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VOL. IV, NO. 36

1888

NOVEMBER 28

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$ WEEKLY IN THE WORLD

ONE DOLLAR PER YEAR

THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER

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BEETON ONT.

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See advertisement on another page. We have just arranged for the sale of these machines, and we can quote a price F.O.B cars at Toronto (duty and freight paid thereto). On application we will forward catalogue and pricelist free.

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Send us the names of three subscribers with \$3 in cash and receive as a premium one C. B. J. Binder.

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American Currency, stamps, Post Office orders, and New York and Chicago (par) drafts accepted at par in payment of subscription and advertising accounts.

ERRORS. — We make them : so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us anyway. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

We can supply Binders for the JOURNAL 55 cents each, post paid, with name printed on the back in Gold letters.

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" " "American Bee Journal," weekly.....	1.75
" " "American Apiculturist," monthly.....	1.40
" " "Bee-Keepers' Magazine," monthly.....	1.40
" " "Bee-Keeper's Guide," monthly.....	1.50
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" " "The Bee-Hive".....	1.40
" " "Beekeepers' Review".....	1.50
" " "Beekeepers' Advance".....	1.50

TO CONTRIBUTORS

Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited.

Beginners will find our Query Department of much value. All questions will be answered by thorough practical men. Questions solicited.

When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both may, however be enclosed in the same envelope.

Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL.

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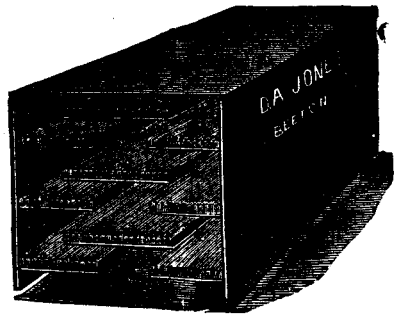
MOISTURE.

If you would know the effects of moisture in beecellars, how injury to the bees from its presence may be avoided, or how to have dry cellars, read the Nov. No. of **THE BEE-KEEPERS' REVIEW**. It gives, upon these points, the views and experience of James Heddon, H. R. Boardman, Dr. C. C. Miller, Eugene Secor, J. H. Martin, O. O. Poppleton, Prof. A. C. Cook, R. S. Taylor and S. Cornell. Besides this, there are the usual lively, wide-awake, pointed editorials upon current topics, also appropriate extracts pertaining to the special topic under discussion. The Dec. No. will discuss, "Sections and their adjustment on the hives."

Price of the REVIEW 50 cents a year. Samples free. Back numbers can be furnished. The REVIEW and THE PRODUCTION OF COMB HONEY for 65 cents.

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W. Z. HUTCHINSON
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BEETON, ONT.

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Perfection Cold Blast Smokers, Square Glass Honey Jars, etc. Send ten cents for "Practical Hints to Bee-Keepers." For circulars apply

CHAS. F. MUTH & SON.

Cor. Freeman & Central Avenues, Cincinnati

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BELL
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BEE-KEEPERS'

PRINTING.

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Note these figures, which include printing.

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Note Heads, good quality.....	\$1 15	\$1 90
" linen.....	1 25	2 00
Letter Heads, Superfine.....	1 75	2 50
" Linen.....	2 00	3 25
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white.....	1 15	2 00
" Extra quality.....	1 35	2 25
Business Cards.....	1 50	2 50
Shipping Tags, 40c., 45c. and 50c. per 100.		

Our new book of labels contains nearly 100 specimens of elegant honey labels. Write for prices for any printing required.

THE CANADIAN BEE JOURNAL,

7

BEETON.

EXCHANGE AND MART.

Advertisements for this Department will be inserted at the uniform rate of **25 CENTS** each insertion--not to exceed five lines--and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is **specially** intended for those who have bees or other goods for exchange for something else, and for the purpose of advertising bees, honey, etc. for sale. Cash must accompany advt.

\$1.00 Will secure you by mail, post paid, 250 Noteheads and 250 Envelopes with your name, business and address printed on the corner of each. Send in your order now. **THE D. A. JONES CO., Beeton, Ont.**

HONEY.—We can take all that offers in exchange for supplies, at prices found in another advertisement in this issue. **THE D. A. JONES CO., Beeton, Ont.**

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Culloden, Ont.

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—AND—

PREPARATIONS THEREFOR.

A small but exhaustive and practical treatise on this important subject.

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Will be mailed from Oct. 1 1888 to Jan 1 1890 for 75 cts. The editor has had 30 years experience in rearing Queens and practical Bee-keeping, and now proposes to give the result of that long experience in a series of articles in the APICULTURIST. The first Article will appear in the Nov. 1888 issue. The details of a new method of rearing Queens in full colonies, without making the colony queenless, will be given to each subscriber. Send for sample copy. Address **AMERICAN APICULTURIST, Wenham, Mass.**

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J. M. CLARK & CO, 1409 15th St., Denver, Col.
E. L. GOOLD & Co., Brantford, Ont.

and numbers of other dealers. Write for **SAMPLES FREE** and Price List of Bee Supplies. **We guarantee every inch of our Foundation equal to sample in every respect.** Everyone who buys it is pleased with it.

CHAS. DADANT & SON,
HAMILTON, Hancock Co., ILL.

THE CANADIAN BEE JOURNAL

WEEKLY.

"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. IV. No. 36

BEETON, ONT., NOV. 28, 1888.

WHOLE No. 192

EDITORIAL.

EVERY properly constituted man has a liking for poultry and every man who keeps a half dozen hens should read that best of poultry journals, the *Poultry Monthly*. The articles it publishes are by the best writers, its illustrations are life like and typographically it is unequalled. Ferris & Co., Albany, N.Y., are the publishers. Subscription \$1.25 per annum or clubbed with the C.B.J. at \$1.75.

Friend Newman of the *A. B. J.* wants Mr. Ivar S. Young to "take back" his statements regarding the bee-keepers of this continent, over his own signature. That would be a manly action on Mr. Young's part, and we trust he will do so.

The papers on Practical Bee-Keeping now being published will be reviewed by Mr. Allen Pringle as soon as possible after publication. Mr. Pringle's thoroughly practical articles, for all his writings are such, will give greater interest to the papers and render them as complete and useful as possible.

When the bees go into winter quarters is the best time to organize county and district Associations. There are few associations in Canada compared with the number of bee-keepers, and an occasional meeting where the apiarists of

a locality can relate their experiences promotes an additional interest in the pursuit, and the novice and expert alike usually gain some information. It is not necessary to have a large membership to commence with, the most successful associations have begun with few, neither is it necessary to cover a vast amount of territory. County associations are very well where the county is small, and a central point for meeting is easily accessible; but we favor each township having two associations where possible. This would mean very small membership it is true, but it would tend to create a friendly feeling, and, from the proximity of the members, well attended meetings. By arranging joint meetings with neighboring associations, the jaunt would usually be both pleasurable and profitable. The smaller associations might be started as branches of the county society, yet working independently, the county to affiliate with the Ontario association, thus receiving its share of the Provincial grant. Is there an association in your district? —if not send invitations to a half-dozen —if not send invitations to a half-dozen of the friends around you and start one.

MR. T. B. BLOW.

WE have just had a pleasant two-days' visit from Mr. T. B. Blow, of Welwyn, Herts, England, and we were glad to renew the acquaintance begun while at the Indian and Colonial Exhibition. Mr. Blow has

been in America about one month, and has visited amongst others, Prof. Cook, Mr. McLain, Dr. C. C. Miller, A. I. Root, T. G. Newman, W. T. Falconer, and G. B. Lewis. Leaving here, Mr. Blow goes to Ottawa and Montreal, thence to New York, with the intention of taking in the Messrs. Van Deusen, Captain Hetherington and J. H. Larabee on the road to New York, from whence he expects to sail on the 1st December.

This trip has been principally of a business nature, but he has been able to spend a good many pleasant hours talking over bee matters. Mr. Blow is a good conversationalist, well posted on all matters relating to bee-keeping, as he is one of the largest dealers in requisites for the apiary in England, and he is not averse to imparting his knowledge to those in quest of it.

Desirous of being able to say that he had had a little shooting in Canada, we fixed him up with a gun, and driving out a few miles, we had the fortune to learn that, as well as being a good bee-keeper, he was also a good shot as numerous and sundry rabbits found out to their cost.

Mr. Blow controls the patent in England of a new thing in the way of a portable packing case, suitable for almost any kind of goods. It is made of exceedingly light material, weighs about one third the weight of the ordinary packing box, is just as strong, and is much more easily handled having hand-holds on every side. Another beauty in it is that empty cases may be knocked down and returned at a comparatively trifling expense, which is not the case with the packing case of to-day. With lumber in England at its present price, and with every prospect of a rise in the near future, the box can be produced at about half the present cost of packing cases, and we see in the patent a fortune for Mr. Blow, if rightly handled.

Of the bee business of the past season in England Mr. B. has very little to say. In the majority of instances beekeepers have not had a sufficient yield to cover the cost of the season's supply of metal eads, which in England seems to be a necessity. A large number of supply dealers have gone out of the business, and others will likely follow.

Mr. Blow expressed himself as de-

lighted with his reception wherever he went, and he hopes before very long to pay Canada another visit, when he may have more time at his disposal.

The strangest part of all is that Mr. Blow is a bachelor, having escaped "being entrapped," as he puts it himself, up to the present time, which finds him about thirty-five years of age. He said some very complimentary things of the young ladies of the United States and Canada however, and we shouldn't be surprised to find that before long he may return, like the Hon. Joseph Chamberlain, to carry off with him one of America's fair ones. And we hope it may be so.

EXTRACTED.

DR. C. C. MILLER lives in the vicinity of a pickle factory consuming 30,000 bushels of cucumbers annually, all grown by neighboring farmers. Last year cucumbers failed to yield any nectar because of the drouth, and the Doctor had to feed 2,800 lbs. of sugar for winter. This year he had to extract 400 lbs. to relieve hives that were crowded. Cucumber honey is of fair consistency, not much darker than clover, and of flavor not very pronounced. "I never had any honey to granulate so rapidly. It was quite thick when extracted, and became cloudy from granulation within a very few days after being taken from the combs."

In Norway moss is used for winter packing, being a grand absorbent of moisture and never becoming mildewed.

All agree in answering a query in the *A. B. J.* that a queen is not injured by stinging her rival.

E. S. Arwine, of Tulare, Cal. seeks to demonstrate in *Gleanings* that it is unadvisable to use old combs for brood-rearing. He claims that the cells being materially diminished in size that bees reared in such are dwarfed for life.

Dibbern, the *Western Plowman's* apiarist, says in last month's issue:—"The prospects for another year are very much better, as the young white

clover plants got a good start, and if we have a reasonable amount of snow during the winter, a good crop next year is almost a sure thing. * * Do not be caught by the idea we will have a moderate winter. The only safe way is to expect a severe winter every season in the northern States.

Nineteen colonies working on buckwheat gave Will Ellis, of St. David's, 350 lbs. of extracted honey in five days. He moved his colonies six miles to the buckwheat.

Leslie Stewart, of Jefferson, N. Y., lives in a buckwheat country, for he writes to the *A. B. J.*:—"Buckwheat began to bloom about August 3, this year, and it made lively times for the bees during the following ten days. I had up to this time extracted 50 pounds per colony, on an average, through my entire apiary, while my best colony stored in ten days (from August 3 to August 13) 78 pounds of extracted honey; the second best, 74 pounds, and the third 71 pounds; please remember that this was all surplus, and not one drop taken from the brood-chambers. This honey was well ripened and very nice. At the above time I had grand hopes of a large crop from this source, and boasted that I would extract over 100 pounds per colony of choice buckwheat honey. But, alas! a cold rain set in, and has kept at it pretty much ever since. Yet my best colony succeeded in storing 109 pounds; second best, 107 pounds; third best, 103 pounds of buckwheat extracted honey. But my entire apiary averaged only 65 pounds; after seeing that all that had been run for extracted honey had been enough to carry them until another season. The above will show that buckwheat is not such a bad honey-plant in some sections, at least in a poor season."

OBSERVATIONS.

On page 194 vol. 1, C. B. J. appeared Daniel McFadden's first letter, copied from *Gleanings*. Daniel on this occasion spells his name McFadyen; now he puts it McFadden. There are other inconsistencies in his letters. One thing puzzles me—his talking of taking the wax to North Bay when there are so

many other points much nearer the Nipissing Territory where he is supposed to be. But the greatest staggerer is in his last, when he says "the bees had gnawed the grass covering or netting over the holes." This is on a par with his other assertions, and personally I believe Daniel McFadden to be the creation of a most fertile imagination.

* *

If I had Dr. Mason's head under my arm, I'd make him take all that back about there being too many "Observers," "Amateur Experts," "Peek-a-Boos," etc. It doesn't make me afraid to hear that the Doctor weighs somewhere over 200 lbs., even though I only tip the scale at 198

* *

Talking about the poor C. B. J. and the uncut leaves, if I were you, Messrs. Editors, I'd work some plan to make those chaps leave you alone, and I believe I'd do it by cutting the leaves. From what I know of paper cutters I think a little closer margin would cover the fault. I'm waiting to see Brothers Hutchinson and Mason "go for" A. I. Root now because the latest edition of the *A. B. C.* has a whole lot of uncut leaves.

* *

Has Dr. Mason any special right over other people to throw "sass" at anybody he pleases? He had better not tread on my corns again.

* *

I observe that Dr. Miller has two babies! Twins, eh? Ha! Ha!

OBSERVER.

For the Canadian Bee Journal.

PRACTICAL BEE-KEEPING.

"PRACTICAL BEE-KEEPING" by a thoroughly practical man ought to be a thoroughly useful and profitable discussion for the numerous readers of the *C. B. J.*, and I am therefore pleased to find the first installment of such a discussion by Mr. D. A. Jones in the *JOURNAL* before me. So much of the current apicultural literature, both in book and periodical form is non-practical, speculative or discussive in character, that these practical papers will be hailed with satisfaction by readers in general. And whatever may be said in favor of the literary theorists and essayists of apiculture, no man in the ranks of beekeepers the world over has a greater, if as great a reputation as a practical apiarist, than the senior editor of the *CANADIAN BEE JOURNAL*. Therefore, in looking for the practical and profi-

table part of bee-culture in these papers, the bee-keeping world can scarcely reap disappointment.

I have been asked to criticise or review these articles as they issue, to the end that the truth may the more fully appear, and that error may be duly exposed. I take it as a good sign when a writer and teacher is willing and anxious to have his productions and teachings criticised. It shows breadth and liberality, and also points not only to the confidence arising from real knowledge, but to the absence of any pretensions to infallibility. Two heads are said to be better than one, so I accept the task, though in doing so and setting out on the journey, I feel somewhat like being loaded with coals and bound for Newcastle! However, although Newcastle (the papers) may be full of excellent coals (bee-lore), if I take mine there too, there will be more of them, to say the least, and as to the quality, they must all be tested by fire.

This first paper presents but few vulnerable points to the reviewer, and so much that is practical and to the point, that little need be said.

In speaking of the location of the bees on the farm, the habit of placing them in the orchard is referred to approvingly. In some cases where the trees are not close together the orchard affords a good location, but where they are large and close together the hives are too much shaded, and retain dampness too long after rains and during wet seasons. Besides, the falling of the fruit on the hives in the fall is irritating to the bees. Further, it is desirable, for the health of an orchard to let the hogs loose in it occasionally, to get away with the wormy, refuse apples and the codling moth, which is prevented by the presence of the bees. I have concluded, after trying both the shade and open exposure to the sun that the latter on the whole, is preferable for these reasons: The bees will get along faster in the spring in building up, will gather more honey by working more hours in the day, and will maintain better general health—dryness and sunshine being essential elements in land animal life. The extra expense of constructing cheap shades for the hives in very hot weather is trifling compared with the extra benefits accruing from the sunshine location.

EDUCATION IN APICULTURE.

I have always maintained that the honey-bee is more at home, and in place, on the farm than anywhere else, and that bee-culture is, therefore, a proper part of farming. This is concurred in by the author, and his suggestion that the ele-

ments of apiculture be incorporated in the textbooks of agriculture now being prepared, is timely, and has my fullest endorsement. The subjects taught in our public schools, especially to boys, ought always to be in the order of their importance and practical utility. In such a curriculum bee-culture would stand among the first.

BEEES NEAR THE HIGHWAY.

The remarks on this point are admirable. I may say that for about 20 years my apiary has been right alongside the public highway some of the colonies not being farther distant than five or six feet—not because I am crowded for room at all, but because of convenience. The separating fence is but the ordinary height, yet I have never known either animal or person to be stung in passing. But should my bees give trouble to passers-by, or become a nuisance to them in any way, I should of course remove them, and feel bound in duty to do so. I would not advise keeping bees close to the highway unless with such precautionary measures as Mr. Jones suggests and describes.

STYLE OF HIVE.

Here I must differ. I know the argument in favor of but "one pattern and size" of hive in the apiary is strong and carries with it all the weight of superior convenience, but no matter, there are advantages in diversity, and, for myself, I want about half a dozen styles of hive in my yard. One advantage is educational, in the facility afforded for experimentation. Another advantage is a "scattering of the chances," as it were, in the varied and perverse seasons, and in the contingencies of wintering. I have noticed that some particular style of hive will hold its own against an abnormal season better than all the others, and the same in wintering. Another advantage of the various styles is the facility they afford to get both kinds of honey, even under adverse circumstances. The bee-keepers of this county, knowing the unfavorable character of the past season, were astonished at my exhibit of comb honey at our county show this fall. One of the leading ones remarked, with more force than elegance, that he "did not know how in h—l I got it for he could not get it." I told him that a few words would explain it, to wit, proper management and proper hives of various styles. Of course my extractor takes all the frames in the yard; and when there is a sufficient number of hives of each style for a free interchange of frames and fixtures, the inconvenience is not so great as a one-hive man might imagine. At any rate I am willing to put up with it for the sake of the advantages gained.

I shall not, however, advise the beginner to start with half a dozen styles of hives or half that number.

COMB OR EXTRACTED HONEY, WHICH?

I agree with all Mr. Jones says under this head, but would go further. I submit that every bee-keeper who is a bee-keeper ought to produce both comb and extracted honey and not confine himself to either. And this for three good reasons, viz: In his local trade he will certainly require both kinds to supply and satisfy his customers. In the next place he will occasionally encounter a season that is specially unfavorable for the production of one kind but not of the other, and if this kind happens to be his kind he gets left that season. In the third place the production of both kinds of honey makes an "all round" apiarist, one worthy of the name.

ALLEN PRINGLE.

Selby, Ont.

For the Canadian Bee Journal.

The O.B.K.A. 1887 Premium.

IN your issue of last week your correspondent "Observer" wants to know when he is likely to get "Langstroth on the Honey Bee." Doubtless others are asking the same question. I am now in a position to gratify their wish by giving an extract from a letter written to me by Dadant & Son, which came to hand yesterday.

Hamilton, Hancock County, Ill., Nov. 20.

R. McKNIGHT:—"In reply to yours of the 9th you will please excuse our delay in answering. Our printer now tells us that we may depend on the book by Dec. 15th or thereabout, so we feel sure that we can have the copies wanted at the date mentioned."

I think I may say that our order will be among the first books sent out by the publisher as the bargain is about closed between the Messrs Dadant and myself. I expect to see the book in the hands of those entitled to it at the time "Observer" mentions. As there is a duty on books coming into Canada they will come in bond and be distributed through the mail, either from Streetsville or Owen Sound, so to guard against mistakes in their delivery it will be necessary for any member of the Association during 1887 who may have changed his post office address in the meantime to drop me a post card giving his former and present post office.

R. McKNIGHT.

Owen Sound, Nov. 22nd.

In return for the names of ten bee-keepers sent us on a postal, we will send the "Bee-Keepers Dictionary" value 25 cents.

FOR THE CANADIAN BEE JOURNAL.

BEEs AS WEATHER INDICATORS.

IN the *Popular Science Monthly* for October I find the following on the above subject:—"Prof. Emmerig, of the Royal Seminary in Lanigen, Germany, recommends bees as the surest prognosticators of the weather for the day. These insects are usually among the most docile and good-humored of animals, and show no disposition to sting unless they are provoked. But, if a storm is impending, they become restless and irritable, and are dangerous to approach. Sometimes the barometers will give the most emphatic indications of a storm, while the bees will continue quiet. The storm may break somewhere else, but not where the bees have omitted to give warning of it, or, if it breaks there, it will be light. Then the bees may predict a storm when the instruments indicate fair weather, and the bees will prove the truer prophets. Prof. Emmerig cites eight or nine incidents that have occurred under his own observation within three years where the bees and the weather glasses failed to agree as to what the day's weather should be, and the bees carried their point."

The *Monthly* of same date also observes in its "Miscellany":—"It is a common mistake, according to an eminent authority on bees. Mr. Frank R. Cheshire, to suppose that an angry bee is certain to sting upon alighting upon a human hand. On the contrary, she will always examine the skin very carefully first with her palpi. It may seem that she stings at once, and without care or reflection; but a bee can do a great deal in a very short space of time, in proof of which it may be mentioned that she can flap her wings more than four hundred times per second, and that each flap involves the extension and contraction, through a nerve impulse, of the muscles employed in the wing movements."

ALLEN PRINGLE.

Selby, Ont.

FROM THE BEE-KEEPERS' REVIEW.

Moisture in Bee Cellars.

YOU ask: "Is it an advantage to have the air of our bee cellars dry? Or do the bees winter more perfectly in a moist atmosphere?" The most reliable experiments that have been made as to the effects of moisture in bee cellars are those of Mr. N. W. McLain, as given in his report of 1886. In his remarks on the conditions necessary to secure the minimum of functional activity within the hive he says: "37° F., in a dry cellar, is a

dangerous point; the danger increasing in proportion as the temperature is lowered or the humidity of the atmosphere is increased." After recommending 44° as the safest temperature for the repository, he says: "If the repository be damp, a degree of temperature higher in proportion to the dampness should be maintained." Referring to this statement, Mr. Frank Cheshire says: "The reason being that water has an enormous capacity for heat (specific heat) whether in the liquid or vaporous form; the latter abstracts heat from the bees and intensifies their struggle." Dr. Youman says: "Air which already saturated with moisture refuses to receive the perspiration offered to it from the skin and lungs, and the sewage of the system is dammed up." This occurs when the saturated air is of the same temperature as the body. A fault I have to find with Mr. McLain is that while he gives the temperature of the air he does not give the percentage of saturation he had when the air was "dry" or "moist."

Perhaps the best means of drying damp air is to expose a large surface of sulphuric acid or a large quantity of newly burnt lime. The acid has a great affinity for moisture, and is not very expensive. A bushel of lime absorbs twenty-eight pounds of water in the process of slacking. But, as neither of these are likely to be used by the average bee-keeper, we must find some other means of overcoming the effects of a damp cold atmosphere. I have shown above the effects of moist air at the temperature of the body. There is no reason to doubt that such conditions would injure the bees as much as ourselves. The temperature required to be maintained in the cluster is 65° . Suppose the temperature of the cellar is 43° , and the air completely saturated with moisture, by the time the air reaches the centre of the cluster, and is raised to 65° , the degree of saturation will be only fifty percent., because air at 65° will hold just about twice as much moisture as air at 43° . This is why bees may winter well in a very damp cellar when they have all the necessary means for keeping up a temperature of 65° in the cluster. The ease with which this temperature can be maintained depends upon the non-conductivity of the hive, the quantity of bees, their facility for getting into a compact cluster, the condition of the air of the apartment as to humidity, the ventilation of the hive, and, of course, upon the quality of the food. I have forty hives with cork dust filling, and twelve straw hives in all of which the combs extend diagonally towards the centre, in the manner shown in the cut on page 280 of the A. B. J. for 1885. These hives are covered with quilts of

wool, and are raised above the bottom boards two inches; the ventilation being so arranged that neither the inlet nor the outlet can possibly become closed. As to upper or lower ventilation, it matters not which, provided the heat of the bees is not unnecessarily wasted. But ventilation in some way must be had; because it can be shown that when bees consume only half an ounce of honey per day the air in the hive needs to be changed every half hour.

A correspondent in a recent number refers to Prof. Cook's hive which was hermetically sealed with ice and then had snow shoveled over it and was left sealed (?) for three months. Having always seen that the heat of the bees melted the snow around the hives, I never had any confidence in this experiment. Not but what I have every confidence in Prof. Cook's statement, but I think there must have been some mistake in the observation.

You say: "It must not be forgotten, however, that water in a cellar does not necessarily cause moisture in the air." If this were so there would be no evaporation from lakes, rivers and ponds; and no clouds. Your error seems to lie in mistaking absolute humidity for relative humidity. A few years ago I put down a sub-earth pipe using glazed tile to exclude ground air and water. The bottom of the excavation had quicksand in places, and when the earth was filled in its weight caused the pipe to sink, breaking the joints and letting in the water. The air came in through this pipe almost saturated; while, with the pipe closed, the percentage of saturation was about eighty.

S. CORNEIL.

Lindsay, Ont., Canada, Nov. 8, 1888

From Gleanings.

LATE QUEENS.

ARE YOUNG QUEENS, THAT REFUSE TO LAY LATE IN THE FALL, NECESSARILY UNFERTILE?

I HAVE just had my attention called to a matter which interests me, from a scientific point of view: One of the most prominent queen-breeders in the Northern States writes me that his queens which have come forth from the queen cells on and after September 15th are none of them laying, although he has practised feeding them. Drones are abundant, and have been flying freely every two or three days, and often for several consecutive days together. Some of the queens have flown out that were more than ten days old. He adds, further that some imported queens which have just arrived he has failed to make lay, even though he has fed the colonies.

This breeder is of the opinion that these queens

are impregnated, and will lay all right if kept till another spring. One of the queens was sent me for microscopic examination, that I might confirm or disprove the breeder's opinion by a discovery of the facts.

The queen looked like a non-laying impregnated queen. I examined the contents of her spermatheca, and found that she had been impregnated. The contents swarmed with the threadlike sperm-cells (spermatozoa), which positively attests that she had successfully mated (see last edition of Bee-Keepers' Guide, p. 102, where the sperm-cells are illustrated, and the process of fecundation fully described). Now, it seems well established that, while laying, the queen is fed chyle, or digested food, by the workers. Is it not probable that, in this case, the workers, realizing that the time for egg-laying for this season is past, refuse to yield of their digested aliment, and so the queen, of course, can not lay? I believe the explanation lies just in this fact: The workers refuse to feed the queen the proper food, and her eggs are, as a consequence, not developed. Of course, it is just possible that living so long—months—before egg-laying, she may never be a very fertile queen, possibly be wholly sterile; but I should not expect this. It is a frequently observed fact, that, when a queen once stops laying the fall, at the close of the honey harvest, feeding oftentimes wholly fails to start egg-laying again. It seems to me quite probable that the cause is the same as before. The worker-bees refuse to furnish food of the requisite quality.

Have not some of our extensive queen-breeders like Hutchinson, Alley, Root, etc., observed on this matter of queens before? If so, have they found such queens any less valuable the next year? I hope our friend who has just sent me the queen for dissection will keep all the other queens, note results carefully next spring, and inform us of the facts. I think the matter an interesting one, and very possibly it has practical significance as well.

A. J. Cook.

From the Bee-Keepers' Review.
No Injury from Moisture—Water an Aid in Controlling Temperature.

FEAR I cannot say much on this question of moisture. I do not feel nearly so anxious for a dry cellar as I once did. Our old cellar had water in it all the time, and it was a splendid cellar. Of course the mere presence of water does not necessarily imply a moist atmosphere; but often the atmosphere was very damp,

as shown by the damp walls and the mould that would collect on suitable bodies in the cellar; yet, for many winters, that cellar was a perfect success, the bees always coming out in good shape. I should like to have water in my cellar, just as the dairyman desires a spring cellar for his work. Still, I am not sure that the water in the cellar accomplishes anything more than to preserve a uniform temperature and prevent sudden changes.

To recapitulate then, I am sure that water, or even moisture in a cellar are not inimical to bees placed in it during winter. I believe the water is a good thing. My theory is that it aids by preserving a uniform temperature.

A. J. Cook.

Agr'cl. College, Oct. 24, 1888.

From Gleanings.

Doolittle's Report for 1888.

WHEN the honey season arrived I found that my bees had been reduced by sales and losses to only seventeen queens out of the original number (60) which I went into winter quarters with. The total loss from wintering was three and from spring dwindling the loss was two. "But," says one "was not the result from spring dwindling caused by poor wintering?" Well, I am not ready to admit that yet, although I know such is the claim put forth by some. The dwindling came from those that were wintered in the cellar, while a few years ago I had several cases of severe spring dwindling from those wintered outdoors. In both cases the bees wintered well, or fairly so, at least; and besides, two weeks previous to the time they commenced to dwindle I had many colonies which, to all appearance, were no better than those that were lost, which did not dwindle at all, but came through in excellent condition. When any one will give us a satisfactory reason why one colony dies, and another as near like it as two perfect peas can be like another, lives, then I will think that perhaps I know something of this matter; but, as it is, I am wholly ignorant of the matter, and believe it to be a manly act to say so. when I do not know, instead of trying to excuse it off by some theory which I know no more about than I do the first. Of one thing I am certain, and that is, that losing bees in winter and losing them in the spring are two different things, for you know that the old man said he could winter his calves first rate, but when it came to springing them, then it was the "despit sus." The seasons vary so that it often upsets all of our calculations and so it happens that the time that is given to set the bees out of the cellar (when the red elm and the

soft maples are in bloom) does not always prove to be the right time. Some years I have been three weeks in getting my bees out of the cellar, setting a few out each day when the weather was fine, and it has proven as often that those set out first did the best, as it has the other way, so that the late-setting-out theory is of little value. But, to the report :

Hard maple opened about the 20th of May, which gave the bees an abundance of pollen, while the white and golden willows, which were in bloom at the same time, gave enough honey so as to start brood-rearing to a considerable extent. With the apple bloom it came cold so that the bees could get nothing whatever from that source, which held brood-rearing in check for so long a time, that, had not the basswood been late in blossoming, the bees could not have possibly been gotten in condition to take advantage of it. This cold weather at this time (June 1st to 10th), was so severe that the ground was frozen to the depth of half an inch in places and the honey-dearth lasted so long that all drones were killed off except in a few colonies which had a large supply of old honey. June 20th, the clovers opened so the bees went to work to some extent, getting a little honey from this source, and from the red and black raspberry bloom, as well as the black locust; yet all of these sources combined did not give any more than was used up in brood-rearing, except from a few of the strongest colonies. Of the clovers, only the alsike seemed to yield honey, for only that of a reddish cast was stored, such as we had a few years ago when a large acreage was sown within the range of my bees. This dark color is against this honey, although it is of fine flavor. As to yield of honey, it is ahead of any other variety grown in this locality, and if it would give a prolific hay crop it would be largely sown by our farmers; but when they found out that it seldom held in the ground more than a year and a half after sowing, and did not give one-half the hay the red clovers did, they soon stopped sowing it. Owing to the peculiar season I had less swarms, from the colonies kept, than in any year since I have kept bees, only about a third casting swarms.

Teasel opened about the fourth of July, but gave very little honey at any time during the season, although occasionally a bee would be seen coming in covered with teasel dust, even in the height of basswood bloom.

Basswood opened about the 8th of July, and lasted nearly three weeks, although it gave comparatively no honey for the first five days after it opened. The weather now came off quite favorable, and honey came in so freely that all of the

colonies which were worked for honey were soon in the sections, and the nuclei began to fill the tops of their combs with honey. The yield continued good for nearly two weeks, though at no time large, and then came the closing up of the honey season for 1888, as this has been the eleventh year that buckwheat has failed entirely in this locality. I had hoped to work at least 25 colonies for honey, but the queen business boomed so during the month of June that I had to break up all the colonies to form nuclei, from which I sold queens that had been wintered over, so that I used only the 17 having queens for honey, and many of those were drawn upon for bees to keep the queen business going. From the 17 colonies worked for honey I obtained 1233 pounds of comb honey, as I have not used the extractor to get a pound of honey this season. This 1233 pounds of honey divided by the 17 colonies gives 72½ pounds as the average yield of comb honey from each colony, spring count, and, considering the pooriness of the season as a whole, I think it is as good as I have ever done. I go into winter again with 60 colonies, which have been obtained by division, doubling up of nuclei, and the few swarms that issued. All colonies worked for honey had plenty of stores for winter, after equalizing the honey among them, but the doubled-up nuclei had to be fed to some extent. The result of the queen-rearing business shows \$550 net cash. I have shipped the honey on commission, and have not got returns for it yet.

Borodino, N.Y.

G. M. DOOLITTLE.

SUNDRY SELECTIONS.

G. A. DEADMAN.—It has been a very poor season for bee-keepers in this section. The more colonies the greater the loss. My 190 colonies require nearly \$200 of food to carry them through the coming winter, and all the surplus honey was only sufficient to pay for the food required early in the season. So that \$1 per colony represents the loss in addition to labor and capital. I anticipate a fair yield next season as we had plenty of rain this fall.

Brussels, Nov. 9, 1888.

GEORGE COOK.—I can't do without the JOURNAL as it is well worth the money even if I didn't keep bees. The weather is bad on bees. The colony of Italians that I got from you last spring did very well. When I got them, by some mishap in shipping there were a great many dead so when I sent you word you sent me another pound of bees which made a nice little colony. I fed them up pretty well got three swarms now I have four, two of them are very light I fed them ten pounds of honey and ten pounds of sugar and they still seem light. Can

You tell me the best way to feed more this cold weather?

Place cakes of honey and sugar candy on top of the frames disturbing the bees as little as possible, but a frame of sealed honey placed next the cluster is the best. Winter feeding outdoor colonies is risky no matter how much care be taken.

G. M. THOMSON.—You stated in the JOURNAL last spring that you had got some heather seed. Please let the readers of the C. B. J. know how you succeeded with them. The writer is a native of Banffshire, Scotland. I received some seeds from there last spring but failed to raise any plants. I have no idea that it will pay to raise it for honey.

Grand Junction, Iowa.

We sowed a considerable quantity in boxes and pots, giving them every attention. To-day we have but one small plant, and it is not very vigorous looking. Our conclusion is that heather cannot be grown here.

CENTRAL MICHIGAN.

The Central Michigan Bee-keepers' Association ascribed the cause of the failure in the honey crop to the following reasons: The bees have been remarkably free from all disorders. The trouble lay in the failure of nature to properly perform her duty. The chalcids of flowers buckwheat and other plants from which the insect collects the sweet semi-fluid substance contained but little nectar. A close observer states that the absence of this substance was due to the atmosphere and the direction of the winds. North, northeast and east winds are very destructive to the honey flow, and during the past season almost continued winds from these directions prevailed together with a dry, harsh atmosphere. The best flow of honey is secured by a southwest wind, and a west wind is the next most favorable. A damp, warm balmy atmosphere is essential to successful bee-culture.

CANDIED COMB HONEY.

Wm. M. Kellogg, in the *Bee-Keepers' Magazine*, tells what he did with a lot of honey candied in the combs.

I had about 20 cases of six inch extracting combs, that I had to leave for some time for lack of time and storage room, and when I came to extract it, I found it candied solid. It was fine, clean white comb, filled with clover honey, and I hated to lose it. I cut the combs out of the board, laid one at a time on a clean, smooth board, and cut it up fine with a chopping knife, then placed it in a large tin can over a slow fire, and carefully melted comb, honey and all.

When it was thoroughly melted I set the can to one side until cool; then the wax having risen to the top, I peeled it off of the honey and threw it into the wax extractor; rewarmed and strained the honey, and I had several pounds of nice wax, and over 300 pounds of as fine, thick honey as an expert ever smacked his lips over. So I received over \$50 for my batch of candied comb honey.

C. SMITH.—I would like your advice on wintering in the Combination hives. My stocks weigh from 40 to 50 lbs. with frames. I winter in a cellar, dry and frost-proof. Should I remove the covers and put on cushions, or would the entrance give them air enough?

Hintonburg, Ont.

We always remove the covers and simply put on quilts. If you have cushions they would answer very well. Fifteen or twenty pounds of well sealed stores will carry a medium colony through in a Combination hive indoors, but 20 to 25 lbs. is needed for strong colonies. Leave the entrance open full width. With strong colonies there is sometimes a danger of their starting brood rearing in winter. To meet such cases it is always advisable to have stores in plenty. Should there be any mice in your cellar or repository destroy them, which is easily done by using equal bulk of flour, sugar and arsenic, well mixed and placed in places not approachable by domestic animals. We have sometimes placed small quantities of half a teaspoonful on paper on the hive shelves. The vermin labor under the delusion that it is flour and sugar and thus consume it readily. Where bee-keepers are troubled with rats it is recommended to place a quantity of unslacked lime in a vessel and sprinkle it plentifully with oil of aniseed. Place several saucers of water in close proximity. The rats are passionately fond of the aniseed and will devour the lime until their consuming thirst compels them to drink. On contact with the water the lime warms up and his ratship dies leaving not a scent behind him. This is an inexpensive rat eradicator. These rat and mice remedies may be foreign to your question of wintering in Combination hives but the thoughts occurred to us and we place them here believing that they will be valuable to some readers.

BUSINESS DEPARTMENT.

ROOT'S A.B.C.—NEW EDITION.

We have on order to arrive by express another lot of the "A B C of Bee Culture" by Friend Root. This, too, has just been re-issued—the 37th thousand—and much new and interesting matter has been added. We sell more "A B C" than any other; it seems to be so arranged that it is really an A B C for the beginner. The name, too, helps the sale—novices expect to find in it just what they, as beginners, most need.

HONEY WANTED.

We will pay 12 cents per pound for good extracted honey, delivered in Beeton, in exchange for supplies at catalogue prices, and we will take all that offers, allowing 30 cents each for the tins when they are the "Jones sixty-pound."

No matter what kind of printing you want, it can be done at this office. Visiting cards, bill heads, envelopes, pamphlets, note-heads, anything. Write for figures.

Attention is called to the list of books on back of cover. In this connection we might say that we can supply you with any standard book on the market and at lower rates than the stores. Write for prices on the works required.

COOK'S MANUAL—NEW EDITION.

We have now in stock ready to go by return mail the latest edition of Prof. Cook's Manual. The price this time is \$1.50, postpaid, but the increase in price is most fully compensated for in the increased quantity of matter and the better quality of the work.

CONVENTION NOTICE.

MICHIGAN STATE BEE-KEEPERS' ASSOCIATION.

The 23rd annual meeting of the association will be held in the city of Jackson, Mich., on Dec. 12 and 13, 1888. Meetings will be held in the city council room. Greatly reduced rates have been secured at the Hurd house, also at the Commercial house (near Mich. Central depot) at \$1.50 and \$1 per day. A program is being prepared and from the excellent papers already promised, we expect a very interesting meeting. Any bee-keeper having anything new and useful and finding it impossible to be present can send it by express to Jackson in care of the Secretary who will place it on exhibition and return it as per orders. Plenty of room to exhibit. Please come and bring your bee-keeping friends with you. H. D. CUTTING, Sec.

GOOD BOOKS

—FOR THE—

Farm, Garden AND Household.

THE FOLLOWING VALUABLE BOOKS WILL BE SUPPLIED FROM THE OFFICE OF THE CANADIAN BEE JOURNAL. ANY ONE OR MORE OF THESE BOOKS WILL BE SENT POST-PAID DIRECT TO ANY OF OUR READERS ON RECEIPT OF THE REGULAR PRICE, WHICH IS NAMED AGAINST EACH BOOK.

FARM AND GARDEN.

- Allen's (R.L.&L.F.) New Am. Farm Book \$2 50
- Barry's Fruit Garden. New and revised 2 00

- Beal's Grasses of North America..... 2 50
- Brackett's Farm Talk, Paper, 50c. Cloth 75
- Brill's Farm Gardening and Seed Growing 1 00
- Farm Appliances..... 1 00
- Farm Conveniences..... 1 50
- Farming for Profit..... 3 75
- Fences, Gates and Bridges 1 00
- Fuller's Practical Forestry..... 1 50
- Gregory on Cabbages..... 30
- Gregory on Onion Raising..... 30
- Harris' Gardening for Young and Old 1 25
- Henderson's Gardening for Pleasure... 2 00
- Henderson's Gardening for Profit.... 2 00
- Johnson's How Crops Feed..... 2 00
- Johnson's How Crops Grow..... 2 00
- Johnson's How to Plant..... Paper... 50
- Long's Ornamental Gardening..... 2 00
- Onions—How to raise them Profitably 20
- Our Farm of Four Acres..... Paper... 30
- Quinn's Money in the Garden..... 1 50
- Silos and Ensilage..... 50
- Starr's Farm Echoes..... 1 00
- Stewart's irrigation for the Farm, Garden and Orchard 1 50
- Ten Acres Enough 1 00
- The Soil of the Farm 1 00
- Thomas's Farm Implements and Machinery 1 50
- Treat's Injurious Insects of the Farm and Garden 2 00
- Waring's draining for Profit and Health 1 50
- Waring's Elements of Agriculture 1 00
- Weld's and Others' A.B.C. of Agriculture 50

FRUITS AND FLOWERS.

- Bailey's Field notes on Apple culture 75
- Elliott's Hand Book for Fruit Growers 1 00
- Paper, 60c Cloth... 1 50
- Fuller's Grape Culturist 25
- Fuller's Illus. Strawberry Culturist... 1 50
- Fuller's The Propagation of Plants... 1 50
- Fuller's Small Fruit Culturist, new ed. 1 50
- Fultor's Peach Culture New ed..... 1 50
- Henderson's Practical Floriculture... 1 50
- Husmann's American Grape Growing & Wine Making..... 1 00
- Parsons on the Rose..... 3 00
- Saunders' Insects Injurious to Fruits... 1 25
- Vick's Flower and Vegetable Garden.

HORSES, RIDING, ETC.

- Anderson's The Galop..... 1 00
- Armatage's Horse Owner and Stableman's Companion 1 50
- Battersby's The Bridle Bits. Valuable 1 00
- Chawnet's Diseases of the Horse..... 1 25
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2 Brush, round, for paint, paste or varnish.....	40	95
1 Chisel handle.....	45	1 10
8 Crayons, colored drawing.....	45	1 00
1 Eraser combined ink and pencil	45	
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1 Pass books, 2 Steamboat 32 p.p.	45	1 00
1 Penholders 2, cherry, swell....	40	
1 Ruler, hardwood, flat, graduated to $\frac{1}{8}$, bevelled.....	45	1 05
1 Ruler, for school children, three for 5c.....		
2 Scribbling books, 200 pages....	40	90
Tacks, cut, 2 papers 1, 2 or 3 oz.	45	

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Mucilage, good sized bottle....	70	
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1 doz. Lead Pencils, No. 852, very good.....	75	
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2 Bill fyles, harpshape.....	\$ 90	2 10
2 Book of 50 blank receipts with stub.....	85	2 00
2 Book of 50 blank notes.....	85	2 00
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3 Butter spades 9c. each.....	80	1 90
2 Boxwood pocket 1 foot rule....	90	2 10
Chisel, firmer $\frac{1}{4}$ inch.....	90	

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	Per 10 lots.	Per 25 lots.
2 Clips for holding letters, etc....	90	2 00
Due bills, 100 in book with stub	85	1 80
2 Envelopes, 3 packages, white, good, business.....	95	
2 Files, 3 cornered, 5 inch.....	90	2 10
3 Lead pencils, 1 doz. plain cedar Fabers 581.....	90	
2 Lead pencils 3 red and blue....	90	
2 Note heads, pads of 100 sheets..	90	
Paint brush, No. 7.....		
2 Pocket note book, 3x5 in., 125 pages, stiff cover with band grand value.....	90	
1 Rubber bands, five, large.....	80	
1 Ruler, brass edged, flat, hardwood, bevelled, graduated to $\frac{1}{4}$ inch.....	95	2 25
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Tacks, cut, 3 packages, 4 oz.....	90	

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" 5 " " round.....	1 25	2 90
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3 Lead pencils, 1 doz., good quality, Faber's 971.....		
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Paint brush, No. 5.....		
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4 Rule, 2 foot, a splendid line....	1 40	3 40
Screw driver, 5 inch, round bit, hardwood handle.....	1 40	
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Tack hammer, magnetic.....	1 40	3 30
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Ebony ruler, bevelled for book-keeper.....	1 90	4 50
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Glue, 1 lb. light, broken.....	1 75	
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4 " legal, in pads of 100 sheets.....	2 75	6 00
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" " Blackstone or J.	3 80	
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¾ inch...	5000	20	17	1 60
¾ inch...	3880	10	17	1 60
1 inch...	2069	18	12	1 05
1½ inch...	1247	17	11	1 00
1½ inch...	761	16	10	90
2 inch...	350	14	9	80
2½ inch...	214	13	9	75
3 inch...	137	12	8	70

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