

spirations per minute. This is quite a difference. Mr. Newport in his investigations found that the temperature of the hive was entirely due to the respiration and agitation of the bees. so that by activity we cause a greater respiration and by greater respiration the greater pulsation, and the greater temperature of the bees. I believe by the agitation of the bees we have a means of raising the temperature, and we all know what will agitate a colony of bees, one pound of honey will agitate 100 colonies. You will have the whole apiary in an uproar. Mr. Newport found that the temperature inside of a cluster of bees was 96 during the swarming and outside it was but 66 degrees. In August during the lowest activity the temperature was about 80 to 86, and outside it was 78 to 80. Now by stimulative feeding we work the bees up to greater activity and with greater activity comes greater heat, and the question comes how shall we stimulate them. Stimulating from the outside has disadvantages, for instance we may have a bad spell of weather and many bees would be lost, and perhaps our neighbors would receive some of the benefits. So I would say to use an inside feeder and that feeder should be so arranged that it can be manipulated from the outside without opening the hive, so there may be no loss of heat. It should be a small feeder so that only a few bees may work at a time and a small amount will keep them a long time at work. We should feed but a small amount as the bees perhaps are not requiring it for the purpose of feeding, but for the purpose of agitation or activity. We have a higher temperature in the daytime than in the night and so by feeding in the evening we increase the activity which will hold the temperature equal to what it was during the day.

In the course of three or four weeks, or about the time of fruit-bloom, our

queens have reached a point where they are filling the ordinary hive, say 10-frame, with brood, and here will come the question of hives. I think every bee-keeper has his hobby, but we need a large hive if we are going to breed a large colony of bees. I consider the 10-frame the best for brood-rearing. I am speaking now of the sectional or half brood chamber hive. We have just passed upon two sections of this hive, and the time has come when they need more room for the fruit-flow, and if they do not get more room they will have the swarming impulse, and we do not want it at this time. So we give them another super, or section of brood chamber. The bees, during the fruit-bloom, will only cover the frames enough to draw out the foundation in the comb, so we will have three half-chambers, or three sections of brood. We carry our bees through in this way until about the 5th of June in our locality, when the white flow begins. Through this time we have been hatching bees at the rate of 2,000 or 3,000 per day, and we have an enormous colony of bees. It will be a matter of choice for the apiarist, whether running for comb or extracted, regarding manipulations at this time.

By the use of a queen-excluder to run these same hives without swarming during the entire season for extracted honey, we place the chamber which will have the most honey upon the stand and place the brood above it. The honey being in an abnormal position, the bees move it above. The excluder would go above the second section of the brood chamber. After going through the breeding season and breeding the colony up to the highest point possible, I take another method, and it is this: Placing a new stand or bottom board, I lift the hive from the old stand, and if this hive has new comb in the upper story I