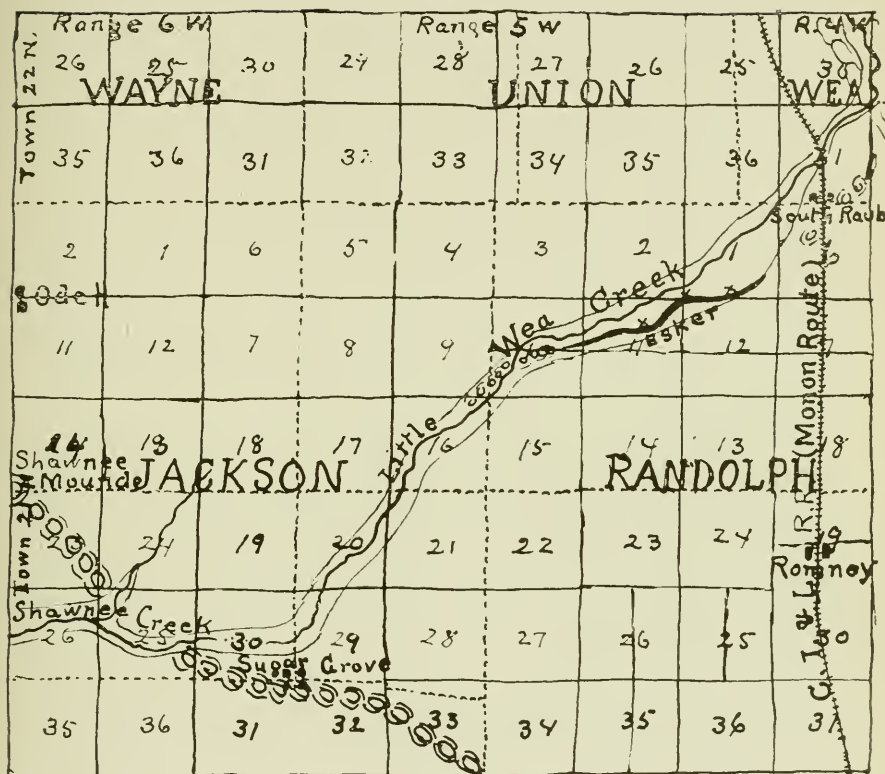


AN ESKER IN TIPPECANOE COUNTY, IND.

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An Esker in Tippecanoe County, Indiana.

An esker or serpent kame is a serpentine ridge of sand and gravel evidently formed by a stream flowing in a tunnel at the bottom of a glacier or in a canyon through it.

An interesting example of this feature extends through sections 1, 2, 11, and 10, Town 21 north, Range 5 west, in Tippecanoe County, Indiana. Its northeast end is about one-half mile southwest of South Raub, a station on the C. I. & L. Ry. (Monon Route) nine miles south of Lafayette.

From the station and railway, it is visible and easily distinguished from the bordering prairie lands by its forested surface.

This ridge exceeds two miles in length and varies in height from a few feet at the ends to fifty or sixty feet along the main body. Its sides slope at angles of 20° to 35° away from the arching crest. Its height is quite uniform, but few irregularities occurring in the whole length. The base of the ridge is from twenty to thirty rods wide.

An interesting observation is that the outside or convex sides of bends have the steeper slopes, a fact bearing on the theory of stream origin.

The material is stream gravel assorted from the glacial drift arranged in layers which slope to the southwest. This arrangement of the material indicates stream action and shows the course of the stream that deposited the esker. Excavations to obtain gravel for road making occur at points x x x shown on the map and the characteristic structure is shown in each. Mounds of gravel occur in line with the general trend of the esker at each end. A chain of these elevations extends a mile from the southwest end.

The valley, a half mile wide, comprising the esker trough, extends from the vicinity of South Raub station to the Independence-Darlington moraine near Sugar Grove, where it crosses the divide and connects with the valley of Shawnee Creek, which flows west. The trough is now traversed by the Little Wea Creek, which flows northeast, just the reverse of direction followed by the stream which built the esker. This creek rises at the gap through the moraine at Sugar Grove and it leaves the trough by a deep narrow valley through another moraine at a little distance north of South Raub. Mounds of gravel near the station and further to the northeast may lie in the course of the stream that deposited the esker.

The problem of the slope of the esker trough opposite to the direction of the sub-glacial stream that originally corradoed it suggests the explanation of hydrostatic pressure in the tunnel.

The cause of the deposit of gravel and sand as an esker may be related to the reverse slope of the esker trough causing the stream to grade up to a slope line in the opposite direction, which would carry it over the divide at Sugar Grove.