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MEN'S ALL WOOL SUITS, \$8.00 UP.

NEWBERG GRAPHIC.

ISSUED EVERY FRIDAY MORNING.
EDITORS AND PUBLISHERS:
E. H. WOODWARD & O. M. C. EMERY.
FRIDAY, MAY 13, 1892.
Entered as second class matter at the post office at Newberg, Oregon.

The Hubbard Herald, a very neat six-column paper published at Hubbard, Marion County, is on our table.

The Sheridan Courier has been sold to parties who will move it to Amity. The parties aforesaid will find a white elephant on their hands one of these days. This opens the way for another paper in Yamhill.

The flying machine gag now takes the place of the sea serpent tradition, and now appears about as regularly in print. The latest "inventor" is a New York man, who promises wonders when he gets his machine—to work.

It must look just a little funny to outsiders that we, claiming to be the greatest nation on earth, in making preparations for the greatest exposition in the history of the world, can not do so without continued trouble with the workingmen employed.

The Valley Transcript, is the name of a new paper to be started at Dallas some time this month, by the invincible A. V. R. Snyder. We can hardly see where there is room in Dallas for another paper, but venture to say that Snyder will get his share of patronage.

The greatest aggregation of wonders ever shown under one roof will probably be on exhibition in Portland soon. Arrangements are about completed for the visit of the members of the National Press Association to Portland at the close of its annual session in San Francisco.

Let every paper in this section of the state agitate the building of a fish ladder at the Willamette falls. There is no good reason why the people of the upper Willamette should be deprived of the pleasure of catching salmon, when a small expense by the state would remedy the evil.

It is a very small matter to the people, whether the work at the Cascades is done under directions of the war department, or under the contract system. They have got beyond caring how the work is done or who steals the major part of the appropriation. The question of whether their children's children will likely live to see the job completed, is what is interesting them just now.

Carpenier, of the Ledger, in speaking of the necessity for selecting protected localities for fruit raising to avoid injury by frost, says of the location in this valley:

"We have often thought that Chehalis valley was highly favored in that respect, by its double cordon of lofty hills. Some may differ with us in this, but our experience while living there has fully convinced us of this fact that Chehalis valley is more thoroughly protected from the effects of the frosts than almost any other place that we have seen. This spring is, we are happy to say, more the exception than the rule."

The Juneau (Alaska) Mining Record rejoices over the fact that the state of Washington is taking an active interest in Alaskan affairs, and hopes that Alaska will soon be transferred from Oregon to Washington for judicial purposes. We can't imagine what advantage such a change will be to Alaska, but we feel reasonably certain that the people of Oregon will have a sigh and exhibit other appropriate symptoms of a feeling of relief. Oregon has for some time borne a big responsibility about the size of this chunk of ungratefulness frozen onto our north-west corner, and if Washington courts and Washington Senators and Representatives can be induced to shoulder her, we don't see that Oregon has anything to feel bad over.

McMAHON, of the Woodburn Independent, may be a little peculiar in his manner of doing business with city marshals and cow boys, but there's a vein of hard common sense in what he says sometimes, that some editors in this state who make greater pretensions might do well to emulate. In speaking of the death of Simon Gregoire, who was killed, while intoxicated, by the cars, he says:

"During the last three years four men have reeled out of the Gervais saloons and gone to their death. Two men started home drunk from there and collided with the cars, one being crippled for life. At nearly every term of court from one to a dozen cases are docketed, which are the result of some drunken row that occurred there. The rows and direct resultants of the Gervais saloons have cost the taxpayers of this county more during the last twenty years than it would take to buy the town. All of the license money goes to the municipal government, but all of the costs go to the county. Personal liberty is all right, but this personal liberty that insists on getting drunk and making the taxpayers foot the bills is all wrong."

The Brownsville Times is once more an all home print, and looks more business-like than ever.

CIGARETTE SMOKING.

It is really alarming to note the increase in cigarette smoking in our town. We see small boys who ought to be under the watchful care of parents, puffing away at these vile things in a way that is not only disgusting but sorrowful to see. While we believe that parents are largely responsible for this state of affairs owing to a lack of proper training of their boys, we believe that the law ought to lend a helping hand. The smoking of the cigarette is only a small part of the injury to the boy, for the lead pictures that come with almost every box of cigarettes are calculated to ruin his moral nature while the tobacco and opium in the cigarette plays sad havoc with his physical make up.

EFFECT OF TILE DRAINING LANDS.

Of late years the importance of thoroughly underdraining lands is made manifest by experience in the best cultivated lands of Europe and America. Swamps and bogs are made valuable, and ordinary lands are improved so greatly as to make the growing of crops a certainty, and give agriculture, conducted on true principles, a stability that defies the vicissitudes of climate and remedies the dangers that threaten the producer. Science is but the understanding of natural laws and comprehension of Nature's workings. Common sense and science often go hand in hand and the student of Nature is a scientist.

A few years ago, a veteran journalist of New York state gave his experience to the world of the result of thorough drainage after his own fashion. He had purchased a piece of soil too stubborn to yield crops after manuring and deep plowing. It was a clay soil, mixed with rough gravel, that gave thirty bushels of potatoes as a crop after good cultivation. He had this trenched (it was hillside) and the trenches filled in part with rock, loosely laid in, then covered over at least twenty inches deep. Lateral ditches connected the main ones and carried the water from one to another down the hillside. This way of drainage took off the surplus water and let in air to permeate the soil between the ditches. Gravel as it was, it answered a great purpose. The land had been subsoiled, the rough rock taken out, and then produced immense crops. The draining produced similar results, and is much more simple and more easily effected. Ditches are dug, following the slope of the land, four feet in depth, and less, perhaps, on hilly land. The are laid to carry off water in the bottom of these ditches. These drains are forty to seventy feet apart, according to the lay of the land and character of the soil. The results are various and entirely favorable. Carrying off the surplus water leaves the soil in warmer condition; warms it so that it resists frost and bears crops earlier and with more certainty than before, as frosts that injure adjoining crops do not harm where the drainage has warmed the soil and has raised the temperature, as it certainly does.

The veteran journalist, Cole, who found himself owner of a barren hillside of tough clay mixed with rough, broken stones, proceeded to subsoil and underdrain a few acres, with astonishing results. The same land that produced thirty bushels of potatoes to the acre, with similar tillage produced 1,000 bushels. He made garden on it three weeks earlier than on undrained land adjoining, as its warmth was increased so that frosts did not affect it. Fruit trees included in this drained area became transformed and produced fruit vastly superior to the old product. He realized, what many others have, that underdrains produce results that equalize all conditions and correct all tendencies to failure by so doing. Let us consider for a moment what the dangers are that threaten success to horticulturists in our region.

It is said that many superior fruits, as, for instance, the Yellow Newton Pippin and the Italian prune, do not succeed well on heavy clay subsoils. The reason is, that the water does not permeate this underlying clay, and as it cannot run off through the surface soil, sometimes drowns the root and kills the tree. One of the best orchardists in the Waldo hills asserted ten years ago that no Italian prune could grow to be six years old. Neither did it live to that age in his orchard, but it was because his rich hill land was underlain by a bed of heavy and impervious clay. His trees were literally drowned. He was mistaken in thinking that the Italian prune could not live elsewhere in Oregon, for on any soil that does not too long retain water it did well. The same difficulty is said to exist with regard to the Yellow Newton Pippin and no doubt other sensitive trees.

Even on soils that are not too retentive in a general sense, there is danger from late spring rains, as they come sometimes just when the trees are in bloom or are loaded with young fruit, filling the soil with water, which, being cold, chills the roots if long continued, and checks the sap-flow, so that as a consequence of having no nourishment to support growth,

the fruit falls off. This, and late frosts, account for any shortage of yield of fruit in many cases when it occurs. Underdrainage is not only a preventive, but does much good in a positive way. In the first place, by affording an outlet for the surplus water, it keeps the soil comparatively dry and warm. Cold water keeps down the natural warmth of the earth, while if surplus water removed the natural warmth of the soil is maintained. Digging drains four feet deep at a width of fifty feet apart, and laying drain tile (two and one-half inches) carefully at the bottom, not only serves to carry off the surplus water—while it leaves in the soil all the moisture it requires for uses of production—but also admits the atmospheric air from the end of the drain pipes, to penetrate the soil through the whole length of the pipes. As the water pours into these tile at the joints (every twelve inches), so the air that ascends issues out of these same joints and penetrates the surrounding earth. All the while, by night and by day, through all seasons, this atmospheric influence is hard at work serving the land owner and improving the soil and insuring the crops. How it does this is one of the most interesting topics for the study of the farmer or the fruit-grower.

If a stiff clay is underdrained it loses its heavy and impervious character and in time becomes loose soil, so that you can push a stick down into it a long distance. This is the result of aeration, or the effect of the air slacking the clay and causing it to crumble. Clay was originally deposited by water and left in its dense, stiff shape. So long as the action of water is supreme, it will retain its density. As air will slack lime, so in a less degree it will slack dense soils, penetrate them by its chemical agencies, cause them to disintegrate and crumble and become porous. It may take years to transform clay into mellow soil in this way, but the air is always at work and in time accomplishes a seemingly miraculous transformation of the myriad particles that have been so cohesive through all the ages of time. While it takes years to penetrate through dense soils from one drain to another—fifty feet apart—and make it thoroughly porous, the action of the drains becomes immediately useful. They remove surplus water, though not so quickly as when the soil shall become thoroughly porous. By affording a means of exit they draw water through the soil and this quickens the action of the water in the soil aids the action of the air by making the soil more porous. In a few years the aeration will be complete, though it may not be over three feet deep in the middle of the land between the drains, while it is four feet deep, of course, where the tiles are at that depth. By taking off the surplus water before it can do any harm, the drains will repay their cost, but we have not yet nearly given an idea of the good work they perform.

Atmospheric air contains the best ingredient for enrichment of the soil, and in passing into and through the surrounding earth from the joints of the tiling, it carries with it these ingredients, and they leave the air to become fixed in the soil in this passage. Nitrogen and ammonia exist in the air in very small quantities, but continued aeration in time supplies enough to greatly enrich and benefit the soil and sustain its fertility. This is so sufficient in itself as a means of sustaining the fertility of our west-coast soils that scientific authority expresses the belief that an orchard well underdrained will be self-sustaining and need no fertilizing on the surface. Here is a point in favor of underdraining that in itself will repay all the expense and trouble of doing the work.

With this brief review of the effect of thorough underdraining, let us examine the various advantages and resultant effect.

1st. The surplus water is removed before it can do harm, so that trees are not water-killed or failure of crops caused by presence of water to blight bloom or young fruit.

2d. The aeration that takes place loosens and makes porous the stiffer clays, and benefits by various means all the conditions originally existing, besides bringing in ammonia and nitrogen to continually enrich every kind of soil.

3d. In heavy soils, the roots of trees will not go deep, but when aeration takes place and soils become porous, they will strike down to find more moisture and greater supplies of fertility. This, of itself, will insure greater and finer crops and much finer growth of trees.

4th. The air is charged also with much moisture, especially in this climate where the ocean winds are prevalent all the summer. Therefore, in permeating the soil through the tiles, the air conveys moisture there in the season when most needed, giving a warranty against drought, or failure from that cause.

Underdraining, then, produces a wonderful equalization and amelioration of conditions that almost insures the possessor of drained soils against the ills that crops are heir to. Cold-land was cold, troubled with wire worms and fungus growths, as well as unproductive. When warmed into life by drainages, it yielded immense crops, became warm, so that

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late frosts were harmless, and the worms and fungus left, because they were not in natural conditions. Well drained land is cooler in summer and warmer in winter for that reason. It is more moist in summer dry seasons and less wet in winter rains. All conditions are equalized, so that it is practically insurance against heat and cold, or drought and too much water. It insures regular and profitable crops and permanent fertility. It is necessary on the hills, because the soil, there needs to be drained in the exigencies we have alluded to. It is possible to redeem the swamps by this means, and to supply the arid hill tops with summer moisture. Some one has remarked that many old apple orchards on high hills have died; while those on lower lands have survived. If this is so, and if the high lands can be drained, it is safe to say that underdrains will supply moisture to make fruit trees on the hill tops permanent and prolific. We drain lands that are wet to make them dry enough to yield crops, and we can drain those that are dry to introduce moisture into the soil and keep it from being too dry. This seems a paradox, but is only the effect of natural law.

A son of one of the earliest pioneers was remarking that when he was a small boy and his father's orchard was young, the trees here heavily at that early age. He added: "The soil was so mellow that we could push a stick down several feet." That was in the forties. There was then no stock running loose to trample the hills and the prairies, and the soil had not been compacted by that means. Restore it to the same conditions and we may expect similar results. This can only be done by efficient underdraining.—Fruits and Flowers.

PROGRAM.

Following is the program of Friends' Quarterly Meeting, Educational Meeting, and Sabbath School Conference, to be held Friday, Saturday, and Sunday, May 13, 14 and 15, 1892.

FRIDAY, MAY 13.
2 p. m. Meeting of Ministry and Oversight.
7:30 p. m. Business Meeting of Women's Foreign Missionary Society.

SATURDAY, MAY 14.
10 a. m. Meeting for Worship.
1 p. m. Meeting for Business.
7:30 p. m. Educational Meeting.

SUNDAY, MAY 15.
9:45 a. m. Sabbath School.
11 a. m. Meeting for Worship.
3 p. m. Public Meeting of Women's Foreign Missionary Society.
7:30 p. m. Quarterly Meeting of Young People's Society of Christian Endeavor.

Educational Meeting.
Devotional and Opening Exercises, Prof. Hartley.
Address—The Relation of Higher Education to the Church, T. S. Townsend.
Discussion, J. H. Douglas, Isaac Sharpe.

Sabbath School Conference.
To be held in Friends' church, Sunday, May 15, 1892, at 9:45 a. m.
Music—Songs from Gospel Hymns Combined.
Opening Exercises, by the President Thomas Newlin.
The Book of Psalms, 10 min., Mrs. Hartley, Newberg.
David the Psalmist, 5 min., Edith Ellis, Middleton.
How should Sunday Schools be Graded, 15 min., Dr. A. Mills, Dumbee.
Discussion, 10 min., Led by Jesse Edwards, Newberg.
How can Teachers' Meetings be made Sufficiently Helpful to Teachers of all Grades to Induce Regular Attendance, 15 min., O. C. Emery, Newberg.
Discussion, led by Jesse Hobson, Portland.
Reports of Sunday Schools. Closing.

Horticulture, as a vocation, is assuming higher rank and acquiring greater power. If we produce more fruits and vegetables than are needed at home, they can be transported to all lands and exchanged for their products. Year by year commerce spreads wider and transportation becomes less costly as invention improves motive power. As a vocation, horticulture is most honorable, and success in this field merits respect as much as in any department of life.—Fruits and Flowers.

NATIONAL REMEDY CO.
David W. Martin, general agent for the National Remedy Co., wishes to announce that he now has two agents in Newberg for the sale of his medicines, Mrs. Mary Hobson, on South Main street, near the fair grounds, and Mrs. Cox, on First street, one door west of Presbyterian church, are his only authorized agents, who have and will keep on hand a full supply of the above-named remedies. sept10/92

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Ever brought to the city. Mrs. Baldwin has had over 15 years experience and can cut the most fashionable. Call and see our stock before purchasing.
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