

CAVES OF MT. HELENS

L. L. HAWKINS HAS JUST VISITED THEM.

His Interesting Account of the Wonders He Explored—Extinct Lava Streams.

L. L. Hawkins, who has just returned from an exploring trip to Mount St. Helens, furnishes the following interesting account of the wonderful caves in the lava beds at the foot of the mountain: "These caves are wonderfully interesting. They are the channels of a once molten submerged river of lava. They have been formed by the contraction and possibly would be found to be several miles longer if more thoroughly explored. They are in one of the numerous lava streams that pour down from the sides of St. Helens, and are at least eight miles long, and the caves about eight miles from the base of the mountain. The general direction of the cave is directly towards the mountain, though curving in a westerly direction. The cave is about 15 feet below the surface. The several openings to the cave are where the roof has fallen in, and show a continuation in both directions.

The bed of the once molten river averages about 20 feet wide, almost perfectly level, and covered with fine drags of the lava. The floor is about six feet high, and nearly perpendicular. The sharpness of the lava as it crumbles cuts the shoe leather very fast.

The banks of the river are exceedingly well defined. They are about six feet high, and nearly perpendicular. They sweep in such graceful curves, always being parallel, that they form the most attractive part of the cave. The streaks along these banks are smooth and parallel, and suggest high-water marks. On top of the bank there is occasionally room enough to walk or crawl without bumping one's head against the arch of the roof.

The roof averages 20 feet high, usually semi-circular in cross section, though sometimes approaching V shape. The entrance to the cave is through a hole which has cracked off, and is covered with drippings about an inch long, and a few inches apart. The cave is a uniform, gentle grade, of about 3 per cent. There are no sharp turns, and the sharp turns where the bank is cut away.

Occasionally, in going through, one climbs or crawls over high, angular blocks, and in all such cases, upon looking up, he sees nothing but the roof of the cave. There is a cool draft, that obeys the law of gravity, and always flows down and out of the lower openings.

The cave is intensely dark after one gets a few rods away from the opening, owing to the black nature of the lava. The rocks, floor, roof and banks all enter the cave with much the same appearance. The roof is black, and disappears within a few rods, and the rest of the way is as fresh and clean as though the molten lava had just stopped flowing long enough to give its contents time to cool.

There is no water to speak of. We found about a half-gallon in one place that was fresh and cold. Occasionally one finds moist places along the walls. It took us about 15 minutes to go through the longest cave. Each member was well shod, and had a good lantern. We entered through a hole about 2 feet in diameter, where the roof had fallen in, climbing over the angular, moss-covered blocks of lava. About the middle of this portion we saw a small beam of daylight through the roof. This passage was a good mile in length. We emerged through an opening similar to where we entered. A portion of the party continued on and reported two more openings about 900 feet apart.

The rest of the cave was not examined, as I was positive as to my pet theory as to their origin, namely, that the hot core ran out, leaving the caves in its wake. I afterwards learned through the Peterson, who discovered the cave in 1886 while hunting a deer, that the cave continued down from where our party first entered, a half-mile, maintaining all essential features just described. At this end, however, the cave was completely plugged up with lava.

Mr. Peterson told me of a side chamber or channel entering this lower half-mile that made me regret that I did not make a personal examination of it. How a side channel could come in is not quite clear in my mind. I learned, however, that on the side, and not far from where this channel came in, there is a circular hole 50 feet deep and 300 feet across, filled with angular fragments. It is just possible that this hole was filled with molten lava and the hot contents broke through into the cave, and allowed its floating roof to cave in when the liquid contents went out. This, however, is pure conjecture on my part. I hope some day soon to clear up my ideas on this point.

One can ride on a bicycle from Portland to within a mile and a half of the cave. That is, to the end of the wagon-road on the north fork of the Lewis River. A good easy trail from there takes one to the cave. In due time samples of the roof, floor and banks, accompanied by flashlight views of this modern "cave" submerged, molten river will be on exhibition in Portland's Free Museum.

From a business point of view, I would like to see a simple air-line bicycle path to these caves at Mt. St. Helens. The farming community near the cave, the distance would reap a large benefit, to say nothing of the increased value of their land, who discover the cave, with Kentucky, and take advantage of some of the wonders that lie at her feet. This would be simple to build, and could pass over so many fine trout streams and through such a wealth of magnificent virgin forest, that in many respects it would be superior to Mount Hood path.

"But this will not do, because some selfish fellow will try to declare it unconstitutional, because the government does not ride in that direction or care for the wonders of Nature, or progress."

NOT IN WANT OF FOOD.

Bunchgrass Resident Tells of Good Things He Gets to Eat.

Some people who live in cities imagine that people who live in the country have few of the luxuries of life in the way of eating. This depends. In some places some people do manage to live on a diet of fat bacon, hot bread and coffee three times a day, but good farmers who have good wives to look after them manage to have good gardens and have about as many luxuries as any city dweller. Fish, vegetables, chickens, turkeys, as most city people, and generally of a superior quality.

A wealthy sheepman from the southeastern part of Oregon was being entertained by a friend, at a dinner at a popular restaurant, last evening, and after an elegant meal had been disposed of, from contemplation on ice down to a bottle of champagne and cigars, the host asked his bunchgrass friend how he managed to live "on the square."

"I suppose," answered the sheepman, "that you imagine we eat grass and have bacon and beans as a luxury on Sundays. We, however, do not exactly graze or live on the square. We have a little farm near a fine spring, and have an orchard and a garden which would surprise you. Having water to irrigate the garden, we grow every kind of vegetables and berries to perfection, and have them as early as you get them here from California, and much better. At this season, of course, we keep plenty of poultry and some cows, and have fresh eggs, butter

AND CHICKENS GALORE.

At this season I can walk down around the haystacks in the meadow and knock over half a dozen prairie chickens before breakfast any morning, or by going out on the range I can shoot as many young sage hens as I want, and they are both delicious when young. I can walk down to a branch of the Deschutes in 15 minutes and catch a basket of trout almost any day in the year, and a ride of half an hour takes me to where a deer or perhaps an antelope can be shot almost without fail. We have plenty of beef, veal, lamb and mutton by the best, and if you will come out and stay a month with us I will show you that we manage to exist pretty comfortably."

AN EARNEST PROTEST.

Dr. Hill Strenuously Objects to "Regulating" Gambling.

HILLGARDEN, Wash., July 26.—(To the Editor.)—The action taken by our Portland officials concerning gambling seems to me to be a very strange and unwise one, and so strangely lacking that I am moved to break my rule of not writing to the papers. It seems that the Mayor, the Police Chief and the District Attorney have taken it upon themselves to regulate gambling by a plan of their own choosing, tossing aside the people's will, as expressed by the vote, with a singular disregard of those whose servants they are supposed to be.

Two reasons are given for this high-handed proceeding. First, gambling cannot be stopped. Therefore it is regulated. Under the plan now adopted, of fining monthly the keepers of gambling-houses, the establishments can be kept in the second story and the police department can have oversight.

Second—The criminal classes necessitate in large measure the expenses of city administration. Therefore, let them bear their share of the burden.

These arguments are plausible; but they will not bear examination. Let the Chief of Police reply to the first. A few months ago, he stated, in the presence of 30 men, that he could stop gambling within 24 hours if the Police Commissioners ordered him to do so. But even if it could not be entirely stopped, that fact is no more of a reason for licensing it than for licensing prostitution and thieving because they cannot be entirely stopped.

The second argument, standing alone, is the reason with which Judas hastened to the betrayal of his Master. Neely says that he has never seen a cent of the money there was in it. If this matter is wrong, that should be the end of it.

Just consider how these gentlemen whom we have elected to office are planning to govern the city because they are saying to Fritz and Blasier and the rest, "You may get some unsuspecting farmer into your place, rob him of \$100, and we will see that no harm comes to you. We will see that you are not put into the city treasury." This, in plain language, is the new plan.

The next logical step would be to say to such persistent objection as the two who caused so much trouble last year: "We have difficulty in stopping this thing. You are putting the city to extra expense, and should help to bear the burden." They would then be asked to pay a fine into the city treasury. Then you may go out without interference and hold up belated travelers to your hearts' content.

Any one can see, after a few moments' thought that it is not the gamblers who are going to contribute towards the city's expenses, but the poor dupes whom they are going to rob.

If anything else were needed to show the significance of this new plan, it will be necessary simply to state that this is the identical scheme proposed a few months ago by the gamblers themselves. They circulated a petition, which their own crowd generously signed, and a few respectable men were induced to sign by means of misrepresentations and threats, requesting the police commissioners to do this very thing, which is now being done. Is any one so simple-minded as to suppose that the gamblers went to all of that trouble in order to injure their blazer brother, the Mayor, Fritz Blasier and Erickson were on that paper, and now, when they walk up and pay their fines, they say loud enough for your reporter to hear: "I suppose we'll have to stand it." And then they wink the other eye.

The Mayor, the Chief of Police and the District Attorney, belong to the executive branch of the government. Laws are already provided for their direction. They have no option in the matter. They have no more right to license gambling than murder and robbery. If any people are terribly in earnest on this question, they feel that they are being trifled with. Months ago they were promised that something should be done in the way of restraining the frightful evils which are now being done by so many of our young. The Republican party seemed to realize this when it placed in its platform a pledge to do its utmost to correct the city's vice and crime. And now this gambling scheme is launched as one of the first acts of its Mayor and Chief of Police. Hundreds of us were induced to vote for the present State's Attorney because of the assurance that he would earnestly endeavor to enforce the laws; and here one of the first acts of his administration is to throw wide open the doors of lawlessness.

I write these lines with the greatest reluctance. Two of the gentlemen I am glad to call personal friends. It is to be hoped they will reconsider their action and give us an administration of which Portland may be proud.

EDGAR P. HILL.

DAILY CITY STATISTICS.

Table with 2 columns: Real Estate Transactions, Deaths. Lists names and addresses of property owners and deceased individuals.

Deaths. July 25—Samuel W. Starr, aged 61 years, paralytic; 475 Broadway street, aged 28 years; Lambert House, carbolic acid poisoning. Births. July 23—Boy, to the wife of James H. Woodard, 11 East Eighteenth street. Contagious Diseases. Clara Buffington, 22 Third street, typhoid fever.

WAS WILLING TO SELL

FARMER'S REASON FOR LETTING A GOOD THING GO.

Scrap of History Which Shows Gift for Hoarding Real Estate is Not a Modern One.

Something over a score of years ago a family coming from one of the large cities of the East, where they had lived for a number of years, purchased a farm in the Willamette Valley. It is not necessary to state the location of the farm more definitely, although all the family live in Oregon, and the farm is engaged in commercial business to come to Oregon and buy an adjoining farm. The newcomers did not fall in love with farm life, and after a few years, they went back East, where they had prospered.

Some years after they went back, the ex-farmer, by way of joke, wrote to his neighbor in Oregon under an assumed name, asking for information in regard to the farm he had advertised for sale, and he received the following letter in reply. Knowing all about the place, and being able to read between the lines and segregate the truth from the exaggerations in it, he had many a hearty laugh over it, and finally sent it to a friend here, as a pattern for real estate agents to be regulated in booming farms to their own glory.

"Dear Sir: I received yours today and hasten to answer. In the first place, I will state our reasons for wishing to sell this farm, the finest to be found in this Willamette Valley—the finest farming valley in the world, the best climate, water, timber and market, the depth of the soil is where to be found equal to it. I fell over a year ago, and have not been well since, and need a rest.

"We have done well here, and plenty of money can be made, as sheep are worth more than 10 pounds of wool average, and the price is generally 25 cents. No winter to require feeding, but we have put up in a barn, 100 tons of straw, long, 25 feet wide, to hold our straw, hauling our grain to the shed and machinery into it. We have 100 acres of wheat growing, and we offer the farm and crop for \$1000.

"California has droughts; we have none; our crop never fails. In California you cannot get a good apple or potato—we raise the best in the world. Most of the taxes have been collected, and public opinion favors the erection of the building. It is proposed to put up a two-story structure, with the basement in concrete. It will cost about \$3000. Only the lower portion will be finished this season. There will be no debt contracted, and the Directors will only go as far as the money will last, and then stop. There are two acres in the schoolhouse, and these may be fixed up in an attractive manner. Contract for the schoolhouse will probably be let in a short time.

NEW SCHOOLS.

It is expected that work on the new schoolhouse at Gresham will be commenced the first of the month. Most of the taxes have been collected, and public opinion favors the erection of the building. It is proposed to put up a two-story structure, with the basement in concrete. It will cost about \$3000. Only the lower portion will be finished this season. There will be no debt contracted, and the Directors will only go as far as the money will last, and then stop.

EAST SIDE NOTES.

Miss Tillie Lammy, Mrs. F. F. Jancke and Miss Helen Elfric, registered at Lockley Hall, Seaside, and are having an enjoyable time.

Mrs. George B. Van Waters and children are at Volung, Clackamas County, taking a vacation. Mr. Van Waters was there with them until yesterday, when he returned to the city. He left yesterday for Newport, and will be out of the city for some time.

Rev. C. A. Blair, who recently retired as pastor of the First Cumberland Presbyterian Church, will arrive from Gearhart Park today and be in the city over Sunday. Mr. Blair writes that he is improving constantly and expects to be fully restored by Fall, when he hopes to resume work.

Mrs. Sarah B. Coffin, widow of the late Captain L. Coffin, died Thursday evening at 10 o'clock, after a long illness. She was 82 years of age. Her husband was a prominent citizen of the city.

Excursion to Bonneville. A feature of the O. R. & N. excursion to Bonneville next Sunday will be the vaudeville performance, under the pavilion, and the good music. This is free to all who attend the picnic. Train leaves Union depot Sunday morning at 9:30. Passengers have the privilege of getting off at any point this side of Bonneville. If they prefer, and train will stop coming back. Fare, 50 cents, round trip.

EAST SIDE AFFAIRS.

Family Suffering From Typhoid Fever—Other Matters.

The family of Rev. John Gibson, pastor of the Grand-Avenue United Presbyterian Church, is having a very severe time with typhoid fever, caused, without doubt, by fever germs in the milk they received up to a short time ago. His 11-year-old son was taken down with typhoid, without any apparent cause. The fever kept up in spite of all efforts to combat it, until it was discovered that the milk was contaminated. There was typhoid. The attending physician saw that the boy was being fed fever germs, and on discontinuing the use of the milk the patient commenced to improve. He is now on his feet, but is very weak. Mrs. Gibson is down with the fever, and yesterday the fever was very high. She has been sick a week, but hopes are that she will not have a serious time, now that the cause of the illness in the family is known. The illness of the family has caused them to give up their summer vacation, and it is feared that it is interfered with Dr. Gibson's pastoral work.

Funeral of Samuel W. Staver.

The funeral of Samuel W. Staver, who died Wednesday evening, took place yesterday forenoon from his late home, on the corner of East Ninth and Broadway streets. A large number of the friends of the family from different portions of the city were present at the funeral. The rooms of the house being filled and the porch in front occupied. An appropriate service was conducted by Rev. Charles T. Hays, pastor of the First United Evangelical Church. He was assisted by Rev. Charles C. Polling, of La Fayette, and Rev. M. J. Ballentine, of St. Johns. Other ministers also were present. Many beautiful floral tributes were brought by friends. At the close of the services at the house the remains were taken to Greenwood Cemetery.

The deceased was a brother of the late George W. Staver, and was connected with the firm of Staver & Walker for a number of years. He had been a resident of Portland for 17 years, and formed a wide acquaintance. There was a uniform courtesy in his manner, and he was in a business and social way, and he will be kindly remembered. His sickness extended over several years. Only a week ago the family occupied their new home, transferred to Sunnyside.

Rev. H. B. Ellworthy, D. D., pastor of the Methodist Church at Creswell, Or., has been transferred to the Sunnyside Methodist Church, to take the place of the suspended minister. He is expected to arrive in Portland by next Wednesday, and will at once enter on his duties as pastor. Mr. Ellworthy is one of the prominent members of the Oregon conference for the past 27 years, and is especially fitted for the work to which he has been assigned at Sunnyside, where the church has been somewhat broken up. He will receive a hearty welcome in his new field. Dr. Ellworthy will have charge of the Sunnyside church until the annual conference convenes in September at Ashland.

Fixing Sidewalks. The repairing of sidewalks is going forward all over the East Side. Recently sidewalks were carefully inspected, and the notices were served on property-owners where the sidewalks were in particularly bad condition. There has been a general response, and the result will be desirable. In some places the result, however, is amusing. One will pass over a long stretch of really dangerous, rickety sidewalks, and come to 100 feet of nice new walks, which are beyond the walks are broken up. This is where the owner of one or more lots has responded promptly to the notice to repair, while the rest of the sidewalk groans have not done so. On the whole there is much to be reprinted in progress. A sample of the best and most enduring walks are those of Mayor Hill, of Albina, is putting down the sidewalks of his new dwelling on Williams Avenue. He is using concrete, which will last for an indefinite period.

Waiting for Foot Stickers. Contractor Bridges has taken a run down to the seaside for a little rest, while waiting for the steel roof girders of the machine shops of the Southern Pacific Company. Superintendent Kleemann and a few men are on the grounds at present, waiting for the steel roof girders for the machinery inside the building. New and up-to-date machinery will be placed in the new structure. Part of the machinery from the old shops will be used, but the main portion will be new. Power will be supplied by electricity, as it is cleaner and better. The company may have its own power plant. Roof girders are expected within a month.

MAY HELP NOME BOOMERS

WAR DEPARTMENT WILL PROBABLY COME TO THE RESCUE.

Commissioner Hermann Says He Foresees Failure and Kept Government From Suffering Loss.

WASHINGTON, July 21.—Recent reports from Cape Nome have given various Government officials in Washington considerable concern for the welfare of the vast throngs that are now strown about the gold fields, or are on their way there. One who is deeply interested in this matter is Commissioner Hermann, of the General Land Office. In speaking of the Nome situation recently, the Commissioner said:

"Developments have proven that my suspicions were correct. For a time we heard nothing but flattering reports from Nome, and great strikes were reported. Now, however, the reports are that the interest centered in the Cape Nome beach was greater than that ever before shown in any one mining region. Last year when Cape Nome discoveries were first reported, I had a suspicion that developments would prove that gold existed in paying quantities only in streaks, and that much of the region would be barren.

"Now we have reports day after day to the effect that the Nome beach is worked out. This, as a general thing, is undoubtedly the case. There are spots where paying quantities of gold are yet to be found, but these spots are few and far between. And even in that case, the pay ground has long ago been taken up. It is the lucky few that are making money at Cape Nome, while the struggling thousands are poorer than when they started, and growing more distressed as time goes on. Reports coming in tell of new strikes that are made, and with each strike a fresh rush. But it is the few that profit, and the hundreds who lose. The poor miners are scattered along the beach as far north as Cape York, and south to Golofin Bay, but those who are making daily wages are considered lucky.

"It is to be regretted that the geological survey put out such an alluring report of the gold fields of Nome. Their report, while it was true as far as it went, did not properly represent the true conditions, and give a fair idea of what the Nome would have to contend with. For instance, they reported much gold, which at the time their experts were in Alaska, was to be found on the Nome beach and in the tundras. But before their reports were published so long a time had elapsed that most of this gold had been extracted. Then, too, in describing the tundras, which have been known to contain more or less gold, they omitted to tell of the difficulties of mining in that part of the gold field.

"As a matter of fact, the tundras are covered with a heavy layer of moss from one to two feet deep, wet and soggy, that has first to be cleared off before the ground can be worked. This requires considerable labor, and when the moss has been removed it is found that the tundras proper is a solid frozen mass, that cannot be mined until it is thawed out. And hence, the great difficulty. Stripped of its gold, Cape Nome is one of the most desolate and barren sections in the world. There is no sign of vegetation to be found in any direction. Wood there is none, and coal sells at 12 cents a pound. The miner that can afford sufficient fuel to thaw out the tundras is wealthy enough to get along without the gold it contains, and the man who has to work the frozen mass can never expect to make a living at it. Had there been considerable labor to prospect for gold, and the tundras had been available, the tundras might have been successfully mined, but under existing conditions it is almost an impossibility, and altogether beyond the reach of the poor miner.

"So, on the whole, Nome has proven a boom gold field, and like all other booms, has burst, or will burst, and leave many a poor prospector stranded and without hope or possibility of reaching home, unless the Government comes to his assistance. The Interior Department has been unable to give warning to the miners bound for Nome, but we have conferred with the War Department, and that branch of the Government service will probably be compelled to again come to the rescue and see that the helpless miners are released from an almost certain death, before they are penned in by the ice. The outbreak and spread of disease is now working great havoc among the poor miners, due to improper and inadequate sanitary provisions, which could not be supplied in so short a time for a country so suddenly and extensively populated. I confidently expect that by the first of August there will be fully 30,000 people on the Nome beach, and of this number but a very few will ever be rewarded for their hardships and their cut-throat transportation companies will grow wealthy from their summer's work, and the merchants selling to the miners will reap great harvests, as is shown by current prices in Nome, for every commodity, every article of food and every implement has to be imported or carried from the States, giving both the merchant and the carrier an opportunity to reap a great profit.

"I venture to say that if the miners who were in the Yukon country a year ago, and who forsook their claims, when the Nome rush began, had remained on their original claims, or had taken some of the richer filings which were disposed of at nominal prices, they would today be better off than 90 per cent of all who went to Cape Nome. There were some rich finds in the Yukon country, but because they did not develop rapidly at first they were abandoned, and good prospects were thrown up in the mad rush for the Cape Nome country, and a fortune could be picked up off the beach in a few days. A few fortunes may have been made in a short time, but such could easily be counted on the fingers of one's hand, while the millions will number up into the thousands."

In speaking further of Alaskan conditions, Commissioner Hermann said that business in the Upper Yukon was practically dead. Last Winter the three land offices in that region were cut down to one, that at Rampart, because of the lack of business. Since then, however, he says that not a single filing has been made at that office, and if there is not a great change in the next six months, he will recommend the discontinuance of the Rampart land office. He explains that each land office entailed a great expense to the Government, and where no business was being done it meant simply throwing away so much good Government money.

At the time the readjustment of land offices was made, there was a great pressure to have an office established at Nome. To this Commissioner Hermann strongly objected. It was his contention that Nome was a boom locality, and that the chances were that in a year's time it would be a boom town, and the struggling thousands who had been convinced that he was right. He showed that the establishment of a land office at Nome would mean the purchase of site and the erection of a building for the land office, as no buildings could be rented, and that such a building, if the gold rush should suddenly stop, would be a heavy loss to the Government. He therefore had the office located at St. Michael, which is a fixed point, and the headquarters for the Army stationed in Alaska. This point is within 100 miles of Nome, and reached in the course of 10 or 12 hours, and has proved simple to meet and conduct all business coming from Nome. In fact, the land office at St. Michael is in better condition now than when first put up. The decking of the East Twelfth-street bridge is badly worn, but the owners of the adjacent property will not repair, and nothing can be done with it. The East Sixteenth-street bridge is kept in fair repair by the city, but it would not stand heavy travel.

Municipal Court.

E. P. McCrowley, a local employment agent, was fined \$20 in the Municipal Court yesterday for assault and battery on R. Clyde, proprietor of the Commoner. McCrowley pleaded guilty to slapping Clyde in the face on two occasions when alterations arose between them, and paid his fine.

Robert Gilbert, arrested on a charge of embezzling \$1700 belonging to the Columbia and Willamette River Operation Stevedore Company, waived examination and was bound over to the grand jury under \$500 bonds.

The case of M. Houde, a Japanese arrested by Officer Warner at Erickson's yesterday morning for stabbing another Japanese, named K. Kamey, went over until today. Houde and Kamey quarreled over a game of cards, and Houde committed the assault with a jack-knife.

The charge against John Towns, Sixteenth and Overton, for the larceny of a bicycle belonging to J. H. Burton, will be decided Monday.

WHEAT BY IRRIGATION

COLORADO FARMER DESCRIBES HIS STATE'S METHODS.

It is Hard for Him to Comprehend Nature's Better Plan Out Here in Oregon.

Scott Garrett, who has been feeding Oregon sheep for the Chicago markets for a number of years in Big Elk Valley, Colorado, was in the city yesterday, accompanied by his wife. The couple were on their way to visit a brother of Mr. Garrett at Myrtle Point, Coos County, and they will incidentally take notes of the great state whose methods the farmers of the Big Elk have been making money on.

Mr. Garrett said the farmers and stockmen of his region depend entirely on irrigation for growing their crops of wheat, oats, clover, etc., as the rainfall is so light that it cannot be relied on. The land of the valley slopes from the foothills to the Cache la Poudre River, with a uniform fall of 24 feet to the mile, and this permits of easy irrigation by percolation from the supply ditches above, without the necessity of flooding the lands. He has 300 acres under a complete system, half of which is down to alfalfa and the remainder to small grain. He cuts three crops of alfalfa every year, the land thus producing six and a half tons on an average, and upon this he depends mainly to fatten the yearling lambs which arrive every Fall, over the trails, from the necessity of flooding the lands. He has 300 acres under a complete system, half of which is down to alfalfa and the remainder to small grain. He cuts three crops of alfalfa every year, the land thus producing six and a half tons on an average, and upon this he depends mainly to fatten the yearling lambs which arrive every Fall, over the trails, from the necessity of flooding the lands.

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The raising of large fields of wheat, entirely by irrigation, has not been a big success in some countries, but in the Big Elk Valley 50 to 60 bushels per acre is the average yield. The farmers are aided by gentle rains in sprouting the wheat in early Spring, so that a uniform stand is always secured. When a growth of six inches has been reached, irrigating begins, no matter whether rain falls or not; in fact, the irrigators often work during showers and are clad in slickers to protect their bodies from the irrigation of the clouds. Wheat is thus artificially moistened twice in a season, after which the grain ripens and falls without further aid from man.

Water has thus far been abundant for all purposes, and very little friction has occurred between neighboring farmers who desire to use the life-giving fluid from the same headgate at the same time. One dollar per acre per year covers the cost of the supply, which, considering the grain prices, is not an extortionate. All the products of the farm find a ready market at home, though the markets of the world govern the prices of wheat, corn and a half ton of wheat sells readily at the barn for \$1.20 a cental, which would correspond with 60 cents a bushel, Oregon measurement, while the cost of freight and commission is all saved to the producer.

Mr. Garrett's remarks on gazing up and down Portland's streets indicated that he was surprised at the bustle and volume of business in the metropolises of the Northwest. The balmy air, the lovely flower gardens, the splendid perspective of luxuriant shade trees, the spontaneous growth of creeping vines in the resident portion, and the great stalwart telephone poles carrying their cross-arms and myriads of wires, came in for due comment. And all this emeraldness of growth without great ditches and canals to carry water for irrigating, seemed altogether out of place. He is used to clear, bright skies, while the wetness that produces fertile in his country, and he is used to aqueducts, from the melting snows of the distant mountains.

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