

THE BEND BULLETIN

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

SUBSCRIPTION RATES:

One year.....\$1.50
Six months......75
Three months......35
(Invariably in advance.)

HOW TO REMIT.

Remit by bank draft, postal money order on Bend, express money order, or registered letter. Make all remittances payable to The Bend Bulletin.

Stage and Mail Schedule.

ARRIVE AT BEND.
From Shaniko via Prineville.....7 p. m. daily
From Lakeview and Silver Lake.....11 a. m. daily except Tues.
From Tumalo Mon., Wed., and Fri.....4:15 p. m.
From Laidlaw daily except Sunday.....4:30 a. m.

LEAVE BEND.
For Shaniko via Prineville.....5 a. m. daily
For Lakeview and Silver Lake.....7:30 p. m. daily except Sun.
For Tumalo Mon., Wed., and Fri.....10 a. m.
For Laidlaw daily except Sunday.....10 a. m.

POST OFFICE HOURS—Week days, 8 a. m. to 5 p. m.; Sundays, from 11 a. m. to 12 m., and 1 hour after arrival of all mails from railroad reaching Bend before 2 p. m.

TELEPHONE OFFICE HOURS—Week days, from 7:30 a. m. to 4:30 p. m.; Sundays and holidays, from 10 a. m. to 12 noon, and from 2:30 p. m. to 4:30 p. m.

FRIDAY, OCTOBER 26, 1906.

THAT DESCHUTES DAM.

The reclamation service's recent announcement to build a dam in the Deschutes river canyon—and thereby destroy one of the most desirable railroad routes into Central Oregon—has aroused no small degree of condemnation. This is as it should be. Here in Central Oregon there is a vast empire of undeveloped wealth awaiting the coming of transportation to spring into life and furnish work and homes to thousands of people. This vast empire is on the verge of this development and any act that hinders it, however temporarily, is unjust and unwise. While there are several other very good routes into Central Oregon, upon which surveys are now being rapidly completed, the only railroad that had actual construction under way was the one coming up the Deschutes canyon. This line must now be abandoned—at least until the reclamation service throws over its plan to build this dam.

The Bulletin has no desire to attack the reclamation service. The good it is doing in reclaiming many thousand acres of desert land can not be computed. However, this plan to dam the Deschutes, generate electrical power and carry it 100 miles or more to pump water for the Umatilla project and in doing it retard development in this section of the state is manifestly unfair. The Umatilla project has ample transportation facilities—both rail and water—and is in the midst of a section that is rapidly developing. Why, then, should Central Oregon be injured in order to build up the Umatilla region?

It may be answered that the only practical plan to get water onto the Umatilla lands is by pumping and that the Deschutes is the only available stream from which to obtain power for such pumping. If this is true then let the government engineers build their dam only a few miles farther up-stream—at some point above the confluence of Willow creek with the Deschutes. That would leave the canyon open as far as desired, and it is said that just as good power sites can be found farther up-stream. Under such plans the people of Central Oregon will be only too willing to have the government harness the Deschutes and use its power for the welfare of the Umatilla project. But they do deem unjust any arrangement to develop other sections of the state at the expense of Central Oregon. For the Umatilla project, the government engineers should discover, if possible, a site for a dam the building of which would not interfere with railroad construction into this section of the state.

COMING TO HER SENSES.

It is to be hoped that Prineville has at last been convinced of the

error of her ways and that the mist that has so long befogged her vision is at last disappearing. From the very beginning of irrigation development in western Crook county, a large majority of the people of Prineville have knocked Bend and the Bend country with all the power they possessed. Strangers passing through Prineville on their way to Bend to look over the country have invariably been told that this part of the county was a worthless, barren waste and anyone was a fool to invest money in it. The following confession by the Crook County Journal is, therefore, noted with pleasure by western Crook in that it shows the falsity of former statements by the knockers. The Journal says:

"Two years ago when it was noised around Prineville that a few settlers had taken up land on the 'desert' under the Carey act, we pitied them for their lack of judgment and laughed at the thought of anyone trying to raise a paying crop among the junipers. About two months ago we felt a mild jar when we received the advertisements of a fair to be held at the one-year-old town of Redmond on the 'desert.' The story of that fair has already been told. The surprise of those who visited it—"

The western part of the county has always maintained that this knocking by Prineville was caused by a feeling of jealousy—that the county seat was fearful of the growing importance of this part of the county and afraid that the towns springing up here would some day outstrip Prineville in size and importance. The county seat apparently could not see that the development of any part of the county would react favorably for Prineville. Prineville's knocking has been unjust, narrow-minded and foolish—a silly attempt to prevent inevitable development. "It is hard for three to kick against the pricks."

A COMMENDABLE MOVE.

Next to transportation there is probably nothing that is of more importance in a new country than an efficient system of rural and long distance telephones. It furnishes rapid and easy communication with the country districts, supplying the ranchers with an easy means of ordering goods from their trading centers. It also makes life more enjoyable for the farmer, keeping him closer in touch with the events of his neighborhood and the world in general. The rural telephone is also a powerful factor in binding the people of different communities closer together and thus engenders common interests and ambitions, which results in much good. In a new country where some advantages are lacking, a system of rural telephones undoubtedly plays an important part in procuring new settlers, thus aiding in development.

Hence, the announcement this week by the Deschutes Telephone company to construct an extensive system of rural phone lines in this region is received with pleasure. That the company has reached this decision is largely due to the efforts of W. E. Guerin, Jr., the president of the company, who has been diligently working with this end in view for several weeks. Mr. Guerin and the Deschutes Telephone company deserve commendation, as these extensions mean much to the development of the upper Deschutes valley.

With several large lumber firms acquiring all the timber they can purchase, and attempting to buy ranches and meadow land; with the country covered for miles with railroad survey stakes and with these roads hurrying final locations and construction; with many large concerns building irrigation works the cost of which mounts into the thousands of dollars, and with other capitalists promoting more reclamation projects—with all these indications of coming development before us, what better reasons do we need for our faith in the Bend country?

Problems That Confront The Irrigator.

The Supplemental Value of Irrigation.

BY DR. JOHN A. WIDTSOEL, IN THE IRRIGATION AGE.
(Continued from last week.)

The early spring water should be run on the land and made to do duty in producing crops. The soils well stocked with water in the spring usually are able to carry crops through the season without much irrigation; the irrigation of such fields is valuable chiefly in increasing the yield, and making the plant safe during the critical heated periods.

It does not matter so much when the water enters the soil. The chief thing is to get sufficient moisture into it. If the wasted waters of fall and spring were used on the fields, the duty of the irrigation stream would again be materially increased.

It is a crime against the interests of the arid West to let either fall or spring water run to waste.

AN EXPERIMENT ON THE VALUE OF THE NATURAL PRECIPITATION.

On a typical great basin soil, classed as a medium loam, observations have been made for the purpose of determining how much of the natural precipitation may be retained in the soil. In the fall, about the middle of August, after wheat harvest, the soil was found to contain 9 per cent of moisture to a depth of eight feet. It is an interesting fact that, on similar soils, it appears that wheat can not reduce the soil moisture below 9 per cent. On May 4 of the following spring the soil was again examined and found to contain an average of 17 per cent of water to a depth of eight feet. Seventeen per cent of water is nearly equivalent to 20 acre inches of water. Deduct from this depth 10.5 acre inches, the equivalent of the water found in the soil in the fall, and there remained 9.5 inches, which must have been added to the soil as rain and snow. During the period from August 15 to May 4 the total precipitation was in fact 11.5 inches. A little more than 82.6 per cent of the total precipitation was thus shown to have entered the soil, and to be stored there at the beginning of the active growing season.

Such observations have been made on other soils, with practically identical results. Of course, in every case, where such results have been obtained, the soils were plowed in the fall and carefully harrowed in early spring. Similar soils plowed in the spring seldom gathered more than one-third of the natural precipitation.

The land above described was planted to wheat in the spring, and varying amounts of water were applied to the different plots into which the field had been divided. The results follow:

Depth of Irrigation Applied during season. (Acres inches.)	Depth of Irrigation Water Applied, plus the Moisture Stored in soil during fall and winter. (Acres inches.)	Yield of Wheat per acre.
2.5	12.0	35
5.0	14.5	38
7.5	17.0	39
10.0	19.5	42
15.0	24.5	47
54.0	63.5	48

Even a glance at this table shows that the water stored in the spring must have been active in producing the crop. The first 2.5 inches applied produced 35 bushels, while the next five inches produced only four bushels more. If the irrigation is considered as alone having value in crop production, the above table would give the first 2.5 inches a value of 14 bushels per inch, while the following five inches would have an inch value of only 0.8 bushel. Such a tremendous difference within such narrow limits seems unreasonable.

The New York Central has been fined \$108,000 for granting rebates to the sugar trust and the Standard Oil company has been convicted in Ohio on a charge of conspiracy in restraint of trade and violation of the state anti-trust laws. So far very good. Now let some of the Armours, Rockefellers, and other "captains of rascality" be sent to the penitentiary, and the country will begin to believe that the trial of a wealthy law-breaker in our courts today is something more than a farce.

If, however, moisture stored in the soil above the limit to which wheat can exhaust soil be taken into consideration, the value per inch of the first 2.5 inches of irrigation, plus the soil moisture, was a little less than three bushels, while the corresponding inch value when five more inches of irrigation water were added, was about 2.3 bushels. Such a gradual decrease is, of course, more reasonable.

As more irrigation water is added, the bushel yield per inch steadily decreases, thus showing that, inch for inch, the water stored in the soil in the spring is of higher crop producing value than any irrigation water applied. Certainly, in considering the effect of any depth of irrigation upon crop production, the amount of moisture in the soils must always be taken into consideration.

ANOTHER VALUE OF EARLY SOIL MOISTURE.

Plants do not possess the power of regulating the amount of moisture that may be taken from the soil. From a moist soil much more water is taken per day or week than from drier soil. If the soil is kept very dry, much of the energy of the plant is lost in overcoming the attraction between the soil particles and the thin water film. If the soil is kept very moist, much of the energy is consumed in evaporating immense quantities of water into the air. In either of the above cases, the loss of energy means a reduction in the yield of dry matter per acre. It should be the aim of the wise irrigator to keep the soil supplied with the best amount of water at all times, that is, the proportion of soil moisture that will furnish the amount necessary for thrifty plant growth in the most economical manner. It is not the purpose to discuss this optimum amount in this paper, but simply to call attention to the fact that in the case of all annual crops, the supply of moisture must be most available from early youth to the time of flowering. Especially does the demand rise just before and during early flowering time. When the flowers are once well produced, the crop needs much less water for its life processes, and then the soil moisture may be allowed to fall. If this be so, we have another argument in favor of the largest possible amount of capillary water in the soil in early spring. Thus, also, the supplementary nature of irrigation is emphasized.

CONCLUSION.

The limits of this paper do not permit the development of this subject. The barest notice must suffice at this time. All plants are like wheat in the manner in which they appreciate the start given them by an abundance of moisture, stored in the soil in early spring. When it shall be understood by irrigator and canal manager, that over a large portion of the irrigated area, irrigation should be supplemental to the natural precipitation, very little irrigation would be given wheat and the other grains, and correspondingly less water will be given sugar beets, potatoes and other long growing crops. As a consequence, the water at the disposal of the farmer will be made to cover more acres; more crops will be obtained per acre inch of water, and the wealth of the irrigated area will be increased.

We are yet in the beginning of irrigation knowledge. There is a vast undiscovered field covering the relation of crops and soils to water under the climatic conditions of the western United States. The supplemental value of irrigation will not be the least important branch of that coming study.

Moving Picture Concert.

Don't forget the moving picture concert to be given in the Club hall at Bend on Wednesday, Oct. 31. Also illustrated and comic songs, parodies, etc. No phonograph. I do my own singing. My concert is second to none and if it does not meet with your approval your money will be cheerfully refunded. You have no doubt noticed what the Lakeview and other papers have said of my concert—the best that ever visited their town. Come and enjoy yourselves. You won't get bunched this time. Respectfully,
DR. C. E. McCAFFERTY.

The Bulletin gives the news.

Because we are selling the same and better quality at a closer margin is a very good reason why you will find our store the best place to buy anything in the line of

Groceries, Drygoods, Furnishings, Shoes, Hardware, Sash and Doors, Paints and Oils

The PINE TREE STORE

E. A. SATHER, PROPRIETOR

A Complete Stock of

ROUGH, SURFACED AND MOULDED DRY LUMBER

All Widths, Lengths and Thicknesses

- 1 INCH COMMON DIMENSION SHIPLAP RUSTIC
- T. & G. FLOORING
- BEADED CEILING
- WINDOW JAMBS
- WINDOW CASING
- HEAD BLOCKS
- O. G. BASEBOARD
- STAIR TREADS
- WATER TABLE
- O. G. BATTINS
- MOULDINGS
- P. B. D. PATENT ROOFING
- FENCE PICKETS
- SHINGLES
- ETC., ETC.

Reasonable Prices Good Grades Dry Stock

Lumber Delivered at Low Cost Anywhere on The Lands of The D. I. & P. Co., or The C. S. I. Co.

CUSTOM FEED MILL IN CONNECTION.

The Pilot Butte Development Company

BEND, OREGON

PROFESSIONAL CARDS

C. S. BENSON,
ATTORNEY AT LAW
Bend, - Oregon.

W. P. MYERS
LAND ATTORNEY

Twelve years special practice before the U. S. Land Office and Department of the Interior. Also general practice.

Office, - LAIDLAW, ORE.

U. C. COE, M. D.
OFFICE OVER BANK
Physician and Surgeon
TELEPHONE NO. 21
BEND - OREGON

DR. I. L. SCOFIELD
DENTIST
BEND, - OREGON
Office in residence on Hawthorne Ave.

R. D. WICKHAM
Attorney - at - Law

OFFICE OVER BANK
BEND, - OREGON

Harness and Shoe Repairing

I have opened a repair shop in the Bend Livestock & Transfer Co.'s barn, and will carry a full line of harness repairs; also whips, curry combs, bridles, blankets, etc. Bring in your work. Will also continue to repair shoes.
FRANK BUTTERWORTH.

NOTARY PUBLIC - INSURANCE

A. H. GRANT
Agent for
Liverpool, London & Globe, and Lancashire Fire Insurance Companies.
BEND, - OREGON

J. H. HANER,
ABSTRACTER OF TITLES
NOTARY PUBLIC
Fire Insurance, Life Insurance, Surety Bonds, Real Estate, Conveyancing
PRINEVILLE, - OREGON

J. W. ROBISON
Veterinary Dentistry
OFFICE AT BEND LIVESTOCK & TRANSFER CO. STABLES.
BEND, - OREGON

Crook County Realty Co
Real Estate Bought and Sold.
Life and Accident INSURANCE.
OFFICE IN BULLETIN BUILDING BEND, OREGON

Will Drill for Artesian Water.
A meeting of the citizens of Christmas Lake valley was recently held for the purpose of organizing and completing arrangements to drill for artesian water at different points in that vicinity. The meeting was well attended and about \$1,000 was subscribed to defray the expense of the work. A government geologist was present and spoke encouragingly of the project. The people of Christmas Lake are very enthusiastic over the prospect of obtaining artesian water in sufficient quantity for irrigation purposes and if the water is obtained they expect quite a boom, and much land will be filled on in that quarter.—Central Oregonian.