

farmers for their cattle, \$230,000 went to the railway companies for transportation, and the stock yards received \$1,650. Over \$50,000 was paid for attendance to 3,389 men shipped during the season. There was disbursed for feed \$125,100, most of which went into the pockets of the Quebec farmers. The cost of labor for putting up stalls, etc., reached the sum of \$145,782, while the steamship companies received nearly one million dollars. Messrs. Pope and Morgan, inspectors of live stock, have every reason to congratulate themselves on the result of their work. Of the 83,322 head shipped, only 141 were lost, and of these 57 were washed overboard from the "Scicilia" during a hurricane. In 1892, the losses numbered 601. In the number of boats and number of cattle carried, the Reford lines head the list. The Allans come next, with the Beaver and Dominion taking third and fourth places.

Witness.

SHORTHORN CATTLE OF TO-DAY.

A leading English writer remarks that Shorthorns never showed their superiority more than during times of agricultural depression. However low the prices of pure bred cattle may be at any time, the Shorthorns always maintain their relative place among breeds. There is another fact which proves, with still more emphasis, the substantial and inherent worth of the Shorthorns. It is that they have saved themselves from their friends. They have passed through "various manias" and "booms," not only without unfavorable reaction, but they stand higher in excellence as a breed, to-day, than ever before. There was a "color craze," which brought dark reds to the front as favorites, while other characteristic Shorthorn colors were neglected. This mania was chiefly local to the United States. There was also a "Duchess craze" which pervaded the Shorthorn world, and culminated in the sale of the New-York Mills herd, some twenty years ago, where a cow was sold for \$40,000 and a heifer for \$27,000, simply because they were of the Duchess strain.

Meantime, Amos Cruickshank of Sittyton, Scotland, went on building up a herd of Shorthorns, which have upset many of the old theories. In selecting foundation stock for his herd, Cruickshank was influenced by clear, hard-headed Scottish sense. If a Shorthorn bull or cow was pure-bred and possessed the qualities desired, he did not ask whether it was of any fancy strain. The result was a herd which was one of the most notable in Shorthorn history. Representatives of the Sittyton herd not only won the prizes in British exhibitions, but were sent to the United States, to South Africa, in fact, throughout the "Greater Britain," which extends round the world.

In building up his Shorthorn herd, Amos Cruickshank "built better than he knew." He not only advanced the standard of Shorthorn excellence, but by the silent influence of his example he dispelled a great deal of nonsense regarding Shorthorn strains and color. Breeders have learned to look less for pedigree and more for individual excellence. In no part of the world has this advance been more marked than in the United States. American Shorthorns have always stood in the front ranks, and many choice bulls and heifers have been purchased at long prices by British

breeders, and carried back to the original habitat of the breed. . . the movement forward toward higher excellence, American breeders have kept fully abreast of their brother breeders in Great Britain. An evidence of this is shown in the Shorthorn bull, Abbottsburn. He is owned by Col. T. S. Moberley, of Richmond, Kentucky, and weighs 3000 pounds. At Chicago the animal was awarded the first prize for three years old or over, and the herd, at the head of which he stands, won the second herd prize. Abbottsburn is not ashapely mountain of flesh and bone, but shapely and symmetrical, possessing the desirable points all over.

Bee-Keeping.

THEFTS.

BY MONS. E. PÉLOQUIN.

An experienced bee-master soon perceives when his hives are being robbed. The bees fly about all round, searching out all the corners and cracks of the hive. When the robbing is on an extensive scale, a general humming is heard, and the bees of all the hives are very much disposed to sting. The thieves leave their own hives at daybreak, and continue their work so late that they can hardly find the entrance to their abode. Some even pass the night in the hive they have been robbing. The clouds of thieves on arriving and departing can hardly be mistaken for honest workers, bearing with heavy flight their burden home. These audacious robbers, when entering a hive resemble Pharaoh's lean kine; but, on leaving it, their heavy-laden bodies are morolike those of alde men who, having dined at the expense of the rate-payers, have stuffed themselves as full as they can hold with all sorts of good things.

When the robber-bees have once become masters of a colony, every attempt to put a stop to their ravages, whether by closing the hive or carrying it to another place, is frequently, if care be not taken, more injurious than leaving them to finish their job. The air will soon be filled with various bees, which, excited by their defeat, will attack with blind desperation the neighbouring colonies.

Under such circumstances, the strongest lot of hives is often overpowered, and thousands of bees perish in these bloody contests.

SECOND PART.

It will often happen that the pillaged hive is deprived of its queen, or that she is found to be unwell. One of the best means of stopping the robbery, when the colony attacked is worthy of being saved, is to transfer the plundered hive to the place of the plunderer's hive, or the reverse. The robber colony can generally be discriminated by powdering the robbers with flour as they leave the plundered hive, and studying the direction of their flight. Another way is to observe what colonies are in active work after the others are quiet, especially after sunset. Still, this method is not practicable when the pillaged colony does not belong to the same person as the other, or when several colonies join in the theft; though, the transposition of place of the strong robber-colonies and the robbed ones, a change that should always be made in the evening, and the stopping up of the entrances of the whole of the hives, commonly produce

good results. The old robbers, astonished by the change, accepting as their home the hive they were in the habit of plundering, since they were used to find it in the place they carried the honey to, defend it as energetically, as they used previously to attack it.

THIRD PART.

If the bee-master is desirous of warning the bees against seem dishonest conduct, he must take the greatest care, in these operations, not to leave combs or honey in any place where the bees can find them; for as soon as they have tasted the stolen honey they will flutter about the operator when they see him opening a hive, and pounce down into it, to seize the treasures laid bare to their view.

In times of scarcity, food should only be given to the bees at night fall, and it should always be put into the hive upon the combs.

The feeding of bees in the day-time gives rise to pillage in two ways: it excites the fed-bees and induces them to leave the hive in search of more, and the scent of the food attracts the bees from the other hives. Hence, result warfare and hostilities. Above all things the bee-master should keep his hives well populated.

When the nectar begins to be scanty, the hive entrance should be reduced in size by pushing in the block.

If the hive contains more comb than the bees can fill, the number should be reduced by means of the division board.

It is especially the weak colonies that should be looked after with the greatest care in spring and autumn; for the stronger ones, being more able to retain heat on account of the number, leave the hive earlier, and soon find out the weaker ones who, unless their honey is well protected, are overpowered. When this advice is attended to, if some of the robbers manage to creep into a weak colony, they are almost certain to be found out and put to death. Even if some of them should succeed in forcing an entrance, they will be met by hundreds of defenders ready for battle, and find themselves in as an evil case as those who, deceived by misplaced confidence, have climbed the walls of a besieged fortress only to perish at the hands of their enraged opponents.

The cracks and holes of badly made hives should be temporarily daubed with clay, until there is an opportunity of transferring the bees into securer lodgings.

When hives are opened, the work ought to be done as quickly and carefully as possible; and, if a number of robber-bees show themselves during the work, it is a good plan, after closing the hive and contracting its entrance, to lay a handful of grass, the finer the better, on the board before the hole, leaving it there for an hour at least, or until the excitement is over. The guardians place themselves in this grass, and drive off the thieves with greater ease; the latter soon find out that there is but a poor chance of entering the hive, and give up the attempt. We have never had any trouble with the robbers since we disconcerted them in this way.

When the plundered colony is a weak one, the pillage, even if begun, may be arrested by preventing the bees from entering the hive till the evening, when the bees of the other colonies have ceased from their depredations, at the same time allowing those bees that want to be off to go, and then closing the entrance until late enough the next morning for the

bees to be on guard. By this means, the robbers will be tired of trying useless schemes of attack, and workers of the plundered colony will be ready to repel all assaults.

Should any of these plans prove ineffective a small comb of Italian bees, ready to hatch-out, may be placed in the weak hive, with the aforesaid precautions, and the colony put into the cellar for a few days. The newly born Italians will receive the enemy warmly, when the hive is replaced in its station, for they form a better garrison than the common bees.

When a honeycomb is broken in the hive, by an accident of any kind, it should be removed at once, and the honey-moistened board should be changed for a clean one; in fact, no honey should be left in any place where bees have a chance to get at it.

(To be continued.)

THE APIARY.

CONDUCTED BY MR. ALLAN PINGLE
SPRING FEEDING AND STIMULATION.

Bees are fed in the spring with one or both of two purposes in view. They are fed, when deficient in stores, to keep them up till they can help themselves in the gardens, orchards and fields, and they are fed with the object of stimulating the colony to increased brood-rearing. The latter has been practised extensively in the past among the best bee-keepers, but is now "going out," as it ought to do. Queens which require such artificial stimulation to do their duty are not worth keeping. With plenty of honey in the hive a good queen will breed up in the spring quite fast enough. It may happen, however through accident or neglect, that there will be a number of inferior queens on hand in the spring, in which case it is, of course, advisable to hurry her up by artificial means, otherwise her little family will not be strong enough to take full advantage of the honey flow when it arrives. But great care is necessary in feeding a weak colony in spring, whether for stimulation or to supply needed stores. The effort to save the colony may be means of ending it, if robbing is superinduced. Feed just before dark on warm evenings, and the food will then be disposed of during the night without any exposure to intruders. Another method of stimulation often resorted to (especially by the amateur) is what is called "spreading the brood." This practice should only be pursued in exceptional cases. There is great danger of "chilled brood" resulting. The novice ought never to "spread" brood at all till he gets experience and knows what's what. The spreading consist in taking outer frames and either shaving of the caps from the honey or abrading it so that it begins to run and placing them in the brood-nest each between two frames of brood. The brood-nest being thus enlarged and the heat diffused, there is danger of the brood being chilled and thus killed. When spreading is resorted to at all it ought to be done by the expert and experienced apiarist.

Instead of scraping the caps off both sides of the frame of honey you wish to insert in the brood nest, scrape but one side and place the frame, not in the middle or heart of the brood-nest, but on one side or the other of it, with the abraded surface next to the brood-