

upwards and feet firmly planted, they go through the motion of flying without stirring from the spot. This forces a strong current of air through the hive, which absorbs the moisture in the honey and carries it outside of the hive. The work is very exhausting, and they work in short relays or shifts. In this way, if a colony has gathered a hundred pounds of honey in a season, it has also expelled from the hive one or two barrels of water. By this means too, the hive is vented and kept cool in very warm weather; but if the entrance is so very small that but little air can be forced in, the bees become discouraged and turn to loafing. The bee is not always an example of industry.

When nectar cannot be obtained bees will suck juice out of fruit. Raspberry juice will show through the bee's abdomen and give it a bright red appearance. Sometimes they gather a very rank liquid from the surface of leaves and grass. It looks like dew, and is called honey-dew. It falls upon the ground, being sprayed into the air by a louse or aphid, — the cow of the ant.

Looking at the comb again, you will notice that just below the honey there are many cells filled with a red or yellow substance. This is pollen, often called bee-bread, because it tastes not unlike bread. We used to believe that the legs of the bee were wax. This is not the case; it is pollen, or the dust of the anthers on the pollen brushes of the legs; then kneaded into a ball and placed in the pollen basket on the hind leg. One can watch this operation very closely by placing a dish of oat meal thirty yards or so from the hive, with a little honey in it to attract bees there. Bees sting only in the immediate neighborhood of their hive. Sometimes when the pollen is very plentiful, as in cucumber blossoms, they roll their bodies in it and pick it off with their feet. Each bee visits only one kind



FIG. 54.—B, Hind leg of worker; *c*, tibia hollowed on outer side as pollen-basket; *f*, tarsus with pollen-brushes; *g*, foot, with claws, side view; C, foot, front view, more enlarged. (From nature.)

of flower on each excursion and thus the flowers visited are cross-fertilized without being hybridized. Another product that is carried in this way is bee-glue. It is used to stop up cracks in the hive to keep out draughts. It is that sticky substance on poplar and horse chestnut buds. Below the pollen is the greater part of the comb which is nearly black and contains the brood or young bees in all stages of growth.

The most important personage in the hive is the queen or mother-bee, — so-called because she is the mother of all the bees in the colony. She is shy and hard to find, but easily recognized, being nearly twice the size of a worker. Early in spring when food commences to be brought in—for the queen is provident and will not lay when the larder is empty—she begins to deposit eggs, one at the base of each cell, and slightly glues it