

white flakes are formed, also a farinaceous deposit.

'If with the material taken from blood serum we make a preparation and mount it in Canada balsam, we observe that the bacilli within the sheath approach its walls, and sometimes arrange themselves diagonally.

'This bacillus, forming spores, resists a high temperature. A culture, after having been exposed for four and a half hours to a temperature of 75° Cent. will still produce new colonies in twenty-four hours. It resists successfully a four per cent. solution of boracic acid, but it does not resist that of corrosive sublimate of one-half per thousand.

'Subcutaneous injection of a white mouse and of a guinea-pig gave negative results, for no pathological phenomena, general or local, were observed. A similar result was obtained after smearing the back of crickets with a pure culture, forcing it into their mouths, and inoculating them with the point of a steel needle, a circumstance which, after all, does not cause any surprise, as we know from the researches of Balbiani that the cricket enjoys particular immunity from the action of bacilli.

'It is useful to observe that in this species the bacilli arrange themselves in a chain, one in front of the other, and that the spores in the preparations taken from cultures in agar-agar from irregular masses.

'I believe the bacillus described above to be different from the *Bacillus alvei* of Cheshire and Cheyne, for the latter comports itself differently in nutrient gelatine, and produces upon potatoes a yellow spot; is arranged, both itself and its spores, in a different manner when grown in agar-agar; does not form a sheath in blood serum, and is pathogenic in mice and guinea-pigs. It differs similarly from *Bacillus megaterium*, which it somewhat resembles in shape; for *Bacillus megaterium* forms a yellowish spot on potatoes, does not produce the above-mentioned pink colour in nutrient gelatine, and does not form a sheath.

'In order to ascertain its action upon the brood of bees, I obtained at Santa Maria di Cervarese, in Padovano, a piece of comb containing brood, which I infected with the pure culture taken from the dead brood, which came from Osino, by pouring small quantities of it into the cells which contained the brood. Within four hours the latter were dead, some of them being literally covered with black spots, whilst others were reduced to a pulpy mass. From this last-mentioned I re-established in the different culture media pure cultivations of the bacillus described above.

'I cannot, however, deny that the brood may have died from simple cold, as I kept it in my laboratory outside the hive.

'On a subsequent occasion I brought from the country about 300 bees and some pieces of comb with brood, and I infected one of the pieces of comb. After forty-eight hours the bees were all dead, although I had supplied them with honey. Both in the bees and in the dead brood I found the bacillus. But on a still later occasion I infected in the open country an entire beehive with a culture two months old, and the beehive did not suffer. From this I am inclined to believe that this bacillus is not pathogenic. On the other hand, I cannot absolutely deny the contrary, for this culture was old, and might have lost its virulence.—G. CANESTRINI. in B.B.J.

From the above it would appear that foul brood germs differ somewhat, or there are different kinds of foul brood. From the probing this is getting of late, we certainly should be able to get to the bottom of the whole matter ere long.

Patents on Bee-Hives.

ANOTHER patent has just been issued on a bee-hive. It is dated Nov. 10. 1891, and was given to Reuben H. Ewing, of Iowa. It is the old story—a moth-proof hive—worthless and useless, with not a new feature in it. Here is the claim of the so-called invention:

"The bee-hive A, having a horizontal bottom B. with the central hole *b*, just large enough to allow the bees to pass through it, and an upwardly convex bottom C, whose oppositely inclined sides meet in a vertex *c*, directly under the said hole, and just far enough therefrom to permit the bees to reach the hole, the said hive being provided with opposite entrances *c' c'* for the bees and moths between said bottoms, as shown and described

The inventor does not even know the sex of worker bees, as will be seen by the following from specifications, where it is called he every time.

"The tendency of the bee is to move upwardly and as soon as he reaches the vertex *c* he will make for the entrance *b*, while the moth will travel up one side of the bottom C, and down the other thereby failing to get into the honey or bee-chambers at all, not being able to reach the hole *b*, even if inclined to do so."

What a pity it is to fool away good money for such a worthless patent!