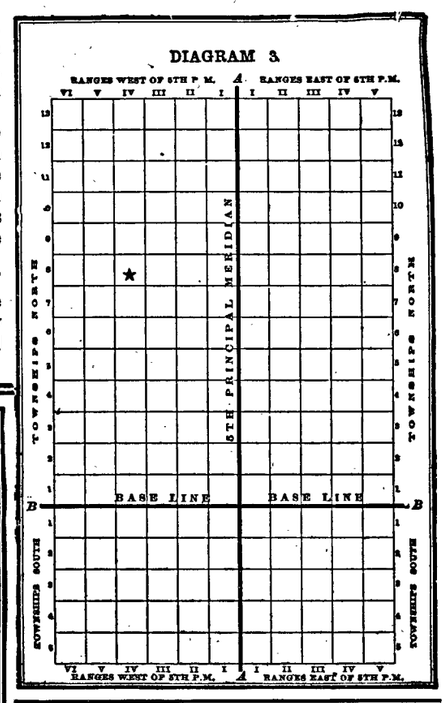
These lines are termed "Range Lines." They divide the land into strips or divisions six miles wide, extending North and South, parallel with the Meridian. Each division is called a Range. Ranges are numbered from one upward, commencing at the Meridian; and their numbers are indicated by Roman characters. For instance, the first division (or first six miles) west of the Meridian is Range I. West; the next is Range II. West; then comes Range III., IV., V., VI., VII., and so on, until the territory governed by another Principal Meridian is reached. In the same manner the Ranges East of the Meridian are numbered, the words East or West being always used to indicate the direction from the Principal Meridian. See Diagram 3.

Commencing at the Base Line, at intervals of six miles, lines are run East and West parallel with the Base Line. These are designated as Township Lines. They divide the land into strips or divisions six miles wide, extending East and West, parallel with the Base Line. This plan is followed both North and South of the Base Line until the territory governed by another Principal Meridian and Base Line is reached. These divisions or Townships are numbered from one upward, both North and South of the Base Line, and their numbers are indicated by figures. For instance: The first six mile division North of the Base Line is Township 1 North; the next is Township 2 North; then comes Township 3, 4, 5, and 6, North, and so on. The same plan is followed South of the Base Line; the Townships being designated as Township 1 South, Township 2 South, and so on. The "North" or "South" (the initials N. or S. being generally used) indicates the direction from the Base Line. See Diagram 3.

These Township and Range Lines, crossing each other, as shown in Diagram 3, form squares, which are called "Townships" or "Government Townships," which are six miles square, or as nearly that as it is possible to make them. These Townships are a very important feature in locating or describing a piece of land. The location of a Government Township, however, is very readily found when the number of the Township and Range is given, by merely counting the number indicated from the Base Line and Principal Meridian. As an example of this, Township 8 North, Range 4, West of the 5th Principal Meridian, is at once located on the square marked ★ on Diagram 3, by counting eight tiers north of the Base Line and 4 tiers west of the Meridian.

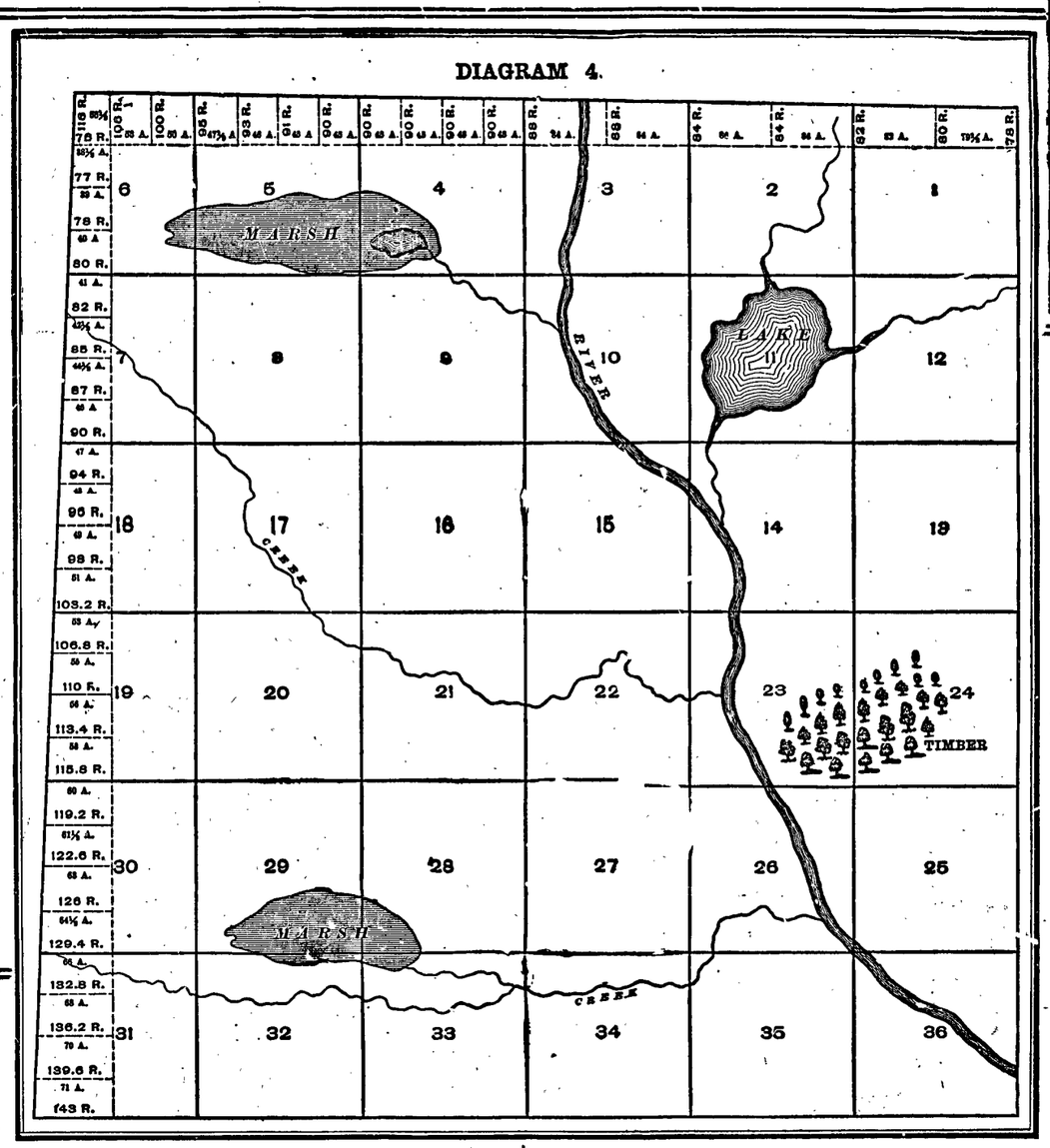


TOWNSHIPS OF LAND.

TOWNSHIPS are the largest subdivisions of land run out by the United States Surveyors. In the Governmental Surveys Township Lines are the first to be run, and a Township Corner is established every six miles and marked. This is called "Townshipping." After the Township Corners have been carefully located, the Section and Quarter Section Corners are established. Each Township is six miles square and contains 23,040 acres, or 36 square miles, as near as it is possible to make them. This, however, is frequently made impossible by: (1st) the presence of lakes and large streams; (2nd) by State boundaries not falling exactly on Township Lines; (3rd) by the convergence of Meridians or curvature of the earth's surface; and (4th) by inaccurate surveys.

Each Township, unless it is one of the exceptional cases referred to, is divided into 36 squares, which are called Sections. These Sections are intended to be one mile, or 320 rods, square and contain 640 acres of land. Sections are numbered consecutively from 1 to 36, as shown on Diagram 4. Beginning with Section 1 in the Northeast Corner, they run West to 6, then East to 12, then West to 18, and so on, back and forth, until they end with Section 36 in the Southeast Corner.

Diagram 4 shows a plat of a Township as it is divided and platted by the government surveyors. These Townships are called Government Townships or Congressional Townships, to distinguish them from Civil Townships or organized Townships, as frequently the lines of organized Townships do not conform to the Government Township lines.

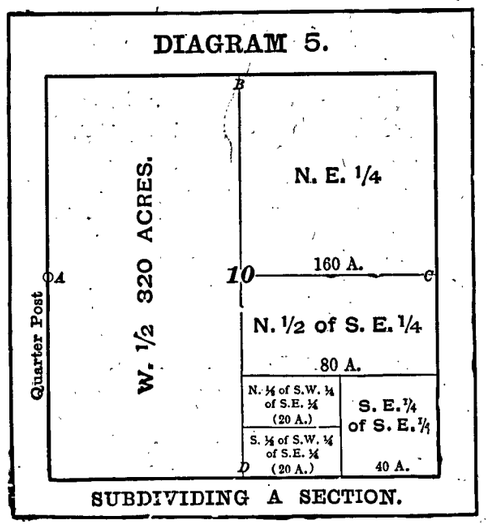


SECTIONS OF LAND.

DIAGRAM 5 illustrates how a section may be subdivided, although the Diagram only gives a few of the many subdivisions into which a section may be divided. All Sections (except fractional Sections) are supposed to be 320 rods, or one mile, square and therefore contain 640 acres—a number easily divisible. Sections are subdivided into fractional parts to suit the convenience of the owners of the land. A half-section contains 320 acres; a quarter-section contains 160 acres; half of a quarter contains 80 acres, and quarter of a quarter contains 40 acres, and so on. Each piece of land is described according to the portion of the section which it embraces—as the Northeast quarter of Section 10; or the Southeast quarter of the Southeast quarter of Section 10. Diagram 5 shows how many of these subdivisions are platted, and also shows the plan of designating and describing them by initial letters as each parcel of land on the Diagram is marked with its description.

As has already been stated, all Sections (except Fractional Sections which are explained elsewhere) are supposed to contain 640 acres, and even though mistakes have been made in surveying, as is frequently the case, making sections larger or smaller than 640 acres, the Government recognizes no variation, but sells or grants each regular section as containing 640 acres "more or less."

The Government Surveyors are not required to subdivide sections by running lines within them, but they usually establish Quarter Posts on Section Lines on each side of a section at the points marked A. B. C. and D. on Diagram 5. After establishing Township corners, Section Lines are the next to be run, and section corners are established. When these are carefully located the Quarter Posts are located at points as nearly equidistant between Section Corners as possible. These corners when established by Government Surveyors cannot be changed, even though it is conclusively shown that mistakes have been made which cause some sections or quarter sections to be either larger or smaller than others. The laws, however, of all the States provide certain rules for local surveyors to follow in dividing Sections into smaller parcels of land than has been outlined in the Governmental surveys. For instance, in dividing a quarter section into two parcels, the distance between the Government Corners is carefully measured and the new post is located at a point equidistant between them. This plan is followed in running out "eighties," "forties," "twenties," etc. In this way, if the Government division overruns or falls short, each portion gains or loses its proportion. This is not the case, however, with Fractional Sections along the North or West sides of a Township, or adjoining a lake or large stream.



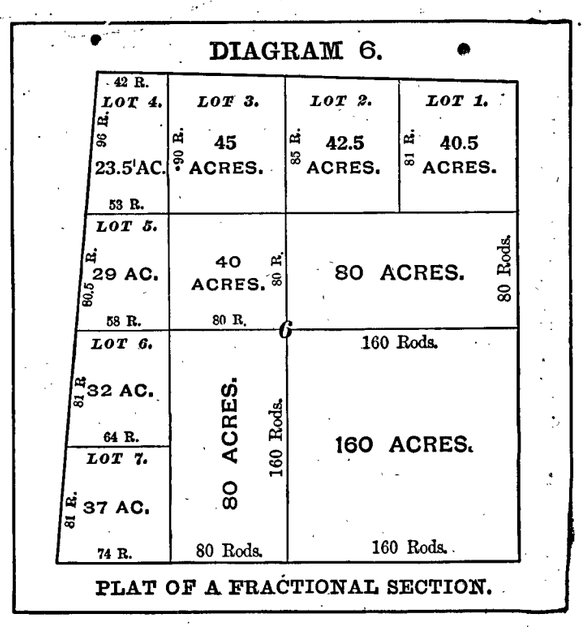
SUBDIVIDING A SECTION.

FRACTIONAL PIECES OF LAND.

CONGRESSIONAL Townships vary considerably as to size and boundaries. Mistakes made in surveying and the fact that Meridians converge as they run North cause every Township to vary more or less from the 23,040 acres which a perfect Township would contain. See Diagram 4. In arranging a Township into Sections all the surplus or deficiency of land is given to, or taken from, the North and West tiers of Sections. In other words, all Sections in the Township are made full—640 acres—except those on the North and West, which are given all the land that is left after forming the other 25 Sections.

Diagram 4 illustrates how the surplus or deficiency is distributed and the Sections it affects. It will be seen that Sections 1, 2, 3, 4, 5, 6, 7, 18, 19, 30 and 31, are the "Fractional Sections," or the Sections which are affected if the Township overruns or falls short. Inside of these Fractional Sections, all of the surplus or deficiency of land (over or under 640 acres) is carried to the "forties" or "eighties" that touch the Township Line. These pieces of land are called "Fractional Forties" or "Fractional Eighties," as the case may be. Diagrams 4 and 6 show the manner of marking the acreage and outlining the boundaries of these "Fractions."

Diagram 6 illustrates how the surplus or deficiency of land inside of these Sections is distributed and which "forties" or "eighties" it affects. From this arrangement it will be seen that in any Section that touches the North or West Township Lines, the Southeast Quarter may be full—160 acres—while another quarter of the same Section may be much larger or smaller. Frequently these fractional "forties" or "eighties" are lotted as shown in Diagram 6. They are always described as fractional tracts of land, as the "fractional S. W. ¼ of Section 6," etc. Of course those portions of these Sections which are not affected by these variations are described in the usual manner—as Southeast ¼ of Section 6. As a rule Townships are narrower at the North than at the South side. The Meridians of Longitude (which run North and South) converge as they run North and South from the Equator. They begin at the Equator with a definite width between them and gradually converge until they all meet at the poles. Now, as the Range lines are run North and South, it will at once be seen that the convergence of Meridians will cause every Congressional Township (North of the Equator) to be narrower at its North than at its South side, as stated. See Diagram 4. In addition to this fact, mistakes of measurement are constantly and almost unavoidably made in running both Township and Range lines, and if no new starting points were established the lines would become confused and unreliable, and the size and shape of Townships materially affected by the time the surveys had extended even a hundred miles from the Base Line and Principal Meridian. In order to correct the surveys and variations caused by the difference of latitude and straighten the lines, "Correction Lines" (or Guide Meridians and Standard Parallels) are established at frequent intervals, usually as follows: North of the Base Line a Correction Line is run East and West parallel with the Base Line, usually every twenty-four miles. South of the Base Line a Correction Line is usually established every thirty miles. Both East and West of the Principal Meridian "Correction Lines" are usually established every 48 miles. All Correction Lines are located by careful measurement, and the succeeding surveys are based upon them.



PLAT OF A FRACTIONAL SECTION.