THE BEND BULLETIN

"For every man a square deal, no less and no more."

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From Tumalo Tues., Thurs. and Sat.....2:15 p. m.
From Laidlaw daily except Sunday.....9:30 a. m.

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FRIDAY, AUGUST 24, 1906

THE CAMPBELL SYSTEM.

There is much discussion going the rounds of the press at present regarding the "Campbell system" of dry farming. For 23 years this man, H. W. Campbell, has been studying and perfecting a system of soil cultivation that today is producing marvelous results and is converting thousands of acres of formerly worthless desert into fertile fields and rich homes. With an untiring energy and a determination that knew no discouragement, he kept at work studying the action of moisture in the soil, disregarding the gibes of the skeptical, and has finally given to the world a method of soil cultivation the benefits of which to the human race are simply beyond calculation. Who can compute the worth of a man who makes it possible to transform the dry, hot home of sagebrush and cactus into great fields of grain, many gardens and fruitful orchards? The result is a monument to one man's untiring energy and study. The service rendered mankind by H. W. Campbell with his method of soil cultivation, and Luther Burbank with his creation of new varieties of vegetables, plants and fruits, places these men in the foremost rank with the world's benefactors.

Papers throughout Eastern and Central Oregon are discussing Campbell's common sense methods and in a few localities his system is being tried with always favorable results. A. M. Drake's decision to give this system a trial next year in the vicinity of Bend is commendable and may result in much good in this part of the state. It is only by such trials that the adaptability of different systems of cultivation to various regions becomes known. This trial in the Bend country will be watched with interest.

BRO. MYERS of the Laidlaw Chronice takes exception to The Bulletin's statement classing George L. Simmons' excellent ranch "in the Bend country." He would prefer that the Simmons ranch be credited to Laidlaw. Well! Well! We are sure no offense was intended. Yet, Bro. Myers, for many years, yea, long before the thriving little town of Laidlaw was even conceived in man's mind, the country in this part of the Deschutes valley for many miles was designated as "the Bend country." So The Bulletin was not so far amiss after all. Be that as it may, we are glad to hear so many good crop reports from this whole "upper Deschutes valley" (as Bro. Myers would have it called), glad to hear of "the Laidlaw country's" prosperity, of Redmond's fine crops, and similar good reports from all parts of the compass. Laidlaw is to be congratulated upon having so valiant a defender of her rights as is Bro. Myers.

THE action of certain parties in insisting on breaking a quarantine established by the Bend board of health, to say the least, deserves most severe censure. When a board of health imposes a quarantine, with no purpose in mind other than to obey the law and protect public health, and this quarantine is disregarded by some, there is no alternative left but a summary arrest of those violating the law. The recent arrests in Bend were amply justified and those arrested got no more than their just desserts. The city officials should be commended for the faithful performance of a duty that, at the best, must have been an unpleasant and disagreeable one.

THE boom that was prematurely sprung by some of "Uncle Joe" Cannon's friends in behalf of his candidacy as a presidential aspirant has not met the sweeping reception that was expected by others than Mr. Cannon. "Uncle Joe" is a radical "stand-patter" on the tariff question and it is not to be wondered at that a boom for "Uncle Joe" for president is not received with great favor by those of his party who believe firmly in a protective tariff but who also are as firm in their belief that certain rates of the Dingley tariff should be revised.

THE Cuban people evidently cannot get away from the habits of the Latin-American. A revolution has broken out on that island, a dark, deep plot to overthrow the present government has been discovered, and President Palma is making arrests right and left. Great (?) armies of 200 and 300 men are being sent against the rebels. It would seem that in the mind of the Latin-American life without a revolution is not worth living.

VIOLATES QUARANTINE.

George Reed Disregards Health Regulation and Is Arrested.

Last Monday George Reed, who is convalescing from an attack of scarlet fever and who had been under quarantine for some time, deliberately disregarded the law and about 11 o'clock at night left the house where he was quarantined and came into town with the intention of calling at a place that apparently has great attractions for him—a house, the occupants of which were also under quarantine for having received letters from the sick man and having visited him while quarantined.

For some reason the officers suspected that such an attempt would be made by Reed, they were accordingly on the watch, and he was caught and arrested. He was placed in the city lock-up and when his quarantine expires will be arraigned before Justice Ellis.

The penalty for breaking a quarantine is a fine of not less than $25 nor more than $100 or 50 days in jail, or both a fine and a jail sentence.

Bids Wanted.

Notice is hereby given that the board of directors of Bend District No. 12 desires bids on 50 ricks of wood split, ready for the stove and piled in ricks in the school basement. Separate bids must be furnished on each of the following specifications: 12, 16 and 20 inch lengths and on limb wood, body pine and juniper. Bids opened September 4. The board reserves the right to reject all bids. 22-24

You want the news? Then read The Bulletin.

Problems That Confront The Irrigator.

A fundamental requirement in irrigation on whatever scale is the determination of grades. On small-scale irrigation works such approximation as can be secured by careful use of very simple appliances answers the purpose very well. Although the surveyor's level is desirable, this can be dispensed with by using the simple sighting levels described in books on drainage, and even these are not essential, for a home-made appliance can be made to give satisfactory results. Such a device is described below, which, although in constant use in some parts of the country, does not seem to be widely known. It will be found useful in nearly all kinds of farm engineering where the location of grades and levels is necessary and no special hindrances intervene, but it must be born in mind that its usefulness depends entirely upon the care with which it is operated.

The use of a triangle (fig. 1) was suggested to small irrigators in California many years ago by a prominent irrigation engineer, C. E. Grunsky, of San Francisco. It is constructed in this way:

The three pieces A B, B C, and C A are made fast to each other at A, B, and C. The board B D is fastened to the triangle at right angles to A C. An ordinary carpenter's square used in the construction of the apparatus will insure sufficient accuracy in the position of B D. Near B, on the board B D, a plumb line is made fast. The plumb bob, like a mason's plumb bob, hangs in a hole, so that when B D is verticle the string hangs very near the surface of the board B D. When B D is exactly vertical A C is exactly horizontal, if the angles at D are true right angle.

The dimensions of the triangle may be about as follows: A C, 12 feet long; A B, about 7 feet 3 inches; B C, about 10 feet; and B D, about 6 feet long. Other dimensions will do as well, the essential features being the straight board A C and the board B D at right angles to it and near enough to one end of A C for the man carrying that end of the triangle to see accurately the position of the plumb line. The board B D should not be less than 4 feet long, or the plumb line will be too short to give satisfactory results. It will frequently be found convenient to have a scale of feet marked off on A C.

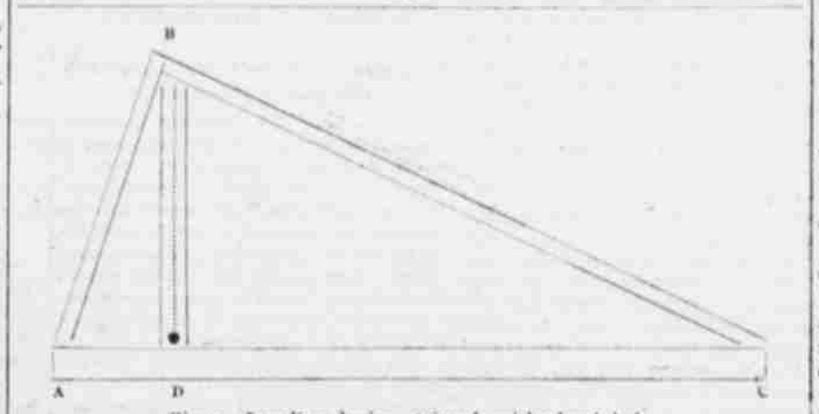

Fig. 1—Leveling device—triangle with plumb bob.

In marking on the board B D the line in which the plumb line will hang when A C is exactly horizontal considerable care is required. Two pegs are driven into the ground as far apart as A and C for these points to rest on. The highest one is driven into the ground until the plumb line follows about the center line of board B D. Having marked this position of the plumb line, the triangle is reversed so that the end A rests on the peg where before we had the end C, and vice versa. Should the plumb line make an angle with the first line marked on the board, then the correct position will be exactly in the middle between these two lines. This point should be permanently marked on the board B D; in using the triange when the plumb line passes through this point the base of the triangle will be level.

DETERMINATION OF LINE OF DITCH

To use this instrument for locating the line of the ditch, calculate the amount which the grade should rise in a distance equal to the length of the base of the triangle to secure the fall which is best to convey the water, according to character of soil, etc., a matter which will be discussed later. Under one end of the base fasten a small block with a thickness equal to the desired rise. Below is given a table, showing the thickness of blocks which should be used on triangles of different lengths to give various grades.

When a block of required thickness to give the desired grade has been fastened to the triangle, drive a peg at the starting point, its top, say, 6 inches from the proposed bottom of the ditch. Place the end of the leveling apparatus under which the block is fastened upon this peg, with the other end pointing in a general direction from which the ditch is to come. The bottom of the block must rest upon the top of the peg. Bring the apparatus to a level and set a peg 6 inches long so that its top just touches the bottom of the forward end of the apparatus. The lower end of this last peg will then mark the bottom of the proposed ditch. This operation will be simplified by putting a leg just 6 inches long upon the forward end of the triangle. It will then be only necessary to swing the triangle around until the base is level, when this leg will rest upon the bottom of the proposed ditch. Drive a peg here, which will, like the first, be 6 inches high from the ditch bottom, carry the triangle forward to this peg, and proceed as before.

Contour lines for checks or distributing ditches can be located with the aid of the triangle. To locate a contour line (a line passing through points of equal elevation), as required in the construction of a check levee, drive a peg until its top has a convenient elevation from the ground, say one foot. Put a leg of equal length on one end of the triangle and rest the other end on the peg, then swing the triangle around until the plumb line shows the base to be level. At this point drive a secont peg and proceed as before. If the pegs are driven so that the tops are at the height of the proposed levee they may be retained as grade stakes for the embankment.

To find a point in the next contour line below, on which a check levee should be raised so that its embankment will hold back the water to the base of the higher one, begin with the end A at the base of the upper levee and level the triangle in the direction of the proposed levee, measure the distance from the end C to the surface; from this point use the triangle again in the same way and repeat the operation until the sum of all the measurements made from C to the surface is equal to the height of the levee it is intended to construct. Having thus found a starting point for the second contour line proceed to locate this line as before.

It is obvious that the triangle is most serviceable in determining grades on land which has slope, because more appreciable differences in grade will be noted in each use of its length. The difficulty of reaching satisfactory correct conclusions as to the best position for a ditch or contour check increases, as a rule, with the flattening out of the surface. But the use of the triangle is only recommended for small-scale work in the absence of more accurate instruments, and under such conditions it is very serviceable.

Amount of fall secured and thickness of blocks required with triangles of different lengths.*

Length of base of triangle.	Thickness of blocks, being the amount of fall for different triangles and for different grades, per mile.						
	4-foot grade	5-foot grade	6-foot grade	7-foot grade	8-foot grade	9-foot grade	10-ft grade
Feet.	Inch	Inch	Inch	Inch	Inch	Inch	Inch
10	1-16	1/8	1/8	3/16	3/16	3/16	1/4
11	1/8	1/8	1/8	3/16	3/16	1/4	1/4
12	1/8	1/8	3/16	3/16	3/16	1/4	1/4
13	1/8	3/16	3/16	1/4	1/4	5/16	5/16
14	1/8	3/16	3/16	1/4	5/16	5/16	5/16
16½	1/8	3/16	1/4	1/4	5/16	5/16	3/8

*The numbers at the head of the columns are the number of feet of fall in the ditches per mile of length. The fractions below these numbers give in inches the fall which must be allowed in the length of the triangle. These are correct to the nearest one-sixteenth of an inch.

Measurement of Small Streams.

Before discussing sources of supply it is important to cite a method by which the quantity of water available in a small brook, outflow from a large spring, or discharge from a drainage system may be easily ascertained. Without an estimate of the supply, reservoir building or the determination of the area which can be irrigated is merely guess-work. Recourse to the miner's method of measurement is best for such sources as will frequently be drawn upon for the farm supply. It consists in causing the water to flow through an opening, the capacity of which is known, and which is readily capable of adjustment to the flow in any case.

To make a contrivance capable of measuring a small stream, take a board one inch thick, 12 inches wide, and eight feet long. The opening above referred to is one inch wide and 50 inches long, and the distance from the top of the board to the center of the opening is exactly four inches on the upstream side. On the downstream side the opening is beveled so that the hole presents sharp edges to the stream. A sliding board is hung upon the top of the first board with a strip screwed along its upper edge, this sliding board being wide enough to cover the opening on the upstream side. In the slot there is a closely fitting block made to slide on the beveled edges, and fastened by a screw to the sliding board. It is obvious, then, that when the sliding board is moved backward or forward by means of its end, which is extended for a handle, the block moves in the slot and determines the length of the opening.

In operation the board is placed in the stream so as to dam the flow completely, and the sliding board is moved backward and forward until the water is all passing through the slot, the water being kept up to the top of the board, or four inches above the center of the opening. The length of the opening measures the number of miner's inches of water flowing through. If the flow is too great to pass through the opening one inch wide, the opening may be made wider, the water still to be kept four inches above the center of the opening. The laws of several states provide that in devices for measuring water for sale by the miner's inch the opening shall be six inches high, and shall be provided with a slide as above described. The number of miner's inches then discharged is equal to the number of square inches in the opening. The assumption made that the discharge is proportional to the size of the opening is not true, but the error in measuring small quantities is not great enough to be taken into consideration. By converting the results of measurements in miner's inches to gallons, cubic feet, or some other familiar unit, it may be determined how long it will take the stream to fill a reservoir or cover a given field with the necessary depth of water. This unite is readily convertible into cubic feet or gallons or acre-inches of water, according to the time the water flows.

The following data will be helpful in computations: One miner's inch, as described above, equals 0.1496 gallon per second; 8.976 gallons per minute; 538.56 gallons per hour; 12,925.44 gallons per day; 0.02 cubic foot per second; 1.2 cubic feet per minute; 72 cubic feet per hour. One acre-inch of water (that is, one inch in depth over an acre of surface) equals 27,152 gallons, or 3,630 cubic feet, and one miners inch will supply this quantity in about 50.4 hours. Thus a simple calculation shows that a little stream of five miner's inches will supply enough water to cover an acre 2.3 inches deep in about 23 hours—a fair amount for one irrigation of soil of average character if it has not been allowed to become too dry before the application; in fact, this is an average amount actually used for an irrigation of shallow-rooted plants like most field and garden crops.—Farmers' Bulletin No. 238.

NELSON VISITS CROOK.

(Continued from page 1.)

these maps by the Harriman people, it is of interest to learn that the Oregon Short Line is getting material on the ground for the construction of its line from Vale to Natron.

The statement recently published by the Bulletin that the Gould lines would secure a way into Oregon and Portland over the extension of the Corvallis & Eastern is given credence in a recent issue of the San Francisco Chronicle, that paper announcing that such was expected to be the result of the extension of the C & E. through Central Oregon.

Railroad Notes.

Chief Engineer Waggener of the Oregon Rhort Line, who has had headquarters at Bend during the summer, will move the office back to Burns about September 1.

Chief Miller, who recently returned with his crew from surveying in the Cascades west of Odell, has taken about half the crew and gone to Riley's ranch between Bend and Burns, about 50 miles from Burns. He and his crew will work from Riley's toward Burns, straightening out curves doing and other work on the line surveyed from Burns toward Bend.

Tumalo Items.

TUMALO, Aug. 20. — Charles Huston of Prineville, with a party consisting of his family and several friends, passed through here Saturday enroute for Crain Prairie for an outing.

J. E. Wimer, Charles Spaugh and F. V. Swisher returned from the mountains where they spent several days fishing and hunting.

John Edwards and Bert Powell are gathering horses to take to the valley soon.

Some fine samples of grains and grasses have been put on display at Laidlaw from this section of the country which show what we can produce.

There are some very large fires raging in the vicinity of Black Butte which makes the days dense with smoke.

A number of the farmers are preparing to thresh. Several binders are at work now binding the golden grain.

Ed. White has just finished baling his crop of hay and is now baling hay for other parties.

Rosland Items.

Mrs. Cook has been very sick this week, but is improving now.

Melvin Howard, who has been visiting his parents, returned to the valley Aug. 13.

School closed last week with a good attendance.

The hot weather hasn't put a stop to the hay harvest. The sickles and rakes are busy everywhere.

Dr. Coltz is expected daily at the bedside of Mrs. Cook.

The Bachelor Girls have dissolved partnership, the Howard girls returning home and the school marm becoming chief cook at the Rosland Hotel.

The Caldwell Bros., Bogue Bros. and Mr. Reese have their crops narvested.

Mrs. Wm. Mayfield, who has been quite sick, is able to be up and around.

Frank Bogue and D. Findley are just in the midst of haying, but are getting along nicely.

Mr. Still, who has been driving the stage from Rosland to Prineville, is now driving the Silver Lake stage.

The people around Rosland haven't seen anything of the one hoss shay lately.

Miss Howard, who has been working for Mrs. Will Bogue, has returned home.

Mr. and Mrs. Will Bogue are thinking of leaving for the valley soon.

Four men from Bend passed through the Deschutes Valley recently looking out a telephone line from Bend to Silver Lake.

Read THE BULLETIN.

YOU should read THE BULLETIN. It gives the news—all of it.