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(This copy of the "Oregon Manual" is taken from an original volume now in the possession of the National Archives.)

**INSTRUCTIONS
TO THE
SURVEYOR GENERAL OF OREGON;
BEING
A MANUAL
FOR
FIELD OPERATIONS.**

WASHINGTON:
GIDEON AND CO., PRINTERS.
1851.

TO THE SURVEYOR GENERAL OF PUBLIC LANDS IN OREGON.

Under the provisions of the third section of the act of Congress "to reorganize the General Land Office," approved July 4th, 1836, it is made the duty of the officer therein styled PRINCIPAL CLERK OF SURVEYS, "to direct and superintend the making of surveys, the returns thereof, and all matters relating thereto, which are done through the offices of the Surveyors General;" and pursuant to such authority, and by direction of the COMMISSIONER OF THE GENERAL LAND OFFICE, the following MANUAL OF INSTRUCTIONS, as to field duties, has been prepared for your own government and that of the DEPUTY SURVEYORS whom you may employ in the surveying service. These embrace three different heads, as illustrated by the accompanying map and diagrams, marked A, B, C.

First. The preparations preliminary to surveying into townships of the country between the Cascade mountains and the Pacific coast, after having run and established the principal meridian and base lines, as prescribed by the act of 27th September last, creating your office. And these are by means of lines run, at stated intervals, parallel to the principal base, and which are called standard parallels, as shown by the map C.

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Second. The subsequent division of the country into townships of six miles square, of 23,040 acres, "as nearly as may be." And such division has to be effected in reference to the true meridian, by methods which keep in view the convergency on their north of the meridional lines.

Third. The subdivisive survey of the townships into the minor tracts of a mile square, called "sections," containing 640 acres; and those of a half-mile square, called "quarter sections," containing a proportional quantity. Also the subdivisive survey of anomalous lots, having small water fronts, and extending back for quantity, as authorized in certain cases by special enactments.

The true position of boundary corners, on line, is determined by the accurate measurement of the mile and half-mile stations; and wherever the line is arrested by causes recognised by law, [whether such be navigable streams or public or private boundary lines,] the "legal subdivision," whatever it be, becomes a fractional tract of the same denomination it would bear if entire.

The subdivisions of the public lands, which are known to the surveying laws, but the corners of which are not marked in the field at the public expense, are those of the "half quarter section," of eighty acres, and the "quarter quarter section," of forty acres; and also the subdivisions of a certain class of sections termed "fractional," containing 160 acres or over. And these last mentioned are shown by protraction on the official plats of survey, and are laid down on them

at distances having relation to the established corner boundaries, which determine their legal position.

The "half section," of 320 acres, comprises two "quarter sections," adjoining east and west, or north and south.

The aim of the instructions is to attain—

SIMPLICITY in the work, by dispensing, everywhere, with double corners except on the lines termed "standard parallels," which govern the surveys starting from them:

UNIFORMITY, by requiring the boundary monuments to be constructed and established according to like methods under like circumstances; and

PERMANENCY, by requiring those monuments to be so evidenced by collateral testimony, that in case the principal should be destroyed by time or accident, its legal witnesses, of unmistakable import, shall be there. Thus the place of a township or section boundary POST, must be evidenced by four "bearing trees," if to be had, (one in each adjoining township or section, as the case may be,) whose course and distance, kind and diameter, all are to be given in the notes. The place of a boundary MOUND is to be evidenced by a quadrangular trench about its base, whose angles are to the cardinal points, where the corner is common to four; and whose sides are to face the points where the corner is common to two; besides which are the four PITS, (outside the trench,) from whence the earth is dug to form the mound. The earth spaded from the trench is to be thrown up on to its outer edge, so as to form a

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continuous elevated margin, which will tend to make the work conspicuous, and, when covered with grass, will be enduring. And, in view of all possible causes of its decay or destruction, by time or accident, the mound will be evidenced internally, (and as a last resort for legal purposes,) by the deposit, beneath the earth's surface, at the precise point of the corner, of a stone, or a small portion of charcoal, or a small charred stake. Such deposit will occupy but a few moments of time in making it, and is to be identified with the corner by an appropriate citation in the notes.

The prescribed process for constructing mounds, however tedious it may suggest itself from the minute description, will, nevertheless, on practice, be found comparatively simple and easy. The mound is designed by law to perform an enduring office, and time must be taken to make it fulfil its legal intention. The conscientious DEPUTY, and his faithful ASSISTANTS, however remote and secluded from the eye of human surveillance, will, nevertheless, ever keep in view the USES, extending into the indefinite future, which their daily toil is designed by the laws of their country to accomplish for the public good, present and prospective; never losing sight of the important fact that their field work is destined always to remain identified with their respective NAMES and REPUTATION in their own field notes; and that the RECORD of their fidelity or their falsity will be one of their own composing; and, moreover, SEALED with the sanctity of their respective OATHS or affirmations,—two in each case—the first, for their faithful intent to execute their official trust before

entering upon duty; the second, (per act of August, 1846, herein quoted,) for having discharged that trust according to law and instructions, after returning from the field of operations.

This manual has been prepared amidst the pressure of other commanding duties, and its imperfections must hereafter be corrected. It is particularly regretted that, for want of time, the illustrative diagrams could not be lithographed to accompany it. The diagrams A and B will therefore have to be copied at your office for the use of your deputies.

A suggestion will be found, under the appropriate head, that, at MOUND corners, at least, the *seeds* of fruit trees might be planted, with the hope that, in a few brief years, *fruit bearing trees* may mark the place of the corner; and, indeed, the same might be done with advantage at *all* other corners. Your surveying corps will travel over some fields rarely, if ever before, trodden by the white man; and to the extent that such experiment could be made, successfully, in advance of the progressing settlements, would be to confer a benefit to civilization whilst performing a professional duty; and those engaged in the work might, themselves, not unreasonably, expect to reap some of its acceptable results.

I have the honor to be, sir,

Your obedient servant,
JOHN M. MOORE.
Principal Clerk of Surveys.

GENERAL LAND OFFICE,
March 3d, 1851.

Approved:

J. BUTTERFIELD,
Commissioner.

SYSTEM OF RECTANGULAR SURVEYING.

1. The public lands of the United States are ordinarily surveyed into rectangular tracts, bounded by lines conforming to the cardinal points.

2. The public lands are laid off, in the first place, into bodies of land of six miles square, called *Townships*, containing as near as may be 36,000 acres. The Townships are subdivided into thirty-six tracts called *Sections*, of a mile square, each containing, as near as may be, 640 acres. Any number or series of contiguous townships, situate north or south of each other, constitute a *Range*.

The law requires that the lines of the public surveys shall be governed by the true meridian, and that the townships shall be *six miles square*,—two things involving in connexion a mathematical impossibility—for, strictly to conform to the meridian, necessarily throws the township out of square, by reason of the convergency of meridians, and hence, by adhering to the true meri-

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dian, results the necessity of departing from the strict requirements of law as respects the precise area of townships, and the subdivisional parts thereof, the township assuming something of a trapezoidal form, which inequality develops itself, more and more as such, the higher the latitude of the surveys. It is doubtless in view of these circumstances that the law provides (see Sec. 2 of the act of May 18, 1796,) that the sections of a mile square shall contain the quantity of 640 acres, as nearly as may be; and, moreover, provides (see Sec. 3 of the act of 10th May, 1800,) in the following words: "And in all cases where the exterior lines of the townships, thus to be subdivided into sections or half sections, shall exceed, or shall not extend six miles, the excess or deficiency shall be specially noted, and added to or deducted from the western or northern range of sections or half sections in such township, according as the error may be in running the lines from east to west, or from south to north; the sections and half sections bounded on the northern and western lines of such townships shall be sold as containing only the quantity expressed in the returns and plats, respectively, and all others as containing the complete legal quantity."

The accompanying diagrams marked A & B, will serve to illustrate the method of running out the exterior lines of Townships as well on the *north* as on the *south* side of the base line, and also on the *east* and *west* sides of the meridian; and also shewing the method to be pursued in subdividing the townships into sections and quarter sections. The method here presented is de-

signed to ensure as full a compliance with all the requirements, meaning, and intent of the surveying laws as, it is believed, is practicable.

In order to throw the excesses or deficiencies, as the case may be, on the *north* and on the *west* sides of a township according to law, it is necessary to survey the *section* lines from *south* to north on a true meridian, leaving the result in the northern line of the township to be governed by the convexity of the earth and the convergency of meridians, as illustrated in the diagram marked B.

3. The Townships are to bear numbers in respect to the base line either north or south of it; and the tiers of townships, called "Ranges," will bear numbers in respect to the meridian line according to their relative position to it, either on the east or west.

4. The thirty-six sections into which a township is subdivided are numbered, commencing with number *one* at the *northeast* angle of the township, and progressing west to number six, and thence progressing east to number twelve, and so on, alternately, until the number thirty-six in the southeast angle.

5. STANDARD PARALLELS (usually called correction lines), are established at stated intervals to provide for or counteract the error that otherwise would result from the convergency of meridians; and because the public surveys have to be governed by the true meridian, such lines serve also to arrest error arising from inaccuracies in measurements, which, however, must ever be studiously avoided. Such lines, when lying north of the principal base, themselves constitute a *base* to the sur-

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veys lying on the north of them; and where lying south of the principal base, they constitute the base for the surveys lying south of them.

7. In the portion of country in Oregon lying *north* of the Columbia river, it is proposed to have standard parallels run at distances of every *four townships*, or twenty-four miles; and *south* of that river, it is proposed to have such standard parallels at distances of every *five townships*, or thirty miles. Such standards will be found indicated on the accompanying sketch map.

Departures, under certain circumstances, from the ordinary method of subdividing public lands, have been warranted by law; and such it is designed, where circumstances shall indicate the propriety of so doing, to incorporate into the surveying system to be pursued in OREGON.

These are as follows:

By the second section of the act of Congress, approved March 3d, 1811, entitled "An act providing for the final adjustment of claims to lands, and for the sale of the public lands in the Territories of Orleans and Louisiana, and to repeal the act passed for the same purpose, and approved February sixteenth, one thousand eight hundred and eleven," it is required "that the two principal deputy sur-

OF MEASUREMENTS, CHAINING, AND MARKING.

veyors of the Territory of Orleans shall be, and they are hereby, authorized, in surveying and dividing such of the public lands in the said Territory, which are or may be authorized to be surveyed and divided, as are adjacent to any river, lake, creek, bayou, or water course, to vary the mode heretofore prescribed by law, so far as relates to the

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contents of the tracts, and to the angles and boundary lines, and to lay out the same into tracts, as far as practicable, of fifty-eight poles in front, and four hundred and sixty-five poles in depth, of such shape, and bounded by such lines, as the nature of the country will render practicable and most convenient."

By the act of Congress approved May 24th, 1824, entitled "An act changing the mode of surveying the public lands, or any river, lake, bayou, or water course," it is declared "that whenever, in the opinion of the President of the United States, a departure from the ordinary mode of surveying land on any river, lake, bayou, or water course, would promote the public interest, he may direct the Surveyor General, in whose district such land is situated, and where the change is intended to be made, under such rules and regulations as the President may prescribe, to cause the lands thus situated to be surveyed in tracts of two acres in width, fronting on any river, bayou, lake, or water course, and running back the depth of forty acres; which tracts of land, so surveyed, shall be offered for sale entire, instead of in half quarter sections, and in the usual manner, and on the same terms, in all respects, as the other public lands of the United States."

In those localities where it would best subserve the interests of the people to have fronts on the navigable streams, and running back into the uplands for quantity and timber, the principles of the act of May 24th, 1824, may be adopted, and you are authorized to enlarge the quantity, so as to embrace four acres front by forty in depth, forming tracts of one hundred and sixty

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acres. But in so doing it is designed only to survey the lines *between every four lots*, (or 640 acres,) but to establish the boundary posts, or mounds, *in front and in rear*, at the distances requisite to secure the quantity of 160 acres to each lot, either rectangularly, when practicable, or at oblique angles, when otherwise. The angle is not important, so that the principle be maintained, as far as practicable, of making the work to square in the rear with the regular sectioning.

Thus, whenever, in consequence of bends in the course of streams, the rear lines of the lots so formed will not be identical in one prolonged line, such, nevertheless, ought to be, and must be, wherever practicable, lines of right angles to the regular work in the rear. The form and figure of such lots will be fully delineated on your official maps, by platting their side lines. Circumstances may, however, exist where the rear lines cannot be at right angles to the square work.

The numbering of all anomalous lots will commence with No. 37, to avoid the possibility of conflict with the numbering of the regular sections.

1. Where uniformity in the variation of the needle is not found, the public surveys must be made with an instrument operating independently of the magnetic needle. Burts' *improved solar compass*, or other instrument of equal utility, must be used of necessity in such cases; and it is deemed best that such instrument should be used under all circumstances. Where the needle can be relied on, however, the ordinary compass may be used in sub-dividing and meandering.

2. The township lines, and the sub-division lines, will usually be measured by a two-pole chain of thirty-three feet in length, consisting of fifty links, and each link being seven inches and ninety-two hundredths of an inch long. On uniform and level ground, however, the four-pole chain may be used. The deputy surveyor must also have with him a measure of the standard chain, wherewith to compare and adjust the chain in use from day to day with punctuality and carefulness; and must return such standard chain to the surveyor-general's office for examination when his work is completed.

3. The very best *marking tools* adapted to the purpose must be provided, to be used for marking, *neatly and distinctly*, all the letters and figures required to be made at corners.

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OF TALLY PINS.

4. You will use eleven tally pins made of steel, not exceeding fourteen inches in length, weighty enough towards the point to make them drop perpendicularly, and having a ring at the top, in which is to be fixed a piece of red cloth, or something else of conspicuous color, to make them readily seen when stuck in the ground.

PROCESS OF CHAINING.

5. In measuring lines, every *five chains* are called "*a tally*," because at that distance the last of the ten tally pins with which the forward chainman set out will have been stuck. He then cries "tally;" which cry is repeated by the other chainman, and each registers the distance by slipping a thimble, button, or ring of leather, or something of the kind, on a belt worn for that purpose, or by some other convenient method. The hind chainman then comes up, and having counted in the presence of his fellow the tally pins which he has taken up, so that both may be assured that none of the pins have been lost, he then takes the forward end of the chain, and proceeds to set the pins. Thus the chainmen alternately change places, each setting the pins that he has taken up, so that one is forward in all the odd, and the other in all the even tallies. Such procedure, it is believed, tends to ensure accuracy in measurement, facilitates the recollection of the distances to objects on the line, and renders a mis-tally almost impossible.

LEVELLING THE CHAIN AND PLUMBING THE PINS.

6. The length of every line you run, is to be ascertained by precise horizontal measurement, as nearly approximating to an air line as is possible in practice on the earth's surface. This all important object can only be attained by a rigid adherence to the three following observances:

1. Ever keeping the chain *stretched* to its utmost degree of tension on even ground.

2. On uneven ground, keeping the chain not only stretched as aforesaid, but horizontally *levelled*. And when ascending and descending steep ground, hills, or mountains, the chain will have to be *shortened* to one-half its length, (and sometimes more) in order accurately to obtain the true horizontal measure.

3. The careful plumbing of the tally-pins, so as to attain precisely *the spot* where they should be stuck. The more uneven the surface, the greater the caution needed to set the pins.

MARKING LINES.

7. All lines on which are to be established the legal corner boundaries, are to be marked after this method, viz: Those trees which may intercept your line, must have two chops or notches cut on each side of them without any other marks whatever. These are called "*sight trees*," or "*line trees*."

A sufficient number of other trees standing nearest to your line, on either side of it, are to be *blazed* on two sides, diagonally, or quartering towards the line, in order to render the line conspicuous, and readily to be

traced, the blazes to be opposite each other, coinciding in direction with the line where the trees stand very near it, and to approach nearer each other, the further the line passes from the blazed trees. Due care must ever be taken to have the lines so well marked as to be readily followed.

ON TRIAL, OR RANDOM LINES,

the trees are not to be blazed, unless occasionally from indispensable necessity, and then it must be done so guardedly as to prevent the possibility of confounding the marks of the trial line with the *true*. But bushes and limbs of trees may be lopped, and *stakes set* on the trial, or random line, at every *ten* chains, to enable the surveyor on his return to follow and correct the trial line, and establish therefrom the *true line*. To prevent confusion, the temporary stakes set on the trial, or random lines, must be *pulled up* when the surveyor returns to establish the true line.

INSUPERABLE OBJECTS ON LINE— WITNESS POINTS.

8. Under circumstances where your course is obstructed by impassable obstacles, such as ponds, swamps, marshes,

lakes, rivers, creeks, &c., you will prolong the line across such obstacles, by taking the necessary right angle offsets; or, if such be inconvenient, by a traverse or trigonometrical operation, until you regain the line on the opposite side. And in case a north and south, or a true east and west, line is regained in advance of any such obstacle, you will prolong and mark the line back to the obstacle so passed, and state all

the particulars in relation thereto in your field book. And at the intersection of lines with both margins of impassable obstacles, you will establish a *Witness Point*, (for the purpose of perpetuating the intersections therewith,) by setting a post, and giving in your field book the course and distance therefrom, to two trees on opposite sides of the line, each of which trees you will mark with a blaze and notch facing the post; but on the margins of navigable water courses, or navigable lakes, you will mark the trees with the proper number of the fractional section, township, and range.

ESTABLISHING CORNER BOUNDARIES.

To procure the faithful execution of this portion of a surveyor's duty is a matter of the last importance. After a true coursing, and most exact measurements, the corner boundary is the consummation of the work, for which all the previous pains and expenditure have been incurred. If, therefore, the corner boundary be not perpetuated in a workmanlike manner, the *great aim* of the surveying service will not have been attained. A boundary corner, in a timbered country, is to be a *tree*, if one be found at the precise spot; and if not, a *post* is to be planted thereat; and the position of the corner post is to be indicated by trees adjacent, the angular bearings and distances of which from the

corner are facts to be ascertained and registered in your field book. (See article, "Bearing trees.")

In a region where stone abounds the corner boundary will be a small *monument of stones* along side of a single marked stone for a township corner—and a single stone for all other corners.

In a region where timber is not near, and stone not found, the corner will be a *mound of earth*, of prescribed size, varying to suit the case.

The following are the different points for perpetuating corners, viz:

1. For township, boundaries at intervals of every six miles.
2. For section, boundaries at intervals of every mile, or 80 chains.
3. For quarter section, boundaries at intervals of every half mile, or 40 chains.

[The half quarter section boundary is not marked in the field, but is regarded by the law as a point intermediate between the half mile or quarter section corners. See act of

24th April, 1820, entitled "An act making further provision for the sale of the public lands," which act refers to the act of Congress passed on the 11th of February, 1805, entitled "An act concerning mode of surveying the public lands of the United States, for the manner of ascertaining the corners and contents of half quarter sections.

MEANDER CORNER POSTS are planted at all those points where the township or section lines intersect the banks of such rivers, bayous, lakes, or islands, as are by law directed to be meandered.

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The courses and distances on meandered, navigable streams, govern the calculations wherefrom are ascertained the true areas of the tracts of land (sections, quarter sections, &c.) known to the law as *fractional*, and binding on such streams.

MANNER OF ESTABLISHING CORNERS BY MEANS OF POSTS.

Township, sectional, or mile corners, and quarter sectional or half mile corners, will be perpetuated by planting a post at the place of the corner, to be formed of the most durable wood of the forest at hand.

The posts must be set in the earth by digging a hole to admit them, *eighteen inches* deep, and must be very securely rammed in with earth, and also with stone, if any be found at hand. The portion of the post which protrudes above the earth must be *squared off* sufficiently smooth to admit of receiving the marks thereon, to be made with appropriate marking irons, indicating what it stands for. Thus the sides of *township corner posts* must square at least *three inches*, (the post itself being *four inches* in diameter,) and must protrude *two feet* at least above the ground; the sides of *section corner posts* must square at least *two and a half inches*, (the post itself being *three and a half inches* in diameter,) and protrude *eighteen inches* from the ground; and the *quarter section corner posts* and *meander corner posts* must be *three inches* wide, presenting *flattened* surfaces, and protruding *eighteen inches* from the ground.

Where a township post is a corner common to four

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townships, it is to be set in the earth diagonally, thus:
$$\begin{matrix} & N & \\ W \diamond E & & \\ & S & \end{matrix}$$

and the cardinal points of the compass are to be indicated thereon by a cross line, or wedge, (one-eighth of an inch deep

at least,) cut or sawed out of its top, thus:
$$\begin{matrix} & N & \\ W \diamond E & & \\ & S & \end{matrix}$$

On each surface of the post is to be marked the number of the particular township, and its range, which it *faces*. Thus, if the post be a common boundary to four townships, say *one* and *two*, south of the base line, of range *one*, west of the meridian; also to townships *one* and *two*, south of the base line of range *two*, west of the meridian, it is to be marked thus:

From N. to E.	$\left. \begin{matrix} R. & 1 & W. \\ T. & 1 & S. \\ S. & 31 & \end{matrix} \right\}$	from E. to S.	$\left. \begin{matrix} 1 & W. \\ 2 & S. \\ 6 & \end{matrix} \right\}$
From N. to W.	$\left. \begin{matrix} & 2 & W. \\ & 1 & S. \\ & 36 & \end{matrix} \right\}$	from W. to S.	$\left. \begin{matrix} 2 & W. \\ 2 & S. \\ 1 & \end{matrix} \right\}$

These marks are not only to be distinctly but *neatly* cut (chiselled) into the wood, at least the eighth of an inch deep; and to make them yet more *conspicuous* to the eye of the anxious explorer, the faithful deputy must apply to all of them a *streak of red chalk*. The *number* of the *sections* which they respectively *face*, will *also be marked* on the township post.

Section or *mile posts*, being corners of sections, and where such are common to *four* sections, are to be set *diagonally* in the earth, (in the manner provided for township corner posts,) and with a similar cross cut in the top, to indicate the cardinal points of the compass;

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and on each side of the squared surfaces (made smooth, as aforesaid, to receive the marks) is to be marked the appropriate *number* of the particular one of the *four sections*, respectively, which such side *faces*; also on one side thereof are to be *marked* the numbers of its *township* and *range*; and to make such marks yet more *conspicuous*, (in manner aforesaid,) a streak of *red chalk* is to be applied.

In the case of an isolated township, subdivided into thirty-six sections, there are twenty-five interior sections, the southwest corner boundary of each of which will be *common* to four sections. On all the extreme sides of an isolated township, the outer tiers of sections have corners *common* only to *two* sections then surveyed. The posts, however, must be planted precisely like the former, and presenting two *vacant* surfaces to receive the appropriate marks when the adjacent survey may be made.

A quarter section or half mile post is to have no other mark on it than $\frac{1}{4}$ S., to indicate what it stands for.

NOTCHING CORNER POSTS.

Township corner posts are to be notched with *six* notches on each of the four angles of the squared part set to the cardinal points.

All *mile posts* on *township lines* must have as many notches on them, on two opposite *angles* thereof, as they are miles distant from the township corners, respectively. Each of the posts at the corners of sections in the *interior* of a township must indicate, by a number of notches on each of its four corners directed to the cardinal points, the corresponding number of miles that it

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stands from the *outlines* of the township. The four sides of the post will indicate the number of the section they respectively *face*. Should a tree be found at the place of any corner, it will be marked and notched, as aforesaid, and answer for the

corner in lieu of a post—the kind of tree and its diameter being given in the field notes.

BEARING TREES.

The position of all corner posts, or corner trees, of whatever description, which may be established, is to be perpetuated in the following manner, viz: From such post or tree the courses shall be taken, and the distances measured, to two or more adjacent trees, in opposite directions, as nearly as may be, which are called "*bearing trees*," and are to be blazed near the ground, with a large blaze facing the post, and have one notch in it, neatly and plainly made with an axe, square across, and a little below the middle of the blaze. The kind of tree and the diameter of each are facts to be distinctly set forth in the field book.

On each bearing tree the letters B. T., to denote the fact of its being a bearing tree, must be distinctly cut into the wood, in the blaze, a little above the notch, or on the bark, with the number of the range, township, and section.

At all township corners, and at all section corners, on range or township lines, *four* bearing trees are to be marked in this manner, one in each of the adjoining sections.

At interior section corners *four* trees, one to stand

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within each of the four sections to which such corner is common, are to be marked in manner aforesaid, if such be found.

A tree supplying the place of a corner post is to be marked in the manner directed for posts; but if such tree should be a beech, or other *smooth bark* tree, the marks may be made on the *bark*.

From quarter section and meander corners two bearing trees are to be marked, one within each of the adjoining sections.

Where the requisite number of "bearing trees" is not to be found at convenient and suitable distances, such as are found are to be marked as herein directed; but in all such cases of deficiency in the number of bearing trees, (unless, indeed, the boundary itself be a tree,) a *quadrangular trench*, with sides of *five* feet, and with the angles to the cardinal points, must be spaded up outside the corner, as a centre, and the earth carefully thrown on the inside, so as to form a range of earth, which will become covered with grass, and present a small square elevation, which in aftertime will serve to mark, unmistakably, the spot of the corner.

CORNER STONES.

Where it is deemed best to use STONES for boundaries, in lieu of posts, you may, at *any* corner, insert endwise into the ground, to the depth of 7 or 8 inches, a stone, the number of cubic inches in which shall not be less than the number contained in a stone 14 inches long, 12 inches wide, and 3 inches thick—the edges

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of which must be set north and south, on north and south lines, and east and west, on east and west lines—the dimen-

sions of each stone to be given in the field notes at the time of establishing the corner.

MARKING CORNER STONES.

Stones at township corners (a small monument of stones being alongside thereof) must have *six* notches cut with a pick or chisel on each edge or side towards the cardinal points; and where used as section corners on the range and township lines, or as section corners in the interior of a township, they will also be notched by a pick or chisel, to correspond with the directions given for notching posts similarly situated.

Stones, when used as quarter section corners, will have $\frac{1}{4}$ cut on them—on the west side on north and south lines, and on the north side on east and west lines.

MOUNDS.

Whenever bearing trees are not found, mounds of earth, or stone, are to be raised *around posts* on which the corners are to be marked in the manner aforesaid. Wherever a mound of earth is adopted, the same will present a conical shape; but at its base, on the earth's surface, a *quadrangular trench* will be dug; by the "trench" (here meant) is to be understood a *spade deep* of earth thrown up from the four sides of the line, *out side* the trench, so as to form a *continuous elevation along outer edge*. In mounds of earth, common to *four* townships or to *four* sections, they will present the angles of the quadrangular trench (*diagonally*)

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towards the cardinal points. In mounds, common only to *two* townships or *two* sections, the *sides* of the quadrangular trench will *face* the cardinal points. The sides of the quadrangular trench at the base of a township mound are to be *six* feet, the height of mound *three* feet.

At section, quarter section, and meander corners, the sides of the quadrangular trench at base of mounds are to be *five* feet, and the conical height *two and a half* feet.

Prior to piling up the earth to construct a mound, there is to be dug a spade full or two of earth from the corner boundary point, and in the *cavity*, so formed, is to be deposited a *stone*, or a portion of *charcoal*, (the quantity whereof is to be noted in the Field Book;) or in lieu of charcoal or stone, a *charred stake* is to be driven twelve inches down into such centre point; either of those will be a *witness* for the future, and whichever is adopted the fact is to be noted in the Field Book.

When mounds are formed of *earth*, the spot from which the earth is taken is called the "*Pit*," the centre of which ought to be, wherever practicable, at a uniform distance and in a uniform direction from the centre of the mound. There is to be a "*pit*" on *each* side of every mound, distant eighteen inches outside of the trench. The trench may be expected hereafter to be covered by tufts of grass, and thus to indicate the place of the mound, when the mound itself may have become obliterated by time or accident.

At meander corners the "*pit*" is to be directly on the line, *eight links* further from the water than the mound. Wherever necessity is found for deviating

from these rules in respect to the "pits," the course and distance to each is to be stated in the Field Books.

Perpetuity in the mound is a great desideratum. In forming it with light alluvial soil the surveyor may find it necessary to make due allowance for the future settling of the earth, and thus making the mound more elevated than would be necessary in a more compact and tenacious soil, and increasing the base of it. In so doing, the relative proportions between the township mound and other mounds is to be preserved as nearly as may be.

The earth is to be pressed down with the shovel during the process of piling it up. Mounds are to be covered with sod, grass side up, where sod is to be had; but, in forming a mound, sod is never to be wrought up with the earth, because sod decays, and in the process of decomposing it will cause the mound to become porous, and therefore liable to premature destruction.

POSTS IN MOUNDS

Must be squared, and show above the top of the mound some ten or twelve inches, and if the mound be a township or section corner common to four townships, or common to four sections, or if the same be a corner common to two townships or to two sections, the post therein must be planted, marked, and notched, in mode and manner prescribed for ordinary posts in similar situations.

In quarter section mounds the posts will bear the designation 1/4 S.

MOUND MEMORIALS.

Beside the charcoal, stone, or charred stake, one or the other of which must be lodged in the earth at the point of the corner, the deputy surveyor is specially enjoined to plant midway between each pit and the trench, seeds of some tree, (those of fruit trees adapted to the climate being always to be preferred,) so that, in course of time, should such take root, a small clump of trees may possibly hereafter note the place of the corner. The facts of planting such seed, and the kind thereof, are matters to be truthfully noted in the Field Book.

WITNESS MOUNDS TO TOWNSHIP OR SECTION CORNERS.

If a township or section corner, in a situation where bearing or witness trees are not found within a reasonable distance therefrom, shall fall within a ravine, or in any other situation where the nature of the ground, or the circumstances of its locality, shall be such as may prevent, or prove unfavorable to, the erection of a mound, you will perpetuate such corner by selecting, in the immediate vicinity thereof, a suitable plot of ground as a site for a bearing or witness mound and erect thereon, a mound of earth in the same manner and conditioned in every respect, with charcoal, stone, or charred stake, deposited beneath, as before directed; and measure and state, in your Field Book, the distance and course from the position of the true corner of the bearing or witness mound so placed and erected.

DOUBLE CORNERS ON STANDARD PARALLELS.

One being called "Standard Corners" and the others "Closing Corners."

Such corners are to be found nowhere except on the Standard Parallels or Correction lines, whereon are to appear both the corners which mark the intersections of the lines which close thereon, and those from which the surveys start in the opposite direction. Those lines are to be parallels to the principal base line, and therefore parallels of latitude. On those lines, and at the time of running the same, the township, mile, and half-mile, corners are to be planted, and each of these is a corner common to two, [whether township or section corners,] and must be so marked. [As remarked under the proper head, the quarter sectional corner is to be a flattened post protruding two feet from the surface with no other mark than 1/4 S.]

The corners which are established on the standard parallel, at the time of running it, are to be known as "Standard Corners," and, in addition to all the ordinary marks, (as herein prescribed,) they will be marked with the letters S. C.

The standard parallels are designed to be run in advance of the contiguous surveys, but circumstances may exist which will impede, or temporarily delay, the due extension of the standard; and when, from uncontrollable causes, the contiguous townships must be surveyed in advance of the time of extending the standard, in any such event, it will become the duty of the deputy who shall afterwards survey any such standard

lying north of the principal base line, to plant thereon the double sett of corners, to wit, the standard corners to be marked S. C., and the closing ones which are to be marked C. C.; and to make such measurements as may be necessary to connect the closing corners, and complete the unfinished meridional lines of such contiguous and prior surveys, on the principles herein set forth, under the different heads of "Exterior or Township Lines," and "Description of the mode of laying off and surveying Interior or Section Lines."

You will recollect that the corners, (whether township or mile corners,) which are common to two, (two townships, or two sections,) are not to be planted diagonally like those which are common to four, but with the flat sides facing the cardinal points, and on which the marks and notches are made as usual. This, it will be perceived, will serve yet more fully to distinguish the standard parallels from all other lines

THE MEANDERING OF NAVIGABLE STREAMS.

1. Standing with the face looking down stream, the bank on the left hand is termed the "left bank," and that on the right hand the "right bank." These terms are to be universally used to distinguish the two banks of a river or stream.

2. Both banks of *navigable* rivers are to meandered by taking the courses and distances of their sinuosities, and the same are to be entered in the "meander field book."

At those points where either the township or section lines intersect the banks of a navigable stream, POSTS, or, where necessary, MOUNDS of *earth or stone*, are to be established at the time of running these lines. These are called "meander corners;" and in meandering you are to commence at one of those corners on the township line, coursing the banks, and measuring the distance of each course from your commencing corner to the next "meander corner," upon the same or another boundary of the same township; carefully noting your intersection with all intermediate meander corners. By the same method you are to meander the opposite bank of the same river.

When establishing the MEANDER CORNERS on one

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bank of a *navigable* stream, *sight must be taken across* to determine the *precise spot* for planting corresponding corners in *line*, on the *opposite* bank thereof; and such spot must be signaled by a substantial, *temporary* STAKE, square across at top; and whenever, at any subsequent period, the surveyor shall meander the opposite bank of such stream, a permanent POST or MOUND, as already prescribed, will then and there be planted, in lieu of such temporary stake.

When surveying to *the river*, in the opposite fraction of same township, such *pre-established* meander corner must be reached by first running a random line thereunto, ascertaining the amount of its deviation from the corner, and correcting accordingly.

The crossing distance *between* the MEANDER CORNERS, on same line, is to be ascertained by triangulation, in order that the river may be protracted with entire accuracy. The particulars to be given in the field notes.

3. You are also to meander, in manner aforesaid, all *lakes* and deep ponds of the area of twenty-five acres and upwards; also navigable bayous; *shallow* ponds, readily to be drained, or likely to dry up, are not to be meandered.

You will notice all streams of water falling into the river, lake, or bayou you are surveying, stating the width of the same at their mouth; also all springs, noting the size thereof and depth, and whether the water be pure or mineral; also the head and mouth of all bayous; and all islands, rapids, and bars are to be noticed, with intersections to their upper and lower points to establish their exact situation. You will also

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note the elevation of the banks of rivers and streams, the heights of falls and cascades, and the length of rapids.

4. The precise relative position of islands, in a township made fractional by the river in which the same are situated, is to be determined trigonometrically—sighting to a flag or other fixed object on the island, from a special and carefully measured base line, connected with the surveyed lines, on or near the river bank you are to form connexion between the meander corners on the river to points corresponding thereto, in direct line, on the bank of the island, and there establish

the proper meander corners, and calculate the distance across.

5. In meandering lakes, ponds, or bayous, you are to commence at a meander corner upon the township line, and proceed as above directed for the banks of a navigable stream. But where a lake, pond, or bayou lies entirely within the township boundaries, you will commence at a meander corner established in subdividing, and from thence take the course and distance of the entire margin of the stream, noting the intersection with all the meander corners previously established thereon.

6. To meander a pond lying entirely within the boundaries of a section, you will run and measure *two* lines thereunto from the nearest section or quarter section corner on *opposite* sides of such pond, giving the courses of such lines. At *each* of the points where such lines shall intersect the margin of such pond, you will establish a *witness* point, by fixing a post in the ground, and

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raising a mound around it, and taking bearings to any adjacent trees. The relative position of these points being thus definitely fixed in the section, the meandering will commence at one of them, and be continued to the other, noting the intersection, and thence to the beginning. The proceedings are to be fully entered in the field book.

7. In taking the connexion of an island with the main land, when there is no meander corner in line, opposite thereto, to sight from, you will measure a special base from the meander corner nearest to such island, and from such base you will triangulate to some fixed point on the shore of the island, ascertain the distance across, and there establish a *special* meander corner, wherefrom you will commence to meander the island. When surveying on the opposite side of such river, you will there take another connexion with the island, but no corner need be planted.

8. Your field notes of meanders in any one township are to follow immediately after the notes of the subdivision thereof. They are to state and describe particularly the meander corner from which they commenced, each one with which they close, and are to exhibit the meanders of each fractional section separately; following, and composing a part of such notes, will be given a description of the land, timber, depth of inundation to which the bottom is subject, and the banks, current, and bottom of the stream or body of water you are meandering.

9. No blazes or marks of any description are to be made on the lines meandered between the established

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corners, but the utmost care must be taken to pass no object of topography, or *change therein*, without giving a particular description thereof in its proper place in your meander notes.

OF FIELD BOOKS.

1. The FIELD NOTES afford the elements from which the plats and calculations in relation to the public surveys are made. They are the source wherefrom the description and evidence of locations and boundaries are officially delineated and set forth. They, therefore, must be a faithful, distinct, and minute record of every thing officially done and observed by the surveyor and his assistants, pursuant to instructions, in relation to running, measuring, and marking lines, establishing boundary corners, &c.; and present, as far as possible, a full and complete *topographical description* of the country surveyed, as to every matter of useful information, or likely to gratify public curiosity.

These notes must be plainly and neatly written out; be free from blurs, blots, and interlineations; the language precise and clear; the figures, letters, words, and meaning, unmis- takeable.

2. There will be sundry separate and distinct field books of surveys, as follows:

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Field notes of the MERIDIAN and BASE lines, showing the establishment of the *township, section* or mile, and *quarter section* or half mile, boundary corners thereon; with the crossings, of streams, ravines, hills, and mountains; character of soil, timber, minerals, &c. These notes will be arranged, in series, by *mile stations*, from number *one* to number

The mile stations will include the operations at the intermediate half mile stations or quarter section corners, and those will be designated $\frac{1}{4}$ S. Within each mile station will be shown (or, otherwise, be referred to in another book, to be called the *geodetic field book*) *all* the operations appertaining to the station; and each station will exhibit the operations therein, *complete in itself*, either by insertion or reference.

¹Wherever the *levelling* station on line is not the *regular* mile or half mile station, such will be designated alphabetically, *a, b, c, &c.* The levelling operations, triangulations from legal stations, and the angles of altitude and depression of the points triangulated to, will be set forth, in full detail, in the geodetic field book.

3. Field notes of the "STANDARD PARALLELS, or correction lines," will show the establishment of the township, section, and quarter section corners, besides exhibiting the topography of the country on line, as required on the base and meridian lines.

4. Field notes of the EXTERIOR lines of TOWNSHIPS, showing the establishment of the corners on line, and the topography, as aforesaid.

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5. Field notes of the SUBDIVISIONS of TOWNSHIPS into sections and quarter sections; at the close whereof will follow the notes of the MEANDERS of navigable streams. These notes will also show, by *ocular* observation, the estimated rise and fall of the land on the line. A description of the timber, undergrowth, surface, soil, and minerals, upon each section line, is to follow the notes thereof, and not to be mixed up with them.

¹6. The GEODETIC FIELD BOOK will comprise all the operations in ascertaining the width of the streams; the lateral triangulations to remote and distinguishing objects; the angles of apparent altitude or depression of points triangulated to, from the base and meridian lines, or other objects viewed from line. In the same book will be shown the operation and results of the *levelling* on line, at each mile or half mile station, or special station *a, b, c, &c.*; and therein will also appear the barometrical observations in determining the elevation of hills and mountains. From the LINE FIELD BOOKS, and at the appropriate stations, specific references to matters not affecting surface measurements on line, will be made to a corresponding place or page in the "GEODETIC FIELD BOOK" for the full exhibition of the former in all necessary details. Therein will be noted, station by station, in *series*, as they occur, [and at necessary intermediate special stations *a, b, c*, as respects levelling,] all matters of geodesy with which the regular field book will not be encumbered. Each entry in this book will

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be *complete in itself*—separated by a black line from every other—be arranged by stations in series, with cross references between each one to the corresponding entry in the other.

The field notes must, in all cases, be taken precisely in the order in which the work is done on the ground, and the *date* of each day's work must follow immediately after the notes thereof. The *variation of the needle* must always occupy a *separate line* preceding the notes of measurements on line.

The exhibition of every mile of surveying, whether on township or subdivisinal lines, must be *complete in itself*, and be separated by a black line drawn across the paper.

The description of the Surface, Soil, Minerals, Timber, Undergrowth, &c., on *each mile* of line, is to follow the notes of survey of such line, and not be mixed up with them.

No abbreviations of words are allowable, except of such words as are *constantly* occurring, such as "*sec.*" for "*section*;" "*in., diam.,*" for "*inches, diameter*;" "*chs.*" for "*chains*;" "*lks.*" for "*links*;" "*dist.*" for "*distant*," &c. Proper names must never be abbreviated, however often their recurrence.

The nature of the subject matter of the field book is to form its first and title page, showing the State or Territory where the survey lies, by whom surveyed, the date of commencement and date of completion of the work. Between the second and third pages of the line field books a diagram is to be placed, (disconnectedly,) showing the distances on line at the crossings of

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streams of water, and the direction of each by an arrow head pointing down stream; also the intersection on line by Prairies, Marshes, Swamps, Ravines, Lakes, Hills, and all other matters indicated by the notes, to the fullest extent they can be so illustrated. In the field book of SUBDIVISIONS OF TOWNSHIPS the illustrative diagram will show,

1. This book embraces matters treated of in special instructions.

in neat and small figures, the length of the section lines, with all objects set forth in the notes; the outlines of the area occupied by timber, prairies, swamps, &c., to be shown, as nearly as may be, by *dotted* lines.

SUMMARY of objects and data required to be noted:

1. The precise length of every line run, noting all necessary offsets therefrom, with the reason and mode thereof.

2. The kind and diameter of all "*bearing trees*," with the course and distance of the same from their respective corners; and the precise relative position of WITNESS CORNERS to the true corners.

3. The kind of materials (earth or stone) of which MOUNDS are constructed—the fact of their being conditioned according to instructions—with the course and distance of the "*pits*," from the centre of the mound, where necessity exists for deviating from the *general* rule.

4. *Trees on line*. The name, diameter, and distance on line to all trees which it intersects.

5. Intersections by line of *land objects*. The distance at which the line first intersects and then leaves every *settler's claim and improvement*; prairie; river, creek, or other "bottom;" or swamp, marsh, grove,

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and wind fall, with the course of the same at both points of intersection; also the distances at which you begin to ascend, arrive at the top, begin to descend, and reach the foot of all hills and ridges, with their courses, and *estimated* height, in feet, above the level land of the surrounding country, or above the bottom lands, ravines, or waters near which they are situated.

6. Intersections by line of *water objects*. All rivers, creeks, and smaller streams of water which the line crosses; the distance on line at the points of intersection, and their *widths on line*. In cases of *navigable streams*, their width will be ascertained between the *meander corners*, as set forth under the proper head.

7. The land's *surface*—whether level, rolling, broken, or hilly.

8. The *soil*—whether first, second, or third rate.

9. *Timber*—the several kinds of timber and undergrowth.

10. *Bottom lands*—to be described as wet or dry, and if subject to inundation, state to what depth.

11. *Springs of water*—whether fresh, saline, or mineral, with the course of the stream flowing from them.

12. *Lakes and ponds*—describing their banks, and giving their height, and also the depth of water, and whether it be pure or stagnant.

13. *Improvements*. Towns and villages; Indian towns and wigwams; houses or cabins; fields or other improvements; sugar tree groves, sugar camps, mill seats, forges and factories.

14. *Coal banks or beds; peat or turf grounds; mine-*

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als and ores; with particular description of the same as to quality and extent, and all *diggings* therefor; also *salt springs* and licks. All reliable information you can obtain respecting these objects, whether they be on your immediate

line or not, is to appear in the general description to be given at the end of the notes.

15. *Roads and trails*, with their directions, whence and whither.

16. Rapids, cataracts, cascades or falls of water, with the height of their fall, in feet.

17. Precipices, caves, sink-holes, ravines, stone quarries, ledges of rocks, with the kind of stone they afford.

18. *Natural curiosities*, interesting fossils, petrifications, organic remains, &c.; also all ancient works of art, such as mounds, fortifications, embankments, ditches, or objects of like nature.

19. The *variation* of the needle must be noted at all points or places on the lines where there is found any material *change of variation*, and the position of such points must be perfectly identified in the notes.

20. Besides the ordinary notes taken on line, (and which must always be written down on the spot, leaving nothing to be supplied by memory,) the deputy will subjoin, at the conclusion of his book, such further description or information touching any matter or thing connected with the township (or other survey) which he may be able to afford, and may deem useful or necessary to be known—with a *general description* of the township in the *aggregate*, as respects the face of the country, its soil and geological features, timber, minerals, waters, &c.

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SPECIAL INSTRUCTION RESPECTING THE NOTING OF SETTLER'S CLAIMS.

The law requires that such claims should be laid down temporarily on the township plats; in order to do which, it is indispensably necessary to obtain, to some extent, connexions of these claims with the lines of survey. Under the head of "intersection by line of land objects," the deputy is required to note the *points* in line *whereat* it may be intersected by such claims; but, in addition thereto, there must be obtained at least *one angle* of each claim, with its course and distance, either from the point of intersection, or from an established corner boundary, so that its connexion with the regular survey will be legally determined. If the settler's *dwelling* or barn is visible from line, the bearings thereof should be carefully taken from *two* points noted on line, and set forth in the field notes.

AFFIDAVITS TO FIELD NOTES.

21. At the close of the notes and the *general description* (as above) is to follow an affidavit, a form for which is given below; and, to enable the deputy surveyor fully to understand and appreciate the responsibility under which he is acting, his attention is invited to the provisions of the third section of the act of Congress, approved August 8th, 1846, entitled "An act to equalize the compensation of the Surveyors General of the public lands of the United States, and for other purposes," and which is as follows:

"Sec. 3. That the Surveyors General of the public

lands of the United States, in addition to the oath now authorized by law to be administered to deputies on their appointment to office, shall require each of their deputies, on the return of his surveys, to take and subscribe an oath or affirmation that those surveys have been faithfully and correctly executed, according to law and the instructions of the Surveyor General; and on satisfactory evidence being presented to any court of competent jurisdiction, that such surveys, or any part thereof, had not been thus executed, the deputy making such false oath or affirmation shall be deemed guilty of perjury, and shall suffer all the pains and penalties attached to that offence; and the District Attorney of the United States for the time being, in whose district any such false, erroneous, or fraudulent surveys shall have been executed, shall, upon the application of the proper Surveyor General, immediately institute suit upon the bond of such deputy; and the institution of such suit shall act as a lien upon any property owned or held by such deputy, or his sureties, at the time such suit was instituted."

Following the "general description" of the township is to be "A list of the names of the individuals employed to assist in running, measuring, or marking the lines and corners described in the foregoing field notes of township No. _____ of the BASE LINE of range No. _____ of the WILLAMETTE MERIDIAN, showing the respective capacities in which they acted."

(Here will be inserted their names and respective capacities, by whatever name such are designated, followed by their)

CERTIFICATE.

"We hereby certify that we assisted _____, Deputy Surveyor, in subdividing township number _____ of BASE LINE of range number _____ of the WILLAMETTE MERIDIAN, and that said township has been, in all respects to the best of our knowledge and belief, well and faithfully surveyed, and the boundary monuments planted according to the instructions furnished by the Surveyor General."

- A. B., *Chainman,*
- C. D., *Chainman,*
- E. F., *Axeman,*
- G. H., *Axeman,*
- I. K., *Compassman.*

Subscribed and sworn to by the above named persons, before me, at _____ this _____ day of _____ 185____
_____, *Justice of the Peace,*

Or any other officer authorized to administer oaths.

Following such certificate in every Field Book, is to appear the affidavit of the deputy himself in form as follows:

"I, _____, Deputy Surveyor, do solemnly swear, (or affirm,) that in pursuance of a contract with JOHN B. PRESTON, Surveyor General of public lands of the United States in the Territory of OREGON, bearing date the _____ day of _____ A.D. 185____, and in strict conformity to the laws of the United States,

and the instructions furnished by the said Surveyor General, I have faithfully surveyed WILLAMETTE MERIDIAN, in the territory aforesaid, and do further solemnly swear, (or affirm,) that the foregoing are the true and original Field notes of such survey."

_____, *Deputy Surveyor.*

Subscribed by said _____, Deputy Surveyor, and sworn to before me, at _____, this _____ day of _____ 185____.

_____, *Justice of the Peace.*

Or any other officer authorized to administer oaths.

The phraseology of the foregoing forms, (which is adapted to subdivisions of townships,) will be correspondingly modified to suit the circumstances of the surveying work on the base and meridian lines, on standard parallels, and on township exteriors.

FORM OF OATHS BEFORE ENTERING UPON DUTY.

FOR A DEPUTY SURVEYOR.

"I, A. B., having been appointed a Deputy Surveyor of the lands of the United States in the Territory of Oregon, solemnly swear (or affirm) that I will well and faithfully, and to the best of my skill and ability, and according to the laws of the United States, and the instructions of the Surveyor General, perform the duties so confided to me, as I shall answer to God at the great day."

A _____ B _____.

Sworn and subscribed before me, at county of _____, in the Territory of Oregon, this _____ day of _____, A.D. 185____.

E _____ F _____,
Justice of the Peace.

FORM FOR CHAINMEN.

"I, C. D., having been appointed a chainman in the service of A. B., Deputy Surveyor in Oregon, do solemnly swear, (or affirm,) that in all surveys of public lands or private land claims in which I shall be so employed, that I will level the chain in measuring over uneven ground, and well and truly plumb the tally pins, whether sticking or dropping the same; and that I will report the true distance to all notable objects, and the true length of all lines that I may assist in measuring and will mark correctly and distinctly the letters and numbers of all corners that I may be required to mark; and that I will faithfully act as required by said deputy, from time to time, in planting the corner boundaries, whether the same be posts or mounds, either of earth or stone; together with such other services as I shall be called to perform by said deputy in

the discharge of his surveying duties, to the best of my skill and ability; so help me God."

C _____ D _____.

Sworn and subscribed before me, at _____, county of _____, in the Territory of Oregon, this _____ day of _____, A.D. 185__.

E _____ F _____, or
G _____ H _____,
Justice of the Peace.

The oaths of all others, whether designated as axemen, flagbearers, markers, &c., are to be varied to suit the case; each, however, retaining this general clause, viz: "*and that I will otherwise faithfully act as required by said deputy from time to time, in planting the corner boundaries, whether the same be POSTS, or MOUNDS of earth or stone; together with such other services as I shall be called to perform by said deputy in the discharge of his surveying duties.*"

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EXTERIORS OR TOWNSHIP LINES.

The principal meridian, the base line, and the standard parallels having been first run, measured, and marked, according to instructions, on true meridians, and true parallels of latitude, the process of running, measuring, and marking the exterior lines of townships will be as follows:

Townships situated NORTH of the base line, and WEST of the principal meridian.

Commence at No. 1, (see the red figures on diagram A,) being the southwest corner of T. 1 N.—R. 1 W.; as established on the base line; thence north, on a true meridian line, four hundred and eighty chains, establishing the mile and half-mile corners thereon, as per instructions, to No. 2, whereat establish the corner of Tps. 1 and 2 N.—Rs. 1 and 2 W.; thence east, on a random or trial line, setting *temporary* mile and half-mile stakes, to No. 3, where measure and note the distance at which the line intersects the eastern boundary, north or south of the *true* or established corner. Run and measure westward, on the true line, (taking care to note all the land and water crossings, &c., as per instructions,) to No. 4, which is identical with No. 2, establishing the mile and half-mile PERMANENT CORNERS on said line, the last half-mile of which will fall short of forty

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chains, about the amount of the calculated convergency per township. Should it ever happen, however, that such random line materially falls short, or overruns in length, or intersects the eastern boundary of the township at any considerable distance from the *true* corner thereon, (either of which would indicate an important error in the surveying,) the lines must be *retraced*, even if found necessary to remeasure the meridional boundaries of the township (especially the western boundary,) so as to discover and correct the error; in doing

which, the *true corners* must be established and marked, and the *false ones* destroyed and obliterated, to prevent confusion in future; and *all the facts* must be distinctly set forth in the notes. Thence proceed in a similar manner from No. 4 to No. 5, No. 5 to No. 6, No. 6 to No. 7, and so on to No. 10, the southwest corner of T. 4 N.—R. 1 W. Thence north, still on a true meridian line, establishing the mile and half-mile corners, until reaching the STANDARD PARALLEL or correction line; throwing the *excess over*, or *deficiency under*, *four hundred and eighty chains*, on the *last half-mile*, according to law, and at the intersection establishing the "CLOSING CORNER," the distance of which *from* the standard corner must be measured and noted as required by the instructions. But should it ever so happen that some impassable barrier will have prevented or delayed the extension of the standard parallel along and above the field of present survey, then the deputy will plant, in place, the corner for the township, subject to correction thereafter, should such parallel be extended.

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NORTH of the base line, and EAST of the principal meridian.

Commence at No. 1, (red figure) being the *southeast* corner of T. 1 N.—R. 1 E., and proceed as with townships situated "north and west," except that the *random* or trial lines will be run and measured *west*, and the *true* lines, east, throwing the excess over or deficiency under four hundred and eighty chains on the *west* end of the line, as required by law; wherefore, the surveyor will commence his measurement with the length of the deficient or excessive half section boundary on the west of the township, and thus the remaining measurements will all be *even* miles and half-miles.

SOUTH of the base line, and WEST of the principal meridian.

Commence at No. 1, the *northwest* corner of township 1 S., range 1 W., and proceed *due south* in running and measuring line, establishing and marking the mile, half mile, and township corners thereon, precisely in the method prescribed for running NORTH and WEST, with the exception that, in order to throw the excess or deficiency [over or under four hundred and eighty chains] of the *western* boundaries of such of those townships as *close on the standard parallel*, on the *south*, upon the most *northern half mile* of the townships, according to law, the proceeding will be as follows, viz:

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THE MODE OF CLOSING ON THE STANDARD PARALLEL.

The western (meridional) boundary line of every township closing on the standard, (being every *fifth* one,) will be carefully run *south*, on a true meridian, until it intersects the standard, planting stakes and making distinctive marks on line trees, in sufficient number to serve as *guides* in afterwards retracing the line *north* with ease and certainty. At the point of the line's intersection of the standard, the surveyor will establish the "*closing*" (southwest) corner of the township, noting in his field book its distance and direction

from the "standard corner." Then starting from such "closing corner," he will proceed *north* on the line identified by the guide stakes and marks, measuring such line, and establishing thereon the *mile* and *half mile* stations, and noting, as he goes, all the land and water crossings, &c., as elsewhere directed. The surveyor, when nearing the standard, should avoid marking any trees south of it, and obliterate any which inadvertently may be made. The guide stakes are to be pulled up as he proceeds north.

SOUTH of the base line, and EAST of the principal meridian.

Commence at No. 1, at the northeast corner of township 1 S., range 1 E., and proceed precisely as with the townships situated "south and west," except that the *random* lines will be run and measured *west*, and the *true* lines *east*; the deficiency or excess of the measurements being, as in all other cases, thrown upon the most western half mile of line.

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Description of the mode of laying off and surveying the interior or sectional lines of all townships, however situated in reference to the BASE and MERIDIAN lines.

Commence at No. 1, (see *red figures* on diagram B,) the corner established on the township boundary for sections 1, 2, 35, and 36; thence *north* on a true meridian; at 40 chains setting the half mile or quarter section post, and at 80 chains (No. 2) establishing and marking the corner of sections 25, 26, 35, and 36. Thence east, on a *random* line, to No. 3, setting the temporary quarter section post at 40 chains, noting the measurement to No. 3, and the measured distance of the random's intersection *north* or *south* of the true or established corner of sections 25, 36, 30, and 31, on the township boundary. Thence *correct, west*, on the *true* line to No. 4, setting the quarter section post on this line exactly at the *equidistant point*, now known, between the section corners indicated by the red figures Nos. 3 and 4. Proceed, in like manner, from No. 4 to No. 5, 5 to 6, 6 to 7, and so on to No. 16, the corner to sections 1, 2, 11, and 12. Thence *north*, on a random line, to No. 17, setting a temporary quarter section post at 40 chains, noting the length of the whole line, and the measured distance of the random's intersection *east* or *west* of the true corner of sections 1, 2, 35 and 36, established on the township boundary;

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thence *southwardly* from the latter, on a true line, noting the course and distance to No. 18, the established corner to sections 1, 2, 11, and 12, taking care to establish the quarter section corner on the true line, at the distance of 40 chains from said section corner, so as to throw the *excess* or *deficiency* on the northern half mile, according to law. Proceed in like manner through all the intervening tiers of sections to No. 73, the corner to sections 31, 32, 5, and 6; thence *north*, on a true meridian line, to No. 74, establishing the quarter section corner at 40 chains, and at 80 chains the corner to sections 29, 30, 31, and 32; thence *east*, on a random line, to No. 75, setting a temporary quarter section post at 40 chains, noting the measurement to No. 75, and the distance of the random's

intersection *north* or *south* of the established corner of sections 28, 29, 32, and 33; thence *west* from said corner, on the true line, setting the quarter section post at the equidistant point, to No. 76, which is identical with 74; thence *west*, on a random line, to No. 77, setting a temporary quarter section post at 40 chains, noting the measurement to No. 77, and the distance of the random's intersection with the western boundary, *north* or *south* of the established corner of sections 25, 36, 30, and 31; and from No. 77 *correct eastward*, on the true line, *giving its course*, but establishing the quarter section post, on this line, so as to retain the distance of 40 chains from the corner of sections 29, 30, 31, and 32; thereby throwing the *excess* or *deficiency* of measurement on the most western half mile. Proceed *north*, in a similar manner, from No. 78 to 79, 79 to 80, 80 to

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81, and so on to 96, the southeast corner of section 6, where, having established the corner for sections 5, 6, 7, and 8, run thence, successively, on random lines *east* to 95, *north* to 97, and *west* to 99; and by reverse courses *correct on true lines back* to said southeast corner of section 6, establishing the quarter section corners, and noting the courses, distances, &c., as before described.

EXCEPTIONS from the above method, in townships contiguous to standard parallels.

In every township SOUTH of the principal base line, which *closes* on a standard parallel, the deputy will begin at the southeast corner of the township, and measure *west* on the standard, establishing thereon the *mile* and *half-mile* corners, and noting their distances from the pre-established corners. He then will proceed to subdivide, as directed under the above head; and,

In the townships NORTH of the principal base line, which *close* on the standard parallel, the sectional lines must be closed on the standard by true meridians, instead of by course lines, as directed under the above head for townships otherwise situated; and the connexions of the closing corners with the pre-established standard corners are to be ascertained and noted. Such procedure does away with any necessity for running the randoms. But in case he is unable to close the lines on account of the standard not having been run, from some inevitable necessity, as heretofore men-

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tioned, he will plant a *temporary* stake, or mound, at the end of the *sixth* mile, thus leaving the lines and their connexions to be finished, and the *permanent* corners to be planted, at such time as the standard shall be extended.

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EXAMPLE
OF THE
FIELD NOTES
OF
THE EXTERIOR LINES
OF
AN ISOLATED TOWNSHIP.

Field notes of the Survey of township 25 north, of range 2 west, of the the Willamette meridian, in the Territory of OREGON, by Robert Acres, deputy surveyor, under his contract No. 1, bearing date the 2d day of January, 1851.

Ch. lks.		Feet.
2	TOWNSHIP LINES commenced January 20, 1851. Southern boundary variation 18° 41' E.	
East.	On a random line on the south boundaries of sections 31, 32, 33, 34, 35, and 36. Set temporary mile and half mile posts, and intersected the eastern boundary 2 chains 20 links north of the true corner 5 miles 74 chains 53 links. Therefore the correction will be 5 chains 47 links W. 37.1 links S. per mile.	
3	TRUE SOUTHERN BOUNDARY variation 18° 41' E.	
West	On the southern boundary of sec. 36, Jan. 24, 1851.	
40.00	Set qr. sec. post from which a beech 24 in. dia. bears N. 11 E. 38 lks. dist. a do 9 do do S 9 E. 17 do	a 10
62.50	a brook 8 l. wide, course NW	d 10
80.00	Set post cor. of secs. 35 & 36, 1 & 2, from which a beech 9 in. dia. bears S. 46 E. 8 l. dist. a do 8 do do S. 62 W. 7 do. a W. oak 10 do do N. 19 W. 14 do. a B. oak 14 do do N. 22 E. 16 do. Land level, part wet and swampy; timber beech, oak, ash, hickory, &c	a 5

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
4	West	
40.00	On the S. boundary of sec. 35— Set qr. sec. post, with trench, from which a beech 6 in. dia. bears N. 80 E. 8 l. dist. planted SW. a yellow locust seed.	a 10
65.00	To beginning of hill	a 5
80.00	Set post, with trench, cor. of secs. 34 & 35, 2 & 3, from which a beech 10 in. dia. bears S. 51 E. 13 l. dist. Do 10 do do N. 56 W. 9 do.	a 20

- 2. Random tp. S. boundary.
- 3. Timbered corners.
- 4. Deficient timbered corners.

planted SW. a white oak acorn.
NE. a beech nut.
Land level, rich, and good for farming; timber same, some walnut and poplar.

5	West	
40.00	On the S. boundary of sec. 34— Set qr. sec. post with trench, from which a B. oak 10 in. dia. bears N. 2 E. 635 l. dist. Planted SW. a beech nut.	a 5
80.00	To corner of sections 33, 34, 3 and 4, drove charred stakes raised mound with trench as per instructions, and Planted NE. a W. oak ac'n; NW. a yel. locust seed; SE. a butternut; SW. a beech nut. Land level, rich and good for farming, some scattering oak and walnut.	a 10
6	West	
40.00	On the south boundary of section 33— Set qr. section post, deposited one quart of charcoal raised mound with trench as per instructions, and Planted NE. a beech nut; NW. a white oak acorn; SE. a W. O. ac'n; SW. a yel. locust seed.	d 5
62.00	To foot of hill	d 20
80.00	To corner sections 32, 33, 4 and 5, deposited a flint boulder 9 in. diam., raised mound with trench as per instructions, and Planted NE. a hickory nut; NW. a walnut; SE. 4 chesnuts; SW. 4 beech nuts.	d 10
7	West	
37.50	On the south boundary of section 32— A creek 20 links wide, course N.	d 10
40.00	Set qr. sec. stone, a granite 14 X 4 in. with trench as per instructions, and Planted NE. a walnut; NW. a butternut; SE. a beech; SW. a black oak acorn.	a 5

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.	
8	76.00	To swamp	d 15
80.00	To corner secs 31, 32, 5 & 6, in deep swamp, therefore N. 42° E. 200 links dist., raised Witness mound with trench as per instructions, and Planted NE. 4 beech nuts; NW. 4 B. oak acorns; SE. 2 beech nuts; SW. 2 beech nuts. Land rich bottom, part wet.	level	
9	West		
50	On the south boundary of section 31— A brook 10 l. wide, course south	level	
11.00	To beginning of bluff	a 30	
40.00	Set qr. sec., post from which a sugar 27 in. dia. bears S. 81 W. 42 l. dist. a beech 24 do do S. 71 E. 24 do.	a 50	
54.00	To rocky bluff	d 30	
57.50	A spring branch NW	d 10	
61.00	Enter swamp	level	
70.00	Passed do	level	
74.73	To township corner 24 and 25 N., Rs. 2 and 3 W., land 1st rate, scattering sugar and beech	level	

- 5. Mound section corner.
- 6. Mound corners.
- 7. Stone corner.
- 8. Wit. sect. cor's.
- 9. Pre-established Tp. corner.

3	East boundary, var. 17° 51' E., January 25, 1851.	
North.	On the E. boundary of section 36—	
1.00	A brook 5 l. wide, course NW	d 10
18.00	To foot of hill	a 15
20.00	To rocky bluff	a 50
40.00	Set qr. sec., post from which	a 60
	a beech 13 in. dia. bears N. 36 E. 22 l. dist.	
	a poplar 20 do do S. 39 E. 42 do.	
55.00	To rocky bluff	d 40
72.50	A brook 10 l. wide, course NW	d 20
80.00	Set post cor. sect. 25, 36, 30, and 31, from which	a 15
	a beech 24 in. dia. bears S. 38 E. 12 l. dist.	
	a sugar 12 do do N. 81 W. 25 do.	
	a poplar 15 do do N. 20 E. 40 do.	
	a W. oak 9 do do S. 40 W. 60 do.	
	North ½ mile rich and good for farming, south ¼ mile part wet.	

3	North.	On the E. boundary of sec. 25—	
6.00		To foot of hill	a 15
40.00		Set qr. sec. stone, a rose quartz 15 X 3 in., from which	a 25
		a poplar 60 in. dia. bears S. 42 W. 11 l. dist.	
		a beech 9 do do N. 40 W. 3 do.	

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
80.00	Set post cor. of secs. 24, 25, 19, and 80, from which	a 20
	a beech 12 in. dia. bears S. 32 W. 26 l. dist.	
	a do 20 do do N. 64 E. 41 do.	
	a W. oak 10 do do N. 30 W. 13 do.	
	a do 11 do do S. 34 E. 48 do.	
	Land nearly first rate; timber, sugar, beech, walnut, elm, &c.	

3	North.	On the E. boundary of section 24—	
40.00		Set qr. sec. post, from which	d 40
		a buckeye 10 in. dia. bears S. 48 W. 6 l. dist.	
		a do 14 do do N. 39 E. 27 do.	
44.00		To road from Williamsburg to Astoria	d 5
49.00		A creek 150 l. wide, course W	d 20
57.00		A brook 10 l. wide do S.W	level
80.00		Set stone 16 X 2 in., cor. secs. 13 and 24, 18 and 19, from which	a 15
		a walnut 8 in. dia. bears S. 8 W. 5 l. dist.	
		a do 9 do do N. 18 W. 29 do.	
		a beech 6 do do S. 20 E. 40 do.	
		a do 12 do do N. 30 E. 50 do.	
		Land same as on the last mile.	

3	North.	On the E. boundary of sec. 13—	
14.00		To foot of hill	a 15
40.00		Set qr. sec. post, from which	a 30
		a cherry 10 in. dia. bears N. 35 W. 2 l. dist.	
		a do 10 do do S. 52 E. 21 do.	
80.00		Set post cor. of secs. 12, 13, 7, and 18, from which	a 50
		a sugar 10 in. dia. bears S. 42 E. 23 l. dist.	
		a hickory 20 do do N. 39 W. 38 do.	
		a do 15 do do N. 40 E. 14 do.	
		a beech 12 do do S. 36 W. 16 do.	
		Land level, part wet and swampy; timber, oak, beech, lynn, elm, &c.	

3. Timbered corners.

3	North.	On the E. boundary of sec. 12—	
7.00		To second ledge of hill	a 50
40.00		Set qr. sec. post, from which	a 30
		a W. ash 10 in. dia. bears N. 35 W. 15 l. dist.	
		an elm 10 do do S. 83 E. 2 do.	
68.00		To steep bluff	a 50

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
80.00	Set post cor. of secs. 1, 12, 6, and 7, from which	a 100
	a beech 10 in. dia. bears S. 40 E. 6 l. dist.	
	a do 10 do do N. 40 W. 28 do.	
	an elm 12 do do N. 46 E. 30 do.	
	a hickory 10 do do S. 55 W. 40 do.	
	Land similar to last mile.	

10	North.	On the E. boundary of sec. 1—	
9.00		To steep bluff	d 100
40.00		Set qr. sec. post, from which	d 50
		a poplar 9 in. dia. bears N. 76 E. 7 l. dist.	
		a do 9 do do S. 22 E. 15 do.	
44.00		To open prairie	d 30
80.00		To cor. tps. 25 and 26 N., Rs. 1 and 2 W. Drove	
		a charred stake	d 10
		Raised mound with trench, as per instructions, and Planted NW. 4 chestnuts. SW. 2 hickory nuts.	
		NE. 4 cherry stones. SE. 4 W. oak acorns.	
		Land very rich and good for farming; timber	
		1st half mile, beech, sugar, ash, walnut, &c.; last half mile, prairie.	

11	East.	Northern boundary, var. 18° 41' E.—	
		On a RANDOM line on the north boundaries of sections 6, 5, 4, 3, 2, 1, [at 190 c. 09 l. to right bank of Chickeeles river where offset 7 c. 63 l. north, and at 30 c., came back to line at left bank of river,] set temporary mile and half mile posts, and intersected E. boundary at 25 l. N. of true corner of tps. 25 and 26 N., R. 1 and 2 W. 5 m. 76 c. 53 l. Therefore the correction will be 3 c. 47 l. W. 4.2 l. S. per mile.	

12	West.	True north boundary, var. 18° 41' E.	
		On the northern boundary of sec. 1, Jan. 27, 1851.	
24.50		A brook 12 l. wide, course N	a 10
40.00		Set qr. sec. post from which	d 10
		a beech 24 in. dia. bears N. 11 E. 38 l. dist.	
		a do 9 do do S. 9 W. 19 do.	
80.00		Set stone (a rose quartz) 12 X 3, from which	d 20
		a buckeye 9 in. dia. bears N. 66 E. 15 l. dist.	
		an elm 36 do do S. 65 W. 8 do.	
		an elm 20 do do N. 4 W. 10 do.	
		a buckeye 10 do do S. 40 E. 20 do.	
		Land level and first rate timber; beech, sugar, walnut, elm, oak, &c.	

3. Timbered corners.

6. Mound corners.

10. Mound with fruit trees.

11. Random township line.

12. Stone cor. with bearing trees.

Township 25 N., Range W., Willamette Mer.

Ch. lks.		Feet.
3 West.	On N. boundary of sec. 2—	
40.00	Set qr. sec. post, from which a W. oak 9 in. dia. bears N. 24 E. 28 l. dist. a buckeye 11 do do S. 48 W. 9 do.	d 20
80.00	Set post cor. of secs. 2, 3, 34, and 35, from which a sugar 27 in. dia. bears N. 44 W. 30 l. dist. a do 14 do do S. 30 E. 14 do. a do 15 do do N. 46 E. 15 do. a beech 16 do do S. 35 W. 16 do. Land same as on the last mile.	d 15
6 West.	On the N. boundary of sec. 3—	
9.00	Enter wet prairie	d 10
17.00	Beautiful spring branch SW	level
22.00	Passed prairie	level
40.00	Set qr. sec. post, from which a W. walnut 6 in. dia. bears N. 64 E. 7 l. dist. a do 12 do do S. 73 W. 31 do.	a 10
75.00	Enter prairie	d 10
80.00	To cor, secs. 3, 4, 33, and 34 drove a charred stake Raised mound, with trench, as per instructions, and Planted NW. a W. oak ac'n; SW. a wild cherry stone. NE. a beech nut; SE. a butternut. Land same as on last mile.	level
13 West.	On N. boundary of sec. 4—	
2.00	A spring branch 3 l. wide, course N	level
3.50	Passed prairie	a 5
21.50	A spring branch 15 l. wide, course NW	d 5
40.00	A B. walnut 30 in. dia. stands for qr. sec. cor., from which a buckeye 9 in. dia. bears S. 45 E. 11 l. dist.	level
46.44	Set post on left bank of Chickeeles river, from which an elm 8 in. dia. bears N. 71 E. 5 l. dist. an elm 9 do do S. 19 W. 6 do. The line running in the river, an offset was made due north of 7 c. 63 l.; and at 30 c. came back to true line.	level
14 76.44	Set post on right bank of river Chickeeles, in John Burton's claim, from which a cherry 6 in. dia. bears N. 61 E. 17 l. dist. a sugar 23 do do west 20 l.	level
80.00	Set post, cor. to secs. 4, 5, 32, and 33, in John Burton's claim, from which a hackberry 7 in. dia. bears N. 67 E. 17 l. dist.	a 20

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
	a sugar 19 in. dia. bears N. 71 W. 43 l. dist. a beech 20 do do S. 20 E. 50 do. a locust 14 do do S. 30 W. 16 do. Land first rate river bottom.	

- 15 West. On N. boundary of sec. 5—
- 3. Timbered corners.
 - 6. Mound corners.
 - 13. A corner tree.
 - 14. Offset at river.
 - 15. Claim line intersected.

24.40	A W. oak 16 in dia	a 10
40.00	Set qr. sec. post, from which a hickory 8 in. dia. bears N. 88 E. 40 l. dist. a mulberry 14 do do N. 69 W. 103 do.	a 10
42.73	A B. ash 15 in. dia	a 3
44.58	Intersect lower boundary line of John Burton's claim, 640 acres, as near as could be ascertained; course SE.	a 3
80.00	Set post, cor. of secs. 5, 6, 35, and 36, from which a sugar 19 in. dia. bears N. 89 E. 60 l. dist. an elm 14 do do N. 12 W. 24 do. an elm 15 do do S. 14 W. 23 do. a sugar 16 do do S. 15 E. 26 do. Land broken, and first rate; timber, sugar, walnut, and oak, und'gr. elm and spice.	d 10
16 West.	On the N. boundary of sec. 6	
8.00	To swamp	d 10
13.26	A R. oak 33 in. dia	level
34.30	A hickory 18 in. dia	level
40.00	Set qr. sec. post, from which a burr oak 27 in. dia. bears N. 49 E. 46 l. dist. a sugar 20 do do N. 56 W. 60 do.	level
48.65	A stream 14 l. wide, course S	level
67.40	A W. oak 28 in dia	level
76.53	To established cor. tps. 25 and 26, rs. 2 and 3 W	level
	Land level, second rate; timber, oak and hickory, und'gr. hazel and hickory. Jan. 28, 1851.	
17	West boundary, variation 18° 56' E.	
North.	On the west boundary of sec. 31—	
8.56	Set post on left bank of Willamette river, from which a hackberry 11 in. dia., bears N. 50 E. 11 l. dist. a sycamore 60 do do S. 15 W. 24 do	d 20
34.50	Set post meander cor. on right bank of river in Henry William's claim of 640 acres, from which a beech 10 in. dia., bears S. 2 E. 12 l. dist. a B. oak 12 do do N. 80 W. 16 do	level

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
80.00	Set post corner of secs. 30, 31, 25, and 36 in Henry William's claim a beech 14 in. dia., bears N. 20 E. 14 l. dist. a do 16 do do S. 40 W. 16 do a hickory 9 do do N. 25 W. 12 do a W. oak 10 do do S. 44 E. 20 do	a 20

18 North.	On west boundary of sec. 30—	
27.73	Set post, meander cor., on right bank of Chickeeles river in H. William's reserve a willow 6 in. dia. bears S. 50 E. 11 l. dist. a do 5 do do S. 65 lks. Then as follows, to Upper river corner of William's claim, S. W. as pointed out— N. 20 W. 2 chs. N. 35 W. 4 chs. N. 25 W. 8 chs. N. 40 W. 10 chs.	d 20
39.00	Set post, meander corner, on left bank of Chickeeles river, from which a hickory 8 in. dia. bears N. 72 W. 8 l. dist.	level

- 16. Trees on line.
- 17. Through a claim.
- 18. Connexion to claim corner.

40.00	a W. oak 8 do do N. 44 E. 17 do Set qr. sec. post, from which a hickory 9 in. dia. bears N. 16 E. 16 l. dist. a buckeye 10 do do S. 16 E. 18 do	level	3.00 40.00
80.00	Set post cor. of secs. 19, 30, 24, and 25, from which a sugar 15 in. dia. bears N. 49 W. 4 l. dist. an elm 6 do do N. 82 E. 25 do. an do 9 do do S. 42 W. 30 do. a sugar 10 do do S. 55 E. 45 do. Land rich, and good for farming.	a 20	61.11 80.00
¹⁹ North.	On the W. boundary of sec. 19— A hackberry 20 in. diam. at the meander cor. on left bank of Chickeeles river	d 20	
32.50			
40.00	Qr. sec. corner in river, from which a beech 12 in. dia. N. 40 E. 95 l. dist. a do 14 do S. 55 E. 120 do.	level	
51.80	Set post at meander corner on right bank of Chickeeles river, from which a lynn 15 in. dia. bears N. 28 W. 32 l. dist. a poplar 15 do do S. 61 W. 78 do	level	
80.00	Set post cor. of sec. 18, 19, 13, and 24, from which a R. oak 27 in. dia. bears S. 26 W. 20 l. dist. a W. oak 17 do do N. 64 W. 18 do. a do 18 do do N. 55 E. 24 do. a R. oak 15 do do S. 29 E. 40 do. Land rolling, 2d rate; timber oak, hickory; un'gr. oak and sassafras.	a 20	

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
North.	On the W. boundary of sec. 18—	
21.88	A R. oak 20 in. dia.	a 10
38.60	A W. oak 24 do	a 18
40.00	Set qr. sec. post, from which a W. oak 23 in. dia. bears S. 28 W. 92 l. dist. a do 22 do do N. 27 W. 26 do	a 2
68.37	A B. walnut 21 in. dia.	a 15
80.00	Set post cor. secs. 7, 18, 12, and 13, from which a buckeye 16 in. dia. bears S. 40 W. 55 l. dist a do 8 do do N. 53 W. 40 do. a R. oak 10 do do S. 44 E. 50 do. a W. oak 12 do do N. 55 E. 68 do. Land level, 1st rate; timber walnut, buckeye, and sugar; und'gr. sugar and elm.	a 5
²⁰ North.	On W. boundary of sec. 7—	
15.18	A W. oak 15 in. dia.	d 10
30.26	A do 21 do	d 5
40.00	Set qr. sec. post, from which a W. oak 12 in. dia. bears S. 13 W. 60 l. dist. a do 15 do do N. 35 W. 55 do.	d 5
68.37	A B. walnut 21 in. dia.	d 10
80.00	Set post cor. of secs. 6, 7, 1, 2, from which a W. oak 18 in. dia. bears S. 52 W. 20 l. dist. a do 18 do do N. 54 W. 51 do. a do 16 do do N. 58 E. 60 do. a hickory 14 do do S. 64 E. 42 do. Land gently rolling, 2d rate, timber oak, hickory; und'gr. hazel and oak.	d 15
²¹ North.	On W. boundary of sec. 6—	

- 19. Corner in river.
- 20. Trees in true line.
- 21. Stone mound at T'p corner.

3.00	Enter stoney barrens and swamp	d 10
40.00	Set qr. sec. cor., a quartz stone 13 X 4 in. with trench, as per instructions, from which a beech 20 in. dia. bears S. 44 E. 95 l. dist. Planted NW. 6 honey locust seed. A dry ditch 10 l. wide.	d 15
61.11	To corner of Tps. 25 and 26 N. Rs. 2 and 3. W. set stone, a granite 18 X 6 in., raised stone mound with trench, as per instructions, and Planted NW. 4 chestnuts. NE. 6 beechnuts. SW. a W. oak acorn. SE. 4 do. January 29th, 1851.	level level

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**EXAMPLE
OF THE
FIELD NOTES
OF THE
SUBDIVISIONAL OR
SECTIONAL LINES
AND
MEANDERS.**

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
	SUBDIVISIONS. Commenced February 1, 1851.	
²² North.	Between secs. 35 and 36—	
9.19	A beech 30 in. dia.	d 10
29.97	A beech 30 in. dia.	d 5
40.00	Set qr. sec. post, from which a beech 15 in. dia. bears S. 48 E. 12 l. dist. a do 8 do do N. 23 W. 45 do.	d 5
51.90	A beech 18 in dia	d 5
76.73	A sugar 30 in. dia.	d 8
80.00	Set a post cor. of secs. 25, 26, 35, 36, from which a beech 24 in. dia. bears N. 62 W. 17 l. dist. a poplar 36 do do S. 66 E. 34 do. a do 20 do do S. 70 W. 50 do. a beech 28 do do N. 60 E. 45 do. Land level, second rate; timber, beech, poplar, sugar, and und'gr. spice, &c.	d 2
²³ East.	On random between secs. 25 and 36—	
9.00	A brook 30 l. wide, course N	d 10
15.00	To foot of hill	a 10
40.00	Set temporary qr. sec. post.	a 60
55.00	To opposite foot of hill	d 40
72.00	A brook 15 l. wide, course N	d 20
80.00	Intersect E. boundary at post	a 10
	Land level, second rate; timber, beech, oak, ash, &c., und'gr. spice, &c.	

- 22. True line.
- 23. Random.

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.	Feet.
22 West.	On true line west, between secs. 25 and 36—
40.00	Set qr. sec. post, at average dist. from which a hickory 14 in. dia. bears N. 60 E. 27 l. dist. a beech 15 do do S. 74 W. 9 do.
80.00	To sec. cor.
22 North.	Between secs. 25 and 26—
7.00	A poplar 40 in. dia. d 5
17.25	A brook 30 l. wide, course W. d 10
18.05	A walnut 30 in. dia. d 2
23.44	A brook 25 l. wide, course NE. d 5
40.00	Set qr. sec. post, from which a beech 10 in. dia. bears S. 72 W. 9 l. dist. a B. oak 36 do do N. 42 E. 18 do.
60.15	A beech 30 in. dia. a 5
80.00	Set post cor. of secs. 23, 24, 25, 26, from which a sugar 12 in. dia. bears S. 42 E. 14 l. dist. a do 12 do do N. 14 W. 31 do. a W. oak 14 do do N. 50 E. 40 do. a do 13 do do S. 38 W. 32 do. Land level, second rate; timber, beech, walnut, ash, sugar, &c.; und'gr. spice, &c.
24 East.	On random between secs. 24 and 25—
8.90	A stream 30 l. wide, course NW. d 10
12.00	To foot of hill a 10
40.00	Set temp. qr. sec. post a 50
48.00	To opposite foot of hill d 50
60.50	A stream 30 l. wide, course NW. d 10
73.00	To foot of hill a 10
80.12	Intersect E. boundary at post a 50 Land rolling, good second rate; timber, walnut, beech, elm, &c.; und'gr. spice, &c.
22 West.	On true line between secs. 24 and 25—
40.06	Set qr. sec. post, at aver. dist. from which a beech 18 in. dia. bears N. 74 W. 25 l. dist. a do 16 do do S. 73 E. 22 do.
80.12	To sec. cor.
25 North.	Between secs. 23, 24—
6.70	A W. oak 20 in. dia. d 10
9.65	A stream 40 l. wide, course NW. d 5

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.	Feet.
13.15	A brook 25 l. wide, course NE level
16.00	A brook 25 l. wide, course NW. level
35.00	To south boundary of Henry Thompson's claim, S. 76 E. 2 c. 20 l. to southeast corner of claim as pointed out. a 15
40.00	Set qr. sec. post in H. Thompson's claim, from which a cottonwood 18 in. dia. bears S. 7 W. 7 l. dist. a W. walnut 24 do do S. 22 E. 4 do.
40.35	A stream 125 links wide, course NW. level
54.08	To road from Astoria to Williamsburg a 30

22. True line.

24. Random line.

25. Claim noted.

58.00	Enter wet prairie d 15
68.00	Leave do and enter timber land. level
72.12	A W. oak 30 in. dia. a 10
80.00	Set post cor. of secs. 13, 14, 23, and 24, from which an elm 8 in. dia. bears S. 67 W. 16 lks dist. a W. waln't 24 do do N. 59 E. 27 do. a W. oak 16 do do N. 42 E. 15 do. a B. oak 14 do do S. 38 E. 17 do. First half mile hilly second rate land; second half mile first rate; timber, walnut, buckeye, oak; and undergrowth, spice, &c.
East	On random between sections 13 and 24—
14.00	To east boundary of H. Thompson's claim as pointed out, course NE a 15
40.00	Set temporary quarter section post a 10
80.00	Intersect east boundary 16 links S. of post a 20 Land first rate; timber, walnut, sugar, elm, buckeye, oak, &c.; undergrowth, spice, &c.
West	On true line between sections 13 and 24—
40.00	Set qr. sec. post at an average distance, from which a sugar 30 in. dia. bears N. 80 W. 22 l. dist. a W. oak 16 do do S. 53 E. do.
80.00	To sec. corner.
North	Between sections 13 and 14—
6.17	A W. oak 30 in. dia. a 10
22.15	A beech 30 do. a 10
40.00	Set quarter section post, from which a beech 24 in. dia. bears N. 66 W. 6 links dist. a do 20 do do S. 45 E. 40 do.

Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.	Feet.
42.25	To northern boundary line of H. Thompson's claim, course NW a 5
52.25	A beech 24 in. dia. a 5
62.61	A B. oak 30 do a 5
80.00	Set post cor. of secs. 1, 2, 11, and 12, from which a sugar 30 in. dia. bears S. 32 W. 25 lks. dist. a B. oak 36 do do N. 53 E. 10 do. a W. oak 20 do do S. 24 E. 20 do. a B. oak 21 do do N. 20 W. 35 do. Land level, second rate; timber, beech, oak, ash; and undergrowth, spice, &c.
East	On random between sections 12 and 13—
40.00	Set temporary quarter section post a 50
80.10	Intersect east boundary 13 links north of post. a 50 Land level, second rate; timber, beech, black oak, and undergrowth, spice, &c.
West	On true line between sections 12 and 13—
40.05	Set quarter section post at average dist., from which an elm 24 in. dia. bears N. 51 E. 50 lks. dist. a beech 18 do do S. 51 W. 29 do.
80.10	To sec. corner.
North	Between sections 11 and 12—
10.81	An elm 15 in. dia. a 10
40.00	Set quarter section post, from which a beech 30 in. dia. bears N. 33 W. 9 lks. dist. a do 20 do do S. 64 W. 20 do.
52.25	A beech 24 do level
62.61	A B. oak 30 do d 10

80.00	Set post corner of secs. 1, 2, 11, and 12, from which a sugar 30 in. dia. bears S. 32 W. 25 lks. dist. a poplar 36 do do N. 43 E. 25 do. a do 32 do do N. 41 E. 30 do. a sugar 21 do do S. 35 E. 40 do. Land level, good second rate; timber, sugar, poplar, walnut; and undergrowth, spice, &c.	d 10
East. 30.00 40.00	On random between secs. 1 and 12— To second bluff of hill a 50 Set temp. qr. sec. post a 20	

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
73.00	To steep bluff	a 50
80.25	Intersect E. boundary 13 l. N. of post	a 100
	Level, 2d rate land; timber, beech, oak, sugar, &c.; open woods.	
West. 40.12½	On true line between secs. 1 and 12— Set qr. sec. post, at aver. dist. from which a sugar 24 in. dia. bears S. 56 W. 25 l. dist. a do 20 do do N. 20 E. 32 do	
80.25	To sec. cor.	
26 North. 6.82 40.00 44.96 62.94 80.11	On random between secs. 1 and 2— A sugar 27 in. dia. a 10 Set temp. qr. sec. post level A beech 28 in. dia. d 10 A sugar 36 do. d 5 Intersect N. boundary 30 l. E. of true corner d 10 Land level; timber, walnut, sugar, beech, and open wood.	
27 South. 40.11	48° E. on the true line between secs. 1 and 2— Set qr. sec. cor., from which a sugar 14 in. dia. bears S. 49 E. 32 l. dist. a W. oak 20 do do N. 31 W. 65 do	
80.11	To sec. corner. February 3d, 1851.	
North. 6.56 23.00 34.58 40.00	Between secs. 34 and 35— A hickory 36 in. dia. d 10 To foot of hill d 30 A walnut 38 in. dia. d 5 Set qr. sec. post, from which a beech 16 in. dia. bears S. 18 E. 13 l. dist. a do 10 do do N. 69 W. 40 do.	
50.00 75.86 80.00	A maple 24 in. dia d 10 An ash 24 do d 10 Set post sec. cor. of secs. 26, 27, 34, & 35, from which a beech 14 in. dia. bears S. 67 E. 12 l. dist. an ash 36 do do N. 52 W. 19 do. an do 30 do do N. 40 E. 24 do. a beech 16 do do S. 69 W. 41 do. Land level; timber, beech, oak; undgr. spice, &c.	d 5

26. Random for course line.
27. Course line.

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
East. 40.00 80.00	On random between 26 and 35— Set temp. qr. sec. post d 10 Intersect N. and S. line 20 l. N. of true corner d 10 Land level; brushy timber, beech, elm, &c.; und'gr. spice, &c.	
West. 40.00	On the true line between 26 and 35— Set qr. sec. post at aver. dist., from which a beech 14 in. dia. bears N. 56 E. 12 l. dist. a do 12 do do S. 32 W. 32 do.	
80.00	To sec. cor.	
North. 8.47 29.18 40.00	Between secs. 26 and 27— An elm 20 in. dia a 5 A lynn 34 do. a 5 Set qr. sec. post, from which a sugar 14 in. dia. bears S. 13 W. 31 l. dist. a beech 12 do do N. 54 E. 27 do.	level
46.37 60.48 80.00	A poplar 40 do d 5 A B. oak 36 do d 5 Set post cor. of secs. 22, 23, 26, adn 27, from which an ironwood 8 in. dia. bears S. 32 E. 24 l. dist. a walnut 30 do do N. 36 W. 14 do. a do 24 do do S. 24 W. 16 do. a W. oak 31 do do N. 50 E. 13 do.	d 10
	First half mile 2d rate, 2d half mile 1st rate land; timber, walnut, poplar, beech, &c., spices, &c.	
East. 40.00 48.00 80.00	On random between secs. 23 and 26— Set temp. qr. sec. post a 10 A spring branch 8 l. wide, course NW d 10 Intersect N. and S. line at post a 10 Land good, 2d rate; timber, poplar, beech, &c.; ugr. spice, &c.	
28 West. 40.00	On the true line between secs. 23 and 26— Set qr. sec. post at aver. dist. from which a beech 16 in. dia. bears N. 72 W. 18 l. dist. a do 10 do do S. 72 W. 16 do.	
South. 24.00	To N. margin of lake where set post, from which a beech 14 in. dia. bears N. 45 E. 10 l. dist. a do 9 do do N. 15 W. 14 do.	a 5

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
	Thence meander lakes as follows:	
S. 53° E.	17.75	
S. 3½ E.	13.00	
S. 29½ W.	8.00	
S. 65 W.	12.00	
N. 63½ W.	10.00	
N. 12 W.	21.00	
N. 50 E.	16.83	
West. 80.00	To sec. cor.	

Thence to ½ mile post on line between secs. 26 and 27 east 28 chains.
To place of beginning.

28. Small lakes insec.

29 North.	Between secs. 22 and 23—	
8.00	A stream 150 l. wide, course SW	d 5
24.18	A do 150 do do NE.	level
40.00	Set qr. sec. post, from which	level
	a B. oak 20 in. dia. bears S. 9 W. 45 l. dist.	
	a do 20 do do N. 34 E. 48 do	
41.66	Same stream 150 l. wide, course SW	level
47.00	Enter wet prairie.	level
56.00	To S. boundary of Henry Thompson's claim as pointed out, course N. 76 W. 2 c. to SW. corner of claim	level
64.00	To west boundary of H. Thompson's claim	level
65.00	Leave wet prairie.	level
68.00	To road from Astoria to Williamsburg.	a 15
69.92	A W. oak 18 in. dia	a 2
80.00	Set post cor. of secs. 14, 15, 22, and 23, from which	a 10
	a sugar 24 in. dia. bears S. 52 E. 23 l. dist.	
	an elm 24 do do N. 34 W. 45 do.	
	Do 16 do do N. 27 E. 50 do.	
	a sugar 18 do do S. 60 W. 42 do.	
	First ½ mile broken, 2d ½ mile 2d rate land; timber, W. oak, sugar, beech, &c.; ugr. spices.	
East.	On random between secs. 14 and 23—	
4.00	To W. boundary of H. Thompson's claim as pointed out	a 5
40.00	Set temp. qr. sec. post.	level
80.15	Intersect N. and S. line at post.	a 10
	Land level, good, second rate; timber, sugar, oak, beech, &c.; ugr. spice, &c.	

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
West.	On the true line between secs. 14 and 23—	
40.07½	Set qr. sec. post at aver. dist. in Thompson's claim, from which	
	a sugar 30 in. dia. bears N. 39 E. 31 l. dist.	
	a mulberry do do S. 26 W. 4 do.	
80.15	To sec. cor.	
North	Between sections 14 and 15—	
14.14	A sugar 14 in. dia.	a 5
34.13	A cotton wood 22 do.	a 5
40.00	Set qr. sec. post, from which	a 10
	a sugar 20 in. dia. bears S. 43 E. 74 lks. dist.	
	a beech 24 do do N. 45 W. 37 do.	
47.20	A walnut 27 do do	a 5
61.84	A do 36 do do	a 5
77.72	A stream 25 lks. wide, course SW	d 10
80.00	Set post cor. of secs. 10, 11, 14, and 15, from which	a 5
	a hickory 15 in. dia. bears S. 12 E. 36 lks. dist.	
	a B. oak 30 do do N. 17 W. 32 do.	
	a do 28 do do N. 16 E. 40 do.	
	a W. oak 14 do do S. 15 W. 38 do.	
	Land level, second rate; timber, beech, oak, walnut, &c.; undergrowth, spice, &c.	
East	On random between sections 11 and 14—	
2.62	A stream 25 links wide, course N	d 5
7.03	Same 25 do do SW	level
8.05	Same 25 do do SW	level
13.00	Same 25 do do NE	level
40.00	Set temporary quarter section post	a 20
80.15	Intersect N. and S. line 20 links N. of post	a 50
	Land brushy; timber, beech, oak, &c.	

29. Connexion with claim.

West.	On the true line between sections 11 and 14—	
40.07½	Set qr. sec. post at average dist., from which	
	a sugar 16 in. dia. bears N. 66 E. 35 links dist.	
	a do 14 do do S. 44 W. 13 do.	
80.15	To sec. corner.	
North	Between sections 10 and 11—	
5.29	A W. oak 24 in. dia	a 2
39.16	A do 36 do	a 8

[Ed. Note: Pages 66 through 81 of the sample field notes are deleted here in the interest of space. The deleted pages are in the same vein and style as those given.]

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
East.	On the true line between secs. 7 and 18—	
35.67	Set qr. sec. post, from which	
	a R. oak 30 in. dia. bears S. 6 E. 22 l. dist.	
	a do 30 do do N. 26 E. 52 do.	
75.67	To sec. cor.	
North.	Between secs. 7 and 8—	
10.00	A stream 10 l. wide, course SE	level
11.39	A R. oak 24 in. dia	level
16.00	A stream 40 l. wide, course SE	level
35.17	A B. oak 15 in. dia	level
40.00	Set qr. sec. post, from which	level
	a W. oak 4 in. dia. bears S. 35 W. 17 l. dist.	
	a do 7 do do N. 59 E. 4 do.	
67.83	A hickory 10 do	level
80.00	Set post cor. of secs. 5, 6, 7, and 8, from which	level
	a W. oak 40 in. dia. bears S. 75 E. 22 l. dist.	
	A R. oak 24 do do S. 80 W. 39 do.	
	a do 21 do do N. 20 E. 40 do.	
	a W. oak 25 do do N. 16 W. 43 do.	
	Land and timber as before noted.	
East.	On random between secs. 5 and 8—	
10.57	To a point near right bank of Chickeeles river, 2 l S. of meander sec. cor	d 5
	Completed meander corner of secs. 5 and 8, from whence	
	a R. oak 32 in. dia. bears N. 58 E. 5 l. dist.	
	a hickory 12 do do S. 42 W. 5 do.	
	Land broken, 1st rate; timber, as before noted.	
West.	On the true line between secs. 5 and 8—	
10.57	To sec. cor.	
West.	On random between secs. 6 and 7—	
20.19	A hickory 10 in. dia	a 10
25.10	A stream 35 l. wide, course SE	d 5
40.00	Set temp. qr. sec. post	a 10
56.00	A stream 15 l. wide, course SE	d 5
61.00	A W. oak 40 in. dia	a 10
75.00	Intersect W. boundary 21 l. N. of corner	a 5
	Land hilly, 2d rate; timber, oak, sugar, hickory; und'gr. sassafras and hickory.	

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Township 25 N., Range 2 W., Willamette Mer.

Ch. lks.		Feet.
East.	On the true line between secs. 6 and 7—	

35.00	Set qr. sec. post, from whence a W. oak 40 in. dia. bears S. 4 W. 41 l. dist. a cherry 15 do do N. 4 W. 49 do.
5.00	To sec. cor.
North.	On random between secs. 5 and 6—
28.75	A sugar 18 in. dia level
40.00	Set temp. qr. sec. post a 5
53.75	A sugar 30 in. dia a 5
66.25	A do 18 do a 3
80.06	Intersect N. boundary 24 l. E. of corner a 5
	Land level and 1st rate; timber, sugar, and ash; ugr. hazel and walnut.
South	47° E. on true line between secs. 18 and 19—
40.06	Set qr. sec. post, from which a hickory 20 in. dia. bears S. 2 E. 63 l. dist. an elm 16 do do N. 18 E. 53 do.
53.75	A sugar 30 in. dia.
66.25	A do 18 do.
80.06	To sec. cor. February 13.

N. 30 E.	9.16	
N. 40 E.	3.20	
N. 44 E.	2.50	
N. 40 E.	6.74	
N. 45 E.	9.05	
N. 38 E.	8.79	
N. 49 E.	15.14	
N. 37 E.	5.00	Intersect the lower cor. of John Burton's claim.
N. 55 E.	5.00	
N. 62 E.	7.30	
N. 72 E.	11.00	To post in line between secs. 4 and 5.
N. 45 E.	5.00	In sec. 4 to post in N. boundary of tp.

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Township 25 N., Range 2 W., Willamette Mer.

Courses.	Dist. Ch. lks.	REMARKS.
		Commenced again right bank in sec. 31 and thence up stream.
N. 7 E.	6.85	
N. 32 E.	10.90	
N. 68 E.	12.50	
N. 50 E.	9.00	
N. 20 E.	6.10	
East.	10.90	
N. 45 W.	13.80	
N. 55 W.	11.80	
N. 31 W.	12.50	Post in W. boundary of tp. February 15th, 1851.

MEANDERS OF CHICKEELES RIVER.

Beginning at a post in western boundary, thence right bank
up stream.

Courses.	Dist. Ch. lks.	REMARKS.
N. 34 E.	19.29	In sec. 19.
N. 40 E.	14.79	
N. 58 E.	3.48	To post in line between secs. 18 and 19.
N. 58 E.	9.72	In sec. 18.
N. 63 E.	17.00	
N. 70 E.	30.34	To post in line between secs. 17 and 18.

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Township 25 N., Range 2 W., Willamette Mer.

Courses.	Dist. Ch. lks.	REMARKS.
N. 72 E.	10.24	In sec. 17.
N. 45 E.	6.82	
N. 16 E.	12.17	To lower line of town of Williamsburg.
North.	7.29	
N. 2 W.	11.92	
N. 8 W.	11.92	
N. 10 W.	7.36	To post in line between secs. 8 and 17.
N. 18 W.	4.06	In sec. 8.
N. 30 W.	3.00	
N. 19 W.	5.00	
N. 9 W.	11.25	At 2.15 c. a stream 40 l. wide.
N. 2 W.	10.06	
N. 7 W.	10.00	
N. 15 W.	4.42	
North.	13.55	
N. 8 E.	5.50	
N. 18 E.	8.50	
N. 10 E.	5.45	To post in line between secs. 5 and 8.
N. 17 E.	5.50	In sec. 5.
N. 26 E.	5.13	
N. 23 E.	12.06	

GENERAL DESCRIPTION.

The quality of the land in this township is considerably above the common average. There is a very fair proportion of rich bottom land, chiefly situated on both sides of the river Chickeeles, which is navigable through this township for steamboats of light draft; and although a few small patches of swamp and wet prairie occur, the uplands, especially as we approach the eastern and southern boundaries of the township, where the surface becomes more undulating, are well calculated for the sereal grains, and afford many beautiful and apparently healthy locations for first rate farms. The timber, chiefly oak, beech and sugar, is very equally distributed through the township, and we met several very fair specimens of good building stone exposed at two or three points on the river banks, indicating a sufficient abundance thereof in the township to supply the wants of the settlers and for the construction of roads. The town of Williamsburg, on the right bank, was founded about five years ago. It now contains some thirty houses, several of which are of stone, has a good landing in front, with a ferry, and

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Township 25 N., Range 2 W., Willamette Mer.

bears all the marks of enterprise, and of an industrious, temperate, thriving community. The township is intersected

from east to west with a road leading from Williamsburg to Astoria, thus affording, together with the river, a good outlet to market.

LIST OF NAMES.

A list of the names of the individuals employed to assist in running, measuring, or marking the lines and corners described in the foregoing field notes of township No. 25 north, of the base line of range No. 2 west, of the Willamette meridian, showing the respective capacities in which they acted.

PETER LONG, *Chainman.*
JOHN SHORT, *Chainman.*
GEORGE SHARP, *Axeman.*
ADAM DULL, *Axeman.*
HENRY FLAGG, *Compassman.*

We hereby certify that we assisted Robert Acres, deputy surveyor, in surveying the exterior boundaries and subdividing township number twenty-five north, of the base line of range number two west, of the Willamette meridian, and that said township has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the boundary monuments planted according to the instructions furnished by the surveyor general.

PETER LONG, *Chainman.*
JOHN SHORT, *Chainman.*
GEORGE SHARP, *Axeman.*
ADAM DULL, *Axeman.*
HENRY FLAGG, *Compassman.*

Subscribed and sworn to by the above named persons, before me, a justice of the peace for the county of Willamette, at Oregon city, O. T., this 24th day of February, 1851.

HENRY DOOLITTLE,
Justice of the Peace.

I, Robert Acres, deputy surveyor, do solemnly swear, that in pursuance of a contract No. 1, with John B. Preston, surveyor of the public lands of the United States in the Territory of Oregon, bearing date the second day of January, A.D. 1851, and in strict conformity to the laws of the United States and

the instructions furnished by the said surveyor general, I have faithfully surveyed the exterior boundaries, subdivisions, and meanders of township number twenty-five north, of the base line of range number two

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Township 25 N., Range 2 W., Willamette Mer.

west, of the Willamette meridian, in the Territory aforesaid, and do further solemnly swear that the foregoing are the true and original Field Notes of such survey.

ROBERT ACRES,
Deputy Surveyor.

Subscribed by said Robert Acres, deputy surveyor, and sworn to before me, a justice of the peace for Willamette county, O. T., at the city of Oregon, this 24th day of February, 1851.

HENRY DOOLITTLE,
Justice of the Peace.

To the copies of the Field Notes transmitted to the seat of Government, the surveyor general will append to each township the following certificate:

I certify that the foregoing transcript of Field Notes of the survey of township number twenty-five north, of the base line of range number two west, of the Willamette meridian, in the territory of Oregon, has been compared with the original on file in this office.

JOHN B. PRESTON, *Sur. Gen.*

SURVEYOR GENERAL'S OFFICE,
Oregon City, March 4th, 1851.

N. B. The abbreviations for chains and links should invariably have been chs. and lks. The marginal columns should have been extended on several of the foregoing pages where they have been omitted. Time did not admit of the correction.