

stance of a black or brown colour, rarely of a light yellow; their joints are ochreous; and the springs of water issuing from them are tinged by iron. Some of them contain roundish or ovate masses of *argillaceous ironstone*, and even thin strata of it, in which are coaly impressions of vegetables. One of these beds of ironstone which occurs towards the middle of the coal series in a line traversing the field in the parallel of Tupton is remarkable for abundant impressions of muscle shells; whence it is known by the name of the muscle band. It is worked as an ornamental marble. The thickness of this bed is 8 or 10 inches. These ironstones dip, of course, with the strata, beneath the grass; and the workings of them, which are numerous, are begun at the surface, and pursued until it becomes dangerous, from the loose nature of the stratum in which they lie, to follow them deeper. In some places, where the texture of the bed is favourable, the iron-ore has been followed down 35 or 40 yards. This ore also is found in the beds which are by the miners called *Binds*, which appear to be beds of indurated loam, or of sand and clay mixed and indurated, and which are enclosed in the shale just noticed; the bind falls to pieces on exposure, however hard it may be in its natural state and position. When the sand abounds, and the bed is very hard, it is called stone-bind, and it then contains scales of mica. Binds are black, or blue, yellow, grey, &c. Some of the very hard black binds are used as black chalk by the stone mason. Others when decomposed become good brick clay, as well as the *Clunches*, which we have yet to notice. Clunch is indurated clay, and yields those infusible kinds which are adapted for fire-bricks; it varies in hardness, and is black, grey, yellow, white, &c. Clunch is generally found immediately beneath each bed of coal, and at the places where it bassets or crops out on the surface, becomes soft clay.

A hard argillaceous rock called *Crowstone* forms in some places the floor of the coal-beds. This may perhaps be considered as a variety of the clunch, still more highly indurated.

Potters clay of various hues and qualities occurs in this coal-field.

In consequence of the disturbance created by the faults presently to be described, Mr. Farey had not, at the period of publishing his report, ascertained the exact number or order of the coal-seams in this field: but according to the manager of the Alfreton coal works (see Bakewell, 384), in the whole of this range there are thirty different beds of coal, varying from six inches to 11 feet; and the total thickness of coal is 26 yards. This, however, is only offered as an approximation.

There is an account of some of the coal-seams near the south-