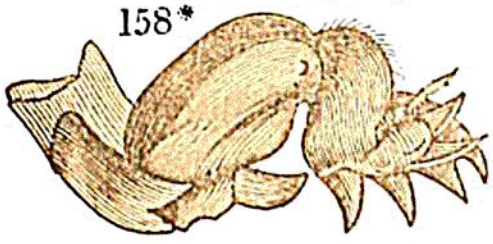
the moist earth through which it moves, and with a form of body enabling it to penetrate with least resistance the opposing medium. By being endowed with the power of moving as easily in a backward as in a forward direction, it is enabled quickly to retreat in the narrow channel it has excavated: and as a safeguard in these retrograde movements, it is provided with a pair of posterior appendages, which are supplied with large nerves, and may be regarded as serving the purpose of caudal antennæ.

The fore-legs, (one of which is represented in Fig. 158*) are the burrowing implements, and they are admirably calculated for their peculiar office, both in their shape and in the mode of articulation of their several divisions, which bear a considerable analogy to the corresponding member of the mole. Dr. Kidd observes, that, compared with the other legs, and with the general size of the animal, they are as if the brawny hand and arm of a robust dwarf were set on the body of a delicate infant; and the indications of strength which their structure manifests, fully answer to their extraordinary size. For a more particular description of the mechanism of this instrument, I must refer the reader to the paper above quoted.

158*



§ 9. *Flight of Insects.*

If the excellence of a mechanic art be measured by the difficulties to be surmounted in the attainment of its object, none surely would rank higher than that which has accomplished the flight of a living animal. No human skill has yet contrived the construction of an automaton, capable, by the operation of an internal force, of sustaining itself in the air in opposition to gravity, for even a few minutes; and far less of performing in that element the evolutions which we daily witness even in the lowest of the insect tribes. to the ultimate attainment of this faculty it would appear that all the transformations they undergo in external appear-