ing disposed in seven rows, the number in each regularly diminishing from the base to the apex; an arrangement which is shown in Fig. 421.*

The compound eyes of insects are formed of a vast number of separate cylinders or elongated cones,† closely packed together on the surface of a central bulb, which may be considered as a part of the optic nerve; while their united bases or outer extremities constitute the surface of a hemispherical convexity, which often occupies a considerable space on each side of the head. The usual shape of each of these bases is that of a hexagon, a form which admits of their uniform arrangement with the greatest economy of space, like the cells of a honey-comb; and the hexagonal divisions of the surface are very plainly discernible on viewing the surface of these eyes with a microscope, especially as there is a thin layer of black pigment intervening between each, like mortar between the layers of brick. The appearance they present in the *Melolontha*, when highly magnified, is shown in Fig. 422.‡ The internal structure of these eyes will be best understood from the section of that of the *Libellula vulgata*, or gray Dragon-fly, shown in Fig. 424, aided by the highly magnified views of smaller portions given in the succeeding figures, in all of which the same letters of reference are used to indicate the same objects.§ The whole outer layer (c c) of the compound eye may be considered

* Kirby and Spence's Introduction, &c., iii. 494.

† The number of these cones or cylinders which compose the entire organ differs much in different species. In the ant, there are only 50; in a *Scarabæus*, 3180; in the *Bombyx mori*, 6236; in the house-fly (Musca domestica,) 8000; in the *Melolontha vulgaris*, 8820; in the *Phalena cossus*, 11,300; in the *Libellula*, 12,544; in the *Papilio*, 17,325; and in the *Mordella*, 25,088.

‡ In the *Phalenæ*, and other tribes, they are arranged in squares (as shown in Fig. 423,) instead of hexagons, and frequently much less regularly; as must necessarily happen, in many parts, from the curvature of the spherical surface.

§ These figures, as well as the account of the anatomy of the eye of the Libellula, are taken from the memoir of Dugès, in the Annales des Sciences Naturelles, xx. 341.