are joined, outside the foramen, by a bar of bone which exhibits a deep sulcus on its upper surface for the passage of the corresponding spinal nerve.[1]

First Cervical Vertebra.—The first cervical vertebra (Fig. 86) is named the **atlas** because it supports the globe of the head. Its chief peculiarity is that it has no body, and this is due to the fact that the body of the atlas has fused with that of the next vertebra. Its other peculiarities are that it has no spinous process, is ring-like, and consists of an anterior and a posterior arch and two lateral masses. The **anterior arch** forms about one-fifth of the ring: its anterior surface is convex, and presents at its center the **anterior tubercle** for the attachment of the Longus colli muscles; posteriorly it is concave, and marked by a smooth, oval or circular facet (*fovea dentis*), for articulation with the odontoid process (*dens*) of the axis. The upper and lower borders respectively give attachment to the anterior atlanto-occipital membrane and the anterior atlantoaxial ligament; the former connects it with the occipital bone above, and the latter with the axis below. The **posterior arch** forms about two-fifths of the circumference of the ring: it ends behind in the **posterior tubercle**, which is the rudiment of a spinous process and gives origin to the Recti capitis posteriores minores. The diminutive size of this process prevents any interference with the movements between the atlas and the skull. The posterior part of the arch presents above and behind a rounded edge for

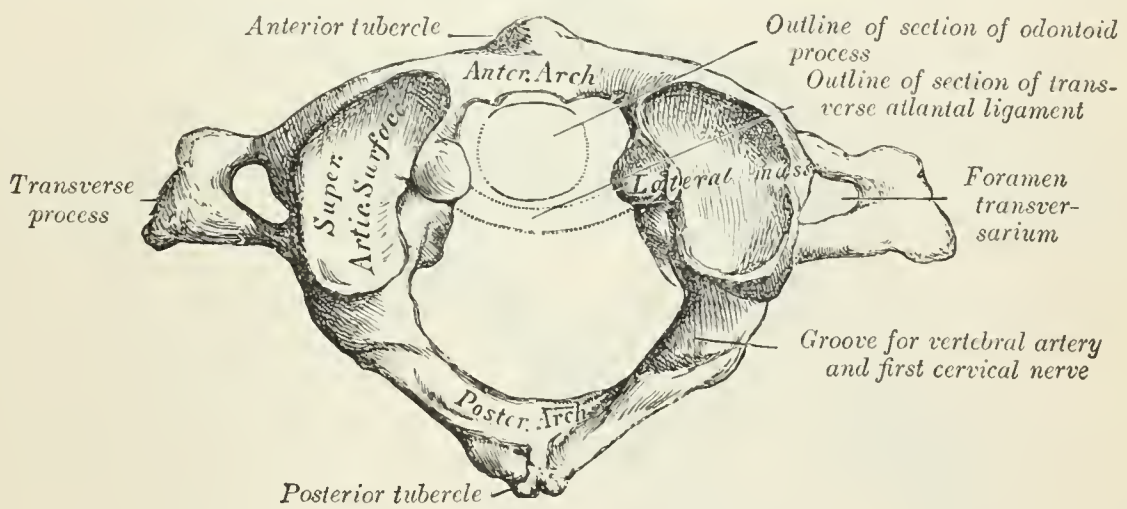

FIG. 86.—First cervical vertebra, or atlas.

the attachment of the posterior atlantoöccipital membrane, while immediately behind each superior articular process is a groove (*sulcus arteriæ vertebralis*), sometimes converted into a foramen by a delicate bony spiculum which arches backward from the posterior end of the superior articular process. This groove represents the superior vertebral notch, and serves for the transmission of the vertebral artery, which, after ascending through the foramen in the transverse process, winds around the lateral mass in a direction backward and medialward; it also transmits the suboccipital (first spinal) nerve. On the under surface of the posterior arch, behind the articular facets, are two shallow grooves, the **inferior vertebral notches.** The lower border gives attachment to the posterior atlanto-axial ligament, which connects it with the axis. The **lateral masses** are the most bulky and solid parts of the atlas, in order to support the weight of the head. Each carries two articular facets, a superior and an inferior. The **superior facets** are of large size, oval, concave, and approach each other in front, but diverge behind: they are directed upward, medialward, and a little backward, each forming a cup for the corresponding condyle of the occipital bone, and are admirably adapted to the nodding movements of the head. Not infrequently they are

[1] The *costal element* of a cervical vertebra not only includes the portion which springs from the side of the body, but the anterior and posterior tubercles and the bar of bone which connects them (Fig. 67).