

of honey, and are cemented together with dark wax, in which the original breeding cells are discovered.

The rose-leaf cutter Bee has been long the subject of particular interest, from the extraordinary skill with which she fabricates her nest. After selecting a fitting cavity in the interstices of walls, dead wood, or making for herself a cylindrical hole in indurated earth, about half a foot deep, she proceeds to line the gallery with the leaves of the rose-tree in a most ingenious manner, without using any adhesive matter whatever, depending upon the elasticity of each leaf to preserve it in its position. Every person must have observed those curious segments which are often cut from the leaves of the garden rose; and we, more than once, have had some difficulty in overcoming the scepticism of our friends, as to their origin—whom ocular proof alone was capable of convincing. We have repeatedly watched the process, which may be witnessed any hour of a summer day, and could not sufficiently admire both the rapid manner in which, as with a pair of scissors, the excision was effected, and the neatness and mathematical accuracy of the curve, by which the section was separated from the body of the leaf. This the bee carries between her legs to some convenient spot, and of such materials a succession of cells is constructed—the convex portion of one fitting into the mouth of the other, like a number of thimbles, until the gallery is filled up. In each cell is deposited a single egg, with a portion of honey and polen; the circular piece, which encloses the chamber, being as just and well defined as though it had been marked out with a pair of compasses. The manner in which the various fragments are arranged throughout, suggests a knowledge of the most subtle principles of mechanical art. In a somewhat similar mode the poppy bee lines her nest with a splendid tapestry, furnished from the scarlet petals of the flowers of the wild poppy, presenting a most brilliant appearance.

In the foregoing instances, with the exception of the carder bee, the mothers being of solitary habits, leave their eggs to be developed in the progress of time, after providing subsistence for the wants of the young grubs. We now come to insects living in social intercourse, and guided in unity of purpose and the equal distribution of labour, by as strict and anxious economy as the internal arrangements of a rational community. Here we remark the most indefatigable care and devotion to the rearing of the young, which ceases not during those

progressive stages through which their perfect organization is alone acquired. We need not dwell upon the history of the hive bee, so celebrated, from the earliest times, for affording a valuable luxury to man. It has furnished a theme for the song of the poet and the pen of the philosopher; the strong attachment shown to its offspring, and the abundant stores of nourishment which is appropriated to their use are too well known to need repetition here.

The social wasp, though not contributing directly to our necessities, may still be looked upon as a rival of the bee, in the beauty and regularity of its architecture. The material of which its hexagonal cells are formed, is highly interesting. As this insect is by nature a paper maker, fabricating it of the grey fibres of old wood, worked into a pulp with its mandibles, and moistened with fluid: therefore has this little animal been in quiet possession of a secret, which, for many ages, was unknown to mankind—and employed in manufacturing paper for its own uses, from the commencement of the world; availing itself of an art which it required centuries of human ingenuity to discover. The wasp does not secrete honey; the cells being appropriated to larvae. Their nests are of several forms, and situated in different localities; some, as the common wasp, burrow in the earth an excavation suitable to building, or take possession of the deserted nest of the field mouse, or other small animals, in which to establish a colony, which is the labour of a single female, as her associates, for the most part, perish during the previous winter. The first care of the little architect is to line the cavity with numerous layers of strong paper, which are not in juxtaposition, but separated by interstices, thereby rendering the envelope of her intended city thicker than it otherwise would be. After this is completed, she commences the rudiments of the first range of cells working from the top downwards until it is finished, when a second floor, or hanging terrace, is constructed, which is suspended from the first by minute pillars, and being circular every space is occupied with numerous hexagonal cells, made of paper, as before mentioned. After some time thus employed, the industrious insect desists partly from her toil, and seeks food for the young brood which soon emerges from the eggs deposited by the mother in every cell, while the process of building goes on. In a short time these grubs become perfect wasps, and assist their common parent in the general economy of the nest—manufacturing new platforms of cells, until the whole interesting edi-