

She deposits them in empty cells, one on the bottom of each compartment, and they hatch out shortly into little worm-like creatures. The latter are fed with honey and pollen for a few days by the young workers, who act as nurses, and at the proper time the cells which they occupy are sealed over with wax. While thus confined they are transformed into the perfect winged insects, finally biting their way out and immediately taking up the duty of nurses in their turn.

WATER-TIGHT CELLS.

So carefully is the wax elaborated and fashioned by the bees that the cells are always absolutely water tight. Their dwelling, once completed, is a marvel of construction. The combs are rows of rooms unsurpassably suitable for feeding and nursing the young larvae, for safely warehousing the provisions gathered and for accommodating the tired workers when they need rest. Corridors run between, affording every facility to the busy throng walking on the ladders which the edges of their apartments supply, while the planning of the whole is such that the exactions of modern hygiene are fully met in respect to ventilation, pure air sweeping past the doorway of every inhabitant of the insect city.

Unfortunately the swarm of bees which had taken up its quarters in the vase over the door of the Department of Agriculture did not make a very good choice of a location. There cannot be much space in the interstices of the iron work for the storage of honey, and it seems probable that they will soon use up what store there is. Then, as is the custom of the insects under such circumstances, they will relinquish labor and devote themselves to idleness. A few weeks hence the casual passer by will be likely to see them hanging in a bunch from the fruit at the top of the column. When winter has arrived and they have undertaken to hibernate in the vase, the heat of their bodies inside of the receptacle, and the cold and snow outside will be apt to render the hive damp, and they will all die perhaps. But it is likely that Mr. Frank Benton, the bee expert of the department, will rescue them by taking them down and putting them into a proper sort of box. It is worth mentioning, by the way, that in the orient swarms of bees of wild or domesticated stocks are very commonly found residing in the pillars or other portions of old ruins. So thick are they in some ruins that the investigating tourist is obliged to take great care to prevent being stung.

PRODUCING WORKERS.

Mr. Benton says that the bees in the vase are the common brown kind, which came originally from Germany. He is not afraid lest they will sting him, because there is an art in handling these insects which he thoroughly comprehends. Once in a while he does get stung, but in times past he has received so many doses of poison by such accidents that he is fairly inoculated against its effects. The sting is only possessed by females among the bees. It consists of two darts in a sheath. The latter has an extremely thin cutting edge, which enters the flesh of the victim first and is held there by several barbs. As soon as a hold has thus been obtained first one dart and then the other is driven in with successive blows. These in turn are followed by the sheath, when the darts again plunge more deeply until the murderous little tool is buried to the hilt. If left to work her will the bee will then obtain her freedom and extricate her sting by going around and around the wound, causing the instrument to act as a drill. After a few turns the hole is made large enough to permit the weapon to be withdrawn. Ordinarily, however, the creature is obliged to tear herself away, leaving behind not only her sting and poison gland, but also the lower portion of the bowel, so that she dies soon after. It has been surmised that the venom of the bee is as powerful as that of a rattlesnake or cobra, since so small a quantity as a single individual is armed with is capable, when introduced into the circulation of a human being, of producing such painful effects.

THE NERVOUS SYSTEM OF A BEE

consists of a number of ganglia or little masses of brainlike substance strung through the body lengthwise. Though consciousness resides only in the head, after the latter has been cut off the balance of the insect will apparently continue to live and will execute various natural functions of being for a considerable time. Curiously enough, drones in confinement will sometimes live very much longer without their heads than with them. The detached abdomen of a worker will sting severely if irritated. But this is not so very astonishing, inasmuch as the same phenomenon may be observed with other animals and even with man. If the spine of a human being be divided by a shot the lower part of the body will be entirely paralyzed and the individual will neither have sensation nor control over his legs. At the same time his feet be tickled by a feather, though he feels nothing and knows nothing of what is occurring, his legs will kick violently, because the