

instill him with fear or discourage future development. Twenty-five dollars invested in a pump and a little time and thought put into use during the winter and spring months when things are not so rushing will curtail all damage from the scale. A badly-infested orchard cannot be put exactly right in one year, but it can in three, and when one starts right with an orchard it can be kept right. Eternal vigilance is the price of freedom from the scale.

A future article will discuss methods of eradication; it is important to recognize the scale at this season of the year and treat it later on.

A tree affected by the scale may show it on one or two limbs, or all over the tree. The limbs will die back and fruit shrivel up, before they come to maturity. When of long standing on a branch the insects show an ashy gray color and will leave a greasy or oily covering on the hand if rubbed over them when still alive. On the fruit it is more easily detected as a little black spot encompassed round by a pink or bright-red circle. This black spot can be brushed off, leaving a light centre to the crimson circle. They appear anywhere on the fruit, but usually cluster around the blow end of the apple. When searching for them don't look for anything of noticeable size. They are very small, only as large as a good-sized pin-point, and sometimes cannot be discovered with the naked eye. Look for the scale this fall and make up your mind to retain your orchard as an adjunct of the farm.

Packing Apples and Pears.

If one could see the old-time package of fruit placed on the market to-day beside a modern box of apples, he would be surprised at the advancement made or the extreme crudeness of previous packages. Like all other articles for consumption fruit must be exposed in an attractive package and sound condition, and whether it be in barrel or box the container must indicate that the grower has exercised some intelligence and care in preparing that particular package for the market. Then and not till then will the buyer of good stuff, whose money we want, hand over his ducats for our produce.

There are a few general principles and many fine points involved in the preparation of marketable fruit, but there is now no excuse for any one being without a good working knowledge of packing fruit in barrels or boxes. J. A. Rudick, the Dairy and Cold Storage Commissioner, Ottawa, has added another bulletin to his series of valuable works. This new work, entitled "Modern Methods of Packing Apples and Pears," has been compiled by A. McNeil, Chief of the Fruit Division, and is without a doubt the most complete, comprehensive, and practical treatise yet published along this particular line. All the requirements in apple packing and the technique of the operations are described and illustrated in such a way as to be easily understood. The bulletin is free, and may be procured by writing to the Publications Branch of the Department of Agriculture at Ottawa.

Our Optimistic Outlook.

About one dozen years ago, when reports came back from the Old Country market asking for a remittance to cover charges on shipments of apples that did not sell for enough to defray expenses, the future for the fruit industry looked dark indeed. Since that time apples have been selling for \$3.50 per barrel, and bushel boxes for \$1.25 apiece. The pessimist is all the time crying over production, while the optimist is reaching out for broader markets. South Africa is being opened up, and a quantity of fruit, whose quality makes them a second-class article here, carries well to distant markets. Competition is keen and bad years must be taken with the good, but until markets are so full that good quality, well-packed will not sell we should not talk over quantity but better quality.

THE APIARY.

Bees in Winter.

Many new beginners and some older ones are not familiar with the best methods of wintering their colonies. From "The Honey Bee" we take the following, which applies to climates moderately cold like our own:

In this northern climate the safe wintering of bees is an important problem, and a topic of interest to every honey producer.

Some apiarists winter their bees successfully on their summer stands, but probably a large majority believe in the protection of some indoor repository, mainly cellars. Cellars used for this purpose should be moderately warm with no danger of freezing. The temperature may be kept at from forty to fifty degrees, and sufficient ventilation should be provided to keep the air fresh at all times. A warm cellar in which a large number of colonies are stored, might have

a window left open all winter by packing same properly so as to exclude light. The hives should also be ventilated more or less, depending on the temperature of the repository. The bees should be kept in the dark and quiet; the hives supported from the ground or bottom only, having no connection with upper floors, to avoid the transmission of jars. A boiler or furnace in a cellar where bees are wintered is not objectionable; in fact it may often prove to be advantageous by improving ventilation and furnishing additional warmth.

Where a good cellar is not available for the purpose, one may be constructed cheaply in a bank or practically above ground by setting up posts and using timbers or poles for a frame work, covering these with cheap lumber, then banking well with earth to the plates and covering over the top with sawdust one or two feet deep, with a cheap roof over all. Such a cellar will meet the required needs as well as the most expensive one.

Bees should be housed in November and replaced upon summer stands in March or April, depending on the weather conditions. A bright, warm day should be chosen for this purpose as it is very essential that their first flight be successfully accomplished, since their future welfare depends much upon it. It has been recommended to place hives on the same stands that they occupied the season before, but this is unimportant.

Be sure that rats and mice are excluded from the cellar, also from hives wintered out, as they would cause havoc among the bees and comb.

When bees are wintered out-of-doors they should be in a sheltered location and protected by a packing of leaves or straw at back and sides of hive—the front may be exposed if facing south. Cover the packing to keep out wet. Of course if they are in double or winter hives, this precaution is unnecessary.

If well wintered there is little danger of spring dwindling. The tops of the hives may be made tight to retain the natural heat of the colony, and the entrance reduced to actual necessity for the size of the colony. See that they contain plenty of stores for the bees and brood, and handle them but little until settled, warm weather.

The foregoing refers particularly to New York State, but many parts of this country have a climate much similar to that of the State mentioned.

A paragraph by R. H. Holterman, Brantford, Ont., from the same issue of the publication from which this was taken, shows how he winters his bees:

"For three seasons, however, all of my bees have been wintered outside; four colonies being placed in outer cases packed with forest leaves and a fence eight feet high being put about an apiary forty to fifty feet long and of the same width, and I am of the opinion that there are many beekeepers at present wintering their bees in cellars who could winter them with success outdoors. In outside wintering one can leave them earlier in the fall of the year and return them later in the spring, and may require less care outside than in the cellar. The bees will also be packed and protected during the spring when those wintered in the cellar often suffer from cold and backward weather, after they have been placed on their summer stands, and for that short time it does not pay, or at least it is not considered that it pays, to pack them."

FARM BULLETIN.

Bolts and Other Things.

By Peter McArthur.

Every few days I either meet someone or hear from someone who has a few remarks to make on the subject of roundheaded bolts. It seems that when I boiled up and overflowed on that subject I voiced about the most popular grievance of modern times. Everybody has had his knuckles barked and his temper permanently injured by wrestling with these exasperating bolts. In spite of the fact that the editor of "The Advocate" softened the blow by making a few kind remarks about the manufacturers and suggesting that the difficulty was not that they were so eager to make profits that they do not care how much trouble they may cause the purchasers of their implements, I still hold to my original opinion. It is profits they are after and now that they have done away with competition they seem to think they can go as far as they like. I hope that everyone who laughed over my explosions of temper about those roundheaded bolts will have it in mind whenever an agent comes to sell him any implement and insist that he take off a few bolts and put them back in place again to show that they are not of the kind that we all agree in complaining about. Perhaps if the agents hear enough about it they will report back to the manufacturers and we may have an improvement. Still, I haven't much hope. Even if the manufacturers do hear about it they will just smile

wisely and wait. They know that if they keep quiet for a little while people will forget all about it, and things can go on just as they were, or they can make them a little worse if they see a chance for a few cents more profit.

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Let no one suppose, however, that roundheaded bolts are the only subject about which it would be possible to "fuss and fume and sorer." While I haven't kept a list of the mean little impositions that I have had to put up with in the things I have purchased I think that I could easily name at least a dozen other things just as irritating as the roundheaded bolts. A few days ago I had to put up stovepipes. Yes, I know putting up stovepipes has been the cause of wrath ever since Ben. Franklin invented the stove. The least little dent or bend makes the job of fitting pipes together especially trying, but that is not what I want to complain about. I had bought a new stove and new pipes, and I admit freely that as far as the pipes were concerned they went together in a way to cheer the heart. It was when I came to fit the pipes to the stove that my troubles began. The stove called for six-inch pipes and that was the kind I had bought, and would six-inch pipes fit on that stove? Well, I spent a very restrained hour in trying to find out. My restraint finally became so ominous that the children sneaked out of the house so that they wouldn't be around when the explosion occurred. One by one I tried every pipe in the collection, but not one of them would fit by an eighth of an inch. The manufacturer who had made the stove evidently had not cared a hoot whether the standard sizes of pipes would fit it or not. His business was to sell stoves and the purchaser could look after the job of making the pipes fit. After trying every pipe on the place I finally had to take a cold chisel, no, I shall tell the truth—I took an old axe and a hammer—and split a pipe a couple of inches on each side so that I could make it fit. Now, this represented nothing more than carelessness on the part of the manufacturer. Stovepipes are all made in standard sizes and stoves should be made so that a standard-sized pipe would fit. The manufacturer of this particular stove had not taken the trouble to see that the connection was right and I have no doubt that every purchaser of his stoves has had exactly the same trouble as I had. A little extra care on the part of the mechanic who was finishing that particular part of the stove would have made the casting of the right size, but what's the use of being careful? The purchaser would not find out that there was anything wrong before he had taken the stove home and then started to set it up and as stoves usually last for a good many years he would forget all about it before he went to buy another. In this case the manufacturer has not even the excuse that he is making a profit unless he makes it by hiring a cheap and inefficient workman. It simply shows that he has no sense of his obligations to give good service.

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When packing the apples last fall, I bought a press for putting the heads in the barrels. As such things are not kept in stock locally, I had to send to a manufacturer at some distance to get one. When it came it was nicely painted and looked like an entirely serviceable implement, but about the fourth barrel that was being filled I had to put on a little extra pressure and the wooden bar through which the screw worked broke like a piece of glass. It was made of brash cross-grained elm and a man could almost have broken it across his knee. The workman who made that press must have known that it would not stand any pressure and the employer who provided him with that kind of timber must have known it, but it was painted over so that the purchaser could not tell that anything was wrong. As I had to deliver a carload of apples on a certain date, I had no time to send back for a new press and had to have a new bar put in by the blacksmith. This caused both delay and expense, and when I protested to the manufacturer he declined to reimburse me for what I had to pay out. If the press did not suit me I should have sent it back to him and he would have sent me another. On mentioning the matter to others I find that many implements are made from timber of this kind, and its inferior quality is hidden by the paint. Breakages do not occur until the implement is in use and the farmer is too busy to protest effectively. As in the case of the stove, a man usually buys farm implements only once in a number of years and by the time he goes to buy again he is likely to forget about the way in which he was annoyed and cheated.

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Another complaint that is being made in the country is about wire fences. The wires are supposed to be heavily galvanized so that they will not rust. Most of the first wire fences put up in the country were properly made, but in the course of time the manufacturers galvanized more lightly. There was no way in which the purchaser