

have ascertained the dose, the difficulty is accomplished.

"To place the food with added phenol on the hive, will, however, do nothing in the greater number of cases. If honey be coming in, the bees will not touch it; but open the stocks, remove the brood-combs, and pour the medicated syrup into those cells immediately around and over the brood, and the bees will use a curative quantity of phenol." In my experience I inoculated a stock, and allowed it to get into a bad state, then inserted a comb of store in the centre of the brood nest, and treated one side from which the disease disappeared, but raged although with abated fury, in the other half. Having, by these and many similar experiments, made the curability of *Bacillus alvei* a certitude, and having ascertained that one-four-hundredth of phenol could be given to the bees without limiting the queen in breeding, or touching her health, while one-five-hundredth dispatched the bacillus quickly when honey was coming in, and one-seven-hundred-and-fiftieth when it was not, I, in the interest of apiculture, requested the British Bee-Keepers' Association to provide me with a bad case, fully attested.

It arrived late, June 21st, 1884. with seven combs, about half a pint of bees, and a queen-cell—which I saw at once contained a dead larva only. Amidst crowds of bad cells, scarcely any living brood was visible. A casual counting of one of the best frames gave 371 dead larvæ on one side. The odor was pronounced. The case needed confidence; it was bad indeed. With me, queenlessness presents the worst of all obstacles. No grubs, no physic, no cure! I had stipulated that the stock should have a queen, and so the difficulty was greater than I had anticipated. Early next morning, seeing the utterly disheartened condition of the poor bees, I went to a nucleus, took out a very fine Italian mother, just proved as purely fecundated, and putting her under a dome cage on a card, placed the card over the frames. The bees came up and seemed to see in her a new hope. The cage was lifted, and she was welcomed immediately. I waited three days, till she was regularly laying, giving syrup phenolated 1 in 500; and now, since I

could not create bees, added two combs of brood. This step was made necessary by the fact that I required a strong hive by the time of the Congress. The bees were now shut up by a division board; but the combs put behind it, wanting introduction as the bees multiplied, smelt so badly—the weather being hot—that I several times sprayed them with water 200, phenol 1. Now I should compress the bees as much as possible, and spray the removed combs freely with water 50, phenol 1. To return. Every evening the medicated syrup was given, by pouring around the brood nest; but only so much as would be likely to be used, the object not being to fill the cells, but to get the food converted into bees. The smell vanished, the bees became active and earnest. The comb with 371 dead larvæ on one side was last added, and in six days I could only find five sunken caps in the whole of it. Now and again a grub took the disease, but quickly perfect immunity was the issue. No cell was uncapped, no diseased grub removed, nor the hive touched, except as described. The bees cleaned their floor and their combs; while, in four weeks and two or three days, every frame became filled with brood in the brightest and best possible condition. Since this worse cases have succumbed in the same fashion. Abundant corroboration has been given from those who have tried my method, and have succeeded, to their own delight, while some have failed, but the testimony is general that bees under phenol become more energetic than are those that need no treatment.

The quantities are easily managed. 1 oz. of phenol crystals (carbolic acid No. 1), will be sufficient for 40 lbs. of syrup, $\frac{1}{2}$ oz. for 10 lb., or $\frac{1}{4}$ oz. of liquid carbolic, P. B., for 9 lb. syrup or rather less than three quarts. The carbolic acid should be added to the syrup when the latter is cool, and equally mixed by careful stirring.

Mr. McLain is just reporting some cures which appear remarkable, and since I have no personal interest whatever to serve, I only trust that his method may be superior to mine, although it certainly involves much more trouble. I have used his remedy and