

to each other, so as to enable the compass to take its proper horizontal position, independently of any inclination of the ship.

The *tibia*, or *shank* (s,) is joined at an acute angle with the femur; and is frequently either beset with spines, or else notched or serrated.

The *tarsus*, or foot (r,) is the last division of the limb: it is divided into several joints, which have been supposed to represent those of the toes of quadrupeds. The joints are generally of the hinge kind, but some are met with of a more rounded form, and approaching to that of the ball and socket. The whole structure is most admirably adapted to its exact application over all the inequalities of the surfaces on which the insect treads. But as the habits and modes of life of this numerous class are exceedingly diversified, so the form of the feet admits of greater variety than that of any other part of the limb.

The feet of insects diverge, and spread over a wide surface; thus extending the base of support so as to ensure the stability of their bodies in the most perfect manner. When the legs are very long, as in the *Tipula*,\* the body seems, indeed, more to be suspended than supported by them; contrary to what obtains in quadrupeds, where the feet are more immediately underneath the points at which they are connected with the trunk.

The last joint of the tarsus is generally terminated by a claw, which is sometimes single and sometimes double, and which contributes to fasten the foot, under a variety of circumstances, both of action and of repose. By means of feet thus armed, the insect can ascend or descend the perpendicular sides of a rough body with the greatest ease; but it is scarcely able to advance a single step upon glass, or other polished surfaces, even when horizontal. The hooks at the ends of the anterior pair of feet are directed backwards, those of the middle pair inwards, and of the posterior pair forwards; thus affording the greatest possible security against displacement.

\* It has been conjectured that the object in furnishing this insect with legs of so great a length is that of enabling it to walk among blades of grass.