the sections on all of those bees according to the advice given me when I started in bee keeping?

But we will suppose that our bees are strong enough to enter the section, and clover is in bloom—shall we put them on? No, not till honey is coming in. One year, in which my average yield from the whole apiary was over 100 lbs. of comb honey from each old colony in the spring, the sections were not put on till July 15th, for previous to this time, the bees were living only from "hand to mouth:" being so short of honey that a week of rainy weather would have starved the whole thing had I not come the rescue by feeding. When we have all in readiness to go on the hives, as I give at the outset, 100 hives can be supplied with the surplus arrangement so quickly that no time need be lost after the flowers begin to yield honey. My plan is to go along the fronts of some of the strongest colonies, each day, and, by the actions of the bees, tell whether they are gathering honey or not; but where one is not sure that he can tell in this way, it is a good plan to wait about putting on the sections till you find little bits of comb started about the hive, and honey being put into them, or the cells being lengthened out along the top-bars of the frames, and honey being stored there. When you see this, and your colonies are strong enough to enter the sections, don't delay putting the sections on such hives a single day; for if you do you will be losing honey more than what is coming in at this time, for the bees may go to crowding the queen, and thus be slow in working in the sections all the rest of the season. Another item is, don't put on too much surplus room at once, but put on a capacity of from 15 to 25 lbs., according to the strength of the colony, and as your surplus arrangement will allow. One of the favorable things about the Manum clamps lies in the fact that he can put on one, two, or more of them, as he desires, at a time; and I believe this has much to do with his success. With the wide frames as I use them, I can do the same thing; and when the bees are well at work in these, more are added, and so on till the full capacity of the hive is reached.

From many experiments I have come to the conclusion that 60 lbs. capacity is about right for a good strong colony, when worked for section honey, and 120 lbs. when worked for extracted honey, exclusive of the brood-frames. In putting on sections it is well to have a part of those first put on filled with comb left over from the previous season, so as to start the bees at once to storing above. Don't wait till your bees swarm before putting on the sections, as some do, fearing that the sections will retard their swarming, for bees often refuse to swarm, and hang idle on the hive all summer. Swarming is retarded but very little, if any, where the sections are put on as above. Always keep an eyes to business, never forgetting that a thing done in the right time brings success, while a delay of only a few days may turn that success into a failure. *Gleanings.*

Size of Passage-Ways the Bees Require.

JAMES HEDDON.

I consider it a matter of great importance to bee-keepers to have a correct idea of what mechanical appliances do, and what do not, facilitate and encourage bees to enter and rapidly carry on work in the surplus apartment.

When first adopting queen-excluding metal between the brood and surplus apartments, mainly for the purpose of knowing where the queen was at all times, especially when removing surplus cases of comb honey, I will admit that I felt a little nervous as to the matter of whether the workers would be able to squeeze through these passage-ways with their loads of honey, so readily as not to lessen the amount of surplus honey which might be stored.

D. A. Jones, of Canada, rightfully has the credit of the great benefit which has been derived from the use of the queen-excluding metal. To satisfy myself, I began making experiments with about 40 colonies with the queen-excluders, and the same number, as nearly equal as could be chosen, without. Three times, in three different years, did I repeat the experiment, each time with a large number of colonies, and satisfied myself that there is no hindrance whatever, as I am pleased to see is the prevailing opinion of those who answered Query 767.

The object of this article is to do away with the expensive, troublesome, and erroneous idea of Dr. Tinker. I have experimented a great deal in regard not only to the kind, but the amount of passage-way needed by the bees to do their best, and I tell you here that two rows of queen-excluding holes, the full length of the Langstroth hive, will fully accommodate the largest colony of bees that ever resulted from one queen (and that, too, in the busiest season of the year) between the brood and surplus apartments, while there are eight such rows in the break-joint bee-space board.

If one-half of them, or more, were filled with comb or glue, as they sometimes are when not