

The line is permanently marked by carefully preserving the positions of the old monuments by means of a frame work which is erected over the spot and a nail so placed that when a plumb line is attached the plummet will hang exactly over the centre of the monument. A hole is then excavated to a depth of four feet and three feet square unless the solid rock is met with to prevent excavating to that depth. A base consisting of rock, gravel, sand and cement in proper proportions is prepared and the iron post, after being filled with cement, is replaced and carefully plumbed so that the centre is replaced as it stood originally. When the weather is favorable for cement work not more than six sacks (about 550 lbs.) are required for each monument but in the fall when it begins to freeze and the cement sets slowly two or three sacks additional are used. When owing to high hills or ridges the monuments found on the ground are not inter-visible, monuments consisting of cement about twelve inches square and terminating in a point are used. These monuments are first cast in a frame and are reinforced with four iron rods one near each corner. These monuments are so set that they rise about ten inches above the base, or altogether about two feet above the ground. The base of all monuments is in the form of a pyramid rising about six inches from the four sides to the centre. These monuments are so placed that they are inter-visible and at some points several monuments can be seen with a telescope in both directions.

Where the boundary is defined by the centre of a stream a system of triangulation has been carried along using the quadrilateral system so that distances are determined by two independent means and also the latitudes and departures; the level lines are run for the purpose of determining the elevations above sea level and marking the contours on the maps. For the purpose of carrying this triangulation along streams through the woods, lines had to be opened out for both the sides and diagonals of the figures so as to measure all the angles; and additional bases measured with great care at frequent intervals. At the intersections of lines, hubs, similar to those described above for