

CLEARING OF STUMP LAND HAS BECOME SIMPLE TASK

Until Recently the Work of 'Taking Out Stumps From "Slashed" Areas Was the Most Arduous of Jobs, Entailing Endless Hard Work and Great Expense—But Perfection of "Charpit" System Is Rendering Work Simple and Cheap—Learn the Charpit Knack Properly and Stump Land Will Lose Its Terrors—Extensive Experiments at Redlands.

FIRE EATING AWAY ROOTS—LITTLE SMOKE IS TO BE SEEN.

CLEARING stump land, long accounted a man-killing task, is rapidly being evolved into the simplest of labors.

It has been contended through decades that the conquest of timber land to the plow was not the work of one generation. For by the time a man got a quarter section cleared up, even though he began as a young man, his portion of energy was spent.

"The country cemeteries are filled with the bodies of men who have died before their time—worked themselves to death grubbing out monster stumps," is a common observation on the matter.

Now the time is at hand when removing monster stumps is little more than child's play. Rather than being a soul-wracking ordeal, it is a mere pleasant pastime. Under the perfected charpit system there is an interest attached to stump destruction that gives it the flavor of a brisk outdoor sport. It is hard work no longer.

Charpit is not a new term. Hundreds of Oregon farmers have been experimenting with charpit for a few years. Scores have failed and set the method down as a failure.

To those who failed it may be said the failure was due to their own lack of proper knowledge of the system. When properly applied, charpit is the biggest kind of a success. That fact has been proved not alone by considerable experimentation but by practical test.

Putting System to Test.

As indicating the confidence which one man gained in charpit after a thorough investigation of the system, F. B. Holbrook, of Portland, has set himself to the task of clearing 3000 acres by that method. Although possessed of the means for hiring crews, buying powder and setting about the work in the old way, Mr. Holbrook took it upon himself to make the first practical test on a large scale of charpit in Oregon.

With a crew of eight men he has cleared 50 acres in a few weeks of operations and during that period has added considerable to the fund of knowledge on the subject of cheap land clearing. His progress has been such that he says he will never again use the old powder and grubbing campaign on stump lands.

He maintains that he has established beyond doubt one great, invaluable point: that a man with a mattock and a box of matches can dispose of the biggest stump in Oregon. If the farmer hasn't a mattock a shovel or a hoe would do—or the work could be effected with the box of matches alone.

In clearing 50 acres Mr. Holbrook has not met with any drawbacks in the charpit system. Even cedar stumps and wet stumps have yielded to the torch. Stumps five feet through have been disposed of with a couple of hours' labor—child labor at that. The fires not only have eaten the stumps from their roots but have pursued the roots deep into the ground and consumed them so that no vestige remains.

"The stump land problem of Oregon is nearing an end," says Mr. Holbrook, enthusiastically. "Perfected charpit means millions of dollars to Oregon."

Farmers Miss the Knack.

Failures in charpit have been numerous. Farmers have read directions carefully as sent out by commercial organizations and printed in farm periodicals. But gathering the precise modus operandi from a printed page is difficult, is not next to impossible. It is a matter of catching the knack. A man who had read just how to milk a cow might not be able to accomplish the task even after several hours of practice.

Some people cover their stumps entirely with sod, others bank in their fires with loose earth which falls in on the fire and puts them out, still others do not properly lay their fires or prepare the stumps.

Government experts, members of the faculty of the agricultural colleges, commercial club representatives, big investors and land owners have given freely of their time in investigation of the

charpit system. It has generally been pronounced a success. Washington now has several lecturers out spreading information on charpit. Professor H. W. Sparks has been over the state lecturing and making demonstrations. Attracted by the announcement that a Portland man was putting the theory to a wide practical test, Professor Sparks and many other investigators have recently visited the scene of operations at Redlands, Or., near Goble, on the Columbia River. All predicted that similar big operations would be under way throughout Oregon and Washington in the course of the next few years.

An excellent description of charpit has been prepared by Professor Sparks and Harry Thompson, of Seattle, who have been appointed by the Governor of Washington to make demonstrations throughout the state. Some modifications have been made by Mr. Holbrook after his extensive operations. Here is the product:

"The bark should be removed from the stump in the Spring or early Summer to allow the outside of the stump to become thoroughly dry. Often it is well to dig a trench around the stump, say one foot wide at the top and one foot deep, thus exposing more of the root system and providing a most advantageous place for fuel.

By using a trench one is enabled to keep his fire lower, more nearly level, as it is not easy to pile some classes of soil up steep enough to cover fuel placed on top of the ground and around the stumps.

"It requires less labor to dig the trench to put part of the fuel in than to dig soil enough to cover all the fuel necessary if it is all placed about ground.

Utility of Dry Rubbish.

"Then fill the trench with rotten wood, bark or any rubbish such as is found in abundance on any new land, to the level of the ground; then string around a small amount of fine split wood, small dry limbs or any other suitable fuel that will conduct fire around the stump quickly, covering this with other dry rotten wood, bark or rubbish, to an amount equaling one foot high and one foot wide all told, then cover with sod or soil that will hold together in squares as spaded up.

"The stump must now be closely attended to keep the fire from breaking out through the covering, more sod or soil to be added as needed.

"The whole secret of burning the stump completely is to keep the covering intact, but not too thick. If the roots are exposed and are recovered as soon as the earth caves, exposing them to the air, they will burn out completely.

"After two or four days it will be little attention."

Value of Land Clearing.

There is no other problem confronting the people of the Pacific Northwest so worthy of consideration or that has received so little attention over those who have interested themselves in stump land clearing. This fact will at once become apparent to anyone when he begins seeking information on the subject.

All other factors of importance in the development of this section have received marked attention. The brainiest men in transportation have given their best thought and brought many high-grade men to this country to improve the efficiency and to reduce the cost of transportation in all its branches. The wheat grower has improved his methods, reduced the cost of producing and systemized his work to such a degree as to insure the best economic results. Wheat lands are now considered in the same class as brick blocks for investment. The lumberman, stockbreeder, orchardist, good-roader, dairyman, hop grower, canneryman—all have improved their methods so as to make their respective callings renowned both as to quality produced and low cost of production.

But clearing land still remains, to most all the same old problem; a task that is appalling and that actually prohibits most men from using much of the best land the sun ever shone on. Many men anxious and abundantly able to maintain a family in comfort, and happiness, qualified by experience in farming and who appreciate Oregon climate, are barred from those areas that would support him handsomely simply by the once popular definition of "land clearing."

Clearing of the Past.

Almost everyone fully believes that "land clearing" spells the hardest of hard work, dirt and grime, grubbing, slaving and debasing of self, as well as early and rapid ruination of strength and health. Nearly everyone associates land clearing with awful hard work, heavy cash expenditure, a mixture of hired men, powder, horses, donkey engines, accompanied by much doubt as to where he is to get off in time and money, if he is to conduct the operation himself, and if he tries to contract, he must stand for every possible unforeseen contingency; incompetency, unreliability. And in the end he must pay a price that will cover all this and yield a profit. The only exception is when one is fortunate in contracting with the limited supply of Asiatic and Southern European cheap labor. Naturally poor and weak men hesitate.

This prevailing opinion of land clearing and these conditions must obtain until the problem is simplified, the terrors dispelled, the work systemized, the cost reduced. It is true that in a few



THESE STUMPS CAN BE REMOVED BY A CHILD UNDER NEW SYSTEM

popular fruit-growing districts, where land values are high and profits warrant time limit contracts for clearing land, the price is immaterial, where \$150, \$175 per acre cuts no figure; where powder, donkey engines, teams, scrapers and expensive levelers are used with lavish hand so long as the land is ridged of those formidable stumps, that enormous tonnage of logs and rubbish and the stubborn and annoying grubs and brush.

Result of Test.

"I am glad to briefly outline the manner in which I have arranged my work," said Mr. Holbrook in discussing the practical tests he has made. "My ideas are not offered as a complete system, but rather to give my experience and to invite others' ideas and experiences, that together we may devise a plan or plans for the reduction of cost and at the same time standardize the work of clearing land."

"We all know that the ultimate aim in clearing land is to burn up everything on the land, except the rocks, which must be either buried, piled in heaps or hauled away."

"It is a comparatively easy matter for anyone to get the logs, brush, grubs, and other rubbish ready to burn and to burn it, but the stumps and their roots are what baffle most people. Well to tell you the truth, with us they are the least trouble, actually the least trouble, as we don't have to handle them—we simply burn them where they are. We don't burst them up with giant powder or pull them out with donkey engines or stump-pullers, or wear horses out dragging them to the fires. We simply take the fire to them, in the

same manner you would start any fire. "But you must always remember, this must be done in the proper manner and at the proper season of the year. To burn out a stump and all its roots to the best advantage the work must be done in the dry season. You need not experiment any in the wet season—I did enough of that for the entire community. There is plenty of other work that can be done better in the wet and cooler months."

Handling Logged-Off Land.

"As a result of our experimenting, I have classified the work as follows: logging, brush-pulling and piling, stump-pulling, brush-pulling and piling, stump-burning. Our equipment consists of two teams of horses, one stump-puller, one modern logging cable spliced into modern logging hooks for both the main line and all chokers, a Bonse block instead of the ordinary cheap sheave furnished with stump-pullers, the ordinary canthooks, shovels, axes, cross-cut saws, logging tongs and chains. With this outfit I use eight men disposed as follows—two men with saws, three men with team to pile logs, three men to operate stump-puller or brush and grubs and small stumps. We pull all green stumps up to 12 inches in diameter and all old cedar stumps, as they generally set on top of the ground. Three men work well together and to good advantage by first sawing, then piling,

then operating stump-puller, and finally charpitting the large stumps. "My system is to first have all logs two feet in diameter and smaller sawed into lengths suitable for two horses to handle easily, which are then piled together with all other smaller poles and rubbish. Then the stump-pulling crew goes in to pull and pile up everything except the large stumps and the larger logs. The larger logs are cracked with powder and then burned where they lie. This brings us to the same point as all other methods, with the land ready for the breaking plow. We have used but a small amount of powder and all of that above ground. We have tackled no loads requiring more than two common horses nor heavier than two ordinary men can handle. We have brought to the fire all we could with ease and economy and taken fire to all that would have been heavy and expensive to handle. And in the end the same result has been accomplished; everything burned up and with the least labor and expense, and, too, the ashes have been scattered by reason of the many small fires and no ground burned to a clinker. We find our ground less encumbered with hidden roots than it would have been had we used large amounts of high explosives below ground, which always cuts and breaks off many roots that have to be uncovered and chopped or grubbed before plowing the ground."

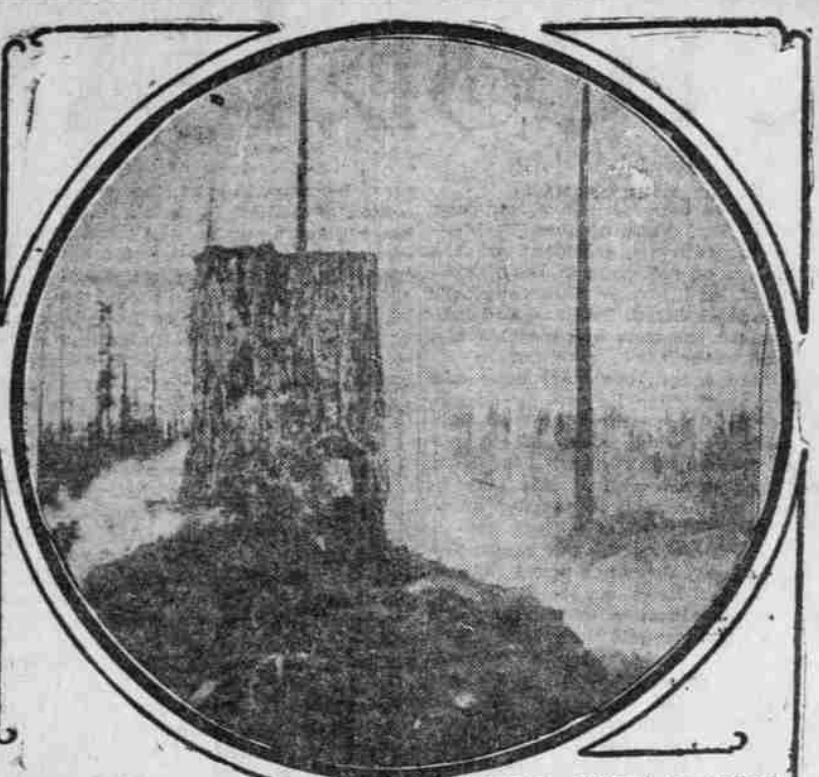
Whole Northwest Affected.

On every hand it is urged that the importance to Oregon and the whole Northwest of cheaper land-clearing methods cannot be over estimated. Not only will tens of thousands of acres be added to the productive regions of the country, but thousands of pro-

perous farms will be evolved. Dealing with this phase of the subject, the Washington Logged-off Land Association says in a recent bulletin: "Many thousands of people have passed through this country in the past two years to the reservations recently opened to where the land is easier to bring under plow. We have not far to search for a reason for all this. It lies in the fact that this land is thickly studded with large stumps, among which are interwoven logs and often a second growth of from five to 35 years old. The aid of the Nation and state has been enlisted in a search for cheaper and better methods of clearing such land."

"Heretofore the capitalist has not devoted his time, energy and means to development of such land for the reason that it was too slow. And one has but to look at the land to know that the poor man can never hope to put any large area of it in shape for the plow under old methods. So the land lies idle, of no use to the owners and a drawback to the community. It is obvious that for the development of the country all land that is suitable for cultivation in any manner should be cleared."

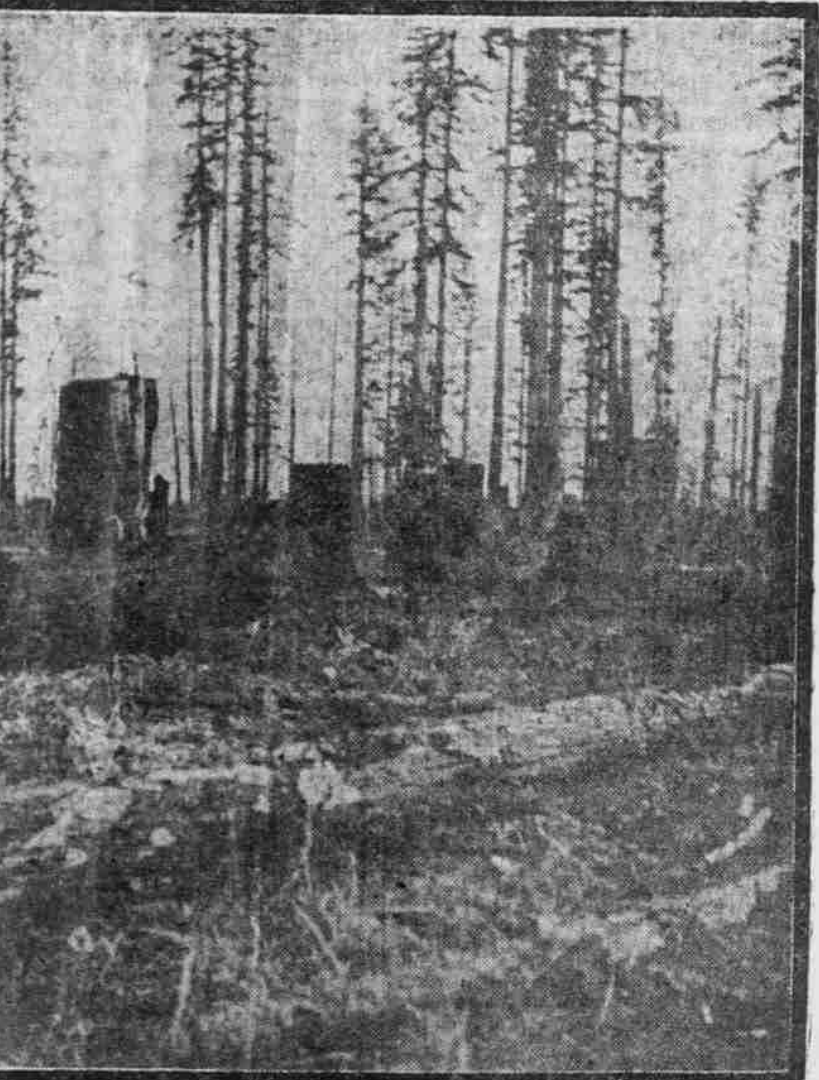
With reference to the cost of clearing by charpit, various estimates are made, ranging from \$20 to \$50 per acre—this sum to include removal of brush and all obstructions to the plow. For \$50 per acre investigators declare that the roughest of stump land can be cleared and the stumps charpit. These estimates are in striking contrast with the old cost estimates of from \$85 to \$250 per acre.



THE CHARPIT FIRE IN ITS EARLY STAGE



STUMP REMOVED FROM ITS ROOTS



TYPICAL OREGON STUMP LAND