

FIGHTING A FOREST FIRE



MAKING A TRENCH FROM WHICH TO FIGHT FOREST FIRE



BURNING THE "SLASH" TO PREVENT FIRES



SWEEP BY FOREST FIRE



SELF SOWN PINE PROTECTED FROM FIRE



HOW THE REFORESTATION IS DONE IN BURNED DISTRICTS

FOREST fires! There is something awe-inspiring and terrible in the very thought of them. You may never have traveled hours on a railway train, through the choking smoke. You may never have seen the light of a blazing forest. Yet, though you have not come as near as this to a forest fire, the words carry a feeling of danger and of tremendous might for evil.

It is hard for the average layman to realize how fires can assume such magnitude in territory supposed to be under supervision of men appointed for the particular purpose of preventing fires, but the fact is quite readily comprehended by those who have had occasion to travel through some of the remote and inaccessible regions within the national forests. As a matter of fact, the lands withdrawn as national forests are almost entirely of a rugged, mountainous nature. Necessarily, there are large and comparatively open portions included, particularly in the range country, but instances point to the fact that the sections subject to the most severe fires are invariably those of the most rugged and inaccessible nature, made up of high, steep mountains, covered with a dense forest and heavy underbrush. Many places are, in their present condition, practically impenetrable; and while they are being opened up as rapidly as funds will permit trails being built, yet there is so much area, so many other duties are required of the forest officers and the funds mentioned are so limited and inadequate, that progress of such work, while keeping pace with the available resources, is necessarily slow.

Before enlarging upon conditions under which large fires begin, it might be well to mention briefly a few of the forest fire terms with which the layman frequently meets and may not understand.

Forest fires are classified generally as crown or top fires—those where the fire travels through the tops of the trees with surprising rapidity and working disastrous results; and ground or surface fires, where the fire travels along the ground, consuming soil covers or humus, brush and litter, needles and often small trees, and, consequently, doing little or no damage to mature timber. Luckily, in most cases forest fires are ground fires and it is these that are the most quickly controlled. Yet a single top fire can cause vastly more damage than a great number of ground fires. However, it is generally under unusual conditions that crown or top fires occur—such as high winds, very bushy or steep country and severe drought, when such conditions can in an incredibly short time change a creeping ground fire into a sweeping crown fire, leaving a path of ruin and often death in its wake. In brief, drought and wind are the two dominant conditions favorable to severe fires. The wind is always the most dreaded factor during the fire season, its freakishness and uncertainty upsetting the best of plans. So fierce was the wind at the time of the destructive fires of 1910 that whole hillsides of timber were uprooted and men were forced out of their saddles. The fire leaped across rivers half a mile wide at a single bound, traveling nearly a mile a minute at times and devouring everything in its path. Often wide canyons were spanned as by a great jump, the fire continuing on the opposite side and leaving the canyon timber green and unharmed. Numerous instances of the absolute freakishness of the fire could be cited, and all tend to show its very uncertainty.

In fighting a fire there is constructed around the burning area what is called a fire line or trench. This consists of clearing away all debris and brush, generally for three or four feet, though wider when conditions allow or warrant it, and exposing the mineral soil for one or two feet or wider as necessary. An ordinary ground fire, unaided by a strong wind, will die out on reaching the strip of mineral soil, often as effectively as if the line were a stream of water. When the fire is moving slowly and men can stand the heat and smoke, it is always desirable to build the trench close to the fire so as to prevent its gaining momentum as it progresses; but where the fire is traveling quite rapidly, often the fire line has to be placed some distance away from the fire, and where adequate patrol or supervision is assured the burned material on the inside of the line is fired in order to meet the advancing fire and destroy the inflammable material in its path. Backfiring, as this is called, is generally used only in an emergency and by experienced hands. Often, of course, where the fire is severe, strips of timber

for variable distances are cleared, but in the ordinary ground fire such work is usually too slow and unnecessary.

The best tools used by a fire-fighting crew in the mountains are axes, shovels and mattocks or grub hoes, the hoes being usually in greatest proportion and most effective. Often one or two crosscut saws are useful, particularly where the fire is traveling through a lot of down timber. The axmen generally go first, clearing out and cutting away the heavy stuff along the line; then follow the grub hoe or mattock men, breaking through the heavy sod and roots; and last the shovel men, who clean out the trail, or, as might be stated, put the finishing touches on the work of the others. The amount of work a gang of men can do depends upon various circumstances, such as the nature of the country, tools available, etc., but roughly it might be said that a gang of twenty men can build a mile of line a day.

Aside from a few general principles there are no set rules for fighting forest fires—in fact, it is far from a black-and-white proposition. Rather, it calls into play initiative and headwork, and the result attained bears mute evidence of the success or failure of the supervising officer, although always it must be remembered that that uncertain and uncontrollable factor, the wind, can snatch victory from the hands of man so quickly and easily as to make it seem sometimes a veritable mockery of his efforts. And, too, the unbelievable action of fire, even when apparently under control, makes it absolutely necessary that it be watched closely and continuously until there is not a single remaining vestige of its existence.

Among the principal causes of forest fires are locomotive sparks, lightning, camp fires left unextinguished, burning of slash in clearing land, logging operations—principally from fire in the resultant slash accumulated by the average logger in cutting over an area. There are minor other ways, such as incendiarism, ashes from a pipe, a lighted cigar or cigarette stub or lighted match cast thoughtlessly aside. The first three mentioned, however, are the most general.

When a fire has once assumed the proportions of a large top fire, it is generally inadvisable to attempt to check it; rather, it is good judgment to consider the safety of the fire fighters themselves, so that they may be in readiness to attack the fire when it again leaves the tops of the trees and assumes its slower progress along the ground.

It might be mentioned right here that forest fires, with particular reference to ground fires, do not always destroy standing timber, but often only the very small trees, brush and surface cover or humus. Potential timber, of course, has a distinct value, and the destruction of a good soil cover is a decided detriment to the forest, but many trees, such as Douglas fir, tamarack and yellow pine, have a thick, heavy bark which forms a good resistance to fire and will often withstand periodic ground fires for years. Other trees with thin bark, of course, succumb quite readily.

In the report of the secretary of agriculture, embodied in the Yearbook of the department of agriculture for 1911, he states that "the fires of the calendar year 1910 covered more than 3,000,

city and address the fearless and systematic work of the firemen fighting to subdue the flames. Here they are but minutes away from the source of the fire, with speedy conveyances for reaching it and every possible assistance of human ingenuity to control the fire.

Compare this with the many obstacles with which the forest fire-fighter has to contend. Sometimes he is more than a day's journey from the fire. He has a limited and often inexperienced crew to help him. He must travel on foot or on horseback, and he cannot lope along as they do in the city parks—mountain trails are not made for loping horses. He must rely on packhorses for conveying commissary supplies, because it may mean many days of hard work ahead of him on the burning area. Very often, indeed, he must blaze his way a number of miles through a trailless wilderness, carrying his bed and grub on his back, and through a country where every step seems a greater impediment to rapid progress; and when he reaches the fire it may be of such proportions as to appall a less sturdy nature.

The rapidity with which fire can spread in the mountains is almost unbelievable. For instance, in 1910, by the middle of August over 3,000 small fires had been put out by patrolmen and over 90 large ones had been brought under control by crews of from 25 to 150 men. And yet, when the cyclone of August 26 came, that work was all undone so quickly as to make one gasp with wonder and awe. Within 48 hours a strip of country more than 100 miles long and more than 25 miles wide had been burned over. And still the fire was advancing. Against all this an army of more than 3,000 men fought persistently and courageously and always in the face of overwhelming odds, yet never did they falter until the rains came.

In passing, it is but fitting to give credit to the brave men in the government's employ, who risked and lost their lives in earnest endeavors to carry out their duties, and many are the tales of heroism and unselfish devotion during those strenuous times, when men toiled and sweated shoulder to shoulder.

Men can and will, in the course of time, make effort to reforest the great devastated areas, but the scope of years to carry out such work is broad indeed. Man's best work, now and for always, lies in the prevention of a recurrence of such calamities as have gone before. Through legislation man can compel the railroads to use contrivances to prevent sparks from leaving the engines; he can educate campers into the necessity for their co-operation in extinguishing camp fires (a truly little thing, yet big in results) and exact a severe penalty for failure to abide by the law; he can appropriate more money for improvement and protection work, to place the forests under closer supervision and make them more accessible, so that the fires caused by lightning, for instance, can be caught at their very inception; but mostly, he must enlist the co-operation of all his fellowmen to help in the great work of preserving and perpetuating the forests because they represent a source of wealth and necessity and beauty, not to any single individual, but one in which every member of our great country is, and always will be, directly or indirectly, a participant, even unto our children's children, ad infinitum.

FARM POULTRY

FREE RANGE FOR CHICKENS

Modern Wire Fencing, Which Has Neat Appearance, Will Keep All Fowls Out of the Gardens.

The old method of free range need not necessarily be changed. The fowls should not, however, be allowed to run at will within the garden or in and about the farm buildings. Nothing is more aggravating or disgusting than to have the nice vegetables or beautiful flowers scratched up, and the doorsteps, the porch, the barn floor and the farm machines fouled with poultry droppings. Separate the poultry also from the other live stock of the farm.

If the fowls are to be kept near the farm buildings, provide ample range inclosed by modern poultry wire fencing. The latter requires ordinarily but a few posts, is easily put up and has a very neat appearance when in position.

Another way of separating the fowls from the center of farm operations is to place the henhouses at a considerable distance from the farmstead, in a pasture where the fowls will have absolute range. The latter plan may entail some extra travel by the poultryman and there is the risk in some localities of depredations by foxes, hawks or other wild animals or by thieves. The young, strong farmer boy may find advantage in the second or so-called "colony plan," while the housewife will probably prefer the fenced inclosure near the farmhouse.

Thirdly, the farmer is too careless in the way he disposes of his poultry products. He is usually content to trade his eggs at the nearest grocery store when by a little extra effort he could gain a select private trade which would pay far better. His pure-bred stock of one breed of fowls in their well-kept house and spacious grassy yards will be a great advertisement for his egg products, and uniform clean appearance of the eggs in their attractive package will prove an additional help in making sales.

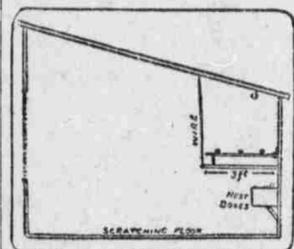
Then, too, in disposing of his fowls the farmer often sells the birds alive when by carefully dressing them on the farm and selling to his customers on orders he could secure far better prices.

PLAN FOR SCRATCHING SHED

Illustration Given of House for the Benefit of Small Poultryman Where Back Yard is Used.

To give the small poultryman (the back yard man especially) an idea of what is meant by using his small piece of ground for a coop and scratching shed, the accompanying picture is printed. The picture is taken of a laying house used by D. C. R. Hoff at Nesbanc, N. J.

Such a design might be used by a man whose piece of ground faced the



Plan for a Scratching Shed.

south at the short side. That is if his piece of chicken ground was 10x18, and the 10-foot sides faced north and south. If his coop proper was ten feet wide by eight feet deep he would have a 10x10 scratching pen. These figures are of course taken haphazard, and the idea would have to conform with the ground.

POULTRY NOTES

Push the pullets along to rapid maturity.

The comb is the chicken's health indicator.

Stimulate the hens to eat more by feeding a variety of foods.

Start with Pekins—they are the handiest and mature early.

Never allow ducklings to get wet until they have a good coat of feathers.

The nearer square you build a poultry house, the less the cost of construction.

Ducks are pigs for food, and gobble down pretty nearly everything that comes in their way.

Pekins do not need water for swimming, but they must have plenty of absolutely clean drinking water.

We could not think of a more simple or efficient method of improving the egg supply of this country than the production of infertile eggs.

The ONLOOKER

HENRY HOWLAND

At A Matinee



Her eyes were soft and deep; her graces were such as are vouchsafed to few. She had one of the fairest faces To which a glad breeze ever blew; 'T was behind her and her mother; The curtain had not been raised; They talked so much, each to the other, That I was dazed.

The curtain finally ascended. The lights upon the stage were bright; The scene was wonderfully splendid; I viewed it with a keen delight; I tried to learn just what the drama hinted on, and what its meaning was, But still they talked; she and her mamma, Without a pause.

There were three acts, of that I'm certain. The program pointed the fact out; The star was called before the curtain. I don't know what he spoke about. His speech may have been French or Russian. It was all meaningless to me, For they continued their discussion incessantly.

The only lines that I remember Of those I heard that afternoon Are these: "She left him last September."

"They'll probably announce it soon," "She told me not to tell you, even." "My silk ones are full of holes;" "Yes, last night, just as he was gone," "Eless their souls!"

MERE MATTERS OF OPINION.

The excessively modest man should bear in mind the fact that the shrinking violet generally gets plucked.

Going from bad to worse: Giving up a pipe and taking to cigarettes.

Many a man is accused of being hard-hearted when the trouble is entirely with his liver.

Generally when you give a man his due he is disappointed because you figured so closely.

We admire a man who is willing to sit back and let his wife do the talking. He would only make a bad matter worse by trying to butt in.

A Believer.

"I have just completed what I consider a wonderful play."

"What are you going to do with it?"

"Put it away somewhere until I can become either famous enough or notorious enough to induce some manager to read it without letting it go through the usual course of lying on the desks of clerks and secretaries year after year."

"Ah! I see you continue to believe in miracles."

Distinctive.

"Well," asked the ambitious young dramatist, "how did you like my play? I saw that you were in the audience last night."

"There was one thing about it that struck me as being original and distinctive," replied the critic.

"Ah! What was that?"

"I noticed that the villain didn't have a black mustache."

Can You Blame Him?

"What's the trouble, Mr. Rockingham? You look worried."

"I am," replied the aged millionaire, who had married a young woman. "A deep dark suspicion has entered my mind. My wife has compelled me to quit wearing rubbers."

A Poor Promise.

"Do you see any promise in my play?" asked the would-be dramatist.

"Yes," replied the manager, "I do; but it's the kind of a promise a woman makes when she tells her husband she will meet him at a certain place at three o'clock."

No Use Trying.

You can lead a mule to water, But you cannot make him drink it, You can tell your wife you never flirt with any girl whatever, But you cannot make her think it.

Marvelous.

"We live in age of marvels." "I should say we did. A man came around to my house yesterday offering to sell a \$9 rug for \$12.75 and give with it a 50-cent glass bowl absolutely free. But my wife didn't buy it!"