

# Finding & Clearing Land

## Gunter's Chain of a hundred links

Figure 1. Source: Shinn, Eric, *Our Vanishing Landscape*, New York: Fark and Wagstaff, 1985, p. 33. (Cook Library).

A rod and a perch are the same thing.  
A rod is 20 links or 16 1/2 feet. There are 4 rods in a chain.

1 1000  
66 ft. (4 rods)

Figure 2. Source: Shinn, Eric, *Our Vanishing Landscape*, New York: Fark and Wagstaff, 1985, p. 33. (Cook Library).

## Surveying the Land

In order to be able to sell parcels of land, the land had to first be surveyed and parcel boundaries mapped out. Accurate measurements had to be taken and recorded on a map showing the boundaries and specific features, such as lakes, rivers, mountains, etc., present within each parcel of land. Special equipment and skills were needed for this job.

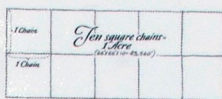


Figure 4. Source: Shinn, Eric, *Our Vanishing Landscape*, New York: Fark and Wagstaff, 1985, p. 33. (Cook Library).

## The Surveyor's Chain

The land chain was invented by Reverend Edmund Gunter in 1620.

Gunter's interest in geometry led him to develop a method of surveying using triangulation. Linear measurements could be taken between topographical features such as corners of a field, and using triangulation the field or other area could be plotted on a plane, and its area calculated. A chain 66 feet long, with intermediate measurements indicated, was habitually used for the purpose, and is called Gunter's chain. The length of the chain normally used led to the linear measurement of 66 feet being called a chain.

The chain contains 100 links, each measuring 7.92 inches. The length of the chain is equal to 4 rods, 22 yards, or 66 feet. A mile is equal to 80 chains in length. A furlong is equal to 10 chains in length.

A legal acre contains 10 square chains or 4840 square yards, 43,560 square feet or 100,000 square links.

Tallies or tally pins are used with a chain to mark measurements. The tallies are of brass, and have one, two, three or four notches, as they mark ten, twenty, thirty or forty links from either end. The fiftieth link is marked by a rounded tally to distinguish it from the others.



Figure 3. From Shinn, Eric, *American Landmarking*, New York: Fark and Wagstaff, 1986, p. 113.

## THE PRACTICAL SURVEYOR.

CHAPTER I.  
THE MAN AND HIS TOOLS.

This practice of land surveying consists in taking such measurements, both angular and linear, as will enable a person to delineate accurately on a map or plan, according to a truly horizontal scale, the several boundaries of fields, lands, gardens, rivers, ponds, woods, roads, houses, buildings, and the like, together with anything that may be upon the surface of the ground within such boundaries. It further embraces the computation of the area of the property so surveyed.

The principal essentials for a surveyor are, first, a good sound and handy constitution—for a man who cannot walk twenty miles per day regularly in almost any weather or temperature, will never make a good and rapid surveyor; secondly, a suitable outfit in the way of clothes, boots, &c.; and thirdly, a supply of accurate and well-made field and office instruments. I will first treat of what I consider the best outfit for a really practical surveyor engaged upon a survey some distance from home. The clothes should be of a close tough cloth, so that in going through hedges, underwood, briars, ferns, and similar obstructions of a prickly nature, the body shall be well protected.

Excerpt for "The Practical Surveyor" by Samuel Wylie published in 1725.

## The Rod

The surveyor's rod, also known as a pole or a perch, is a particularly important piece of material culture. Essentially a long wooden staff of 16 1/2 English feet, this standardized length allowed early surveyors to measure distances accurately. More importantly, this length was the basis of a system of area calculation that also allowed the early surveyor to very accurately lay out a specified area of land without complicated calculation. This particular length of 16 1/2 feet has had an enormous influence on surveying and land development, although the rod itself has not been in common use for over two centuries.



## Mapping Tamworth

The first "map" of Tamworth was done in 1766. It was on the back of the Charter of Tamworth under the Province Seal T. Atkinson, Jun. Secy. Recorded October 14, 1766. This map simply shows the shape, boundaries and number of acres that make up Tamworth.

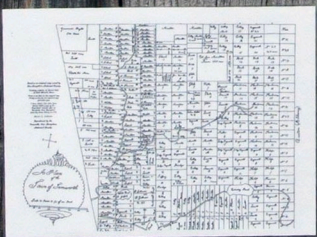
## The Grid Pattern

The grid plan or gridiron plan is a type of city plan in which streets run at right angles to each other, forming a grid. In the context of the culture of Ancient Greece, the grid plan is called Hippodamian plan.

Many of the earliest cities in the United States, such as Boston, did not start with a grid system. However, even in the pre-revolutionary days some cities saw the benefits of such a layout. New Haven Colony, one of the earliest colonies in America, was designed with a tiny 9-square grid at its founding in 1636.

## Tamworth 1775

In 1775, "A Plan of the Town of Tamworth" was laid out. This map shows the numbered parcels of land, the number of acres for each parcel, and the owner of the property. It also shows the rivers and ponds that lie within Tamworth's borders.



## Theodolite

## Theodolite

One of the earliest surveying tools was the theodolite. The first mention of the theodolite was found in the surveying text *Pantometria*, written in 1571 by Thomas Digges. A theodolite is an instrument that looks a bit like a small telescope mounted on a tripod.

The device can be used to calculate the distance from its location to a specified point—usually a guy wearing a hard hat and holding a pole. The surveyor can look through the eyepiece of the theodolite, which contains mirrors and a small, etched piece of glass to measure distance, and gather the information he needs to triangulate the property. This device was the most widely used piece of surveying equipment for 200 years, until the invention of the total station in the 1970s.