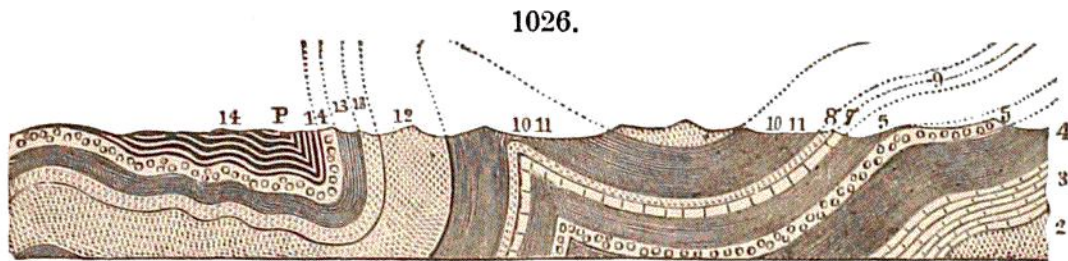


section from the heart of the Anthracite region, between Nesquehoning Valley on the west (left in section), and Mauch Chunk. It is from the Report of C. A. Ashburner, of the Geological Survey of Pennsylvania. The length is about 1200 yards (the scale of the figure being 1000 feet to the inch). The flexures to the west have their summits pushed westward 40° beyond the vertical. The folded rocks consist of beds of Anthracite, and intervening strata of shale and sandstone; and the Anthracite beds include the great "Mammoth bed" (lettered at its outcrop E, E,¹ E²), which is 13 to 27 feet thick, and the bed F (outcropping at F,¹ F,² F,³ F,⁴ F⁵), 11 to 20 feet thick, besides one of eight to nine feet. The "Mammoth bed" is doubled on itself at E¹. Fig. 1026, from Lesley, is from the Anthracite



Section on the Schuylkill, Pa.; P, Pottsville, on the Coal-measures (14). Lesley.

region of Pottsville, about 30 miles south of west of Mauch Chunk. All the Paleozoic formations from the bottom of the Paleozoic (2) to the last, the Carboniferous (14), are here flexed together: No. 2 being Cambrian; 3, Canadian; 4, Trenton; 5, Niagara; 7, Lower Helderberg; 8, Oriskany; 9, Corniferous; 10, Hamilton; 11, 12, Upper Devonian; 13, Subcarboniferous; 14, Carboniferous. Fig. 1027, from H. D. Rogers, in which the flexures

1027.



Section of the Coal-measures, half a mile west of Trevorton Gap, Pa. H. D. Rogers.

are more gentle, is from Trevorton Gap, 45 miles west of Mauch Chunk. The whole Anthracite region has been thus upturned.

Constitution of the Coal-measures.—Beds of sandstone, shale, clay, and limestone, with occasional beds of coal, and a bed of fire clay commonly beneath the coal-bed, make up the Coal-measures. About one foot in 40 of the total thickness is usually good coal; but in the Upper and Lower Productive Measures, the proportion is larger, rising to one foot in 20.

The following tables, 1 A, 1 B, 2, 3, 4, derived from the reports of the recent Pennsylvania Survey (1, 2, and 3, by J. J. Stevenson, and 4, by H. M. Chance) will give a general idea of the many coal-beds in the series in western Pennsylvania, from the Upper Barren series to the Lower Productive Measures, and of their alternating beds of sandstone, shale, limestone, fire clay, and iron ore: