may have been formed by injection from below, in the same manner as the veins of unstratified rock. But this supposition will not account for the alteration in the character and thickness of veins, which has been observed when they leave one rock and enter another. The general tendency of the veins to take a north and south, or east and west direction, is another fact unexplained by this theory. It has been supposed that electricity has been an active agent in their formation, and the interesting experiments made by Mr. Fox give some probability to the opinion. Farther experiment, however, is necessary, before any theory can be established.

COAL MEASURES.

Having explained the general characters and appearances of the two great classes of rocks, the stratified and the unstratified, we shall now proceed to illustrate their combination by the description of a series of beds. For this purpose we have chosen that collection called the coal measures, not only because they furnish us with that most useful and important mineral, coal, but also because they are perhaps more adapted to our purpose than any other series of rocks.

The coal measures consist of various beds of sandstone, shale, or slate clay, and coal, irregularly interstratified. The coal does not occur as a single bed of considerable thickness, but a series of beds are met with, in some instances as many as thirty or forty, alternating with the sandstone and shale. The nature of the coal measures will be better understood by the following table of the beds which have been passed through at the coal-works of Rowley, in South Staffordshire, than by any description that could be given.

				Feet	In.
Of Coal,	11 beds,	Total thickness		81	7
Limestone, . . .	1	. . . .	.	30	0
Slate Clay (Shale), .	30	. . . .	.	715	8
Gravel, . . .	1	. . . .	.	6	0
Bituminous Shale, .	2	. . . .	.	6	7
Sandstone, . . .	13	. . . .	.	82	10
Shale (emitting fire-damp),	1	. . .	.		3
Clay, ...	2	. . . .	.	9	9
Ditto (coaly), . .	2	. . . .	.	1	1
Ditto (red), . . .	1	. . . .	.	5	6
Soil, ...	1	. . . .	.	1	0
				940	3