Chains

eastern position in azimuth, which occurred about 3h. 38m. a. m., l. m. t., I plunged the telescope and marked a point in the line thus determined on a hub firmly set in the ground 5 chs. N. of my station. I immediately reversed the telescope and made another observation similar to the first, the point in line falling 0.2 ins. west of the point determined by the first observation. The mean of these two points is taken to mark the most easterly position of the star in azimuth.

At 7h. 45m., a. m., l. m. t., I lay off the azimuth of Polaris 1° 32' to the west and mark a point in the meridian thus determined by a tack driven in a hub firmly set in the ground 5 chs. N. of my station.

The magnetic bearing of the true meridian at 7h. 50m., a. m., is N. 18° 53' W.; the angle thus determined gives the magnetic declination 18° 53' E.

At 8h. Om. a. m., l. m. t., I set off 41° 23' N. on the latitude arc; 20° 13½' N. on the declination arc, and determine a meridian with the solar, a point in line thereof falling 0.2 ins. east of the point in the meridian determined by an observation on Polaris.

At 4h. Om. p. m., l. m. t., I set off 41° 23' N. on the lat. arc; 20° 17½' N. on the declination arc; and determine a meridian with the solar apparatus, a point in the meridian thus determined being identical with the point in the Polaris meridian.

The solar apparatus, by a. m. and p. m. observations, defines positions for meridians, respectively about 0' 10" east and 0' 00" west of the meridian established by the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

All measurements on the surveys in this township were made with a 5 ch. steel Lallie tape which was frequently tested and compared with a 1 ch. standard steel tape. Slope angles were determined with a clinometer. May 21,1916.

The standard cor. of Tps. 41 N., Rs. 31 and 32 E. is a porphyry stone, 6 X 7 X 14 ins., firmly set in a mound of stone, marked with 6 grooves on the north, east ,