it is the hardest of all animal substances, and is capable of striking fire with steel. It exhibits a fibrous structure, approaching to a crystalline arrangement, and the direction of its fibres, as shown by the form of its fragments when broken, is every where perpendicular to the surface of the ivory to which it is applied. The ends of the fibres are thus alone exposed to the friction of the substances on which the teeth are made to act; and the effect of that friction in wearing the enamel is thus rendered the least possible.

In the teeth of some quadrupeds, as of the *Rhinoceros* the *Hippopotamus*, and most of the Rodentia, the enamel is intermixed with the ivory, and the two so disposed as to form jointly the surface for mastication. In the progress of life, the layers of enamel, being the hardest, are less worn down by friction than those of the ivory, and therefore form prominent ridges on the grinding surface, preserving it always in that rough condition, which best adapts it for the bruising and comminuting of hard substances.

The incisors of the rodentia are guarded by a plate of enamel on their anterior convex surfaces only; so that by the wearing down of the ivory behind this plate, a wedge-like form, of which the enamel constitutes the fine cutting edge, is soon given to the tooth, and is constantly retained as long as the tooth lasts (Fig. 280.) This mode of growth is admirably calculated to preserve these chisel teeth fit for use during the whole lifetime of the animal, an object of greater consequence in this description of teeth than in others, which continue to grow only during a limited period. The same arrangement, attended with similar advantages, is adopted in the structure of the tusks of the *Hippopotamus*.

In teeth of a more complex structure, a third substance is found, uniting the vertical plates of ivory and enamel, and performing the office of an external cement. This substance has received various names, but it is most commonly known by that of the *Crusta petrosa:* it resembles ivory both in its composition and its extreme hardness; but is generally more opaque and yellow than that substance.