil with 4 ozs. of honey. Take one tablespoonful, night and morning. A simple and beneficial remedy.

HONEY COUGH SYRUP.

This is an excellent remedy for a common cough. One dose will often give relief. Stew half pint of sliced onions and one gill of sweet oil in a covered dish. Then strain and add one gill of good honey; stir it well and cork it up in a bottle. Take a teaspoonful at night before going to bed, or any time when the cough is troublesome.

BALSAM OF HONEY.

Take fine pale honey four ounces, glycerine one ounce; mix by a gentle heat, and when cold add alcohol one ounce; essence of ambergris six drops, citric acid three drachms. This is intended to remove discoloration and freckles, as well as to improve the general appearance of the skin.

HONEY FOR SORE EYES.

Mr. S. C. Perry, Portland, Mich., says: "A neighbor of mine had inflammation in his eyes. He tried many things and many physicians; was nothing better, but rather grew worse, until he was almost entirely blind. His family was sick and I presented him with a pail of honey. What they did not eat he put in his eyes, a drop or two in each eye 2 or 3 times a day. In 3 months' time he was able to read coarse print, and now after four months' use his eyes are almost as good as ever. I have also found honey good for common, cold-sore eyes.

HONEY SALVE.

Take two tablespoonsful of honey, the yolk of one egg, and flour enough to make a paste. This salve is excellent in case of running sores, boils, sores with proud flesh, etc,

[TO CURE A BURN OR SCALD.

Cover the same instantly with honey, keeping it so until the pain ceases.

HONEY AS A FOOD

Translated from the French of Revue Internationale.

A subscriber, M. J. B., has asked us to reply in the Review to the following question: -

"In what relative proportions are the nutritive qualities of a kilogramme (about 2 lbs., 5½ drachms) of honey to those of a kilogramme of beef?"

Stated in these terms the question does not admit of a categorical reply the useful elements contained in honey not being of the same nature as those contained in beef, and not admitting of comparison with them. These two foods performing separate functions in nourishment, we can only seek in each the richness in nutritive qualities which are proper to it.

The subject requiring to be treated scientifically, from physiological information, which we do not possess to a sufficient degree, we have laid the matter before a scientific man who has been kind enough to furnish the following:

"To reply to this question it is necessary to compare the results of an analysis of one of the foods, similar in utility, with those results arising from an analysis of honey, and also to take into account the average amount of nourishment required by man during a period of 24 hours. This quantity varies according to individuals, their age and the amount of work they do. Under ordinary conditions, in an adult, we can estimate the quantity as follows, according to the physiologist Beaunis.

Water.....	2818	grammes
Albuminoids, nitrogenous substances..	120	"
Hydrocarbonates (non-nitrogenous)	330	"
Fat substances	90	"
Mineral matter	32	"
Total.....	3 00	grammes

Let us now examine some of the different foods, the proportions in the 1000 parts of water, of albuminoids, hydrocarbonates, fat and salts which they contain:

	Water.	Albu- minoids.	Hydro- carbonates	Fat.	Salts.
*Mother's milk 890	40	44	25	1	
*Meat from mammals .. 730	175		40	11	
*Cheese 370	335		240	55	
*Vegetables .. 137	234	599	20	32	
*Heat bread 130	145	695	20	20	
*Rice 90	50	835	7	5	
*Potatoes 725	15	235	1	10	
*Cauliflowers. 920	5	20		7	
†Honey 80		800 to 830			
‡Honey 330		770 to 780			

*According to Beaunis. †According to Calloud.
‡According to Haenle.

We see by the above table that certain foods contain all the elements necessary to man's nutrition; the most perfect food type is milk; and if taken in sufficient quantity milk alone will sustain and nourish the human body. Other foods, on the contrary, contain large quantities of some one of these elements to the exclusion of others. Such, for example, is the potato, whose nutritive value, weak elsewhere, it due to its hydrocarbonate, while it contains but a small quantity of albuminoids; in order that an adult should receive the 120 grammes of nitrogenous substance required in the first table as to his daily ration, it would be necessary to consume about 8 kilogrammes of this vegetable.

Honey, not containing albuminoid substances would not be able even in very large quantities to suffice for our food, but its richness in hydrocarbonates (800 grammes to the kilogramme) makes it a very important food in supplying the daily requirements of 330 grammes of hydrocarbonates (see table).

Meat and honey are then two very different foods, the latter not being able in any case to replace the former, since meat furnishes to the system the nitrogenous substances of which it has need, while honey can give it only the hydrates of carbon.

To appreciate the nutritive value of foods we must not exclusively confine ourselves to the foregoing table; at the outset it is necessary to take into consideration the facility with which these foods are digested. If we take equal weights of cheese and meat, the cheese contains more albuminoid substances than the meat, but cheese digests less easily and we would not be able to meet the daily requirements of 110 grammes by consuming the necessary quantity of cheese

($\frac{1}{4}$ of a kilogramme) because our stomachs would soon rebel.

The hydrocarbonates of honey are especially valuable on account of the facility with which they are assimilated. Fecculents to be assimilated require to be previously changed by the intestinal juices into levulose and dextrose; honey, on the contrary, is a mixture of these two substances, which are assimilated as such without having to submit to the previous digestion. We sometimes hear it said that honey assists respiration; this is according to an old theory, now abandoned, which distinguished foods into two classes, plastic foods and respiratory foods, according as they served in nutrition or respiration; hydrocarbonates (and consequently honey) were classed in this second category. This was an erroneous conception and we know to-day that each of the foods plays its role at once in the reparation of tissue and in breathing, and not alone in one or the other of these two great functions. Food is now divided into the following classes.

1. Inorganic elements { Water.
Salts.
2. Organic elements { Nitrogenous matter (albuminoids).
Non-nitrogenous matter { hydrocarbonates.
fats.
3. Accessory foods (alcohol, tea, coffee, vegetable acids, essential oils).

DR. SCHRAUTZ.

Gramme—about 15 $\frac{3}{4}$ grains.

Kilogramme 1000 grammes or 2 lbs, 5 $\frac{1}{2}$ drs.

Albuminoids or Nitrogenous Substances—Substances such as muscle-fibrine, blood-fibrine, albumen and casein (in their animal and vegetable forms) and the vegetable compounds gluten and legumin hydrocarbonates—substances containing carbon, hydrogen and oxygen.

Plastic Food A food that may be utilized in the economy of the system.

Honey is a food containing hydrates of carbon in large quantity. These hydrates of carbon are among the requirements of the human body in the way of nourishment about 1/10 of our food supply should be hydrocarbonates. Honey is very pleasing to the taste, nutritious and easily digested. A

food for the strong, a food for the weak, a food for those with impaired digestive organs, a food for invalids. Honey should enter into the composition of every bill of fare, should have a place on every man's table, the poor as well as the rich. Surely honey is ambrosia and nectar' mentioned by classic writers as the "Food of the Gods,"

SOME ADVICE.

CHAS. DADANT, IN REVUE INTERNATIONAL.
Translated.

1. Do not trouble yourselves about the moths, but keep your colonies strong and they will free themselves.
2. A good smoker and a veil are indispensable. Some apiculturists do not use the veil, but they are frequently stung and that should not be pleasant for them.
3. Smoke the bees a little at the entrance before opening a hive.
4. Do not open your hives early in the morning or in the evening but in the middle of the day, when the workers are in the field, the old bees being the least docile.
5. There is more profit with less work in caring for 300 hives than in cultivating 80 acres of ground, PROVIDING ALWAYS WE KNOW WHAT IS TO BE DONE AND HOW TO DO IT CORRECTLY.

Bee-keepers should be able to tell now, very nearly the amount and kind of supplies they will need for next season. By ordering now they are sure to have their goods when wanted, and besides they can take advantage of the liberal discounts offered.

Get your name on the list for a purely-mated 5-banded Italian queen (free).

ADVICE TO BEGINNERS.

SERIES II.
D. STEWART.

We will take it for granted you have your three colonies of bees. The winter is passing, spring is coming, and you want to know what to do with them. At the present time if you are sure, or pretty sure they have plenty of stores, don't disturb

them until it is warm enough for them to fly freely, then uncover them and examine to see if they have enough stores. You can do this by lifting out the frame. Have your smoker ready and smoke enough to keep them down, but not anger them. They should have about 15 or 20 pounds of honey to carry them along until they can get a fresh supply. Should you find they have enough stores, and evidence that they have a queen, and are clean and dry, cover them up snugly again and let them alone till you want to take them out of clamp or winter quarters; but if you find that they are wet with a lot of dead bees on the bottom board, get an empty hive and a short paddle made from a shingle, then lift out three or four of the outside frames and put them into your empty hive, crowd the rest of the frames to one side, clean out one side of the bottom board and dry it, move the frames to the clean side and repeat the process for the other side. If you find they are short of stores cover up temporarily until you can prepare food. You can feed them with almost any kind of sugar or syrup in the spring. A cheap feeder is a bread or milk pan. Put some fine hay into the pan, pour the syrup into it and see that there is sufficient hay to keep the bees from drowning. Draw your cloth cover to one end so that the bees can get. Put a super on and put your feed-pan into it.

Cover up snugly and let them alone till they want more, or if you are feeding to stimulate breeding feed a little every day. In this matter my opinion is that provided the bees have sufficient stores the less you fuss with them the better, until you want to prepare them for the honey surplus. When it comes in your locality get ready for swarming by having an extra hive for each colony, or better, two, and if you are going to work for extracted honey you will want an extra body for each without top or bottom.

Of course you will want frames for all the hives and comb foundation either in frames or quarters. I would advise you to get wire and wire your frames. Your dealer will get you the proper kind and show you how to

put it on or if this is not convenient you can obtain the necessary information from any of your bee books, or from some good bee-keeping neighbor.

For extracting you will require an extractor, no matter how little you extract to begin with. You will also require an uncapping knife, a roller to put foundation on your frame and a wire imbedder.

For comb honey you want three or more supers for each colony. These supers should be filled with sections and each section provided with comb foundation starters.

If you are very green in the business you will require to be shown how to put the foundation into the sections. Now you are ready for the honey harvest. Later on I will tell you how I manage my bees for comb and extracted honey.

MARKETING HONEY.

The best method or methods of marketing honey is a subject of particular interest to the successful bee-keeper. Given that he has a successful season and has considerable surplus honey to sell, it behooves him to endeavor to receive a price for his wares, commensurate with the toil and skill which he has given to produce them. Now let us consider the means by which the desirable end may, to a certain extent be attained.

It goes without saying that the first requisite is to have all packages, whether comb or extracted honey, neat and clean. Next, all honey should be graded in some decided manner and should command prices according to its grade. Honey may be graded according to the rules adopted by the North American Bee-Keepers' Association, at Washington, into fancy light, fancy amber, fancy dark, No. 1 light, No. 1 amber, No. 1 dark, etc., etc., or what seems to us a better, because a simpler plan, into No. 1, No. 2, No. 3, No. 4, etc., etc., whichever plan is adopted the first-class should have all sections well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; and all cells sealed except the row next the wood. The other grades will be classified

according as the combs are crooked, uneven, detached at bottom, some cells unsealed, etc., etc.

Fall or dark honey in very few cases pays to ship, but is better disposed of at home, or in the home market, where the producer is well known. If sent to a distance the returns are small and a man's reputation is liable to be injured.

If the producer is near a large town or city it will pay him to sell his crop outright to the retail grocers. The importance of this cannot be over-estimated, as a good city trade well worked up is far preferable to dealing with commission houses.

Another very important matter is to do the packing yourself, or superintend it. Fair, square dealing always pays, but if the producer does not look after this matter of packing for shipment himself, mistakes will occur, and the result may be that an otherwise good trade will be ruined.

No. 1, or fancy comb honey, should net producer from 12 to 13 cents a pound, and extracted of the same grade 10 cents.

HOW TO PREVENT SWARMING.

PETER BUSSEY.

The question to be discussed is "How to Prevent Swarming?" This is a hard question to discuss from a practical standpoint. During the past years a great many articles have been written on this subject. All that I can do, Mr. Editor, is simply to give you my mode of preventing swarming. I can say, from years of experience in bee-keeping, that in order to get the best results swarming must be kept under control to a certain extent, I have noticed that when we have a good season for honey, the bees, if left to their own resources, will swarm four or five times; this weakens the old hive to that degree that the bees are kept busy resisting the encroachments of the bee-moth. The swarms that issue are small and they also too frequently become a prey to the destructive moth. Hence, I say swarming must to a certain extent be controlled. How is this to be done? There are a great number of

ways, and when one fails I generally fall back on another and so contrive to "get there" just the same. I allow each of my colonies to swarm once, naturally, and then begins the work of prevention. One plan is to go through the brood nest in about six or seven days after the first swarm has issued, and pull off all the queen cells, but this plan will not always work. I may overlook one and the next thing I am aware of out comes a swarm. Then if I know the hive from which it has issued, I catch all the queens as soon as possible. When all the little fellows find they have no queen or queens (I might just say here those after swarms fetch out from one to half a dozen queens) they will return to their old home and go to work as though nothing had ever happened.

Another very necessary thing is to see that your bees have plenty of room. I find bees generally swarm on account of the lack of room, as it is necessary to enlarge the house as their young hatch. My plan is as follows: As soon as white clover is in bloom I put on one super (I am speaking of course of raising comb honey.) This super is full of sections and each section provided with a starter. As soon as the bees have gotten nicely to work in this super I lift it off and put a fresh one, with sections and starters as before, next the hive and the former super on top. This will make room for the young bees that are being hatched out daily. This procedure I keep up as long as there is plenty of honey coming in, always putting an empty super next the brood nest. I have had six of these supers on at one time and removed them, all filled with beautiful honey. By this means I have AT TIMES kept them from swarming all through the season and gotten good returns, but unfortunately this plan also sometimes fails.

Again a swarm will issue and not seeing from what hive they have come, I hive them by themselves, sometimes doubling them up, sometimes putting three together. There are several plans given to prevent after swarms, but as this article is already long enough I will conclude by wishing all the readers of the PRACTICAL BEE-KEEPER all imaginable prosperity and a VERY HAPPY NEW YEAR.

WHAT THEY SAY OF US.

The Practical Bee-keeper is the name of a new quarterly journal published here by C. A. Ouellette, and edited by T. N. Leigh. Its 24 pages are crowded with practical information, and if succeeding numbers are kept up to the standard of the November one, its success is assured. Its salutatory says it "will be devoted solely to the interests of the bee-keepers of the country with a department intended for amateurs and beginners. Its aim will be to inculcate among the people a greater interest apiculture, and indirectly to increase the number of apiculturists in the land." The subscription is only 40c per year.—Tilbury Centre Times.

A new quarterly journal "The Practical Bee-keeper has made its appearance. Its promoters should feel proud of their journal as it is what its name implies 'practical'". — St. Thomas Journal.

Canada is to have another bee journal, the first issue being already out. Its name is the Practical Bee-keeper and it is a neatly gotten up quarterly; at forty cents a year, published at Tilbury Centre by C. A. Ouellette, with T. N. Leigh as editor. Leading bee-keepers contribute to the first issue.—Bee-keepers Review.

Vol. 1, No. 1 of the Practical Bee Keeper has reached our office. It is published quarterly by C. A. Ouellette, Tilbury Centre, Ontario, T. N. Leigh is its editor. It contains 24 pages and cover, with such prominent writers for its contributors as James Heddon, G. M. Doolittle and Chas. D. Duvall. As it is backed by a supply trade, no doubt it will be a success. We wish its publisher every degree of success that is possible to come to a new-born bee-paper.—Success in Bee Culture,

PART OF THE MAIL.

Under the Non De Plume "Remoh."

One of our subscribers in remitting his dollar dropped into poetry as follows:—

Your Journal's Practical in name,
And practical in matter.
I send a dollar by this mail
To make your purse grow fatter.

For tho' the bees are snugly lived,
To pass the chilling winter,
The Journal comes out just the same
Take this—to pay the printer.

And send to me that dandy queen
When winter's frosts are over;
That I may have a corking hive
To hustle through the clover.

All right friend Remoh, you commands will be obeyed and although The Practical has not as yet opened up a poet's corner, you may continue to send in verses on the same condition; and we would suggest that you do this as the politician told the party heebers to vote, "early and often."

Highwood, Conn.

First number of your bee-paper is at hand. We extend to you a hearty welcome.

BURTON L. SAGE.

We find the Practical Bee-keeper very nicely gotten up.

W. T. FALCONER, Man'g Co.

Beeville, Texas.

Dear Sir.—First number of Practical Bee-keeper at hand, and does not favor a new baby, but seems to be able to speak for itself from the start, as it is a very bright, and interesting Journal. And to speak my opinion, I think its parents are old folks in the journalistic world.

Yours very truly,

MRS. J. ATCHLEY.

Holton, Que.

Dear Sir.—Your Journal. The Practical Bee-keeper came to hand and I like it well. Enclosed please find \$1 for the Practical and Queen. I

send you names of bee-keepers around here.

Yours truly,

WILLIAM NOLAN.

Cowansville, Que.

Dear Sir.—I received a sample copy your journal "The Practical Bee-keeper" last evening. Many thanks; it is full of practical knowledge and I wish it were monthly. I can only praise your journal.

Yours, etc.,

ASA. A. JOHNSTON.

Peterborough, Ont.

Dear Sir.—I have received the first number of the journal and like the appearance of it very much, especially the extracts from foreign journals. I hope you will see your way clear to make it a monthly before the year is out. With best wishes for your success.

Respectively,

JOSEPH PANTER.

Chard, Ont.

Dear Sir.—Your initial number of "The Practical Bee-keeper" came duly to hand, and for it please accept my thanks. But, oh! three months apart in its visits. Surely that will be but for the first year. A good visitor never comes to often. I enclose a dollar as per your offer for a year's subscription and that 'Dandy Queen' with the 5 bands of gold which will no doubt make the honey (money) flow in a golden stream. With best wishes.

Respectively yours,

W. J. BROWN.

At the meeting of the Ontario Bee-keeper's Association in 1893, a gentleman present raised the following question: "Why is the advice so frequently given by writers of bee-literature so difficult to follow, and why is it that when followed the results are so unsatisfactory?"

We do not propose to give an elaborate answer to the above question, but will merely tell a story which occurs to us and seems to apply. "A Sussex farmer had a tall, old-fashioned clock which pointed 20 minutes to 4 and struck 2." "Now," said the farmer triumphantly, "Nobody but me understands that clock. Nobody else knows that when it points 20 minutes to 4, and strikes 2, it's really half-past five."

What we seem to need is a Sussex farmer to tell us what some writers on apiculture mean when they point 20 to 4 and strike 2,

5-BANDED ITALIANS

1894 will find me to the front again with those 5-banded Italian Queens which cannot be excelled for beauty, docility and utility.

Out of 1500 shipped in 1893 only one Queen was lost.

27 years experience in Queen rearing. Queens raised by nature's laws. No forced Queens for me. Every Queen warranted purely mated and sold as cheap as any U. S. stock, with less danger of losing by sending through mail so great a distance

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N. H. SMITH, Tilbury Centre.

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Bee-Keeper

J. W. McALPIN, Gananoque.

Honey as a Food and Medicine.

T. G. NEWMAN.

A 32 page pamphlet; just the thing to create a demand for honey in the home. Should be in every house. Contains recipes for using honey as a Food and Medicine.

Price, post paid, 5 cents.

A. B. C. OF BEE CULTURE - A. I. ROOT.

A cyclopedia of 400 pages, describing everything pertaining to the care of the honey bees. It contains 304 engravings. It was written especially for beginners. Bound in cloth. Price, \$1.25.

A YEAR AMONG THE BEES—DR. C. C. MILLER.

A talk about some of the implements, plans and practices of a bee-keeper of 25 years' experience, who has for 8 years made the production of honey his exclusive business. It gives many particulars about caring for bees throughout the whole year. 114 pages, bound in cloth, and illustrated. 50 cts.

Quinby's New Bee-Keeping.

Revised by L. G. ROOT.

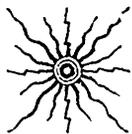
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We have just completed our Steam Pipe Fittings for melting our Wax for Comb Foundation, and in this line we will also excel. All other articles for the Apiary manufactured on the premises.

I claim superiority for our Super Arrangement for Comb Honey. Commission men write :--“ We find your Honey a very superior selling article, and getting more than market price for it.” Clean Comb Honey, in nice white sections, well filled, sells without trouble : it is always at a premium.

USE OUR SUPER AND ARRANGEMENTS

If you have not yet received my Catalogue send for one--Free.

C. A. OUELLETTE,

TILBURY CENTRE

BEE-KEEPING.]

REV. W. F. CLARKE.

Every spring quite a number of people in various parts of the country entertain a notion of bee-keeping and balance the question in their own minds whether or no they will embark in the business, either as a specialty, or as an adjunct to some other occupation. A few practical suggestions on the subject may not come amiss to such.

There are now, in various parts of Canada and the United States, many who have successfully devoted themselves to bee-keeping as a business. Included among them are several ladies, who have proved that this is by no means an unsuitable branch of industry for the fair sex to embark in. That womanly independence and self-support can be achieved in this direction, is one of the most interesting features in modern bee-keeping.

Two things are necessary to success in bee-keeping as a specialty; thorough knowledge of its principles and details, together with an aptitude for bee-management. The requisite knowledge can be obtained by study of works on agriculture, and practical manipulation of the hive. Those who undertake to become self-taught beekeepers, will be wise to begin in a small way. One or two hives are quite enough to start with. Bees usually increase as fast as the tryo's knowledge and skill, and often much faster. Mistakes and losses will ordinarily occur at the outset, and to begin on a large scale, is to risk serious and perhaps crippling loss. There are too many of these cases, and they often result in utter discouragement and hasty abandonment of the business. A neighbor of the writer's, who was doing well as a mechanic, invested \$600 in the purchase of bees, knowing little or nothing of their management, and in a very short time lost his capital and involved himself in debt. He had

much better have continued in the business he did understand, than to have entered on another of which he was almost wholly ignorant. This is but one of a multitude of samples which ought to warn the novice against rushing into a business requiring to be learned in order to be profitably pursued, just as much as any other that can be named.

It is an excellent plan for those who wish to make this industry a specialty to spend at least a single season with some experienced beekeeper. An apprenticeship of this kind is the surest road to competency for the charge of an apiary. Instruction is given in return for services rendered so that the cost of board is all the expense to be met. The handling of bees is an art not to be acquired in a week or a month. To practice it under the direction of a competent master, is the quickest and best way to acquire skill at it. In all cases in which it is practicable, this course is to be earnestly recommended. It is not absolutely essential to success, but it is the surest road to it, without a doubt.

Those who meditate a start in bee-keeping will do well to select a location for their projected apiaries in rural districts outside the limits of towns and cities. Bee forage is more abundant in such localities, and consequently, a larger honey crop may be expected, that can possibly be got from areas more or less occupied by buildings and places of business. Besides this, there is undoubtedly a strong feeling springing up among residents in towns and cities against the establishment of apiaries within corporation bounds. This feeling is not altogether unjustifiable. Bees are sometimes troublesome to near neighbors. Under unskilful management, they are apt, now and then, to rob one another's hives, and then a vindictive, angry spirit gets possession of the little insects, which makes them liable to sting the passer-by. However skilfully managed, in

the fall of the year, when a nipping frost kill the flowers, and the weather is warm, bees are inclined to visit kitchens where housewives are making preserves, confectioners' and grocers' shops, and any place where sweets are within reach. They are too intent on business to be disposed to sting at such times, and rarely do so, unless interfered with, but their presence alarms people, who naturally wish them further. In the future of bee-keeping, though amateurs may keep bees to a limited extent in towns and cities, the great bulk of those which are kept with an eye to profit, will be found in the rural districts.

The best place for the bee is undoubtedly on the farm. Bees, properly speaking, belong to the category of live stock. No farm is completely equipped that has not a few hives on it. They can be watched in swarming time by those members of the family whose work lies in-doors, and if help is needed to hive them, the dinner-horn or bell can be sounded to summon father or son from the field. The care of a few stocks of bees will pleasantly occupy many spare moments, and the interest of watching them is constant, and grows as one becomes familiar with their curious and wonderful ways. The farm produces the best of bee forage. White clover in the fields, and bass-wood in the forests furnish the chief sources of honey supply. In the swamps, the willow-catkins yield early pollen for the young brood, and from the time that buds swell in spring until aster and golden-rod round out the circle of flowers, and winter shuts down on the scene, there is something produced by the farm or in its vicinage for bees to work upon. They are not only suited to the farm, but profitable to the owner, if rightly managed. A hive of bees should be worth \$10 a year to its owner, and will be, if properly attended to. Farmers lose an important item of income by neglecting to keep bees.

But let no farmer undertake to keep even a solitary hive without qualifying himself to do so, by studying the habits of the honey-bee. This little insect must not be left to chance, or to its own devices. It needs intelligent oversight, the same as poultry, swine, sheep, cattle or horses. Left to take care of themselves, bees will not thrive any more than other classes of live stock. They repay attention, but suffer, and perish under neglect.

At the outset, reference was made to aptitude for bee-management, an important matter on which there is not room to enlarge at the close of this article. In every occupation there is a sort of knack which some people have and others have not. Bee keeping is no exception to this rule. A natural or acquired knack is characteristic of all really successful bee-keepers.

COLONIES NOT SUFFICIENTLY PRODUCTIVE.

DR. J. NETELLI.

Translated from the Italian.

(CONTINUED FROM OUR LAST NUMBER.)

To introduce into the affected colony all the workers from a good stock while changing the former from a weak to a strong colony, is equivalent to drawing from the good colony (certainly productive) a large primary swarm, without the queen; to disturb it in its most important constitution; perhaps to ruin it completely; to lose certainly its product and all this in order to attempt to save a colony in danger of perishing. It is to abandon a certainty in order that we may run after an uncertainty, a phantom. I have no experience in the results from any similar proceeding - I believe it *a priori* unsuitable.

We can, in short, attempt, little by little, to infuse new worker elements into the compromised colony, either in giving it young bees (the adult bees will not remain in it) or by introducing in succession, ripe brood combs with or without bees.

This method, which may be varied in many ways and used in changing the queen, has been practised by me for a number of years and, except in rare cases, it has succeeded only in appearance.

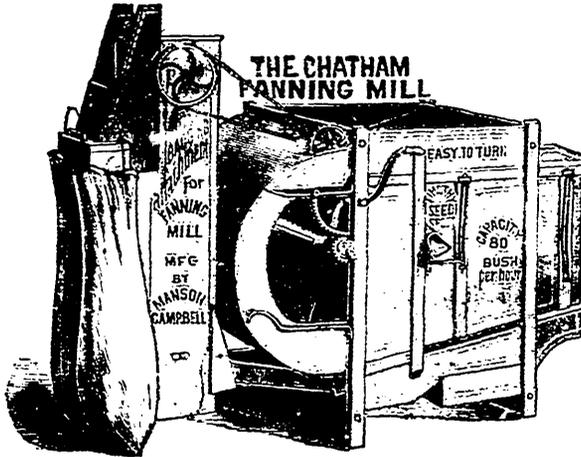
In the part of the country where I live, (Berlingo, Brescia, Italy), it is impossible to procure, before the first half of April, a sufficient number of brood combs, well ripened, without endangering the colonies from which we take them (to take them from strong productive colonies appears to me absolutely absurd.) These combs are never entirely ripe but contain either in the centre or around the outside some brood, covered but still young, and frequently also eggs. Their introduction into an ordinary colony has for its first results the suspension of the queen's laying or reducing it to its minimum because the workers of a colony raise only what their natural instincts teach them to do and not a cell more.

To be Continued.

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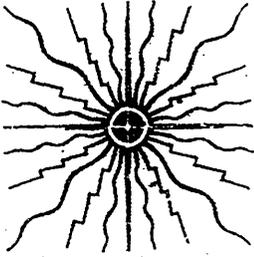
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MANSON CAMPBELL, Chatham, Ont.

A CARD OF THANKS

MR. PETER BUSSEY, of Cottam, Essex Co., Ont., wishes, through the columns of THE PRACTICAL BEE-KEEPER, to thank his many friends for their liberal patronage during the past season, and hopes for a continuance of the same.



Our intention is to sell supplies during the season of '94, cheaper than ever, and to compete with all other firms throughout the Dominion.

We will keep in stock the latest in supplies, smokers, honey knives, extractors, foundation comb, the celebrated dove-tailed hives, in fact everything that is needed by the Apiarist and all at the very lowest living prices. Hoping our business transactions will be as pleasant in the future as in the past.

I am, yours truly,

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