

dish-brown in color, with bands of bright red or yellow round the abdomen, and a most beautifully tapering, graceful shape. From her the whole hive have their existence. She goes over every cell in the brood chamber, and where there is an empty cell there deposits an egg, from which, in a few weeks, comes a bee. But how does the queen have her existence? some will ask, A worker egg is taken and put into the acorn-shaped cell you saw on the card of comb, and given a good supply of "royal jelly"—which we will describe at some future time. It is then sealed up, and in a few days becomes a queen. She then, after a few days more, flies out and meets the drone; comes back to the hive and in eight days begins to lay. She is provided with a sting but very seldom uses it, except when fighting with another queen or a fertile worker. The Italian queen is far easier to find, as she is not nearly so shy nor so dark in color, being nearly always a bright brownish-yellow, and may be seen by taking out the frame, going on with her work as though nothing unusual had happened. This is a sight that every young bee-keeper ought to see, as it affords many a pleasant hour's study.

We now come to the last, but not least, the "workers." They are all females, and do the work of gathering honey, pollen, &c., and are the smallest of all in the hive, though not the best to handle at all times. She is provided with a sting, which she occasionally uses much to the discomfort of the bee-keeper, who is thus brought in mind of the proverb: "There is no pleasure that has not its sting." These little workers have to guard the hive from the attacks of enemies, and do all the work. They work very hard while they live, and store up for those who are to come after them; for we are told by many of the men who have spent their lives in studying the habits of the bee, that the worker only lives about six weeks in the honey season.

To be continued.

P.H.G.

There is a man named Thomas, I think, in Delaware, U. S., an old bee-keeper, and one who has taken many prizes on honey at our exhibitions; will he not send us something about the bees.

P.H.G.

CRIPPLED BEES.—Crippled and disabled workers are not tolerated in the bee commonwealth. They are at once condemned and ejected by the community, as not only useless, but injurious members, for whom no compassion is felt, and no mercy is in store. Crippled queens are reserved and cherished, though when they become superannuated and unproductive they, too, are discarded.

In winter we enjoy the fruits of the little honey bee's labor during the summer.

Wax and the Honey-Comb.

Comb is made of wax, and when new is very white, and pure wax. The wax is a secretion of the body of the bee, and formed only when the bee is richly provided with food, like fat in the higher order of animals, but with this difference, that while fat grows upon the animals without their knowing it, the production of wax is entirely optional with the bee.

It is fully in the power of the bee to make wax, or not to make any. But if they are put into a new hive without any comb, before they can store away any honey, in order to produce wax the worker-bee takes in considerable more pollen and honey, both of which constitute their food, than is necessary to appease hunger. These materials are thoroughly digested and pass into the blood, from which it is secreted as wax, in the form of thin white scales, between the segments of the abdomen. As soon as the secretion of the wax has commenced, the bees begin at once to use the wax flakes for the construction of comb. This comb-building always begins at the top of the hive in the centre of the clustre of bees, and if it be a frame hive, they will commence at the top-bar, and if they are supplied with guide combs they will usually build the comb straight in the frame.

Now if this swarm of bees is supplied with ready-made comb in frames it will not build any, but only clean out the old comb and repair it, and commence filling it immediately with honey, pollen, and brood. By supplying them with old comb, you assist them very much, and they will fill their hives in a short time.

It takes about twenty pounds of honey to make one pound of wax, and according to this rule wax ought to be worth \$5 a pound when honey is worth 25 cents. But wax only sells for 30 cents a pound. I have sold in five years more than 2,000 pounds of honey, and during the same time but ten pounds of wax.

I save all the comb I can and give it back to the bees; if it is white comb I stick it in the boxes. If it is worker brood comb, I fix it in the frames; if it is comb which I cannot use in the boxes or in the frames, I put it in a shallow box and set in the sunshine, and as the sun melts the wax the bees carry it back to the hive, and I have every reason to believe that they use it again for comb-building.

To clean old combs, place them in some vessel that will hold water, laying them flat, one on the other, until the vessel is full, lay on a board and a stone to keep them from floating. Now fill the vessel with water and slacked lime. Let them soak twenty-four hours, then take out one at a time and with a fine broom, brush lightly but thorough-