

Bit by bit the writer's ideal of a winter-protection case developed along definite lines. First, he wanted a dead-air space around the hive for seven months in the year; second, he did not want to make any departure from the present method of handling frames; third, the hive had to be unquestionably rain-proof; and, lastly, when not in use for protection, the case should not be a nuisance in the bee-yard or cellar. The third and fourth conditions were the hardest to satisfy, but he felt in taking as a basis the convertible hive designed by Mr. J. Hand, an able Ohio bee-keeper, he was following safe lines. Mr. Hand says he has found it excellent both for winter protection and for honey production in summer. The writer knows by trial that the first part of his ideal is true, and has confidence that the second is probable. Even if it should fall down in the latter respect in British Columbia we are not far out, for it will more than pay for its cost annually as a winter case, and will be no more expensive than an ordinary one.

The fundamental idea of its construction can be told in a few words. The four-side-walls of the case are so proportioned that when they are nailed together we really have a hive whose capacity is double that of the hive it is meant to protect. Itabberts are cut on the long sides, so that the frames in ordinary use can be hung crossways in it. Many years ago an ordinary hive of this size and shape, known as the "Long Idea" hive, was rather popular; in fact, many are in use to-day by men who are content with a medium crop for home use, gained by the smallest amount of effort. In the Prairie regions of this continent, where the building-up season is so short, the honey-flow is about half the length of ours, a hive of this size is just about right for an average colony by the time the honey-flow begins, as there would be available sufficient empty combs for a fair start to be made with honey storage, and additional room would be gained as the young bees hatched out. In winter it is generally placed in the cellar. Such a hive would be equally serviceable in the honey-flow, so far as size is concerned, in British Columbia, but to keep warm its hulky interior while exposed to the elements during the winter and spring months would cause the bees to consume honey stores very heavily. In the course of the writer's work he has seen a few "Long Idea" hives, but has met only one that was not weak in spring, so he believes it is not suited for our climatic conditions. When full of bees it should do all right from the first of May to the end of September.

In constructing our winter case, then, we must make it 18% inches wide, inside measurement. Its length theoretically should be just double the width of the hive in use. There are three seasonal stages in handling this hive: First, as a winter case it protects the ordinary hive; second, about May 1st, when the inside hive is crammed with bees, the frames are transferred from the inside hive and set crossways in the outside case, which now becomes the real hive, and the remaining space is filled with empty combs. Instead of tiering up we are working backwards. Third, when the honey-flow starts, if more room for surplus honey is needed, we can place on top either another body like the one we have, or a couple of ordinary hives side by side. There is but one objection to this procedure, and it is this: We are giving, where we are running for extracted honey, a rather big amount of room all at once. Hives tiered up four stories high are not uncommon in British Columbia at the end of the honey-flow, but until the matter has been tried out the writer hesitates to say more than this: that with the tremendous rousing colonies our skilled bee-men have no trouble in getting, he is inclined to think that all will go well. Besides, it is always possible by means of quilts to cut off access to the rear super until its storage-room is needed. With shallow extracting-frames, or with sections for comb-honey, there should be no trouble. One thing he does know—the average rancher would be quite content with the surplus honey in the main hive alone, for it should amount to at least 50 lb.

After the crop has been gathered in, the colony is transferred to the ordinary hive, and our summer hive once more becomes a winter case. One thing the writer