

Now, Thomas, you are a practical farmer and own a yoke of oxen. What would you do in such a case? "Divide the farm off with fences." That's a good idea, but how? Explain. "Across and across, making square lots and number the lots." A very good idea. The old man bettered it though. Can you tell me how, George? "Yes, he put fences around and around, a *measure* apart, but first he placed a large stake in the center, like this, make it on your slates, and make circles for the fences. Then he ran fences from the road which bounded his farm all around, and made them a measure apart, and brought them to a centre at the great post in the middle. So you see there were 360 of them and the lots could be located. Put lines on your diagram for the north and south fences too. He began at his house right here where he had a high tower and numbered the fences from 1 to 180, then on the other side from 1 to 180. Then he numbered the round fences from 1 to 90. Now you see he could send his men to fence No. 45 north of the road, to fence No. 70 west of the house to cut ice, others to 77 west and 43 north to gather hay, and others to 120 west to bring fruit or dig gold, and they could find their way by the numbered fences. Now I will rest and you may ask questions.

"Was the old man's name Uncle Sam?" I think it was John something who first adopted the plan, but Uncle Sam who owns the same kind of a farm on the other side of the road, soon began to count from his house at Washington, so now there are two ways of locating ships and cities. You will see the number of the fences on your maps at top and bottom. Yes, I mean the world of course. Right, Mary, the stake is the North Pole. So you have found the map of the northern hemisphere and think it resembles your diagram. Certainly I know you cannot make 360 marks for fences, but you can make 36, that will make them 10 what apart—"10 measures?" Yes, the measures mean degrees and every degree is you know 69.25 of our common miles."

Now if you knew that a city was in 74 west and that another was in 88 west, how would you tell the distance in miles between them? Yes, multiply, their differences in number by 69.25. But if one place is east and one west then multiply the sum of their numbered fences by 69.25. You know ships could not sail without fear of losing their way on the great ocean if they could not calculate with a wonderful instrument just how far they are from the equator, which is our imaginary "road," and what number of our fences they are near.

Now shut your eyes and imagine you see a great ball marked off in squares with two poles sticking out and a belt of fire around the middle, with our two farms fenced off and numbered. That is one world. Our side of the fence is called north latitude, the other south. From the first high tower to the left is called east longitude, to the right west longitude. The fiery belt or road is a great circle