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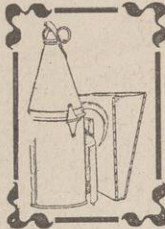
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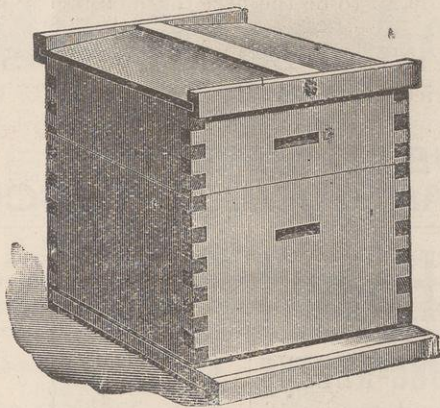
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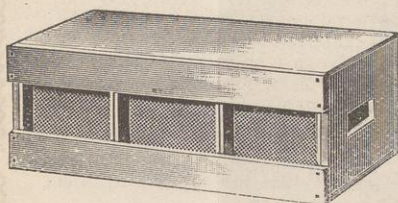
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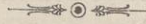
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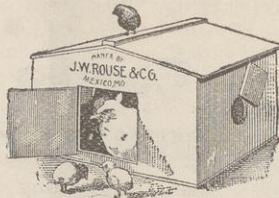
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GOOD THINGS IN THE BEE-KEEPING PRESS

SOMNAMBULIST.

In any calling or profession, enthusiasm weilds a master hand. But apparitions will persist in presenting themselves which, despite all efforts to the contrary, send the cold chills down the back bone and set the knees to trembling. Incompetent help is a specter which threatens many a man's business

interests, and none more than the bee-keeper.

The subject of apiarian help was lightly touched upon in November's Review. W. Z. Hutchason has often intimated that, if through any suggestion he might offer, a train of thought could be started which would bring out the best there was to offer on a given subject, he would have accomplished all he hoped for. I truly hope the prompting he has given this time will start the ball to rolling until this subject, in which all are virtually interested, shall have been treated with the respect it deserves. In a little discussion with Mr. Hyde he took the ground that he did not want any partnership; would hire the work done. Mr. France approved with a slight variation or proviso, "would hire the help if he could work with it."

The Hyde Bee Co. owns and manages 1,500 colonies of bees, keeping them in 10 different yards, and it is absolutely necessary that someone aside from the owners do part of the work. Mr. Hyde had found the most desirable plan to furnish everything necessary for running an apiary, keeping a strict account of all expenses, then after the

season was over and the expenses paid, a certain portion, say one-fourth or one-third of the balance was paid to the worker as his share. It will be seen that it is to the advantage of the worker to keep down expenses as the greater the balance at the end of the season, the greater will be the share that comes to him.

The editor further cites an instance of where a young man bought bees at three dollars per colony and gave one half of the honey crop to the attendant making good money for both. He wisely concludes with, "While this question is a serious one, it can't be settled in a bee journal any further than to say that each case must be decided on its merits—what is best for one man may not be so for the next man. Were good honey crops always to be expected Mr. France's ideas could not be improved upon. And right here locality would step in and demand recognition but notwithstanding the many ifs that would present themselves for consideration, I for one, would like to see this subject thoroughly ventilated in the journals during this winter, while we are laying out the coming season's campaign.

This sentence occurs among his editorials: 'A man sometimes waits until he is 'dead sure' before venturing, only to find that some other fellow who has taken a few chances has got there ahead of him.' That's just it, at the beginning of the season, the owner chances his all, while a hired man risks nothing. Should the season be a good one the owner will gain by paying cash for help, but the reverse is true in a poor season. Like most things this subject has two sides and some there are who would contend that to 'the laborer is due his hire,' while owners of apiaries would undoubtedly think something was due them, in the way of interest on an investment which usually represents labor of some kind in

the past. The partnership plan would even up matters between them. Were bee-keeping knowledge more generally disseminated, incompetent help would prove a less formidable specter. Speed the time when said condition may be confidently expected. Then we can more safely follow the advice of W. Z. and "keep more bees." He is emphatic as to the fact that it is just as necessary to know what not to do as to know what to do, in which he will no doubt have the united support of all bee-dom.

A few of Mr. E. B. Tyrrell's ideas are given which are interesting. He makes his frames without the projecting ends and for a support he drives a six penny finishing nail into the frames about half an inch below its top. The ease with which the frames can be handled being the favorable point. What a pity to deprive "ye buisy bee" of the delight she seems to experience in gluing up things snug and tight. Then there are those who want to deny her the privilege of swarming. How many privileges will this thing called progression curtail or cut off? Or where will it all end one can imagine the little workers saying? To be strictly truthful propolis has its advantages, by it the frames are "fixed" as securely as by any patent device of man. Were the hives for the most part to remain stationery, the gluing process would be worse than useless and the nails would have the best of it. "Ye busy bee" commands our admiration while plastering up the crevices of her abode against the rigors of a coming winter, much the same as many of God's creatures, from the lowest order all the way up to genus home, for the sake of comfort or self preservation. Mr. Tyrrell seems to "want the earth," as he uses it for bottom boards. Here is a description of his methods, or getting something out of nothing, as given by the editor of the Review. By the way the people

who succeed in wrestling something out or seemingly nothing, or perverting the common use of anything so as to compel its service in accomplishing their ends are the successful characters we meet along life's pathway.

A "DIRT-CHEAP" BOTTOM BOARD.

Mr. E. B. Tyrrell of Davidson, Michigan, has been using a bottom-board this year that is literally and figuratively "dirt-cheap," in fact is dirt or earth. First, the hive stand is made of rough, inch lumber sawed into strips about three inches wide and nailed up so that the stand is the same size as the bottom of the hive. In fact, it is a shallow box, three inches deep, without top or bottom, but the same size of the hive. I said it was three inches deep, but the front piece, the one that comes below the entrance of the hive, is only two inches wide. The stand is placed in position, leveled up and then filled with earth or sawdust, to within an inch of the top—just level with the top of the piece forming the front. When the hive is set upon the hive stand the bottoms of the frames come about an inch or a little more from the earth below.

At first thought this seems like a very rough, primitive affair, as though simply using the earth for a bottom board would not answer, but it is difficult to say why. Mr. Tyrrell has used this kind of a bottom-board in one apiary all of the past summer and he says that he has been unable to discover any objection.

If it is desired to move a colony, simply turn the hive-stand bottom side up, lay a piece of burlap or wire cloth over the hive stand, set the hive upon it and fasten it there and the hive is ready for moving. The narrow front piece of the stand allows ventilation, even if several hives are stacked up one above the other.

I have no desire to be compared to

the far-famed Missouri mule, of which we are all justly proud, but we have another animal which though not famous, principally because of no commercial value, is capable of making things quite interesting when allowed to take a hand. I refer to Mr. Field Mouse. I am sure he would give some body's dormant inventive genius a chance to spring into activity in the way of discovering contrivances to keep him out of business. Call this kicking if you will but "there's more truth than poetry in it." Mr. Tyrrell has not as yet succeeded in turning the world upside down to at once utilize it as top covers as well as bottom boards so he is seeking his best way out and has been experimenting with some of the patient roofing.

As W. Z. H's. account of it is bristling with practical points I give it in full.

A CHEAP COVER THAT CANNOT WARP, WIND OR SPLIT.

When visiting Mr. E. B. Tyrrell, of Davison, Michigan, recently, I saw a hive cover that was quite novel and possessed of several desirable features. First, it was cheap; next it would not warp nor wind, unless the hive was winding, when it would fit itself to the hive. It is made of two-ply Parold Roofing Fabric. This material is about $\frac{1}{2}$ of an inch in thickness, black in color and almost as tough as leather. It has no tar about it, in fact is odorless. The cost is 2½¢ a square foot. Enough for a hive cover will not cost over five cents. Mr. Tyrrell cuts out a piece as large as the top of the hive and about two inches longer. To the lower side of each end where it projects the inch beyond the hive, is nailed a $\frac{1}{4}$ square strip of wood as long as the width of the cover. These strips of wood keep the ends of the cover straight and in place. Across the top, over the cover, equally distant from one and other and from the ends

of the cover are tacked two $\frac{1}{4}$ inch square strips of wood as long as the cover is wide. These strips keep the cover out flat and straight—from sinking down or hollowing in the middle.

Mr. Tyrrell has used these covers one season in one apiary and has two faults to find with them. First, they are so light that the wind will blow them off more readily than it will a wooden cover. After the bees have glued them down they stay on all right, but at first, before they are propolised, there is a need for a little weight to keep them on if much of a wind should come up. He had several blown off during the season.

The other and more serious trouble is that when the fabric becomes hot, as it does in the middle of a hot day, the surface peels up when it is glued to the hive. That is, it peels up when the cover is pulled off when stuck down with propolis. It is proposed to remedy this by pasting or gluing or "painting on" a lining of cotton cloth—perhaps emameled cloth, the same as is used so much to cover the tops of frames. I told Mr. Tyrrell that there was one more fault: "You couldn't sit down on top of a hive." "That's all right," said Mr. Tyrrell, "I don't want any sitting down in my apiary."

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MAKING VINEGAR OUT OF HONEY AND WATER.

BY C. P. DADANT.

If you simply mix the honey and water so that an egg will fairly float at the top, showing about the size of a dime out of water, it may be sufficient or it may not, according to the amount of ferment contained in the honey, and also according to the temperature after the mixture is made. To make vinegar there must be an alcoholic fermentation previous to the acetic, and the more thorough the first fermentation is, the better the acetic fermentation will be.

In order to hasten the fermentation, it is best to add some fresh fruit-juice to your honey water. Then, if the liquid is cold, or if the temperature is low, it is best to heat the liquid till it reaches about 90 or 100 degrees. If it is kept warm, the fermentation will soon begin, and if it remains exposed to the air it will be but a short time till the sour taste begins to show.

We never allow any honey to go to waste. The washing of the cappings in a well-regulated apiary will furnish enough vinegar for two or three families, even if only a few hundred pounds of honey have been uncapped. In a large apiary the cappings are first drained through the uncapping-can in a warm room till they seem perfectly dry, and even then several barrels of sweet liquid can be secured from the washing of the cappings of 15 or 20 thousand pounds of honey. We figure that each thousand pounds of honey extracted gives us about 15 pounds of beeswax from the cappings, and, perhaps five gallons of sweet water fit to make good vinegar. So the apiarist should never render his beeswax till it has been thoroughly washed.

Vinegar that will not sour may lack two or three things, which are all needed. Sufficient warmth, as stated

above. If all other requirements are right, it will still be impossible for vinegar to sour if the weather is cold. A good place to keep a gallon of vinegar is right behind the kitchen stove. In a few days a jug full of mild vinegar will become very sour. Do not cork it tight, but cover the mouth with a cork. A wide-mouth jar covered with a cloth is still better.

Air, that is, oxygen, is needed. The making of vinegar is simply the oxidizing of the sugar contained in the liquid. No change may take place unless air is, or has been, supplied. For that reason the vinedarist keeps his barrels of wine full, and bunged tightly, that no air may reach the wine. If, perchance, a barrel remains open, he soon has a barrel of vinegr instead of wine, and the better the wine has been the better the vinegar will be.

Sufficient sweetness is needed. If the directions I give are followed, a good article of vinegar will be produced. If you want to put the honey by weight, put not less than 2 pounds of honey for each gallon of water. A less quantity may make fair vinegar if too strong, by the addition of a little water when you wish to use it, than to strengthen it by adding more honey after it is partly made.

A very good inducement for any

sweet or alcoholic liquid to turn to vinegar is the addition to the liquid of what is called "vinegrrr-mother"—the viscous, ropy matter which is usually found in a barrel of good vinegar. This "vinegar-mother" contains the principal ingredients that go to make vinegar, yet it will add strength to the vinegar very promptly.

So, if you happen to have some old vinegar that has been long standing, you can soon strengthen your new vinegar by adding a little of this "mother." Do not listen to those who will say that this is a disgusting looking residue. It looks no worse than an oyster does. Vinegar containing this residue is sure to be pure and wholesome. Vinegar made from chemicals does not contain any mother, neither does it contain any organism.

The more air the vinegar gets at proper temperatures, the quicker the vinegar is made. Manufactures of first-class wine-vinegar in Europe often drain their vinegar through a barrel full of shavings slowly, drop, by drop, so as to give it a chance to air. In this way the best vinegar is made.

If you have no fruit-juices to add to your vinegar, a little cider will help to give it a start.

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THE USE OF FORMALDEHYDE.

BY J. E. JOHNSON.

I see the editorial writer of the *Progressive Bee-Keeper* has got his dander raised a little on this formaldehyde treatment of foul brood. That is right, "keep agoin'." I believe formaldehyde is the means of a quick, very sure way of curing foul brood. Now I have not had foul brood in my apiary, so I can give actual experience, but I have several volumes of the best authority on bacteriology, or germ life, in the world and I will add a few points which may prove helpful.

It is emphatically necessary that we understand both what these germs are and how the treatment of gas affects them. First formaldehyde is a gas; you can't buy gas on the market. Formaldehyd is a 40 per cent solution of this gas in water; there is no preparation stronger than a 40 per cent preparation; however it is sometimes called a formaldehyde solution.

I talked with several bee keepers at the Chicago convention, who had tried this treatment, who said it did not amount to anything, and that some of the formalin bought on the market proved to be only acqua-amonia.

Now I recommend if you want to try this treatment, go to a good young doctor, who is a graduate on both bacteriology and chemistry, (or rather they have parred up on those studies) get them to send for the formalin for you, then you will get what you order and whether you get formalin or formadehyde solution of 40 per cent strength, it will be identically the same thing. Then when the gas is separated from the water, that gas is formaldehyde. Now don't forget that this gas does not kill germs at all, but when in the air it exodies into formic acid, and it is the acid that is a germicide. It is as necessary to have air as well as gas to form

this acid, and where ever this air and gas reaches, there will be constant forming of acid. Even honey contains air and probably gas may penetrate into the honey if given time, but this would take a long time and probably would not be practical to try to disinfect honey in combs, but brood, even in the larva state, lives to some extent from the free oxygen of the air and gas would penetrate to this brood and form this acid all through the brood comb.

It is entirely possible to kill every germ and not injure live brood. It is not so particular to have this solution so strong as it is necessary to continue the treatment a long time and have combs moist and in proper temperature, 98 or 100 degrees F. A 20 per cent solution continued for 2 hours would possibly be as affective as a 40 per cent solution for 1 hour, as it would depend upon how much formic acid it yielded. The gas can be driven off by heat, or it will gradually leave the solution as the water evaporates, if applied cold below combs and given a little draft below and above.

No doubt if mild fumes of formaldehyde is made to pass through a hive of working bees, that is when brood is being reared in warm weather, no matter how bad combs are affected, providing there are bees enough to cover them, a complete cure might be effected, because at no time are germs as tender and as easily killed as when in a state of active probagation. Formaldehyde is not as dangerous to animal life as other gases, and a pretty strong gas could be in a hive of bees without killing them, but if too strong they would probably become uneasy or abscond.

Mr. Geo. Hinkley of California claims to have cured hundreds of colonies of foul brood by applying formaldehyde and water of $\frac{1}{2}$ each, merely sprinkling on bottoms boards of hive of live bees 3 times 2 weeks apart, as reported in *Gleanings*. To mix formaldehyde and

water $\frac{1}{2}$ each is an impossibility, but I presume he means formaline or formaldehyde solution. If so then it would be a 20 per cent solution. Mr. Hinkley deserves credit for this, and although the editors of bee journals don't seem to believe it possible, yet to me it seems right and the proper way of treating the disease.

Williamsfield, Ill.

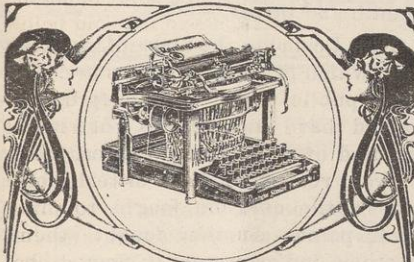
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THE USE AND ABUSE OF THE HONEY-BEE

BY FRANK YAHNKE.

Read at the Minnesota State Convention in
Dec., 1902.

The little busy bee was in the Garden of Eden to fulfill its mission of pollenizing the flowers and gathering the honey for the unborn generations. When Adam tilled the soil the honey-bee was with him, and it has been taken wherever civilized man has gone. All the ancient writers mention the honey-bee, and the usefulness of its product. Homer, Herodotus, Aristotle, Varro, Virgil, Pliny and other ancient sages, composed poems, extolling the activity, skill and economy of the bee. In the Hebrew language the word *ghoneg* means delight, and where is there in the wide world an article more precious for food or medicine?

Ovid, when describing the feast of the gods which required costly ailments and precious wines, says: "The delicious honey-cakes were never wanted."

In the statute books of ancient natives, laws are found for the protection of bees. The thief of a swarm of bees, according to old Saxon laws, was punishable by death. The old Bohemian people believed that it was a sin to kill a bee.

The honey-bee is just as useful now as it was in ancient times. In my younger days I planted, every year, a piece of cucumber for pickling, and was troubled greatly in the blossoms not setting fruit. I then began to keep bees, and that remedied the trouble.

How often our apple crop would be a failure if it were not for the aid of the honey-bee! The product of the bee is as useful as it ever has been.

"Honey is a food in one of its most concentrated forms. It gives warmth to the system, arouses the nervous energy, and gives vigor to all the vital functions. To the laborer it gives,

strength, to the business man mental force. Its effects are not like ordinary stimulants, such as spirits, but it produces a healthy action, the results of which are pleasing and permanent—a sweet disposition and a bright intellect.

Karl Gatter, a German teacher of the city of Vienna, says: "In medicine, and especially in the healing of wounds, honey was used as a universal remedy already in early times. It yet constitutes the principal ingredient of several medical preparations, and is used with the best results in many internal and external diseases. It serves as a means for taking powders, for the preparation of salves, and the sweetening of medicine.

Honey is also of great value as a medicine for children, and is readily partaken of by them as a choice, dainty dish. For the removal of worms, honey has often been beneficially used, and it is often used in disease of the mouth and throat."

Now I come to the abuse of the honey bee, which is not as old as its use. The first public abuse the honey-bee received that I know of, was when it was accused of puncturing grapes. Most of you remember how bitterly both sides of the question fought to prove their point. Another fought against brother, and even went to court about it. To-day it is proved beyond all doubt that the honey-bee does not puncture grapes, or any other fruit. If a man now would claim that honey-bees punctured grapes, he would be looked upon as an ignorant man.

The latest abuse of the honey-bee is the spreading of blight. Let us look at this a little. Professors claim that the bees carry blight in nectar from flower to flower. How this can be done I do not know, for bees carry nectar in the honey-sac and I have never seen this leak yet. If the nature of blight

is rightly understood, it will be found that blight does not begin in the flower, but that the dying of the flower is the result of the blight in the wood.

Experience has proven to us that in orchards where bees work extensively on the blossoms, there is the least trouble with blight, and in cases where there were no bees the trees were infested by blossom-blight.

I will not discuss the question longer in this paper, but I think it's very unwise for authorities to publish such theories in magazines (which everyone looks upon as good authority), before it is proved beyond reasonable doubt that bees are guilty of carrying blight.

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This is a remarkable offer the John A. Salzer Seed Co., La Crosse, Wis., makes. They will send you their big plant and seed catalog, together with enough seed to grow

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ALL FOR BUT 16c POSTAGE providing you will return this notice, and if you will send them 20c in postage they will add to the above a package of the famous Berliner Cauliflower. F. P.

A "Dirt-Cheap" Bottom Board

The Bee-keepers' Review for November describes a bottom-board that costs **absolutely nothing**. This may seem strange, but it is strictly true.

This same issue also describes a cover that will neither warp, wind, split, nor twist, yet it can be made for five cents.

Another interesting feature of this issue is the description of a cheap, but novel method of supporting brood-frames, in which the point of contact is so small that gluing of them fast is almost impossible—they can always be picked up with the fingers with no prying loose.

Send \$1.00 for the Review for 1904, and you will get, not only this November issue, free, but all of the other issues of this year. In other words, as long as the supply holds out, all of its numbers of this year (1903) will be sent free to the man who sends \$1.00 for 1904. This year and next for only \$1.00.

W. Z. Hutchinson, Flint, Mich.

The Progressive Bee-Keeper.

A journal devoted to Bees, Honey and Kindred Industries.

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R. B. LEAHY, Editor and Manager.
F. L. THOMPSON, Editorial Writer.
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A TEXAS HONEY-PRODUCERS' ASSOCIATION has been formed by the bee-men of southwest Texas, according to page 745 of the American Bee Journal. The reader may remember a little sparring I had with Mr. Hyde on the subject of forming such an association in Texas, in which he took the ground it wouldn't pay Texas bee-keepers to do any such thing. They seem to have made a good beginning, having disposed of nearly 15 tons of honey during the month of September, controlling nearly 5000 colonies, with 500 assessable shares, of \$10 each, all subscribed for. The following remarks are rather significant: "Commission men and others, who, at the outset, looked upon the association with contempt, are now upon a tottering fence, or have fallen entirely upon the favorable side, owing to the quiet but determined policy now pursued. Agents of trusts are now placing bids with them and making desperate efforts to make prices that will defy competition for the present, when, according to the golden rule of the trusts, the producer, or rather consumer in this instance, must suffer. With the efficient anti-trust laws of Texas and the indignant determination of the bee keepers, it is safe to say they will live together, or die together in the attempt." I didn't know there were any honey-buying trusts, but I have heard of bee-supply trusts. Any connection, I

wonder? It will probably be thrown at the Texas bee-keepers that they are themselves forming a trust, as it has been thrown at us in Colorado. If they do as we do, however, there will always be an essential difference between a honey-producers' association and a trust, namely, that the honey-producers' association, as an association, does not need to make one cent of profit, because all its members are producers and only need to make a legitimate producers' profit; whereas the members of the trust, being non producers, must make an additional profit in order to do business at all. Trusts are evils not because of the trust principles, but because they make a non-producers' profit that goes to non-producers, just as unnecessary middlemen are an evil, because they make a profit that should go to the producers. This, of course, is not saying that the really necessary middlemen (or the really necessary trusts for that matter) should not be classed among the producers, for they are supposed to do the things helpful to production that direct producers absolutely can not do. But it is human nature that there should always be large numbers of those who are trying to edge into business that has no real need for them and consume its profits, and it is this condition of things, not middlemen or trusts as such, that we should constantly fight. There is much, very much, that bee-keepers can do for themselves in a combined way, that they ought to do; but, of course they will be opposed by those whose private profits are in danger of being diminished by such action. By the way, what has become of the Texas department in the Progressive, which should have given us the news? I note with interest that Mr. Stachelhausen and Mr. Davidson are among the directors of the new association. Success to it. It stands for the legitimate interests of bee-keepers and should, receive the

loyal support of all who have those interests at heart.

FOUL BROOD has been ventilated at every convention I remember, but never was it brought out so clearly how detrimental the shaking part of the transferring system may be, and how it may be managed without harm, as at the last Colorado convention. The readiness of bees to enter adjoining hives when returning from the short flight caused by a disturbance and alteration of the characteristics of their old home is known, but not as well as it might be; and if those bees are laden with infected honey and it is a time when the honey-flow is not heavy, there is great danger that the disease may be carried. It is also known, but not so well as it might be, that bees which leave the hives in a natural way to go into the fields do so with empty honey-sacs, and if those bees return to other hives than their own, no harm is done. Putting those principles together with the Heddon plan of transferring, Mr. Aikin has evolved a plan that will be novel to many. When there is a honey-flow (this is essential) and the diseased colony stands by a healthy one of some strength, he moves the diseased one to a new location, next to another healthy colony. He repeats this several times at intervals of a week. The result is that this colony is so depopulated by losing from time to time those bees that are able to fly, and so little honey is gathered by it that towards the end of the season there is very little else in it but foul brood, and it is easily attended to.

The final move being made in a corner of the yard where no healthy colonies stand near, the shaking progress may then be resorted to without danger and if there were several diseased colonies, all moved the last time to the corner, and the shaking of them all is done at the same time, the same is true.

As each one will be pretty weak, they will need uniting rather extensively. But there is no real loss, aside from the ravages of the disease, as the flying bees lost by the colonies join others. Of course it is quite necessary that this should all be done during the flow, as otherwise such colonies would become an easy prey to robbers that would spread the disease.

DANGER FROM BOILING WAX, another old story, was given a good illustration by the experience of Mr. H. Rauchfuss. Recently he was melting wax in his honey house by means of water in the same can. He put on more coal and went to dinner—something no man should ever do when he would leave heating wax behind. Of course it boiled over, and by the time he arrived on the scene the flames had travelled along the ceiling to the other side of the room. Thinking that the room was doomed, he rushed around the outside to save some other things; but his assistant, Mr. Steele, entered the room a minute later with a bucket of water, closed the door behind him and dashed the water against the hot stove. The flames went out all over the room as quick as a flash. The sudden volume of steam had simply choked the fire.

FOREST PRESERVATION occupied quite a little time of the convention in listening to remarks made by the President of the State Forestry Association and others. Though this effects many others besides bee-keepers it is one of the most important considerations that directly effects them, not only in Colorado, but in the whole region that is dependent on irrigation; and not only in the irrigated region but also wherever forests have an influence on rainfall. Reservoirs will do much to save plant growth, but they are very far from taking the place of forests at the headwaters of streams.

Government works in this state have been proposed in three localities, to handle the waters of the South Platte the Grand and the Gunnison. The average flow of the South Platte river has been reduced to such an extent that it is not enough to fill the reservoirs now in existence, after satisfying the holders of other water rights. A Government reservoir to take the flow of the Grand river is more feasible, but the several ditches now constructed or being constructed have enough capacity to take it all. The Gunnison river tunnel project, to take its water over into the Uncompaggre country, is the most feasible, but the Gunnison river is now so low that it is considerably less than the tunnel will carry. It is therefore absolutely demonstrated that denudation of the forest slopes is one of the prior causes of the lack of water. There are now three forest reserves in Colorado, covering an area of 4,943 square miles, only a small portion of that which should be included. The State Forestry Association proposes to petition the Secretary of the Interior to reserve everything on the high mountain ranges above 8,500 feet. The reasons assigned in the petition are that agriculture here is almost entirely dependent on irrigation; that the portion of irrigation coming from the high mountain ranges is dependent for the quantity and quality of the flow, on forests, and that the effect of careless removal of the forests on these mountain areas has already tended to dry up the streams and fill up reservoirs and canals with sediment. After the disasters of the season of 1901, showing the close connection between irrigation and honey-production, Colorado bee-keepers cannot fail to see that this move vitally affects their interests; and eastern bee-keepers may well take a hint, for forests affects rainfall and plant-growth in various ways.

What's the Use?

What's the use of worrying?
Fretting doesn't pay.
What's the use of hurrying?
It's the slowest way.
Half the whims that worry you
Never will come true;
Then why let them flurry you
As you daily do.

Live your life out easily,
Then it will be long.
Take what happens breezily,
Whistle, sing a song!
Don't waste strength in worrying
Over phantom ills;
Don't waste time in hurrying,
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FROM OWL CREEK, WHERE THE PEOPLE "KNOWS A HEAP"

BY BESSIE BOND.

Say, Mr. editor, I have been living for the past two yrs away down on Owl Creek where they "know a heap" and I'd like to give the public a few lessons in "Practical Bee-keeping up-to-date" just as I learned them myself. It is natural to suppose that I would give way to vanity and pride myself on knowing a little about bees, after bowing in submission at the foot-stool of those old patriots, Root, Doolittle, Leahy, Atchley and all the rest for six or eight years, then to find out they had been teaching me the wrong idea—it almost makes me shed tears of blood. But Christ, you know, always sends a comforter in times of need; so I have lived over it, if I never get my face straight again.

Well, my comforter came in the shape of a good old Indian neighbor, Will Murphy by name, and he has been kind, indeed, to open my eyes to many things. In the first place we should not use the frame hives, it takes too much money, time and lumber to use them, when its no trouble to saw a hollow log into 3 foot lengths and put in a few cross-sticks to have a hive just good enough—for—well, its good enough for the people on Owl Creek, and they require the best. You simply throw your money away when you invest it in lumber to cut up in such small pieces to make hives and frames. When I learned that if I expected any honey I must feed the bees sugar syrup the whole year round. Experience goes far naught away down here on Owl Creek, where the people know "a heap." The next I learn we should not keep less than six queens to the hive and none of them needs fertilization. This old time way thinking the

drones were hatched direct from the cell, for any known purpose, is all a mistake, and his name is not drone, either. When he first comes out of the cell, he is only a little worker bee; then he flies out and stings something or somebody, loses his sting and turns to a king; then he returns to the hive and "Lords it" over the rest, because he is the "biggest pebble on the beach."

You old patriots that have been telling us all along that the bees only lives 30 and 60 days through working seasons, I want you to know I have learned better at last. They are like people and unless they happen to take some disease or get killed accidentally, they will live out their three score and ten, and always live in the same old hive. They rear a big bunch of children [young bees] every year, but they only keep them till they are one year old, then shove them out to keep their own house and multiply seeds of their kind for the next generation.

Now you want to know how I learned all this, and I'll try to tell you. When we first came here, with a few colonies of bees, right fresh from a warm climate, where the hives were left in the apiary all winter, we did not have sense enough to protect them from the hard winter that followed after our arrival, so we lost them all. It was from seeing those old empty hives, that my friend Murphy first began to teach me apiculture up-to-date. After taking lessons about twelve months, I thought I knew enough to start up business again on a small scale, so I ordered a 3-frame nuclei to begin with; but as I had no log gums I had to use my old supplies. The bees were Holy Lands and the graetest warriors I ever met. But friend Murphy had never been stung by a bee, therefore he grew very enthusiastic over the bees every time the subject was

broached and we'd have a perfect bee convention every time we met. I ached all over for some fun and the 3-frame nuclei had increased to 30-frames and they were all strong and active. It came a day—a long lonesome day—when I knew not what to do to awake me out of the "blues" but the devil came into the flesh and whispered "get your friend, Will Murphy, to look through the bees," which of course, I, being in the world, obeyed the flesh and the devil, and it no sooner entered my mind than I snatched up a sun bonnet, slapped it on my head and went tearing off down to Murphy's to ask him to come up and see how my bees were getting along.

"Can't you see for yourself?" he asked.

"Yes, but they'd sting me," was the reply, "besides I want you to see what progress they have made in the few months I have had them."

"You don't mean to say they have got any honey?" said he, looking sideways at me, out of the corner of his eyes.

"Yes, they have plenty to last them this winter and we have taken about 15 lbs from them a week ago."

"Now look here that sounds fishy. Did you not tell me you had never feed your bees anything?"

"Sure, we have not!"

"How do you expect them to make honey then, with nothing to make it out of?" said he very indignantly.

"Say Will, I thought you was a red man; if so, you should know this is a good bee country and what bees are doing well now, with so many bloom-plants and alfalfa fields all around them."

"Well, I'll go see about them," with a broad grin and a wink at Mr. Foster, his friend who is boarding with him. "But," he continued, "you'll always wish I hadn't, for I'll tell you now,

while its not too late to back out, there is not another mortal man that loves honey half so well as I do." "Oh, I aim for you to have all the honey you can eat, but I have enough in the house for that purpose, so you need not take any out of the hive. Is it a bargain?"

"Sure, but I want to see it first and if it is not bee-honey and a plenty of it, I'll have all I can eat if I have to turn that old hive bottom side up and kill the last bee in it."

"All right, if you can do that you are a soldier, but I'll warn you not to handle them too rough—you might rouse their Irish," said I rather knowingly.

"If they have any Irish about them they have more than any others I ever handled. They will run you off the place but they will not try to sting me."

"Say Will, did you ever handle any Holy Lands? if not you had better fix yourself, for they will greet you with a holy kiss before you know it."

"No but that is only a name. Those you have are only these little old blacks with a new name; but all the same they'll not attempt to sting me. You think you'll have a picnic seeing those bees sting me, and I know I'll have a picnic when I get into that dish of honey." So with a laugh and a jist we started for my house, all his kids, besides everyone in the neighborhood, following. I stopped suddenly, holding up a warning finger:

"I'll tell you, kids, this will not do. You are all welcome at my house, if you come when we are not disturbing the bees, but if you go up there now, I will not be responsible for your well-fare."

"Will the bees give me a holy kiss?" said one little girl called "Cub" for short. "If so I'm going, for I want to know what it is."

"Well, thought, I experience is the best teacher after all, for the people living on Owl Creek, where they know

a heap.' So I said no more but by the time we reached home, at least a dozen, between the age of 6 and 14, both boys and girls were tagging at our heels. "Hubby" greeted us with a broad smile, but he did not give me away, as I expected he would, for he is "up to my tricks and manners." He lit the smoker, and offered them a veil. I forgot to say Mr. Foster came too, but "no" they thanked him; they had no use for either article—they were not afraid of the bees. Then my conscience smote me, and I begged them to use a veil and smoker, or else not go about the bees. But with all our entreaties we could not prevail upon them to do as we asked. So into the bees they went.

"Well, go it hard-head, and see what you come to," was my parting shot, as Old Nick once more entered my heart and I did not care if they did get a few stings. However, I did aim to try to protect the kids, for they did not have the least idea what they were getting into, having never seen a bee till they saw mine, which was always peaceful when not molested. I will also explain that at this time we had a large tent attached to the dwelling in which we slept in warm weather, and the bees were situated just back of that. Now I began closing up the ends and sides of the tent, with all those children on the inside. Some of them, of course, had to have a hole to peep out at, and those that could not find one ready-made did not hesitate to make one, and with all my scolds and threats, I could not keep order.

But through the din roar I heard my own name called from the outside. "What is it, Will?" He made no reply.

"Did you know that when a bee stings it leaves it's stinger?"

"No, Will—do they?"

"Yes—no—yes—Jeminy Christmas but can't they sting?"

[To be continued.]

GIVE ME MY DREAMS.

Give me my dreams. All else is naught.
At price of pain success is bought.
We struggle upward but to fall,
The prize we grasp but holds us thrall;
The lips that cheer us through the years
Some days smile not for all our tears;
We build awhile, we know not what,
And the toiler is forgot.

Give me my dreams.

Give me my dreams. A child am I
Who stands in darkness but to sigh
Until a hand doth backward roll
The grey, damp mist about my soul;
And then, oh, dream of dreams that cheer!
They come, the loved of other years.
And voices wisper soft and low.
The loving words of long ago.

Give me my dreams.

Give me my dreams. Oh, little maid
With whom of all I laughed and played,
They say the ivy loves to creep
Above the grave where now you sleep;
They say the robin's song no more
Can wake you as it did of yore!
What matter? Still in dreams you creep
Unto my side a trust to keep.

Give me my dreams.

Give me my dreams. All else is dross,
But still I count it little loss,
For yet in dreams the bright stars burn
As in the years to which I turn,
White hands reach to me through the mist,
By lips I loved my lips are kissed,
And all life's fields are love aglow
As they were once, oh, long ago!

Give me my dreams.—Exchange.

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My Wood Nymph.

By D. L. TRACY.

Continued from last Issue.

His mind was in a whirl for he realized that while he was engaged to one girl, he was in love with another, and the events of the evening had shaped themselves so suddenly; he had become engaged, and received the blessing of the kind old Judge, almost before he realized it. This was repugnant to his better nature, but was ever a man placed in such an embarrassing position? The conversation with Julia had been carried on at cross purposes; he was referring to his love for Fannie Long, without a thought that Julia cared for him, while she, no doubt, thought he referred to her, and after her open avowal of love, he thought it would be unmanly to tell her that he loved another, especially since he felt sure that Fannie loved him not.

In the seclusion of her room, Julia Jones cried aloud in exultation.

"Mine! mine! He is mine and I am happy. Yet does he love me? Perhaps after all he loves Fannie, and there has been some mistake, some misunderstanding, but no matter he is mine and I am happy."

Thus did the crafty girl exult in her seeming triumph.

The thoughts of Thomas Tupper were quite different as he walked home through the darkness; his steps were listless, and lacked the buoyancy which generally distinguished them. His head drooped and his manner and gait was that of one whose mind was filled with unpleasant thoughts.

From a far he saw a bright light

gleaming from a window of his quiet home, and as he came up the path, a girlish figure came between him and a voice which thrilled him to the hearts core sounded in his ear.

"Oh, Tom, why do you not come? Dear Tom, I wonder if he will ever know how much I love him?"

These words pierced Tom's honest heart, and he started forward saying:

"Fannie?"

"Oh, Tom, how you frightened me! But what is the matter, your hands are so cold?"

"Oh, Fannie, little woman, my heart is broken."

"Your heart is broken, Tom?"

"Yes, yes, but say once again that you love me, and I will be content to die. Yet little woman—little love—why speak again the words that would have made me so happy a few hours ago. Now, oh strange irony of fate, when I hear them I must tell you that I am engaged to Julia Jones."

"Engaged? No, no, Tom!"

"Yes, Fannie, it is true. But, little love, oh little love, say again that you love me."

"Fannie made a movement as though she would enter the house, then turned to him impulsively, holding out both hands and saying:

"Tom, I love you."

Tom strained the slight figure to him in a mad embrace and for one brief moment kissed the sweet lips, then pushing her away, he covered his face with both hands.

"Oh Fannie, God pity us both. It is sweet to know that you love me, dear.

even though I find it out to late."

"Yes, I love you, Tom, so well that I will give you up to her, if you love her best."

"But, Fannie, I do not love her at all," groaned Tom, as he crushed her small hands in his, "not at all, dear; it is all a mistake, a hideous dream, from which I shall soon awake. But let me tell you how it happened: We were seated in the parlor talking about happiness. I spoke of the girl I loved not loving me, for I thought, dear, that you loved another. I had your image in my mind all the time, while Julia thought I referred to her, and then—the—n" He fell to kissing her hands, and saying over and over, "I love you dear, and only you." He could not tell her how Julia had declared her love for him, for his manhood prompted him to keep silent on this score, though his heart was breaking, breaking with the knowledge that Fannie loved him and he was bound to another.

"Oh dearest, forgive me, but let me love you a little while, then we will say good bye."

"No, no Tom, not good-bye. I could not endure that."

"It is hard, dear, but I am engaged to Julia, though I love you with my while soul. Do you remember the answer you made to a remark of Judge Jones' at his home one evening in regard to me?"

"Yes, I remember, for ever since then my heart has ached."

"Fannie, I overheard that remark, and it made me think that you cared for me only as a friend, and ever since then I have mourned for the love which I thought was not mine."

"Then you have loved me all the time, Tom?"

"Yes, Fannie."

"Yet you are engaged to one whom you do not love?"

"Oh, dearest, spare me, for I cannot explain this fully to you. You see, I

thought you cared nothing for me, while she informed me that I was very dear to her. So as I had no hope of your love, I thought I would try to make her life happy."

"Tom will you marry her?"

"No, Fannie, I shall go to her in the morning and tell her all. Then I will go away."

"And leave us both? Oh Tom, Tom, my heart is breaking, yet I pity you."

"Pity me little woman, when I would have your love?"

"You have my love, too, Tom."

"Yet, little love I must soon bid you good bye and go."

"Oh, Tom do not go."

"I must. How can I stay here any longer?"

"Tom, you must do your duty, however hard may it be. It is dreadful to think you will belong to another, yet you must do what is right. We must say good night, Tom."

"Not yet, love."

He held her close while his lips touched hers.

"Good night, dear Fannie."

"Good night, Tom."

Neither of them said anything to Mrs. Long about their love affairs, but she noticed an added shade of sadness on her daughter's face which she attributed to their old financial troubles and passed over in silence.

Tom spent most of his time in the school room, or attending to the bees, so he was spared many more heart-rending scenes with the girl he loved so well. He had intended to call on Julia Jones, explain the affair of their mutual mistake and tell her he could not marry her. But he shrank from the ordeal, and put it off from day to day. It would be but a few weeks until the closing of his school, then he thought he would write to her and tell her all, after which he would go away and seek a new home in some other part of the country, away from all this

perplexing maze of circumstances.

He stayed away from Miss Julia on the pretext of being busy, but a few days after their engagement she came to call upon Fannie, and stayed until his return from school. When she caught sight of his face, she cried:

"Oh, Tom, what is the matter, you are so changed since I last saw you?"

"Perhaps I am changed, Julia. But how are you?"

"I am quite well."

"And your good father?"

"Father is well."

After a few common place remarks she arose to go, but Fannie invited her to stay for tea; and upon Tom telling her that he would walk home with her afterwards, she accepted the invitation.

A cloud of restraint hung over the little party in spite of Fannie's efforts to banish it, and when, a short time after tea Tom and Julia took their departure, everyone felt greatly relieved.

It was a very quiet couple, which took their way down the spring twilight, and they had traveled more than half the distance home, when Julia broke the silence by saying:

"What is the matter with you, Tom?"

"Julia, there is something upon my mind which I must tell you. It is that we have made a great mistake in our engagement."

"In what way?"

"I do not feel toward you as a lover should."

"Then, why did you pretend to love me?"

"Julia, you know that I did not."

"You made me think you did. You were so often at our house; you sang with me, and that night—"

"Yes, that night?"

"You said that you loved me."

"No, Julia, that is how the mistake occurred. In our conversation that

night, you were speaking of yourself, while I was thinking and speaking of some one else."

"And who was that some one else?"

"Can you not guess?"

"It must be Fannie Long."

"It was Fannie Long."

"And you, an honorable man, have engaged yourself to me, while you love her?"

"Julia, let me ask you, if you remember the question your father asked Fannie, and the answer she made?"

"Yes, I remember."

"Well, from that night I felt that she cared nothing for me, while I loved her."

"Oh mean, deceitful man."

"Julia, denounce me as you may, but hear me out. You remember what you said to me? Well, feeling that my love for Fannie was hopeless, I thought I would bury my heart and try to make the life of the girl who honored me with her love, happy.

"Honored?"

"Yes, I felt it was an honor to have the love of Judge Jones' daughter."

"Was it Judge Jones' daughter or her father's money?"

"Money, Julia?"

"Yes, you know my position, and the money I would have, and you thought perhaps you could gain possession of it, leave me, and be happy with the girl you loved."

"No, Julia, you wrong me. I had no such thought, and it was by accident that I learned Fannie loved me. As I went up the path to our home that evening after I left you, I overheard a confession which she made to herself, to the effect that I was dear to her. Had I heard that sooner it would have made me one of the happiest of mortals, but as it was, it made me the most wretched."

"You call her home, our home, and say it made you most wretched to

think that I loved you, and that we were engaged?"

"Julia you must look at this in a sensible manner. I admire you as a friend, but I cannot marry you."

"You would jilt me," she cried, as she shook his arm in her fury. "You would spurn my love? Nay, you do not know me. I have sworn that you shall be mine, and you shall, or if not your pale faced love shall be turned out of house and home."

"Julia, you would not be so cruel as that; your father would not allow it."

"So cruel? You do not know me. My father not allow it? You do not know the influence I exert over him. Well good night. I must have time to think. Will you kiss me before you go?"

"No, you are too cruel."

"Too cruel, when you repudiate me and my love! Well, good night. Come a week from to night, and I will tell you of my plan. Until then, keep your own counsel."

With a wave of the hand she disappeared in the house and Tom was alone.

Very sad were his thoughts as he wended his way to the home of the girl he loved, the girl whose love he discovered too late

"Oh Fannie, Fannie," he cried aloud to the night, "how I love you."

At the time appointed by Miss Julia, Tom called at her home. He was met by the Judge, who said in his hearty way.

"Well Tom, my boy, how are you? Glad to see you."

"Quite well thank you, how are you?"

"Oh I have nothing to complain of. How is the school progressing?"

"Very well, but where is Miss Julia?"

"Ha, Ha, Tom, you soon tire of an old man, when a girl is concerned."

"Well, Julia is in the parlor waiting for you, so go along to her."

To be Continued in next Issue.

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Breeders.....	5 00	
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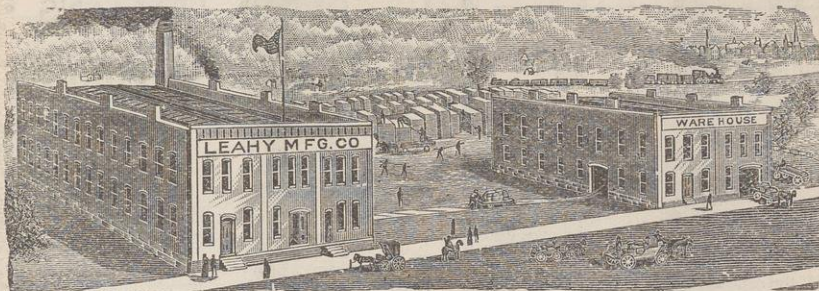
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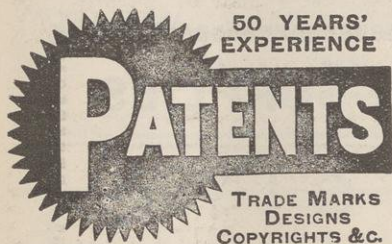
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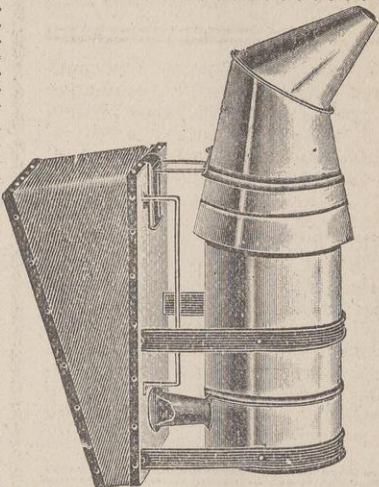
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