INOCULATING THE SOIL.

Nitrogen is life to plants. But, alas, this vital element is expensive to buy; and therefore, many fields suffer because of its lack.

Yet the air all about us is charged with enormous quantities of nitrogen-only waiting to be trapped into man's service.

The best traps or "extractors" yet discovered are the legumes; clover, alfalfa, beans, peas, vetches, etc. All farmers know this, hence the popularity of these crops as "soil renewers."

Unfortunately, however, the legumes are not always obedient servants. On some fields they refuse to grow properly; on other spots the soil seems to become "clover, sick" after a few years; or, the plants grow, but fail to develop the little root nodules wherein the nitrogen ought to be stored.

Until recently no cure for refractory legumes was known. Then science tackled the problem.

Every farmer should take off his hat and give three hearty cheers for Dr. G. T. Moore, of the Department of Agriculture Why?

Because Dr. Moore has perfected a system which compels the legumes to do their duty!

To-day, any farmer may write to the Bareau of Plant Physiology, U. S. Department, of Agriculture, Washington, D. C. and obtain a free package of this remarkable discoveryenough to inoculate several acres of land.

Thus, in one tiny yeast-cake (as it were), millions of friendly bacteria come by mail to the farmer, ready to do his bidding if he will follow the easily understood printed directions which accompany the package of organism3.

'Tis all as simple as a, b, c. However, three preliminary points should be understood:

First, there is a special kind of bacteria for each legume. Therefore, farmers should state

THE MODERN FARMER.

The annual farmers' short course is in progress at the State Agricultural College at Corvallis, and its programme of the instruction is suggestive of the

Surely that which enlarges the farmer's horizon, causes him to see more in his life than handdriving a mower, introduces sit delighted by. him to the secrets of plant and animal husbandry, and shows the profits coming from intelligence on the farm, is giving a practical turn to the effort to stop the flow from country to turned up by the plow is not merely earth, but soil, yielding this plant or the other. Therefore the first subject in this course is "constituents of the soil." On this follows the account of the chemical elements, and the way is so shown to

"rotation of crops," The old idea of one standard crep and that wheat has gone for good. In Oregon-in Western Oregon, at any rate -the wheat farms of twenty years ago are already turned to more profitable ends by keeping all the livestock the farm can carry and turn off in one form or other. Therefore the next subject in the farmers' course deals with domestic animals in health and disease. Dairy herd records, milk tests and how to apply them are studied in turn. The origins of animal diseases in bacteria and their results are explained in simple terms and illustrated with the microscope. Next, attention is given to plant life on the farm, injurious and beneficial. Forage crops and their functions, the special adaptation of Oregon to food plants as substitutes for the condensed and artificial foods

which in other states have to be purchased by the farmer. This subject, of vital interest to the newcomer, accustomed to other

MUSIC IN THE HOME.

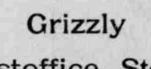
BUY LOTS IN=

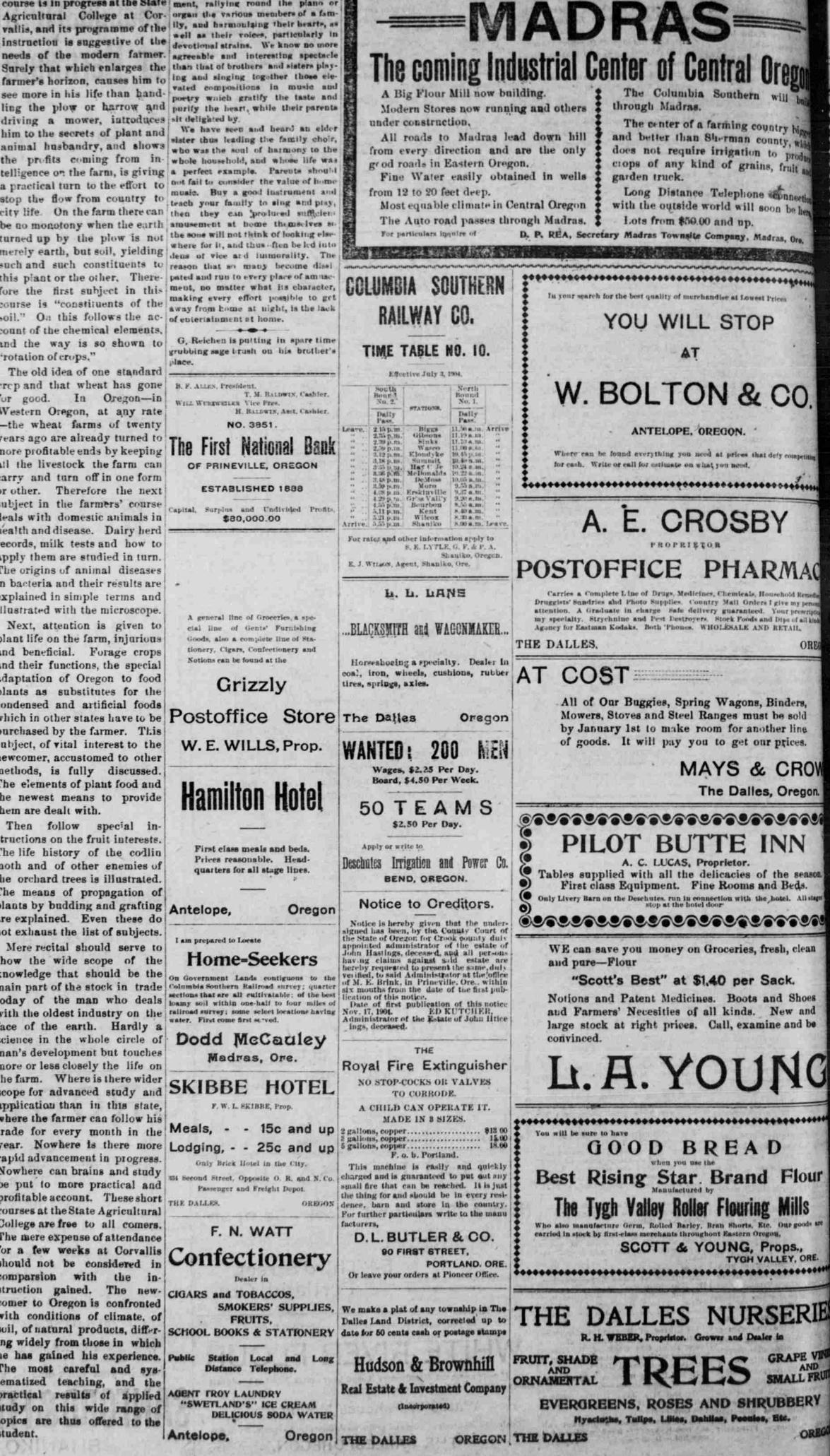
Music is an accomplishment unusually valuable as a home enjoyment, rallying round the plano or organ the various members of a family, and harmoulzing their hearts, as well as their voices, particularly in devotional strains. We know no more needs of the modern farmer. agreeable and interesting spectacle than that of brothers and sisters playing and singing together those elevated compositions in music and poetry which gratify the taste and

sister thus leading the family choir, who was the soul of harmony to the whole household, and whose life was a perfect example. Parents should not fail to consider the value of home music. Buy a good instrument and teach your family to sing and pray, city life. On the farm there can then they can produced sufficient be no monotony when the earth amusement at home themselves so the sone will not think of looking elsewhere for it, and thus fiten be led into dens of vice and immorality. The such and such constituents to reason that so many become dissi pated and run to every place of amusement, no matter what his character, making every effort possible to get away from home at night, is the lack of entertainment at home.

> grubbing sage brush on his brother's place.

WELL WEREWEILER Vice Pres. H. BALDWIN, Amt. Cashier. NO. 3851. First National Bank OF PRINEVILLE, OREGON ESTABLISHED 1888 Capital, Surplus and Undivided Profits, \$20,000.00





which legume they wish to grow, so that Uncle Sam may send the right bacteria.

Secondly, these bacteria are them are dealt with. beneficial only in connection with legumes. 'Twould be useless to apply them to other crops.

If clover, etc., will already successfully grow on your farm, the fact shows that your soil is naturally supplied with the aecessary bacteria; consequently, inoculation is not peeded.

podules, no nitrogen!

are on hand.

matter. Simply prepare a mixture of "yeast-cake," water etc., according to government inthe seed before it is sown, or the soil into which the seed is to go.

Now, dear friends, let us all be sure to have a few million legume traps at work next summer-industriously extracting nitrogen from the air and storing it away in our fields.

shade trees. The Dalles Numerics he has gained his experience. Public (see ad in another column) handle nothing but home grown trees, which are fully guaranteed to be as repre- tematized teaching, and the sented. Get their prices before buying elsewhere. By leaving your orders at The Pioneer office they will receive prompt attention. Call and get a topics are thus offered to the price list.

methods, is fully discussed. The elements of plant food and the newest means to provide

Then follow special instructions on the fruit interests. The life history of the codlin Thirdly, do not be in too great moth and of other enemies of a hurry to send for Uncle Sam's the orchard trees is illustrated. kindly gift. Think a bit first. The means of propagation of plants by budding and grafting are explained. Even these do not exhaust the list of subjects. Mere recital should serve to show the wide scope of the knowledge that should be the

main part of the stock in trade No bacteria, no nodules. No today of the man who deals with the oldest industry on the

That's the point, exactly, face of the earth. Hardly a Without these tiny "vegetable science in the whole circle of tumors" the legume is a failure man's development but touches in thrifty growth and in nitrogen more or less closely the life on producing results. We must the farm. Where is there wider all learn that it is useless to scope for advanced study and attempt the trapping of nitrogen application than in this state, from the air, unless the bacteria where the farmer can follow his trade for every month in the

To inoculate the fields that year. Nowhere is there more Lodging, - - 25c and up need such aid is now an easy rapid advancement in progress. Nowhere can brains and study be put to more practical and profitable account. These short structions, then moisten either courses at the State Agricultural College are free to all comers. The mere expense of attendance for a few weeks at Corvallis should not be considered in comparsion with the instruction gained. The newcomer to Oregon is confronted with conditions of climate, of

soil, of natural products, differ-Now is the time to plant fruit and ing widely from those in which The most careful and syspractical results of applied study on this wide range of student.