

on a bulb at its base, just as water is drawn up from a cup into the mouth through a straw. (Fig. 48).

The female Cabbage Butterflies begin laying their pale-yellow eggs about the middle of April on the leaves of Shepherd's Purse, Mustard, and other like plants that have already come up. These eggs are beautiful objects, flask-shaped and ribbed crosswise as well as up and down. We must, however, examine them under a microscope, if we wish to see their extremely delicate beauty. Usually several eggs are laid on the under surface of the leaves in an erect position, but seldom are they in clusters. (Fig. 49).

In about a week tiny green "worms," or caterpillars, hatch from the eggs and begin to nibble at the leaves provided for them by the instinct of the mother butterfly. They eat greedily, and "gorge themselves till they seem near bursting." As a result, their growth is rapid; but as the outer skin cannot stretch enough to allow for the increase in size, the caterpillar must at certain times form a new skin under the old one and throw off the latter. This *moulting*, as it is called, occurs four times in the life of the caterpillar, before it changes into a chrysalis.

How different these caterpillars look from the white butterflies!

They have horny biting jaws which work sideways, and eight pairs of legs—not all alike, however, for the last five pairs are more like stubs than legs. Their feelers can scarcely be seen, and wings are altogether wanting. Their bodies are long, and are plainly made up of thirteen segments, or rings.

Reference has already been made to the change from the caterpillar to the chrysalis. The first summer chrysalis stage lasts about twelve days, and a second brood of butterflies appears about the end of June. Eggs are again laid, from which a second brood of caterpillars makes its appearance and feeds on the leaves of cabbages and other allied plants during part of July and August. These change into the second summer chry-



Fig. 50. Two full grown cabbage worms resting after a good meal.

salids, from which in twelve days the third brood of butterflies comes out in September. Eggs are again laid, and from these hatch the caterpillars which are usually so abundant in late autumn. These change into the chrysalids which pass the winter under fence-rails and other places.

Quite often in autumn many cabbage-worms appear bloated and sickly. They are sluggish and have no desire to eat. If some of the