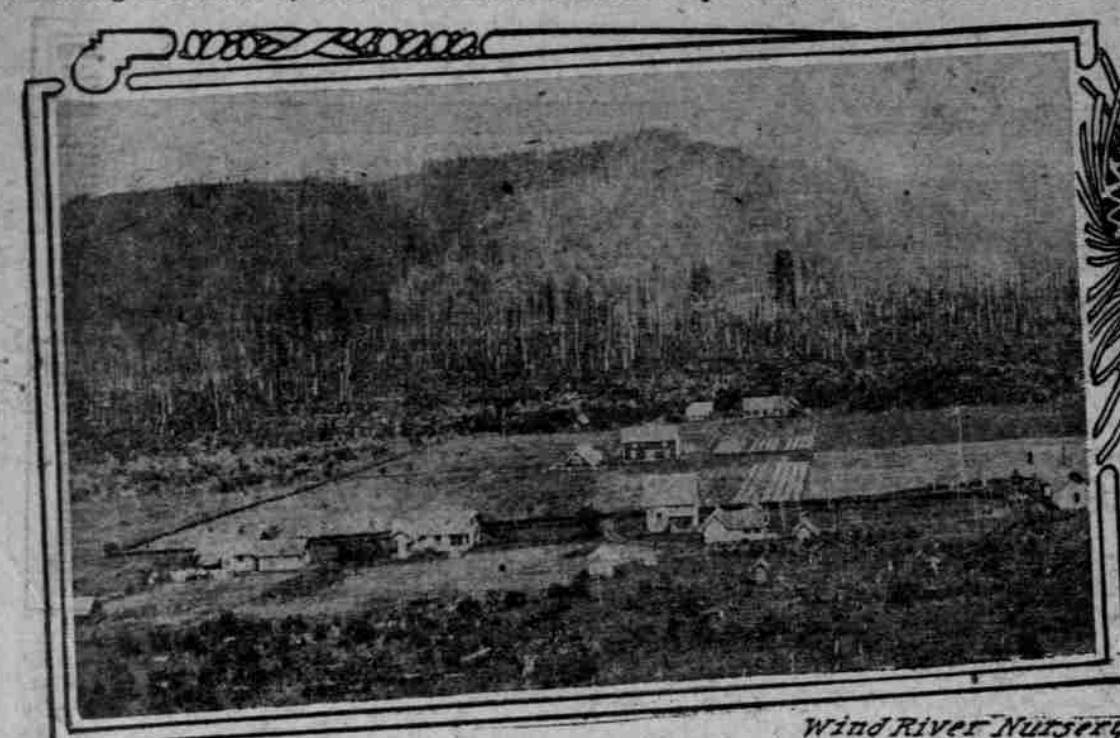
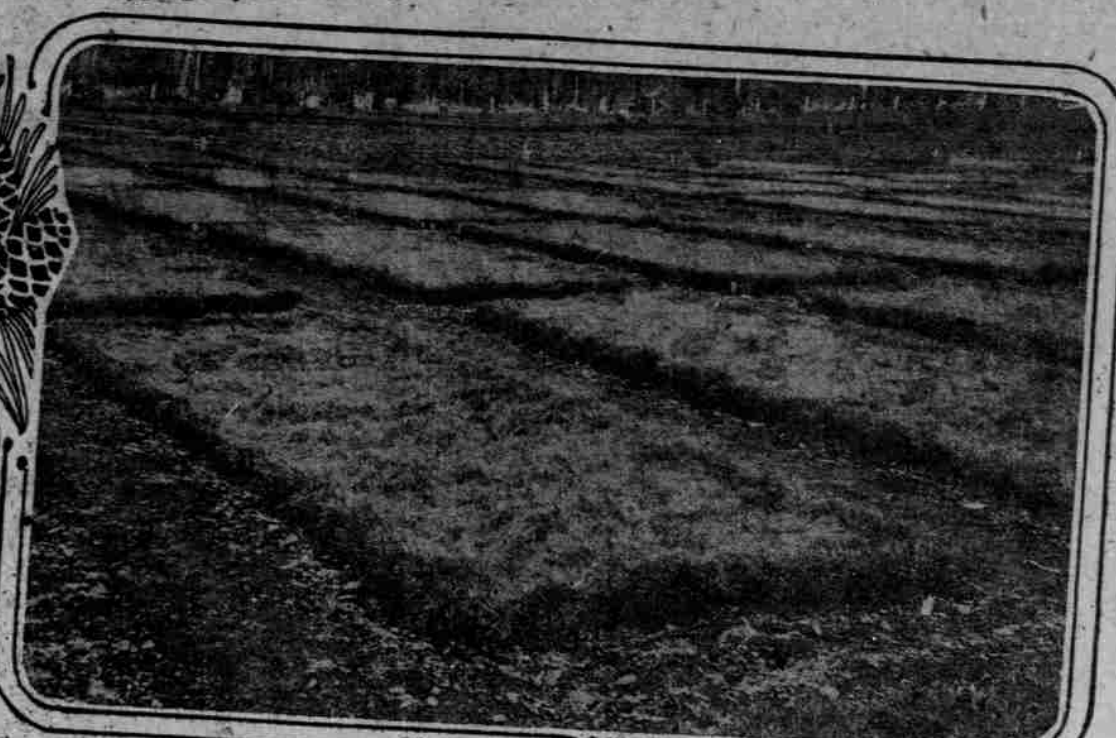


PRESERVING OREGON'S TIMBER OF VAST IMPORTANCE

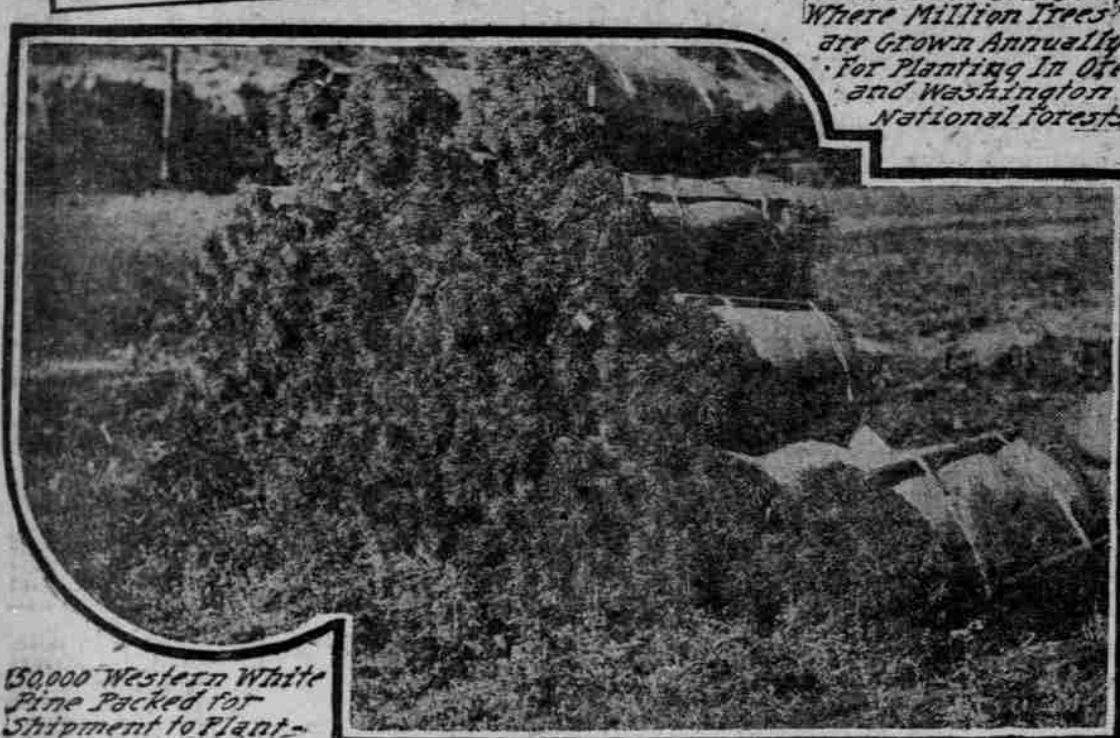
Planting Division of Forest Service Seeks to Cope With Destructive Forest Fires and Logging Operations by Slow But Effective Artificial Reforestation Methods



Wind River Nursery, Where Millions of Trees are Grown Annually for Planting in Oregon and Washington National Forests.



Beds of Two Year-Old Western White Pine Seedlings.



13,000 Western White Pine Packed for Shipment to Planting Area.



Grew Planting Douglas Fir on Old Burn on Mt. Hebo Mountain Near Detroit, Oregon.



Part of Burned Area on Mt. Hebo, Being Reforested.

man. Forests are capable of reproducing themselves by seed if given a fair chance to do so. This is nature's way. It is entirely practical to combine it with present-day methods of logging.

The chief obstacle to the growing of new crops of timber by nature's method is fire. This is particularly true of the region west of the Cascades where by far the largest part of Oregon's timber lands is situated. The fires which are so disastrous are not the fires which sweep through forests of standing trees, but the fires which frequently run over cutover areas and old burns. These fires kill all reproduction and if repeated often, create conditions which absolutely preclude the natural restoration of the forest.

Seed Process Interesting.

The reason for this condition calls forth the story of the seed, a fascinating nature tale.

The seeds fall to the ground and are covered by leaves or buried by animals. In the case of several species, the seed does not germinate immediately on account of unfavorable heat and light conditions, but merely remains in the ground, retaining its vitality.

When the old forest trees above it are removed, either by fire or logging, the seed is protected by its covering of litter or soil and is not destroyed by the flames. The next year, under the sun's rays, which before had been prevented by the branches overhead from reaching the seed's home, it germinates and a dense crop of little new trees is produced.

All goes well unless a second or third fire sweeps over this territory, destroying all the young trees. Since the trees have not had time to reach the seed-bearing age, no seed will have accumulated on the forest floor as a nucleus for a new forest. The seed's method is then at an end, since reproduction can come only from an occasional seed which has escaped or from migration from trees at a distance.

Artificial reforestation is the only way in which these areas can be covered with trees again in a reasonable

length of time. "This is an expensive method, however," explains Mr. Kummel, "and one which involves the expenditure of much time and labor. Infinitely better would it be to protect all areas from fire and give nature a fair chance to grow a new forest."

Much Territory Unproductive.

Hundreds of thousands of acres of lands within the national forests of Oregon have been returned so many times in the years past that natural reproduction is lacking and the territory remains a useless and unproductive waste. Soil and topography do not lend themselves to agriculture and the only thing for which the land seems to be suitable is for growing trees.

It is these areas which the forest service is engaged in reforesting by the planting of young trees.

The story of the manner in which the little trees are grown and cared for, is a tale of as much interest as that of nature's methods, for it takes much patience and scientific skill to make reforestation successful.

The trees planted on the national

forests of Oregon are grown at Wind River nursery, which covers over ten acres and has an annual capacity when fully producing, of several million trees.

The annual production at the present time is a little over one million, sufficient for reforesting approximately 1500 acres yearly. The seed is sown in the spring in carefully prepared seed beds. The seed of a species like Douglas fir is quite small and one pound will produce about 20,000 trees.

The young seedlings during their first year are delicate and seldom exceed one to three inches in height. To protect them from sunlight, the beds are covered with leaf screens. When the seedling are two or three years old, depending upon the species and altitude at which the parent trees grow, they are transplanted into beds where they have more room to develop.

3000 Trees in Bale.

After one year in the transplant bed the trees are ready for planting. They are taken up in the spring of the year, packed in bales of two to three thousand each, with wet moss around the roots to prevent drying out, and shipped to the planting area.

In planting, the trees are set out about eight feet apart, which makes an average of 400 trees to the acre. The planters work in crews of ten to 12 men, each equipped with an ordinary grub hoe and a water-proof bag, in which a day's supply of trees is carried. Under ordinary conditions a planter can set out from 600 to 800 trees each day, which means planting something less than one acre to about one and a half acres.

After planting, the trees are given no further attention except to be protected from fire. A certain number die normally each year from various causes, but surveys show that usually 70 to 80 per cent will survive. Planting on the national forests costs from \$10 to \$14 an acre now.

One of the largest planting projects in the national forests of Oregon is that on Mount Hebo in the Siskiyou forest, south of Tillamook. The work there has been in progress since 1916 and approximately 10,000 acres have been reforested. Another project is located on Still creek near Mount Hood on the Oregon forest and others are in the Santiam, Cascades and Siskiyou forests.

at an elevation of 7300 feet, overlooking the lake which lies 1000 feet below, is Crater Lake Lodge. From this hotel may be seen Mt. Thielsen to the north, Mount Scott to the east, Mount McLoughlin and Mount Shasta to the south as well as a grand panoramic view of mountains and forest. Visitors to that scenic region are thereby taken care of.

It is planned to begin the second section of the hotel, following the completion of the first. When finished this will give the hotel a total frontage of 300 feet with 100 rooms available for guests.

In addition to the erection of this hotel plans are under way for the erection of a hotel at Gearheart to accommodate visitors to the beach there. It is planned to make this structure one of the most magnificent hotels of the kind in the country. A number of prominent Portland business men are interested in the financing of this proposed hotel.

Tourist hotels already in operation provide for the taking care of visitors to Mount Hood and Crater Lake and along the Columbia river highway, three of the most scenic sections of the state.

Two hotels, Cloud Cap Inn and Government Camp, are used as bases for climbing trips to the top of Mount Hood, the most popular climb in the state for tourists as well as for Oregon people. It is possible to visit eternal fields of snow and ice in mid-summer. There are a number of other hotels located in various sections of the Cascades, a large number of them being situated in the Mount Hood region.

TOURIST HOTELS PLANNED FOR STATE

S. Benson's Columbia River Highway Hostelry, Situated on Picturesque Cliff, to Be Forerunner of Many Hotels of Similar Nature in Oregon.

SIGNIFICANT of the tide of tourist travel which is now turning toward Oregon and the Pacific northwest is the erection of the new Benson tourist hotel, which is being constructed on the site of the old Wah Guin Gai hotel, a mile and a half west of Hood River, at a cost of \$150,000.

The new hotel is to be one of a number of tourist hotels which it is expected will be erected in various parts of the state as soon as the demand calls for them, and is to supplant the tourist hotels now operating.

The Benson tourist hotel has as its location a picturesque 200-foot cliff between the Columbia river and the Columbia highway and is within easy journey of the heart of the Cascade mountains and the beauties of the Columbia river highway. From the snow-capped peak of Mount Hood, one of the noblest spires of the Cascade range, may be reached.

Work on the first unit of the hotel is being pushed rapidly to completion and it is hoped to have the structure ready for occupancy by May 1. The hotel therefore will be able to handle this season's tourists.

The erection of the hostelry is being financed by S. Benson, Portland financier and philanthropist. It is to be operated by Henry Thiele, chef at the Benson hotel in Portland. It is hoped to make the new hotel a great asset for the development of tourist travel to this section.

The structure is modeled on the modern American style of architecture and the plans were prepared by M. H. Whitehouse, Portland architect, assisted by George M. Post. The work of construction is in charge of the Dinwiddie Construction com-

pany and is under the supervision of E. Phillips, local manager of that concern.

The first unit of the structure, which is now being erected, will have a frontage of 150 feet and will be three stories in height. There will be 25 bedrooms available for guests in addition to the parlors, dining rooms and other fittings of an up-to-date hotel.

The kitchen of the hotel will be modeled under the direction of Mr. Thiele, who will manage a number of new features, making it ideal from the chef's standpoint.

The first floor will be fitted with lobby, numerous parlors, lounging room, and dining room overlooking the river.

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TILLAMOOK CHEESE INDUSTRY BRINGS WEALTH.

Figures prepared during the year on the Tillamook county (Oregon) cheese industry showed that it earned over \$150 per capita for every man, woman and child in the county. More than \$2,000,000 worth of cheese was turned out in 1919.

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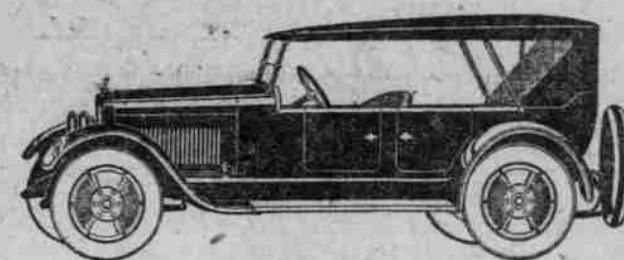
This means that a barrel of kerosene, costing \$8.50, gives over 2500 miles, while WITHOUT the "HIPOWR" GAS-MAKER the same Ford gives only 1000 miles on a barrel of gasoline (50 gal.), costing \$14.50. Here it is in a nutshell:

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With "HIPOWR" GAS-MAKER the fuel cost is only 0.34 of a cent per mile, while in the old way and using gasoline it costs 1.45 cents per mile. Let us discard gasoline and use kerosene, that requires less fuel for the same mileage, when used right, as it is done in the "HIPOWR" GAS-MAKER. We have used other fuels: Diesel oil, distillate and wood alcohol. This "HIPOWR" GAS-MAKER is a DISCOVERY from a still more remarkable invention, A ROTARY GAS ENGINE that actually runs, and indefinitely as long as fuel is supplied, and delivers more power at less cost than any engine ever made. As soon as we can get that engine into the auto we will cut the fuel cost again in two.

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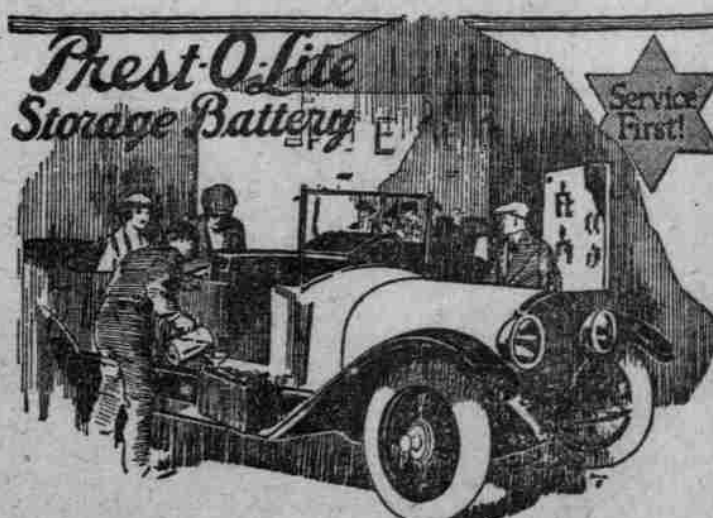
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