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THE NATIONAL BEE JOURNAL AND MAGAZINE.

Vol. IV. IN CINCINNATI, MARCH, 1873.

No. 3.

TRANSACTIONS

OF THE

National Bee Keepers' Association.

(Concluded.)

On motion, the constitution was amended so as to strike out from the 3d article the words "Recording Secretary" so as to abolish that office.

President Clarke on taking the Chair, cordially thanked the society for the favor, and took it as an honor and an act of kindness, not only to him, but to his country. Many, he said, were far better qualified than he was to discharge the duties of the office, but he yielded to none in his devotion to the cause of apiculture. If that was a qualification, he was eminently qualified. He would try to discharge the duties in a satisfactory manner, and asked the society's indulgence wherein he might come short.

W. R. King, of Kentucky, suggested that it was the duty of the former Treasurer to make a report. He called for it, and moved to suspend the order of business, that it may be handed in. The regular order was suspended, and after some discussion

Dr. Lucas, of Illinois, moved the appointment of a committee of three, to audit the accounts, settle with the Treasurer and report in the morning, which being adopted, the President appointed *Dr. G. Bohrer*, of Ind., *Aaron Benedict*, of Ohio, and *A. J. Pope*, of Ind., said committee.

The society adjourned to 7 o'clock.

EVENING SESSION.

The society met at 7 o'clock P. M. The President in the Chair.

The special order of the evening was the discussion of the topic:

"Is bee-keeping desirable on all farms, and at all suburban homes?"

Dr. G. Bohrer thought that in most sections the question could be answered affirmatively, in some localities, unless honey plants were cultivated, bee-keeping would not prove remunerative. He thought, however, there were but few such places.

Ed. S. Pope, of Iowa, thought it could be overdone.

J. Z. Smith, of Weston, Ohio, thought all farmers could keep bees with profit. He kept his bees like he kept his hired men, to work all the time, and he made it a point to furnish them something to do. Alsike clover he considered of great value, the first crop can be cut at different times, so that the after growth will come in at different times in rotation, so as to furnish a long harvest for the bees. It makes hay as good or better than red clover, and pays as a forage crop alone. Any farm that is rich enough to produce the ordinary crops of the farmer will produce it.

A. F. Moon said, the subject was of the greatest importance, and if properly discussed would answer many inquiries. He was of opinion that any one living near orchards and having the ordinary varieties of vegetation around him, could keep more or less bees with profit.

Dr. Bohrer said he understood the ob-

ject of the question was to ascertain whether extensive bee-keeping could be engaged in everywhere, an affirmative answer would therefore have to be conditional.

M. L. Dunlap, of Illinois, did not so understand the question, but as one of the committee, he understood it to be whether it could be recommended for family use, to supply every one with a desirable luxury. We have not everywhere the advantages that Mr. Hosmer enjoys, but he would venture to say that anywhere in the Northwest bee-keeping could be made a desirable pursuit. The mere production of honey, although the principal object in view was not the only thing desirable about it. The outdoor exercise that all American women so much needed was supplied. We look on this country as a stock country and no one thought of saying it was not profitable when intelligently conducted. Yet there are but few who have the patience and necessary knowledge and intelligence to make it a success. So with bee-keeping, and he advocated bee-keeping as a delightful and profitable pursuit—as a family recreation and resource—not that thousands of pounds can be raised by all, but that all can have a supply. The Southern sugar plantations were now divided up and were fast getting into a condition to furnish the necessary sweets far cheaper than the bee-keeper is willing to sell his honey. The best of syrup can be had at 60 to 75 cents per gallon. The bee-keeper would not like to take that for his honey. When we can teach everybody to manage bees, we add another attraction to home, something more is added to keep our boys from the cities and from the vices that abound there.

We find few farms for sale in our country now, because they are not as they have been, but rural taste has improved them, and our people are learning to appreciate the refining influences of what were once considered foolish and unprofitable investments of money and time. Our homes are made more attractive, and our children are better satisfied. Bee-keeping adds another valuable attraction, for it is an interesting pursuit, aside from its pecuniary

gains. Suburban homes need these things to perfect them, and he maintained that it was possible to all to be profited by keeping bees. We have the flowers everywhere, but if they are trampled out, they must be raised, protected and made accessible to the bees, and thus it may be made a success everywhere. He had seen bees kept, and successfully, even in Chicago, in the suburbs where white clover abounds, and there is no probability that the time will ever come when it will be otherwise.

Mrs. Tupper said, she met a farmer and his wife going out of Des Moines; the farmer had received the proceeds of four loads of corn he had delivered, which was \$12, or \$3 a load, and his wife had sold the honey from three hives of bees, for which she had received \$25. She had a neighbor woman, who knit mittens to get the money to buy a stock of bees, and got from them the first year 100 pounds of honey.

It is often asked will the prairies always produce flowers to supply the bees with honey. She said as the prairie flowers were destroyed, and gave way, the clover and other honey flowers come in to take their places, and thought it would always be profitable to keep bees on the prairies. Men might fail, but women who knit mittens, to buy bees, get so interested that they will always make it a success. Thought it could be made a success and was desirable at all suburban homes, and in the cities, even on the housetops a few can be kept with pleasure and profit.

Mr. Hosmer was called. He said he had nothing particular to say, but that he was very much interested in hearing the subject of loss and gain discussed. Thought it as profitable as to raise butter and milk, and it would be as good an argument against stock raising, to say, it would not be profitable for everybody to keep cows, as it was against bee-keeping, to say it was not profitable for everybody to keep bees.

M. L. Dunlap. What proportion of the population of Chicago, which contains one-seventh of the people of Illinois, do you suppose have a supply of honey?

Mr. Hosmer. Not one in one thousand.

Mr. Dunlap. How many see it once a year?

Mr. Hosmer. One family in a hundred.

Mr. Dunlap. All these are to be supplied. We have been told for years, that apples would be so plenty, that there would be no sale for them, but we see them selling for \$3 per barrel to-day. Ten cents a pound used to be the price of honey, now you are insulted if you are offered less than 30 cents for it. If the bee-keepers of the country can increase the business, until the masses get all they can use, there will be tons used where there are pounds now, and the common use will keep it at a remunerative price, and we can even send it out of the country, to supply our friend Clarke and his fellow Britishers over in Canada. Plant basswood, plant orchards, sow Alsike clover and other honey producing plants, and we can make the honey, and there need be no fears, that it will not always sell at a good price.

Dr. Lucas. Speaking of promised success, it would require information and attention. Honey was not hanging on every bush, and every one's bees did not succeed, for all were not intelligently managed. To keep bees successfully, it was necessary to go at it in earnest, and keep at it until success was accomplished. Some were deterred for fear of getting stung. He advised such to protect themselves with masks and gloves. Few families in the Northwest had a supply of honey, and its use would not be general over the country, when farmers had to buy it. He did not have it, when it required an outlay of \$20 or \$30 a year to get it, but since he had got to producing it, with his own bees, it was hard to tell how much his family used. He had not the least fear that the business would ever be overdone, or that more honey could be produced than use could be found for.

Mr. Zimmerman, of Ohio, thought there could be but little difference of opinion as to the desirableness of raising honey on every farm, and at all suburban homes, and that we were all interested in instructing all how to succeed—as to what plants were needed to supply the

deficiency in natural resources, in addition to the plants named, we would mention catnip as yielding abundance of honey for a long time, and he would remind bee-keepers that ten Italians resorted to red clover to one black bee.

Ed. Pope, of Iowa, moved that the discussion of this subject close, and that the question be declared answered in the affirmative, which was carried unanimously.

The unfinished topic of the morning was taken up, which was *Mr. Quinby's* first question, it was laid on the table, when the President read *Mr. Quinby's* second question as follows:

What caused the disastrous losses of last winter, and how may the repetition of that sad experience be avoided in future?

For some time after the question was stated, no member offered to speak; at length

President Clarke said, it had been suggested by a lady on the left, that he had forestalled the discussion of this subject by the rendering of the verdict of the coroner's jury, "Died by the visitation of God," but he hoped no one would be deterred from an expression of opinion on that account.

Mr. Dunlap, of Illinois, said he was astonished that there was not half a dozen members striving for the floor as soon as the question was called, as it was a question we know nothing about, and we are always able to discuss such questions learnedly.

A member. Was it not the long, cold weather?

Mr. Zimmerman, of Ohio, said, that old bees and long, cold winters were causes of disentry. He tried the experiment of letting some of his bees, that were affected, fly out in a room that was warmed. He saved them, while others that were not permitted to leave the hive, all died. Was again trying the experiment.

Mr. Hoagland, of Pennsylvania. Could not tell the cause. He wintered his bees last winter in three ways; in a cellar, out-doors, and in a house. They were all about alike in mortality. He fed some syrup, and lost them, although it was said, that bees fed on syrup would not have the disease. Had on a former

occasion put away a swarm without comb or honey, and fed them pure honey, and had them to increase in numbers, build comb and come out strong in the spring. Gave them no water. He stated that he lost \$1,100 worth of bees last winter, but it was the only Bull Run defeat he had ever met with as a bee-keeper. He could give no light on the subject as to its cause or cure.

Mr. Hosmer. Thought Mr. Zimmerman told the cause. He would rather undertake to winter old oxen or cows than old bees. Young bees were the best to winter well. He last winter put away 30 very small colonies with less than half a pint in each, and wintered all—he might as well say he lost no bees. He had some die, but they were queenless and he did not expect them to survive. You can not winter bees well in a very cold cellar. His cellar don't freeze potatoes. A neighbor, who kept his bees in a freezing cellar, lost all of them.

Mr. Southworth, of Illinois, asked. Did he confine his bees to the hive?

Mr. Hosmer. No, he left the top off.

Dr. Lucas. Used *Bromo chloralum* as a disinfectant, which purified the hives and removed the bad smell. One part *Bromo chloralum* to nine of water, and sprayed it on the comb with an atomizer.

Mr. Moon. Had his mind made up for several years. Every swarm that he fed with sugar syrup lived. All that were not fed, but used their own honey in wintering, died. The cause is in the honey. If they could fly out once in three weeks, they would not die. Those on their summer stands suffered less than those in the house. Where bees get good honey, there is no danger.

J. Z. Smith. Why should one swarm die out, that sets by the side of another that survives?

Mr. Moon. Had two hives set side by side, that gathered very different honey; one was white and the other dark. Each colony was resorting to a different kind of flowers.

Dr. Hamlin, of Tenn. The honey of one hive will frequently differ from the honey of others, gathered at the same time. Knew of an instance the past season, where one colony among a num-

ber gathered good molasses—hardly good molasses—while all the others gathered good honey.

Mr. Zimmerman. Confirmed the statements of Mr. Moon and Dr. Hamlin; had some to gather basswood, while others gathered clover honey.

Mrs. Tupper. Had no disease among her own bees last winter, but she examined more than five hundred colonies of dead bees, and in nearly every instance there was too much honey and too few bees in the hive. They were solid with honey, but no bees. Did not think the honey was to blame, as she had known the honey to be given to other bees without injury, showing that the honey was not poisonous. The brooding stopped, from some causes, before the honey gathering did, so that there were no young bees.

Mr. Moon. It is evident that the bees examined by Mrs. Tupper did not die from the disease, but from a condition of things that prevented them from keeping strong.

E. S. Pope, Blue Grass, Ill. His bees died with plenty of bees as well as honey in the hive.

N. C. Mitchell, Indianapolis, Ind. Thought it a most important subject for investigation. His observations led him to the conclusion that there were two leading causes inducing the disease. The first was bad honey, or honey that contained something unhealthful to the bees, which was not fatal, however, where the bees were in a condition to resist it. The second was too much ventilation, which so aggravated the disease as to produce mortality. Among the numerous hives he examined, he found in every instance, where there were holes in the tops of the hives for ventilation, all the bees were dead, while others in the same apiary that had no upward ventilation were safe. He advised to stop all upward ventilation and leave openings only below. When bees have their own way, they always stop every crack or crevice through which an upward current or draft could be produced.

T. Hullman, Terre Haute, Ind. Put eighty colonies in a cellar. All that he saved were some he covered with paper

sacks. He lost all he had in 1868, and was of the opinion that it was caused by bad honey.

Aaron Benedict, Ohio. Had come to the conclusion that it was a disease in the bee, and not attributable to bad honey or improper ventilation. Had seen a hive on its summer stand that was split from bottom to top, the crack wide enough to let a rat run in, that wintered well, while others that had no such ventilation died near it.

S. P. Shipley, Olena, Ohio. Wintered his bees out doors, with upward ventilation to some, and downward to others, and found both to do well. Had protected some by covering with cloth, and left others without protection, and had never had the disease among his bees. He was satisfied that ventilation had nothing to do with it, and agreed with Mr. Benedict that it was a disease of the bee.

R. A. Southworth, Illinois. Thought ventilation had nothing to do with it, as one of his neighbors had hives badly constructed, of all kinds of scraps and pieces of old lumber, that were very open, many of them leaving the bees almost unprotected, and they came out in good condition.

Mr. Kewyon, Iowa. There was no doubt a cause that produced the disease, but what it is, is the question. It was not the long winters, for he lived north of this, where there is now good sleighing, and his bees were not affected. He obtained last spring, some comb from a neighbor, who had lost his bees, and used it in setting up two nuclei. The comb had no honey in it, but plenty of bee bread. The bees soon died out. He re-stocked them several times, with the same result every time. The cause was, in his opinion, in the bee bread. Ventilation had no effect. All his bees were ventilated.

N. E. Prentice, Castalia, Ohio. Was satisfied it was not the long winters, nor ventilation. Lives on Lake Erie. Wintered out-doors last winter, some with straw over them, and others without protection. Had no disease among his bees. Thought it was disease, perhaps the epizootic.]

Dr. T. B. Hamlin, Tennessee. Said there was great mortality among bees in Tennessee, three years ago. Was of the opinion that it was on account of too much honey. The cells were filled up, and in cold spells of weather the bees had no place to cluster compactly together, so as to keep up sufficient animal heat.

Seth Hoagland, Penn. May it not be that our bees are diseased like our horses, and no one can tell why?

President Clarke. Said this discussion had reminded him very forcibly of a story he had heard concerning a certain quack doctor, who was called on to diagnose and prescribe for a disease with which a certain old lady was afflicted. On examining her, he said that it was a "Scrutunatory case," which caused the head to go "tizzerrizen." The old woman said that he described the disease exactly, and he thought it was pretty much the same with this discussion.

He could throw no light on the cause of last winter's mortality among the bees, but gave his experience. Out of sixteen stocks, he put fifteen in the cellar, where they had always wintered well. In the spring, five of them were dead, and the other ten were in bad condition, so that two died afterwards. The other stock he left on the summer stand, took off the honey board and substituted for it two thicknesses of old woolen carpet. He examined them, and disturbed them often during the winter, and always found them in good order, and they came out in good condition in the spring.

Dr. Lucas, Illinois. Bought three dozen colonies of an old German, last spring, that were wintered out doors. When he went after them, he found all that had holes in the top of the hives were alive. Those that had solid tops were all dead.

Without coming to any definite conclusion, the subject, on motion, was laid on the table.

The Business Committee made a report of programme for to-morrow, which was received and adopted, and the society adjourned.

THURSDAY'S PROCEEDINGS.

MORNING SESSION.

The Society met, President Clarke in the Chair.

Dr. Bohrer, from the Committee to settle with the Treasurer, made a report, showing that the Treasurer's receipts, at the three former meetings, had been two hundred and ninety six dollars, and that he had paid out two hundred and ninety-five dollars and twenty-seven cents, leaving a balance of seventy-three cents due the Society. On motion, the report was received and adopted.

Dr. Bohrer. Proposed to petition for some plan of registration, by which the security of Queens sent by mail may be guaranteed.

Mr. King, New York. Said that the Postmaster General had lately decided that bees were not mailable matter.

D. L. Adair, Hawesville, Ky. Read the following paper, entitled:

WHAT IS THE ULTIMATE CAPACITY OF A COLONY OF BEES FOR PRODUCING HONEY?

Mr. Langstroth, in his book, "The Hive and Honey Bee," says: "A good swarm ought to contain at least twenty thousand workers, and in large hives, strong colonies, which are not reduced by swarming, frequently number two or three times as many during the height of the breeding season." While Reaumer, Dzierzon and others, who have made careful observations, do not vary materially from this estimate, and it seems to be generally conceded, that a colony of bees, as generally managed, in hives of the ordinary size of two thousand cubic inches, which seems to be their standard, contains on an average about twenty thousand workers, except for a few days at swarming time, which excess causes swarming to take place, and the population is reduced for a time below this number, so that the effective working force is about that number.

Now it would appear self evident, that if the average population of the hive could be increased and maintained at a greater number, the production of honey would be increased in the same ratio. The question then comes up,

what is the extent to which the population can be increased?

I state as admitted facts, that during the period of active honey gathering, all of the worker bees in the hive die inside of fifty days, and that the population of a colony can at no time exceed the number of eggs the Queen can lay during that time.

The Baron of Berlepsch, in his work on "Bees and Bee Culture," gives the result of four experiments that he tried, to ascertain the productiveness of the Queen.

In the first, made in 1846, the Queen laid one thousand six hundred and four eggs in twenty-four hours. In 1850, he counted all the brood in a large and populous hive, and found thirty-eight thousand six hundred and nineteen. Assuming twenty days as the average time for their development, the Queen had laid at the rate of one thousand nine hundred and thirteen, on an average, daily. The fourth experiment was made in the same year.

He placed an empty sheet of comb in a hive, and put the Queen on it. He waited until the Queen commenced to lay and then closed the hive. At the end of precisely twenty-four hours, he took the comb out and found three thousand and twenty-one eggs in it. He had no means of ascertaining whether she laid in any other comb. He saw her lay six eggs in a minute, which was at the rate of three hundred and sixty in an hour, or if she had continued at that rate, she would have laid eight thousand six hundred and forty eggs in twenty-four hours, or would have laid the three thousand and twenty-one, in about eight and a half hours, leaving fifteen and a half hours for rest.

Dzierzon counted the number of cells in a populous hive, that contained brood and eggs, and found sixty-thousand, which, divided by twenty, the number of days required for the bees to mature, showed that the Queen had laid at the rate of three thousand eggs per day.

Mr. Rood stated, at the late meeting of the Michigan Bee Keepers' Association, that *Mr. Otis* had found that a Queen had laid three thousand five hundred eggs in a single day.

During the past season, which was a poor one for honey in Kentucky, and consequently unfavorable to extreme production, I was observing the difference in the productiveness in different forms of hives, and in the best hive of the standard size of two thousand cubic inches, I found thirty-one thousand two hundred cells filled with brood, which required that the Queen should have laid one thousand four hundred and eighty-five eggs on an average each day for twenty-one days, which I find is the average time required for the maturity of the worker bee.

In the other form of hive, in which brooding space was nominally unlimited, I found seventy-five thousand one hundred and sixty-eight cells filled with brood, and allowing twenty-one days for the Queen to lay the eggs, she had laid at the rate of three thousand five hundred and seventy-nine eggs daily, or assuming them all to be laid in twenty days, as Berlepsch and Dzierzon did, she had laid at the rate of three thousand seven hundred and fifty-eight each day. This last was not an extreme instance among my hives, and although I made no careful observation of others, I am satisfied that many of them exceeded it in population, and had more brood in them.

The other hive was as good as any of the ordinary size and form of hives that I had, as could be easily seen by observation, and noting the fact that the room was not to be had in them to deposit many more eggs, after deducting the space for honey that would be naturally stored by the bees, around the brood nest. Taking these experiments as a basis, we find that if a queen should continue to lay eggs, at the rate of one thousand four hundred and eighty-five daily, there would be produced in fifty days, (which I assume to be the lifetime of a worker,) seventy-four thousand two hundred and fifty bees, and if they could in such a hive, be so managed, as to prevent swarming, there would be a force of bees in the hive, nearly four times as strong as Mr. Langstroth and others tell us there is in a good swarm, but as there has been no means yet devised, by which swarming can be pre-

vented in such hives, without at the same time interfering with the increase of bees, except in rare instances, and by a great deal of care, such a force seldom accumulates in one hive, or if they do, there being no room for them all to work, they are worse than idlers.

The Melipult is only a partial remedy, as it only makes room for storing honey, while it gives the wax worker no employment. Yet, with its assistance, the honey yield is increased three-fold. On the other hand, in the other hive, with unlimited room for brood nest, and for the employment of the whole force of the hive at all times, the queen laying at the rate of three thousand five hundred and seventy-nine eggs daily, the force would be maintained at about one hundred and seventy-nine thousand, or nearly nine times Mr. Langstroth's estimate; and with very little attention. Let us carry our calculations a little farther, and see if we can ascertain the capacity of each of the colonies for the production of surplus honey.

With intelligent management, Mr. Langstroth's swarm of twenty thousand bees, or my smaller hive of two thousand cubic inches, can be made to produce one hundred pounds of box honey, and by the use of the Melipult, if swarming is prevented, three hundred pounds might be obtained of extracted honey. Now, as the large hive will have nine times the force of a good swarm in an ordinary hive, it follows that they can produce nine hundred pounds of comb honey, or to count it exactly, eight hundred and ninety-five pounds.

The question, however, arises, can the bees construct comb sufficient to hold so great a quantity of honey? When I made the statement that they could, in a pamphlet I published on "Progressive Bee Culture," the statement was ridiculed, and pronounced reckless by some of our most intelligent bee keepers, but I have seen nothing to cause me to retract the statement.

An ordinary swarm of bees has been known repeatedly to build a square foot of comb in twenty-four hours. Dr. Byrd, who placed a natural swarm in one of the large hives I have been speak-

ing of, reports in the Western Agriculturist, that the bees built nine sheets of comb, ten by thirteen inches, in a week, which was more than a foot each day.

Now, fifteen square inches of comb, will, on an average, hold one pound of honey, so that each square foot of honey in the comb will weigh nearly nine pounds and two-thirds, and if they continued at that rate, they would construct the comb for nine hundred pounds in about ninety-three days, or about three months.

But we must recollect that the colonies that have been reported as making a foot of comb each day, were ordinary swarms, which Mr. Langstroth says have about twenty thousand workers, or at best, as we have shown, could only have about seventy-four thousand, while the force the large hive has to do the work with, is one hundred and seventy-nine thousand, nine times the former number, and two and a half times the latter, so that even compared with the seventy-four thousand, it would only require about thirty-eight days for them to construct comb enough to hold nine hundred pounds of honey.

Another and stronger proof of their capacity to supply the comb, is the fact known to all, that twenty thousand bees that constitute the working force of an ordinary swarm, do produce the comb in which one hundred pounds of honey is stored, and I can see no reason why nine times as many can not build comb to hold nine times as much honey."

The next topic called, was, "What is the best method of increasing stocks?" It was laid over on account of the absence of Mr. Hosmer, the question having been put on the programme especially to draw out his method.

The next topic was, "Is the Italian bee superior to the black bee?"

Dr. Lucas, of Illinois. Said that it had been affirmed and reaffirmed so often, that he did not think there was any one doubted it. He wished no better bees than the Italians.

Dr. Bohrer. Had in 1871 about an equal number of hives of each, and he only got honey from the Italians. The Italians conducted themselves better in every respect. They were more proli-

fic. Had not noticed that they worked at unusual hours, or on red clover to any extent, nor were they any more exempt from disease.

Mrs. E. S. Tupper, of Des Moines, Iowa. For several years had only Italian bees, during which time she had seldom seen a moth, or had a robbery. This year, in addition to her Italians, had to manage 150 stocks of black bees. The blacks were troublesome in robbing, and the moth was numerous and destructive among them. The blacks would not defend themselves against the moth, when weak or queenless. The season was bad, and the moth was very destructive to the black bees, around in the country, while the Italians were nearly exempt from their ravages. In Iowa, it is conclusively proven, that in poor seasons the blacks do nothing, while the Italians nearly always hold their own.

Dr. Bohrer. Said the Italians had one fault. They were inclined to swarm too much, late in the season.

Seth Hoagland, of Pennsylvania. Said it was not the object of the committee to hear expressions of opinion from celebrated queen breeders, such as those who have spoken, but from those of the society, who are in a position to give a disinterested opinion, from having practically tested them throughout the country.

Dr. Bohrer. Said he was not desirous of selling any more queens, as he could make it more profitable to produce honey.

Hon. M. L. Dunlap, of Illinois. Said he was not interested in the queen business, and was of the opinion that the introduction of the Italian bee was a move in the right direction. The black bees were no doubt degenerated, by long years of close in-and-in breeding, and the intermingling of new blood with them had the effect of improving them. On the other hand, the Italians had been misrepresented, and had too many good qualities attributed to them. They had been overrated in many respects. The queen raiser was to blame for this. He did not find the Italians as gentle as the black bees, the opinion of others to the contrary, notwithstanding.

They were as easily destroyed by the moth. He was not a commercial *bee*-ist, as he only kept bees for his own use and gratification. He had none to sell. He was interested, however, in obtaining the best, and if there was such a thing, he would like to get them pure. He had tried to find pure Italians, and would have had them long ago, but had not been able to find who had them. He would like this society to decide by resolution, what were pure Italian bees, and also where they could be had.

H. A. King, of New York. Said if he wished to help grind an axe, he would say that his friend Winder had pure Italians, as pure as he had seen in Italy. He (King) examined 200 colonies in the apiary of Von Hruscka, and found two there which he pronounced impure. Hruscka admitted that they might be impure, as he had bought them from other parties.

Dr. Bohrer. Discussed the question of purity, and said the Italian bee was in the condition of recently established breeds of hogs, cattle, and other improved stock, that did not become constant, until after a long series of "breeding out," or careful breeding, and concluded by saying that the type of the Italian race was not so fixed as to produce a regular, uniform insect.

Dr. Lucas. Said his experience was with Italian bees from four different breeders, and that full blooded and half bred Italians yielded well, but that one-fourth and lower grades were no better than black bees. Thought the honey of the Italians heavier, more dense, and had a superior flavor. They may not have a longer proboscis, but were superior as honey gatherers, and more quiet.

M. Disher, Lewisburg, Ohio. Bought his first Italian bees of Langstroth, who told him that they would work on red clover. He made observations, to find out if it was so. The first count he made, he found four black bees on the red clover, to eighteen Italians. The second time he found six black bees to twenty-eight Italians. The Italians worked two hours in the morning on red clover, before the black bees commenced on white clover. When the Italians swarm naturally, he found them

more cross than the black bees, but in making artificial swarms, they are more easily managed. The Italians he found almost entirely free from moth.

H. A. King. Thought that natural Italian swarms were more cross than the black bees.

Mrs. E. S. Tupper. Confirmed the statement, and gave as a reason, that the black bees always made preparation for swarming, by filling themselves with honey, while the Italians were not so provident, and consequently were crosser.

Mr. Southworth, of Illinois. Could not see but what the Italians would rob as quick, or a little quicker than the black bees. When they smell honey, they "go for it." They "go for" the moth, too.

Mr. W. B. King, of Kentucky. Agreed with Mr. Southworth, as to the capacity of the Italians to find sweets a long way off. In transferring bees $2\frac{1}{2}$ miles from his apiary, his Italians appeared as robbers in great numbers. The Italians were more inclined to store honey in the lower chamber, and would not work in boxes as readily as the black bees.

J. S. Hill, Mount Healthy, Ohio. The moth worm will get into hives of all kinds of bees, but the Italians will cut them out and repair the holes, while the black bees let them alone, and finally succumb to them. He would on that account, prefer them, if for no other reason.

Mr. Wilkinson, of Iowa. Asked if there was any difference between a cross of the Italian drone and a black queen, and the cross of a black drone and an Italian queen.

Mr. Zimmerman, of Ohio. Said the cross of the Italian drone and black queen was preferable to the other cross, and that the Italian was preferable in every respect to the black bee.

Dr. Bohrer. Said when an Italian swarm of bees determined to fight, they can make the black bees ashamed of themselves. In hiving them, he had got himself completely "coated" with them, so that it took him two hours to get his "coat" off.

N. C. Mitchell. Had a colony of pure peaceable Italians that swarmed, and when he attempted to hive them, became

extremely belligerent. Several persons went up into the tree to get them down, but had to retreat precipitately. He went up himself, and got severely attacked.

A member. How did they compare with the Egyptians?

Mr. Mitchell. The Egyptians can shoot a dead shot at any distance, from ten feet to a mile. The Italians can not do that.

Mr. Pope, of Illinois. Said he had opened and handled the Egyptians that whipped Mr. Mitchell so badly, and found them perfectly docile.

H. A. King. Suggested that as what was being said here about the fighting qualities of the Italians, would be published to the world, that it should also be published, that, if they were sprinkled with sweetened water, they would fill themselves and become perfectly gentle.

S. P. Shipley, of Ohio. Said that the Italians increase faster, and have many qualities superior to the black bees.

Dr. Hamlin, of Tennessee. Feared that his opinion would be ruled out, by what Mr. Hoagland had said, as he was a Queen raiser, but he agreed with Mrs. Tupper in what she had said of the good qualities of the Italian bees. For several years he had no others in his apiary, and had almost come to the conclusion that the moth was becoming extinct, as he had seen but few of them. During the last year he had been handling black bees in other apiaries, and found it was not so.

Mr. Allen, of Kansas City, Mo. Thought there was a necessity for a better stock than the black bees, and that it was found in the Italians. Did not think it possible that the black bee could be bred up to the perfection of the Italians.

Mr. Pope, of Illinois. Said the Italians were easy to handle, and better in every respect.

Mr. Shipley. Recommended chickens as a remedy for the bee moth. Said he set his hives low down, and placed the coops of young chickens among them, and they caught many moths.

President Clarke. His experience with the Italians was entirely satisfactory, and considered that he had been well re-

paid for all the trouble and expense he had been at to get them. He disagreed with Mr. Dunlap in much he had said about them, and had thought until now, that intelligent bee keepers were unanimously agreed as to the great value of the Italian bees.

J. S. Merrill, of Iowa. Believed that the Italians were superior, and desired an expression of the opinion of the Society to that effect. He therefore moved that the subject be referred back to the Committee, with instructions to report a resolution to that effect.

Mr. Dunlap, of Illinois. Moved to lay Mr. Merrill's motion on the table, and advocated this course on the ground that the expressions of individual opinions here were sufficient to inform the people, and they were competent to judge from what had been said whether they had merit or not, and the passage of a resolution by this Society would have no force, and would fall dead.

Mr. Dunlap's motion was adopted, and Mr. Merrill's motion was tabled.

Dr. Hamlin. Moved that it be decided by a rising vote whether the Society considers the Italian superior to the black bee. The motion prevailed, and on a vote being taken, it was found to be unanimous in favor of the Italian bee.

Dr. Lucas, of Illinois. Moved to amend the Seventh Article of the Constitution, so as to read as follows:

"No member shall be entitled to the floor more than five minutes, in the discussion of any motion, resolution or petition, without consent of the Society, nor a second time, unless by consent of the President, or a majority of members present."

Which was adopted by the requisite constitutional vote.

The topic laid over in the morning, was called up, viz.:

"What is the best method of increasing stocks?"

The President called on Mr. Hosmer to open the discussion.

Mr. Hosmer. Said he had no objection to state his method. In the spring he gets the Queen to laying as soon as possible, by feeding the bees. The bees, when set out of the cellar, have given

to them only as many sheets of comb as they can cover; these are placed against one side of the hive, and a sack of honey is hung on the opposite side, as far from the bees as it can be got, inside the hive. The sack is made by covering a frame on each side with common "domestic." The honey is poured in from the top. The bees take the honey by sucking it through the cloth. The Queen will lay very rapidly, and soon fill the frames with brood, when other frames of empty comb are introduced, which is repeated as often as necessary.

A Member. Asked if it would not be better to place the feeding sack alongside of the comb.

Mr. Hosmer. Said, no; place it as far off as the size of the hive will admit, and the bees in carrying it over to the cluster will "fool" the Queen. She will think the honey harvest is going on, and lay accordingly. The brood comb should be kept emptied of honey. When the lower story is about filled with brood, he moves it to the upper story, a frame or two at a time, and continues to supply the Queen with empty comb below.

A number of questions were at this time put to Mr. Hosmer, in answer to which he stated, that the quart of bees he put away in his cellar, did not increase while in there, and were all he had to commence with in the spring. He was asked what he considered a quart of bees, and how much comb they could cover, so as to nurse and take care of the brood. Mr. Hosmer said, when he said a quart of bees, he meant a *quart of bees*, which he estimated would consist of five thousand bees. He did not mean a natural cluster, as big as a quart measure, for that was not a quart. He said, "If you will take a quart measure, perforated with holes, and place it over a cluster of bees, and sprinkle them with cold water so as to drive them into the measure, what can crowd into it will be what I consider a quart."

He gives no ventilation whatever in summer; he even contracts the entrance in the spring, in order to keep the hive as warm as possible. He continues this shifting until he has the whole hive,

which contains eighteen frames, filled with brood. Thus he raises his bees.

To increase them he first sets up a nucleus, by taking from a hive that contained a select Queen, one sheet of brood and adhering bees, and permitted them to form and perfect Queen cells. He then made as many equal colonies from the original one as there were Queen cells; giving to each a cell out of which to raise a Queen. This would be the management he would give one swarm. He was asked how many colonies he could make by this management. He said he had made nineteen large swarms from one. The first division he made, made four new ones, and as they were strengthened up by breeding, he went through the same process with each of the new colonies. A quart was his standard for wintering, and it was enough to start with in the spring. He used common "factory," to make feeders of. The whole theory was to keep the bees feeding all the time, when they can get none in the fields, regardless of the time of year. The past season he had not done as well as usual. He started in the spring with twenty-five colonies. His sales of bees from them amounted to five hundred and twenty-eight dollars, and he had secured two thousand pounds of honey, and had now one hundred and eight colonies. Sold swarms at prices averaging fifteen dollars each. He said he had made as high as ten colonies from one in September.

Sugar syrup was as good, or better than honey for feeding, but he generally fed honey, as it was cheaper to him. He estimated that it cost him a cent a pound; he raises all his Queens from one hive, and makes up the swarms from the others. As he takes out sheets of brood for Queen raising, he puts in empty comb, and in that way, one Queen would furnish all the eggs needed.

He was asked if he had ever secured one thousand pounds of honey from one swarm. He answered that he never had said so, although it was reported that he had so stated at Cleveland. He only proposed to do it, if some one would buy all his bees, except ten colonies. He thought he could do it; he believed that he had done it this year, but

did not keep the stocks long enough to put the steelyards to them. He disliked to state what he believed he could do, as it would be said that he said he had done it. His offer made last year at Cleveland was still open. No one had yet accepted it. It had been said that he used magic; the magic of the whole thing was that he had the best honey-producing district in the world. He was a bee-hunter when he went to Minnesota, but he lived there five years before he could get the bees to work on "bait." The yield of the honey was so great and so continuous, that they had to be "lined" from the flowers. Such was not the case all over his State; it was only so in certain favored localities, but he could point out a number of localities that were as good as his. The wild rice was perhaps the best of the flowers, but it was confined to certain districts. There had been no cessation of the honey flow this year, from May to September, although it was generally pronounced a poor season. He sowed eight acres of black mustard (*sinapis nigra*, the seeds of which furnish the mustard of our tables.) It furnished abundance of honey. He added that it was not uncommon for twelve natural swarms to issue from one hive in a season, in Minnesota, and to be successfully wintered. The Society adjourned to 1:30 P. M.

AFTERNOON SESSION.

The society met at one and a half o'clock, the President in the Chair.

The best method of increasing stocks was further discussed.

Mrs. E. S. Tupper. Said as soon as she took her bees from the cellar in the spring, she aimed to increase them as fast as possible, by feeding, so as to have all her swarms made early. Early swarming is necessary in successful bee keeping. The early swarms make all the honey. About the last of May she divided every hive, by taking out of each a strong colony. She thus doubled her stocks, and afterwards prevented farther increase. At the time of making the swarms, she had a young Queen to give to each colony, which prevented after-swarming, but if allowed to raise

their own Queens they would swarm. This season she had made some late swarms, after Hosmer's quart plan, and had twenty-two in the cellar to try.

In the spring she tried to have plenty of honey in the hive, and empty comb, to induce early brooding. As the comb was filled with eggs, she moved it apart, and inserted empty comb. The Queen will lay in the spring in proportion to the room she has, the supply of food, and the temperature of the hive. She closes the hive, as tight as possible, as Mr. Hosmer does in the spring, and covers the top of the frames with paper, so as to retain as much heat as possible.

A. F. Moon. Had given his method before, but would repeat it. He had the best success in the spring, by first equalizing his colonies, so as to make them all strong alike. When rapid brooding is secured, he goes among his hives and takes a frame of brood from each colony, with the adhering bees; from strong colonies he takes two frames. When enough are obtained, he fills a hive with them. He furnishes each new colony with a Queen cell, which he has raised by taking Queens from enough hives to raise a sufficiency of Queen cells. He repeats the operation every three or four days, until he has increased to the desired number.

The next topic in order was:

"How to secure the largest amount of surplus honey?"

W. R. King, of Kentucky. Moved to suspend the order of business for an explanation. Carried.

W. R. King. Said he understood from the report of the committee that settled with the Treasurer, that one hundred and fifty-eight dollars and seventy-six cents had been paid for printing the transactions of the last meeting of the Society. If so, did they not belong to the Society, and was not each member entitled to one? He said he had applied for a copy, and was told he would have to pay twenty-five cents for it.

H. A. King, of New York. Said that of course they belonged to the Society and they had a right to dispose of them to members gratis.

M. R. King. Moved that they be or-

dered to be brought in for distribution, which motion was adopted.

The discussion of the topic, in the regular order, was resumed.

Mr. Hosmer. Was called for. He declined. He said he once had the misfortune to be a tax collector, and had to collect a special tax. Every man he went to, had to have the object of the tax explained, and he repeated the same tale so often that he got tired of it long before he collected all the money. He was afraid he had got into the same fix here, as he thought he had fully explained all he knew about securing honey, several times.

Dr. Bohrer. In order to secure the greatest amount of honey, it was necessary, 1st, to have a good locality. 2d, good seasons. 3d, strong colonies of bees. 4th, a good movable comb hive of some sort. 5th, an extractor. To secure the most box honey, the closer the boxes can be put to the bees the better. Bees should be stimulated early in the season so as to get them strong. He fed syrup when necessary, but queens should be induced to commence breeding, even in the cellar, by opening the hives, and handling the sheets of comb; it roused up the bees and set them to work. Bees may be set out sometimes as early as February or March; seldom has any in his cellar in April. Carries them out in the day time.

Mrs. Tupper. Thought there was less confusion among the bees when they were set out at night.

Dr. Bohrer. If the weather gets cold again after setting them out, he takes them back.

W. R. King, of Ky. Said he got two hundred and eighty pounds of comb honey from one hive of bees. They were gray bees, not Italians. The honey was in frames, not boxes. All the comb they had was nine frames full, with strips of combs on the others for guides. The hive had twenty-four frames in all, on the principle of Adair's and Gallup's "New Idea," but the model of the hive was in the patent office before they published it. The bees made all the comb for the surplus, except the strips. As the combs first given were filled up, he spread them apart in the middle, and

inserted between them the empty frames with comb guides. If a top apartment was used on the hive, he preferred to have it all in one, because if divided into two or more, it required more bees to keep up the animal heat, necessary to keep up the temperature in so many apartments. Bees will store more honey in a single chamber than in many, and he found that if top boxes were more than seven inches deep, the bees were slow to commence work in them, as they had to go too far from the normal cluster.

Mr. Wilkinson, Iowa. Will bees construct comb from sugar syrup, as well as from honey?

Dr. Bohrer. Had bees to build comb when fed on syrup in the winter?

Mr. Moon. Prepares his honey-boxes with pieces of comb in them, which induces the bees to begin work. He gets his boxes as close to the cluster of bees as possible. In answer to Mr. Wilkinson's question, he said, he once kept bees in a dark room for fourteen weeks, and had twenty boxes filled with honey; it was all deposited in comb made from sugar alone. He exhibited it at the fairs, and took premiums with it, as the best honey.

Mr. Southworth, of Illinois. Had a considerable quantity of comb and honey made from sugar, during the past season.

Mr. Moon. Was at Mr. Southworth's, and assisted him in feeding the sugar syrup to his bees. The honey from it was taken to the Illinois State Fair, and had the premium awarded to it as the best box honey.

Mr. Shipley. Made syrup of A No. 1, coffee sugar, and fed it to his bees in troughs, after cold weather, filling the troughs with a quart of the syrup twice a day. The bees took it all, and thus he strengthened up all his weak colonies.

Mr. McFtridge, of Iowa. Moved his bees to the pasturage. He put on upper chambers when he moved them to a poplar grove. When the linden bloomed, he moved them to a linden wood. Sixty hives gathered a ton of poplar honey, and two thousand four hundred pounds of linden honey.

Mr. Mitchell. Tried two colonies of

bees on Mr. Hosmer's plan, two years ago. Strengthened them by early feeding, and they stored a surplus from fruit blossoms. Threw it out with an extractor. He kept no account of the quantity, but the yield was immense.

Mr. Wheldon, of Iowa. Thought there should be more caution in setting the example, or advising the making of honey from sugar. Many persons suspicion extracted honey now, and if the idea gets out that bee keepers are making it out of sugar, it will be further injured in reputation.

Mr. Merrill. This matter of selling molasses for honey, and the statement going out that such honey has taken the premiums at State fairs, will degrade bee keeping, and injure the business of honest bee keepers.

Mr. Southworth. Said he did not make a business of having honey made in that way, nor had he ever sold any of it. When it was exhibited at the fair, it was tasted on the ground, by the awarding committee and others, and pronounced the best honey they ever tasted.

Mr. Moon. Every well informed bee keeper knows that honey can not be profitably made from sugar at the present prices. The waste is so great, that it costs too much. If sugar could be had at three cents a pound, it might pay for the labor, but there would be no profit. He did not speak of it to recommend it to bee keepers, but to convince the gentleman who asked the question, that bees could produce wax from sugar.

Dr. Lucas. Said in 1871, he took enough honey from his apiary in two months, to pay for his bees, queens, hives and extractor. Without the extractor, he would have brought his apiary in debt. The extractor will pay. The pure extracted honey is more healthful than the comb honey. Wax is indigestible by the human stomach, and is injurious. There is no acid that will dissolve it.

Mr. Wilkinson. Would not advise feeding sugar to be stored as honey, but it might be profitably used early in the season, to have comb constructed to hold the honey from flowers.

The business committee made an additional report, which was adopted.

The time and place for holding the next meeting of the society was referred to the business committee.

Mr. Hosmer. Introduced a resolution, recommending to the bee keepers of America, a list of journals and publications devoted to bee culture, which, after some discussion, was referred to the business committee.

The next topic was:

"The best method of wintering bees, and their spring management."

W. R. King. Said the South needed information on this subject. A great many things that were necessary for success in wintering bees North, were useless at the South, and their management differed in many respects. At the South, the bees wintered themselves. Mr. Hosmer's, or Mrs. Tupper's method was of little value at the South, where the winters were mild and short. He would like to have General Adair give his views of this question.

D. L. Adair. Said it was true, that the management of bees necessarily differed with climate and locality, and there was not the same necessity for housing bees in the South, as there was in the extreme North. It was better to do it in every climate where flowers did not bloom the whole year. There was no more difficulty in keeping bees in depositories in the South, than at the North, and while, perhaps, there was not the same necessity for it, it was resorted to with advantage. But few bee keepers would take the trouble to do it, as their bees wintered well out of doors. Mr. Moon had said that if bees could fly out once in three weeks, they would escape the bee disease. Now, at the South, even in Kentucky, there was seldom three weeks together that bees could not fly out, yet in 1868, the disease was very fatal over a large part of the South. The sudden and repeated changes in the weather at the South, he considered were injurious to the bees, and could be avoided by housing.

Mr. Zimmerman. Visited Dr. Hamlin in 1871. He arrived there on the 9th of March, and found the bees flying out. He concluded that the bees flew out too

much and too early, and that they needed housing to restrain them.

I. Z. Smith, Weston, Ohio. Said he had built a wintering house, 26x12 feet, and ten feet high, with double walls filled in, with an eight inch square hole, top and bottom for ventilation. Has in it fifty-two colonies.

Dr. Bohrer. Thought Mr. Smith's house a good one. He had lower ventilation in his own house, but had never been able to see its use, as we know that bees winter well in cellars, where there is necessarily no under ventilation. It is too much the case, that the people can not be made to understand the advantages of housing bees in winter. Gen. Adair had said that the bee keepers of the South could not, many of them, be induced to take the trouble to put bees in houses. The same was true of the North, but its advantages were so great, North and South, that he urged it upon all.

The business committee reported a resolution, locating the next annual meeting of the society, which, after amendment, was adopted, as follows:

Resolved, That when this society adjourns, it adjourn to meet at Louisville, Kentucky, on the first Wednesday in December, 1873, at 10 o'clock A. M.

The society then adjourned.

EVENING SESSION.

The society met at the usual hour, President Clarke in the chair.

The business committee, by Seth Hoagland, chairman, reported the following resolution, which was adopted:

Resolved, That the president of this society be authorized, in its name and behalf, to address a circular to all the bee keepers of this continent, urging the formation of neighborhood, county, State, Territorial, and Provincial associations, auxiliary to this society.

The order of the evening was, "The Question Drawer." It consisted of a series of questions, which had been handed in to the president by members, and which Mrs. Tupper was requested to answer, but which would, also, be open for general discussion.

Question 1.—The first question was: "Is the rocky mountain bee plant profitable, and how should it be cultivated?"

Mrs. Tupper. Said Mr. Terry had sent her seeds two years ago, which she planted early in the spring. It should be planted in the fall. She planted one-half acre. It blossomed in May, and continued till frost. It came up again the next year. She considered it a good plant for bees. Its botanical name is *Polanisia purpurea*. It is an annual, but re-seeds the ground, and once sown, comes again each year from the seed. She considered it valuable, even as an ornamental plant. She planted it in drills, and also broadcast, with equal success. She had planted borage, and could say as much in its favor, as a honey plant, but it is a bad weed.

M. L. Dunlap. The plant is *Polanisia purpurea*, of the western plains. In Colorado, it grows from three to four feet high. It has large seeds, and makes good chicken feed. He had sent out seeds all over the country. It blooms all summer, from the middle of May till frost. It promises to be more valuable for honey than any other plant. It is native to the dry plains, and in favorable situations, the stalk attains a diameter of one inch. It would be a bad weed if so used, but can be easily eradicated. It grows best in damp locations, and grows vigorously all along the waterways in Colorado. It is described in the botanies as only growing a foot high.

A. J. Pope. Has had it growing for two years. Cattle will browse on it. Is easily eradicated, and is not dangerous as a weed. It produces an abundance of seed.

Question 2.—"How far have Italian bees been known to fly in a swarm before settling?"

Mrs. Tupper. Had them to go eight miles from her apiary. Had heard some reported as going thirteen and fourteen miles.

D. L. Adair. Reported a small swarm or nucleus, as being found more than fourteen miles from his apiary, when his were the only Italians near to where they settled.

N. E. Prentice. Knew a swarm to come from Kelley's Island to the mainland, a distance of seventeen miles.

Aaron Benedict. Said when he went

to Kelley's Island, there were no black on it. While there, he found a black swarm, that must have come from the mainland, a distance of at least twelve miles.

W. R. King. Asked if bees in flying off, did not keep in the same direction invariably.

Mrs. Tupper. They do nothing invariably.

Mr. Hawkins. Knew of a swarm that changed its course twenty degrees.

Mr. Southworth. Had a swarm that went straight about fifty rods, and then turned at a right angle.

D. L. Adair. Followed a swarm through the woods for several hours and saw them change their course at least twenty times.

Question 3.—“Why do Italian swarms leave the parent hive without first filling themselves with honey?”

Mrs. Tupper. They did not seem to prepare for swarming in all instances as the black bees do. They often swarm before any queen cell is started, when the hive is very populous. Many times they issue without filling with honey. They seem to swarm from the impulse of the moment. The swarming fever comes on suddenly. She could give no reason for it.

Question 4.—“Management of extracted honey. Will it sour if not heated?”

Mrs. Tupper. Never had seen a spoonful of sour extracted honey. She takes it out when nearly ready to cap. In twenty-four hours a scum will rise, which should be taken off. It does not come again. Dealers will not buy boiled honey. Basswood honey is not as thick as most other honey. It should be left in until about to be sealed. Golden rod honey is denser.

Mr. Southworth. Had had enough of boiled honey. It injures it very much, and does not prevent candying.

President Clarke. Said he was reported in the proceedings at Cleveland, as having recommended boiling honey, whereas he only advised gradually heating it after candying, to restore it to a liquid state.

Question 5.—“Is there any means by

which we can call back swarms, or settle them?”

Mrs. Tupper. The old remedies she thought of no avail, but flashing the sun on them by the reflection of a looking-glass, would cause them to settle. She had seen conclusive proof of its efficacy this year.

H. A. King. Said that to run ahead of a swarm with a pail of sand, throwing handfuls of sand among them, would confuse the bees, and cause them to settle.

W. R. King. Followed a valuable Italian swarm three-fourths of a mile, and fought them nearly an hour with dirt, by throwing it among them, and thereby settled them. Had several times seen them brought down, when flying off, by shooting a shot gun at them.

I. W. Winder. Said cold water thrown among them was effectual.

Seth Hoagland. Had tried throwing dirt without effect, until he learned the fact that there is always a convoy of bees ahead of the main swarm. If they are confused in any way, it has the effect to settle them. He had used the Hydro-pult, also, with effect.

N. E. Prentice. If you can only get ahead of the swarm, and confuse the advance guard, they will settle. Rattling behind them does no good.

Dr. Lucas. Related an instance, in which he saw a swarm in full flight, arrested by a bright flash of lightning, causing them to descend quickly.

A. F. Moon. Never made noises or threw dirt, but when he sees them going away, water thrown on them will settle them.

Dr. Hamlin. Had tried dirt and sand, and other things, and was of opinion that anything that would confuse them, had a tendency to stop their flight.

A. L. Williams, of Westville, Iowa. Had never tried whistling them back, but had repeatedly, ever since he was a boy, stopped them by getting before them, and shooting back at them.

Question 6.—“Is there such a thing as honey?”

Mrs. Tupper. Honey is generally defined to be a secretion of plants, which is gathered from the flowers by the bees.

President Clarke. Some scientists think that bees make honey. That after they gather the nectar from the flowers, it undergoes a change in the honey sac, by coming in contact with formic acid; while others contend that they merely gather it, and deposit it in the comb cells, without any alteration in it.

Mrs. Tupper. Said a convention of German bee keepers had discussed the subject, and decided that there was no chemical change in the substance, that the bees gathered from the flowers, unless the flight of the bees operated mechanically, and had a kind of churning effect on it.

Dr. Bohrer. Said some contended that formic acid, which was the poison ejected by the bee into the wound made by stinging, was mixed with it, but that could have no effect, except to change the taste. But honey undoubtedly undergoes a change after it is deposited in the hive, before sealing over, by the evaporation of water, and the peculiar odor which pervades the hive.

Mrs. Tupper. In Connecticut, the honey gathered from certain plants was, when first gathered, unfit to eat, on account of its acrid taste; when, sealed over it was clear of it.

Dr. Lucas. Agreed with Mr. Dunlap, that what we know least about, we can talk most about. He thought that the honey sac was only a receptacle in which to carry the honey to the hive, and it had no appendages or glands that indicated that any chemical change could be produced on the honey.

Question 7.—“How many colonies of bees did you go into winter with in 1871, and how many did you lose during the winter of 1871-72?”

Mrs. Tupper. Put 84 in her own cellar, and wintered all of them. One proved to be queenless, and one was weak. These she united with other colonies. She put 20 colonies each into two other cellars, and lost them all.

Question 8.—“As the comb cells are nearly horizontal, what prevents the honey from running out before being capped over, and can this principle be applied to domestic purposes?”

Mrs. Tupper. The cells are not exactly horizontal. The honey was held in by

capillary attraction. She saw no use the principle could be applied to for domestic purposes, further than is already the case.

Question 9.—“Is it advisable for bee keepers, who keep bees on a small scale, to have a honey extractor?”

Mrs. Tupper. Thought it would pay any one, however few colonies he had. When bees refused to work in boxes, by taking out all the honey from below with the extractor, it would stimulate them to work in the boxes, and the extracted honey in that case was a clear gain. Uses a tent, when no honey is being gathered, to prevent robber bees. Found the tent useful for many other purposes in the apiary.

W. R. King. Is there not danger in recommending a too general use of the extractor? In many instances, harm was done by an excessive use of it.

Mrs. Tupper. Thought the same objection could be made to everything used about bee keeping. Everything could be carried to extremes.

W. R. King. Thought there should be an expression of opinion from the Society on the subject, as he had known great damage done by injudicious use of the extractor.

Mrs. Tupper. Did not think the difficulty could be remedied by an action of this Society, as specific directions could not be given as to how and when to use it. Each would have to learn for himself. She said it should never be used on comb that had brood in it, in any stage, as from careful experiment she had ascertained that in every instance, the brood, even after it was capped over, was destroyed.

The Society then adjourned.

FRIDAY'S PROCEEDINGS.

The Society met at 8 A. M., President Clarke in the chair.

The Business Committee reported the following resolutions, which were severally adopted:

1—*Resolved*, That our thanks be tendered to the several railroad companies and hotel keepers, for reduced fare and boarding.

2—*Resolved*, That the thanks of this

Society be tendered to the Judges of the Supreme Court of Indiana, for the use of their court room.

3—*Resolved*, That the janitor of the house be paid ten dollars for his services.

4—*Resolved*, That D. L. Adair be paid fifty dollars for his services as reporter of this society.

5—*Resolved*, That the thanks of this Society be tendered to our worthy President, Rev. W. F. Clarke, for his able opening address, and the impartial manner in which he has presided over our deliberations.

The regular order of business was then called, which was:

“Experience in importing and rearing Italian Queen bees.”

H. A. King. Offered the following resolution, which was adopted:

Resolved, That the thanks of this Society be tendered to the Italian Bee Company, of Des Moines, Iowa, lately consisting of Mrs. E. S. Tupper and Mrs. Annie Savery, and also to Charles Dadant, of Illinois, for their efforts to make a large importation of Italian bees, which, unprofitable to them, in a pecuniary point of view, has been the means of furnishing pure stock to many parts of the country, from New Brunswick to Texas.

Dr. Hamlin, of Tenn. Presented a dried specimen of *vesicaria lescurei*, a plant peculiar to the vicinity of Nashville, which he considers the best early honey plant, as it blooms in April. It comes up from the seed in the fall, blooms the next spring, and then dies. Is not troublesome as a weed.

Miscellaneous matters were then called for.

S. J. Pope. Said that if a Queen should escape from a cage, all that was necessary to recover her was to stand still, and she would return in a little while.

Dr. Lucas. In examining a colony of Italian bees, found an old Queen on one sheet of comb, and a young one on another; left both in the hive all night, and found both safe. Took out the old one. His experience was that a Queen with clipped wings would not live more than two years.

W. R. King. In Tuscumbia, Alabama,

transferred forty colonies of bees. Some four weeks after, in examining them, he found a hive with two Queens in it. They remained so four or five days. He took the old one out, but returned her; six weeks afterwards, they were both still there.

D. L. Adair. Said when a Queen becomes unfertile from old age, the bees cease to recognize or regard her as a Queen, and she is tolerated as any worker bee of the hive. Her ceasing to lay, is the cause of a Queen to supersede her being produced, and to all intents and purposes, there is but one Queen in the hive. He had known several instances, where the old Queen remained in the hive for some length of time, after the young one was produced to take her place. In one instance, the old Queen was five years old, and not only had her wings clipped, but she had no more wings than an ant, showing that *Dr. Lucas's* conclusion, that a clipped wing Queen would not live more than two years, was an error. He had a Queen that he let *Col. Shannon*, of Lewisport, Ky., have, that whenever the hive was opened, would fly out as if in great terror. She would return to the hive when it was closed. She finally flew out and got drowned in a tub of water. She was a pure Italian, and her progeny were perfectly gentle.

Mr. Shipley. Inquired if any one present had kept bees in a house, and if so, whether there was not more than one Queen?

Mr. Hamlin. Once kept bees in a house for several years, but the moth got in and destroyed them.

Mr. Wilkinson. Asked, are the worker bees necessary to the life of the Queen? or can a Queen live without them?

Dr. Lucas. Had a Queen in a cage, in a hive, for two months.

A. J. Pope. Had received a Queen by mail, without any accompanying workers.

Dr. Hamlin. Had carried a Queen on his person for five days, in a cage.

Mr. Southworth. Had kept a Queen four days without workers.

D. L. Adair. Said a single bee, Queen or worker, could not live for any considerable time out of a regularly organ-

ized colony. When separated from a colony, death was only a question of time. A colony was a unit, and all its members were necessary to the security of the others. Whenever a colony of bees was reduced in numbers below a working standard, they died out. That standard was enough bees to form a cluster to protect the brood nest, and to feed the young in such numbers as to produce young bees faster than the old ones die off.

Mr. *Hulman*. Had kept Queens caged, laying on the frames, three or four weeks.

Mr. *Moon*. Had kept Queens, a number at a time, in Dr. Davis's Queen nursery, in a hive for three weeks.

N. C. *Mitchell*. The bees will feed one thousand Queens in one hive, as long as they are gathering honey, but will neglect them after honey gathering ceases. Had kept twenty-five at a time, caged in one hive, on the frames above the bees.

Moses *Hadley*, Plainfield, Ind. Had kept a Queen in a cage, by herself, for three weeks.

President *Clarke*. Offered the following resolution, which was adopted:

Resolved, That official notices, signed by the President and Secretary of this Society, be inserted in the bee journals, and in all friendly periodicals, announcing the name, objects, admission fee of the North American Bee Keepers' Society, and inviting bee keepers and others to seek membership; also, that official notices, so signed, be transmitted, in due time, to the bee and other journals, giving information of the next annual meeting, of railroad, hotel and steamboat arrangements, and urging a general attendance from all parts of the continent.

On motion of Dr. Lucas, D. L. Adair, W. R. King, and Dr. T. B. Hamlin, were appointed a Committee of Arrangements for the next meeting, at Louisville, with instructions to report through the papers in due time.

The Society having concluded its deliberations, the President called on the Rev. H. A. King to close with prayer, with which he appropriately complied. After which, and the singing of the Doxology, the President declared the North American Bee Keepers' Society adjourned, to meet at the city of Louisville, Ky., on the first Wednesday, Thursday and Friday of December, 1873.

Mortality Among the Bees.

Find enclosed five dollars, for which please send me the NATIONAL BEE JOURNAL for one year, and send the balance in Alsike clover seed; send by express. We will have to furnish our bees something in place of white clover, for there was some kind of a cut worm, that made its appearance here last year for the first time, that eat up all the white clover in this vicinity, and took whole fields of the red clover, and there being very little buckwheat raised in these parts, our bees have nearly all died within the last fifteen months. I think, from what I can learn, that there is not more than one-tenth of the bees living to-day that we had eighteen months ago. I speak of this county—Henry.

The bees commenced dying in this vicinity about the time of the first frost, in the fall. At that time they would go out, one or more at a time, and sometimes fly, and sometimes fall, but never return, and we would find, in a few days, that the bees had all gone, leaving plenty of honey.

I put twelve colonies in the cellar and five in the garret, and left eight out under a good shed, closed on the north side. Those in the shed died first; those in the garret next, and then four colonies in the cellar, leaving me eight, which I set out on their summer stands, ten days ago.

Some of the Italian colonies were pretty strong, but the hybrids were very weak, my black bees having all died last winter—sixteen colonies. There were none of my bees starved last winter nor this; but if the honey is not of an inferior quality, my taste must have changed, for I have not had a bite that I could relish for over a year. Now, whether it is an inferior quality of honey that kills the bees, or whether it is an epidemic, and is carried in the air, I do not know; but the chickens and hogs do not die from eating honey; but there is something that appears to be carried in

the air, as epizootic in horses and cholery in the human family. Now, if there were none of these diseases, or no other, that would destroy human life, the face of the earth would soon be covered with a living, moving mass, and there would certainly have to be a new arrangement for their subsistence.

I am now fifty-three years old, and this is the third time since my recollection that the bees have been similarly diseased. I have always been used to bees; father always had them, and when I left home, I came right here, and have had bees ever since. I kept a few over every winter, till last winter, when they all died. I fed them, last fall a year, but it done no good. Last fall I commenced again, and those I fed most, died first.

I know of several persons whose bees did not die last year; but these were the first to die this winter, and the disease has not paid any respects to any particular hive; it has even cleaned the old log hives; and if the worms still continue to eat up the clover, I don't know what those who have survived, will have to live on.

P. P. RIFNER.

Mt. Summit, Henry Co., Ind.

[Translated for the NATIONAL BEE JOURNAL, from the German *Bienen Zeitung*.]

Queens and Fertilization.

BY DZIERZON.

As the productiveness of bees or colonies is chiefly owing to the fertility of the Queen, therefore the following is one of the most important rules for apiarians to winter, or, we might say, to keep at all times, only strong, fertile, and near as possible, faultless mothers. Queens that are old, or otherwise worthless, should be removed, and replaced by young and vigorous ones. Owners of large apiaries ought to know the age of their Queens. Young Queens winter well; whereas, old ones are apt to die in the spring, when most needed to propagate their kind, and if they

live, the bees have little ambition to gather surplus honey; while on the other hand, wherever you find a young prolific Queen, the workers are energetic, filling the hive with golden stores in a very short period of time, hence the benefit and importance of knowing the age and quality of your Queens. Neither are you obliged to observe any particular season, but at any time, when you have a supply of young, fertile Queens on hand, dispose of or destroy the old and unprofitable Queen, for one that can keep the stock strong. Last summer I drummed out a colony for the purpose of capturing the Queen, and put in her stead a beautiful young one. About all the bees had gone into the box, yet I failed to find her. After some time had elapsed, I opened the hive and found her on the first comb, the bees not seeming to note her absence. In two days after, I successfully introduced the young Queen. In sultry days I often find the Queen on the outside frame, or near the entrance, and at times she leaves the hive for exercise. In raising Queens, the apiarians must not depend on the latest ones, unless the weather is such that they can fly out to meet the drones, or they might fail in their calculation. Queens without fertilization produce drones only, a state of things not very desirable, as the drones are considered imperfect, and the bees destroy such Queens, but there is little danger, if the Queen has faultless wings, even if drones are few in number. In September there was not a day that Queens could fly. On October 8th, a charming day, I observed that every young Queen became fertile, and drones were not numerous, although it is not always proof that she is not fertile if she does not lay eggs, or when her body appears slim. A symptom of fertilization is this: The Queen flies clumsily, and with apparent effort, while an unfertile Queen flies quick, like a worker. I give you a test by which you can tell, if you are in doubt of a Queen's fertility. Clip one wing close-

ly, and remove a short distance from the hive; if the bees show no concern about her, it is pretty certain she is not fertile.

Experiments from Berlepsch.

Here is the results of a few experiments made by Berlepsch, on the comparative product of swarms of different sizes.

First experiment. On the 16th of June, 1855, 6 pounds of bees were hived in an empty hive, containing 16 frames. Another swarm, weighing 3 pounds, was placed in a similar hive. On the 8th of October, after all the bread was hatched out, the frames were weighed without the bees. The first swarm had gained forty pounds and six ounces, and the smaller swarm only seventeen pounds.

Second experiment. In 1856, a swarm weighing six pounds, was put in one hive, and another swarm weighing four pounds, in another. By the 15th of October, the first hive had gained nineteen pounds two ounces, and the other ten pounds nine ounces.

Third experiment. During the same year, a swarm weighing six pounds, was hived at the same time as another swarm, weighing five pounds. The largest swarm gained twenty pounds, and the weakest, fifteen pounds, fifteen ounces. The year 1856 had been very unfavorable.

Fourth experiment. In 1857, a swarm weighing seven pounds, gained fifty pounds, and another swarm, weighing only six pounds, gained fifty pounds and eleven ounces; that is, the weaker hive gained eleven ounces more than the other. The season of 1857 was very favorable.

The difference in the product of the two last swarms, in favor of the weaker, is probably derived from the fact that the queen of the larger swarm was less prolific than the queen of the other.

C. P. DADANT.

Hamilton, Ill.

Hiving Bees.

As I am a constant reader of the BEE JOURNAL, and have received much information from it, I feel it my duty to contribute a share to its pages. Firstly I find every year that many apiarians have swarms of bees go to the woods and feel sorry to lose them, and know not how to prevent it. To such I would say, It is easy enough, if you have the proper information. I save every swarm that comes out. I have kept bees for thirty-five years, and now do not lose any. Some say that some swarms come out, and go direct from the hive to the woods; but in the time that I have kept bees, I never had such an instance. In the first place, I prepare my hive. I generally put a piece of comb into the hive to attract them. I keep the hive in the shade, and when the bees come out, they will alight on some tree near by them. Take the hive, and rub the inside with lemon balm, or it will do without; put in the shade of the tree, on the table; tip the hive back, enough to let the bees enter; put a board, eighteen inches square, or a cloth, in front of the hive, and take the bees down and put them on it. Then take cold water from the well, and with a hand broom-brush sprinkle cold water on the ground, and a trifle on them, and they will soon go up.

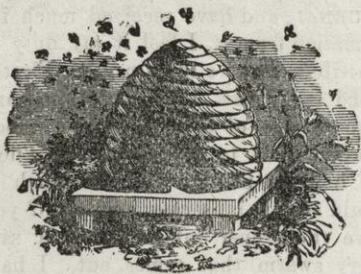
Repeat this in twenty minutes and continue till the hottest part of the day is past. As soon as they are nearly all in, remove the old hive, and put the new one where the old one stood, and put a board over to keep the sun and rain off. Be particular, and do not neglect a part, and say it can't be done. I only want unbelievers to see me hive them, or get some of my neighbors to see me do it. There are many here that let them swarm naturally, and some are lost by improper management, not knowing what the bees want.

I never had a swarm come out and go direct from the hive to the woods, without alighting first, and think I am safe in saying I have hived a thousand. There may have been such instances, but I never saw one. If it is not proper to cut off the limb that the bees are on, shake them off in a box, and put them on the sheet.

A. WILSON.

Marcellus, N. Y., March 7.

EDITOR'S TABLE.



INDIANAPOLIS, MARCH 1, 1873.

WE are receiving various reports from bee keepers. Some have lost heavily, (to such we would say, try again,) while others report their bees in fine condition. Mrs. E. S. Tupper, of Iowa, reports her bees as wintering finely, as well as numberless others. From the most reliable information we can gather, we are led to believe the losses are not as great as anticipated, and that bee keeping will not receive the great check feared a month ago. One thing should be borne in mind, that our oldest and best apiarians—such men as C. Dadant, M. Quinby, Aaron Benedict, Jewell Davis, M. C. Hart, — Argo, and a host of others, are doing all that time and talent can do to discover a remedy for the disease from which bees have died during the past two winters, and we firmly believe that before another winter sets in, the great problem will have been solved, and a remedy applied. So we would say to all who have lost their bees, try again, success must and will attend your efforts. We will here state that we are in receipt of letters going to show the superiority of the Italian over the native or black bees, the loss being mostly with the latter.

WE are forced to omit our exchange notices in our March number, but will give them place in our April issue.

SUBSCRIBE for the *National Bee Journal and Magazine*.

WE would call the attention of the readers of the JOURNAL to C. Dadant's card, which will be found in another column. Mr. Dadant returns to Italy for the purpose of rearing queens, and we bespeak for him the support of every beekeeper in America. He is a gentleman of talent and integrity, and all wanting pure Italian queens, direct from Italy, should lose no time in sending in their orders.

AARON BENEDICT, of Bennington, Marion county, Ohio, has made arrangements to engage in rearing Italian queens on Kelley's Island. Mr. Benedict is an old hand at the business, and any one ordering from him will be honorably dealt with, and get the best of queens. We call attention to his advertisement in another column.

VEGETABLE AND FLOWER SEEDS.—Mr. J. J. H. Gregory, of Marblehead, Mass., is well known as one of the few leading seed growers in this country. He was the original introducer of the Hubbard squash, and many other of our new and valuable vegetables. All seeds from him are warranted fresh and reliable. His advertisements will be found in this number, and we invite attention to them. His illustrated catalogue for 1873, (now ready,) will be sent *free* to all applicants.

Messrs. Atkinson & Barber:—Please send me one of your Honey Extractors. Sold mine to a neighbor, to place feed in combs for his bees. I wish one soon for same purpose. I find it the best bee feeder I ever used. It does its work quick, and in good order.

Respectfully yours, S. D. BARBER.
Mattoon, Illinois.

The keeping of bees is one of the most profitable investments that our people can make of their money. The profits arising from the sale of surplus honey average from fifty to two hundred per cent. of the capital invested.

PUBLISHERS' DEPARTMENT.

Advertising Rates.

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1 Column..	10	18	25	45	85
1/2 Column.	8	15	20	40	75
1/3 Column.	7	12	17	25	40
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We adhere strictly to our printed rates. Address all business communications to **SCHOFIELD, KING & CO., Publishers.**

BEE-KEEPERS' DIRECTORY.

Parties desiring to Purchase Italian Queens and Colonies, will find in this Directory the names of some of the most reliable Breeders in this Country.

Cards inserted in this Directory, and copy of the paper sent one year, for \$8 per annum, cards to be four lines or less. For each additional line \$2 per annum will be charged. A line will average six words.

From West Tennessee.— Full Colonies of Italian Bees or Queens, Extractors, Hives and Honey for sale. **S. W. COLE**, Andrew Chapel, Madison county, Tenn.

ITALIAN BEES.—We offer for sale about 200 colonies of Italian Bees in the American Movable Comb Hive. Also, Queens throughout the season. Purity and safe arrival guaranteed. For further particulars, prices, &c., send for circular. **BALDWIN BROS., Sandusky, N. Y.**

MURPHY'S IMPROVED HONEY EXTRACTOR, the best in the market. Address, **R. R. MURPHY**, Fulton, Whiteside Co., Ill.

ITALIAN QUEENS in their highest grade of purity, for sale. Address, **G. BOHRER**, Alexandria, Madison Co., Indiana.

BEE-KEEPER'S SUPPLIES.

We can furnish everything needed in the Apary, such as Italian Bees and Pure Queens, Honey Extractors, Knives, New System and Champion Hives, six styles, Bee-Feeders and Ventilators, Bee-Veils, the American Bee-Keeper's Guide, 244 pages, paper cover, 50 cts.; bound, \$1.00; Wax Extractors, \$3.00; Alsike Clover Seed, Black Spanish Chickens, &c. Send for our large illustrated PAMPHLET, containing information for Bee-Keepers, FREE to all. **E. KRETCHMER**, Coburgh, Mont. Co., Iowa.

BEE-KEEPERS, Send for circular describing the **BAY STATE BEE HIVE**. Also, price list of Italian Queen Bees, for 1873. Address, **H. ALLEY**, Wenham, Essex Co., Mass.

REV. A. SALISBURY, Breeder of Pure Italian Queen Bees. For particulars and price list Address, **CAMARGO, ILL.**

E. KRETCHMER, Importer and Breeder of Pure Italian Queens. For circulars and particulars, address, Coburgh, Montg. Co., Iowa.

ITALIAN QUEENS, bred in full colonies, and warranted pure. For price-list, etc., address, withstamp, to **T. H. B. WOODY**, Manchester, St. Louis Co., Mo.

BEE KEEPERS GET THE BEST,

LEFFEL'S Center-Opening, Movable Comb Bee Hive; Champion Honey Extractor; Italian Queens, Genuine Alsike Clover-seed. 40 varieties of pure bred Poultry, Pigeons, Rabbits, etc. Agents wanted everywhere. Agents outfit only \$8 00. Send stamp for Circulars to **LITTLE BEE MAN**

Springfield, Ohio

QUEENS! QUEENS!!

Those wishing good early Italian Queens would do well to send for my Circular. Address,

G. H. BOUGHTON,

Illioplis, Sangamon Co., Illinois.

MUNCIE APIARY.— Italian Bees and Queens of the highest grade of purity. Queens, \$3.50 each. Full stocks in Langstroth hives, \$15 each. Ten Stocks, \$12 each. Purity and safe arrival guaranteed. **P. F. DAVIS**, Muncie, Delaware Co., Ind.



ONE DOLLAR for extracting one tooth with Laughing Gas.
ONE DOLLAR and upwards for Gold Fillings.
TEN DOLLARS for an Upper or Lower set of Teeth on Rubber, best quality.
 All work warranted at **KILGORE'S DENTAL ROOMS** No. 70 North Illinois St. Established 1865. Indianapolis.

SWAN GEESE,

OR

WHITE CHINAS,

Fine as Swans; lay as well as ducks, and as easily raised. Eggs \$4 per dozen.

ESSEX PIGS,

\$25 PER PAIR.

Numerous other kinds of Stock and Poultry. Send for Circular.

C. W. LUDLOW,
Carmel, Ohio.

Second Voyage TO ITALY!

I HAVE RESOLVED TO GO TO LOMBARDY as early as the beginning of April, and to stay there all summer. I will raise Queens myself, and ship them as fast as raised. Breeders desiring to purchase, will please send their orders as early as possible, for I will begin to ship Queens in the beginning of May.

FIRST COME, FIRST SERVED.

Orders sent after my departure, should be sent to my son, C. P. DADANT, Hamilton, Ill. Send for a price list.

CH. DADANT.

Seeds, Plants and Trees,

PRE-PAID BY MAIL.

MY NEW PRICED DESCRIPTIVE CATALOGUE of Choice Flower and Garden Seeds, twenty-five sorts of either, for \$1; new and choice varieties of Fruit and Ornamental Trees, Shrubs, Evergreens, Roses, Grapes, Lillies, Small Fruits, House and Border Plants and Bulbs; one year grafted Fruit Trees for mailing; Fruit Stocks of all kinds; Hedge Plants, etc.; the most complete assortment in the country, will be sent gratis to any plain address, with P. O. Box. True Cape Cod Cranberries, for upland or lowland, \$6 per 1,000; \$1 per 100; pre-paid by mail. Trade List to Dealers. Seeds on Commission. Agents wanted.

B. M. WATSON,
Old Colony Nurseries and Seed
Warehouse, Plymouth, Mass. Es-
tablished 1842.

HONEY PRODUCING TREES.

Tulip and Linden Seedlings 6 to 12 inches, \$10 per thousand.

Tulip and Linden Seedlings, one hundred, pre-paid by mail, \$2.

Tulip and Linden Trees, 1 to 2 feet, \$20 per thousand.

Tulip and Linden Trees, 2 to 4 feet, \$40 per thousand.

Tulip and Linden Trees, 4 to 7 feet, \$75 per thousand.

By the hundred, 10 per cent. higher.

Sugar Maple Seedlings, one thousand for \$16.

Trees, 1 to 2 feet, \$5 per hundred.

American Chestnut, White Ash, Flowering Dogwood and other Forest Trees, very low.

Heavy stock of Concord Grape Vines.

Catalogues free. Address,

J. JENKINS,
Grape and Seedling Nursery,
Box 45, Winona, Col. Co., Ohio.

Italian Bees and Queens for 1872.

After the first of June I will fill orders at the following rates:

Pure Queens, tested in my apiary, \$5.00.

Full stocks in single chamber, Langstroth Hives, \$15.00.

Queens sent by mail, post paid. Purity and safe arrival guaranteed.

Stocks delivered at this express.

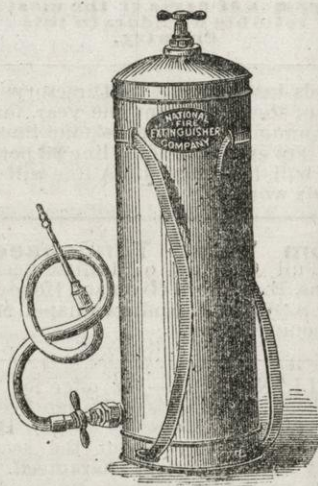
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Over 1,200 Actual Fires put out with it. More than \$10,000,000 Worth of Property Saved.

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Indorsed and used by the U. S. Government and all leading Fire Departments, Insurance Companies, Hotels, Steamboats, Theaters, Public Buildings and Factories throughout the Union. Now in use in the Executive Mansion, War, State, Treasury and Navy Departments.

Price, \$50 Polished Copper.

Send for Circular.

NATIONAL FIRE EXTINGUISHER CO.

JAMES E. THOMPSON, Gen'l Manager.

Head office, 262 Broadway, N. Y.

PURE ITALIAN QUEEN BEES,

Reared on Kelley's Island, O.,

12 Miles from Native Bees

I WOULD SAY TO MY FORMER patrons and others, that I have made arrangements to return to this Island, for the purpose of rearing pure and reliable Queens, and would solicit a liberal share of patronage.

My Queens will be bred from mothers imported direct from Switzerland, Italy, where they are claimed to be the most uniform and bright in color.

This beautiful Island, (two by four miles in extent,) is situated twelve miles out in the Lake, opposite Sandusky City, Ohio, and as there are no black bees kept there, undoubtedly the Queens I shall rear will be as pure as though reared in Italy.

For further information, price list, &c., address, **AARON BENEDICT,**
Bennington, Ohio.

After 5th month (May) 20th, to 9th month (September) 20th, address me at Kelley's Island, Ohio.

GRAY'S IMPROVED HONEY EXTRACTOR

The best geared machine in the market has been in use for the last two seasons, and gives universal satisfaction, I could give many very flattering notices (See Bee Journal for 1872.) and recommendations of the superiority of this Extractor over all others. It has taken first premium over all others wherever shown, at State and County Fairs. Price reduced for 1873.

GERSTER'S WAX EXTRACTOR,

This machine was imported and introduced by me, two years ago, and has proved to be just what the Bee-keepers need for rendering their refuse comb. The wax after passing through this machine, sells twenty-five per cent. higher than ordinary strained wax.

Imported and Home Italian Queens.

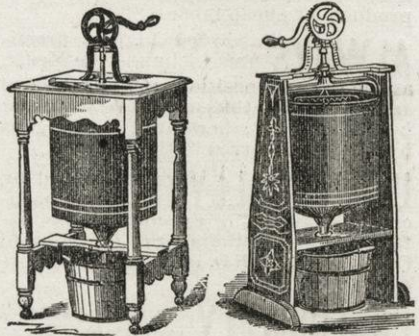
I shall this season have two apiaries for rearing queens, located eight miles apart, Home Apiary No. 1, stocked with those light colored Italians, and their crosses which has been the admiration of all visitors, Apiary, No. 2, will contain nothing but imported queens direct from Italy, (not Italian Switzerland,) and young queens fertilized by drones from imported mothers. I shall make a speciality of importing queens this season direct from the best apiaries in Italy. For further particulars address with stamp, **A. GRAY, APIARIAN,**
REILY, BUTLER CO., OHIO.

Get the Latest! Get the Best!

IMPROVED GEARED ROTARY

Honey Extractor,

FOR 1873.



No. 1.

No. 2.

Manufactured for the Patentee,
under Letters Patent Granted
January 7th, 1873.

For Extracting Pure Honey from old or new Combs, without breaking or injuring them, which are afterwards returned to the Hive, to be again refilled by the Bees.

Thankful for the liberal patronage bestowed on me for the past two years, under the firm of Gray & Winder, (now dissolved), and desiring through strict integrity and promptness to business, to merit your future favors. I again call the attention of the amateur and bee-keeping fraternity to my card.

My facilities for manufacturing and furnishing Apiarian Supplies, of all kinds, are much increased for the coming season, and I will be able to fill all orders with promptness and dispatch.

For the Geared Rotary Honey Extractors (improved and patented for 1873). Wax Extractors, Safety Feeding Queen Cages, Frame Hives made complete, or cut ready for nailing, Glass Honey Boxes, Honey Knives, Bee Veils, Rubber Gloves, Bee Feeders, One, two and three pound Honey Jars, Corks, Foil Caps, and Illustrated Gilt Labels to suit.

Pure Italian Queens, Imported and Home bred, also, pure Queens, bred on Kelley's Island, in Lake Erie, 12 miles from bees on main land, from *Imported Mothers*. Alsike and White Clover seed. Sacharometers, Atomizers, Copper-faced Bee Cuts, Bee books and Journals, also, Wood Cuts of Hives, etc., made to order.

For further information please send stamp for my 16 page Illustrated Circular, and *Apiarian Supply Price List*, and address all orders to

J. W. WINDER,

(Successors to Gray & Winder), Importer and Breeder of Italian Queen Bees, No. 132 West Fourth Street, Cincinnati, Ohio.

MASON & HAMLIN Cabinet Organs.

THE ONLY American Musical Instruments of such extraordinary and recognized excellence as to command a wide sale in Europe, notwithstanding competition there with products of cheap labor.

ALWAYS awarded highest premiums, including the Medal, at the Paris Exposition. Of hundreds of Industrial Exhibitions, there have not been six in all where any other organs have been preferred to these.

UNIVERSALLY recommended by eminent musicians as possessing excellencies not attained in any others. See opinions of ONE THOUSAND, in Testimonial Circular.

EXCLUSIVELY employing several important inventions and embracing every real improvement.

THE MOST EXTENSIVE and complete factories in the world, producing better work at less cost than otherwise possible.

PRICES FIXED and as low as consistent with scrupulous employment of only best material and workmanship.

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DISSOLUTION.

The firm of GRAY & WINDER is dissolved by mutual consent, same to date from Nov. 1, 1872. Mr. J. W. Winder will succeed to the business of the late firm, which will be continued by him and all amounts due to the late firm will be paid to him, and he will pay all just claims against the firm.

A. GRAY.

J. W. WINDER.

Cincinnati Daily Commercial, Nov. 18, 1872.

THE UNITED STATES ACCIDENT Live Stock Ins. Co.

INDIANA.

Capital Stock.....\$100,000 00.

WM. A. SCHOFIELD.....President.
WM. BLUE.....Vice President.
JOHN KEEFFE.....Secretary.

TRUSTEES:

WM. A. SCHOFIELD. | J. BUTTERFIELD,
T. H. F. PECK. | J. B. ROOT,
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This Company insures against deaths by accident or disease, or loss by theft.

AGENTS WANTED

In every County in the State.

Report of the United States Accident Live Stock Insurance Co.

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List of Losses paid by Company to date,
January 1, 1873.

Robert Morrow.....	Mare.....	\$90
Martha J. Wiseman.....	Horse.....	100
Fred Buchanan.....	Horse.....	150
Field, Locke & Co.....	Horse.....	100
R. Duncan.....	Horse.....	125
Sheals Bros.....	Cow.....	30
Chas. Asmus.....	Horse.....	50
H. B. Stout.....	Mare.....	100
Jessie Adams.....	Horse.....	50
H. Bailey.....	Horse.....	100
Wm. H. Henschen.....	Horse.....	150
Abel Catterson.....	Horse.....	200
Keeney & Davenport.....	Horse.....	100
P. E. Domon.....	Mare.....	100
Jacob Mattern.....	Horse.....	80
".....	Horse.....	61
Daniel Gorman.....	Horse.....	75
Menical & Landers.....	Three Hogs..	21
Geo. Scott, damage on.....	Mare.....	75
Franklin Landers.....	Twelve Hogs	84
Jackson Record.....	Two Hogs.....	14
John Wilburn.....	Horse.....	200
J. C. Anderson.....	Horse.....	200
M. S. Leake.....	Mare.....	100
George Rowe.....	Mare.....	50
Henry Poppenhouse.....	Horse.....	69
Samuel Beck.....	Horse.....	35
F. Bawbury.....	Horse.....	100
W. W. Anderson.....	Mare.....	150

JOHN KEEFER, Secretary.

GEORGE C. STEINHAUER,

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