TELEPHONES IN NATIONAL FOREST

THE telephone in the national forest is not only of the greatest assistance in the management of the forest, but its value is inestimable when used to report or summon help for a fire. In a single case of forest fire it may be worth the entire cost of its construction. No other work of improving the forests has been more acceptable to the residents in their vicinity.

In the summer of 1905 Secretary Wilson and United States Forester Gifford Pinchot, after going over large areas of little developed and almost unexplored national forest land, decided that systems of telephones, with proper connections, would be invaluable in the forests of the west.

It was not until some time later, however, when congress made a specific appropriation for the improvement of the national forests, that funds were available for this purpose. In 1908 3,200 miles of telephone lines were constructed in the 148 national forests in the west, and wire to build about 400 miles of additional line was shipped to the various forests, but with the funds on hand the work of construction could not be completed.

A town in southern Utah with about 1,000 inhabitants was isolated four days' ride from the nearest railroad station until a telephone line was built by the forest service across the mountainous country for forty miles, thus

TELEPHONE CONSTRUCTION IN MONTANA NATIONAL FOREST.

connecting the town, the headquarters of the forest and several ranger cabins with the telegraph station.

From two to five ranger stations are now connected with the supervisor's office in many of the national forests, and by the use of phones in the homes of settlers centrally located other points in the forest are reached. The marked saving in time otherwise required for a trip of from twenty to forty miles is evident.

In some forests "lookout stations" have been established, to which a wire is run and a man stationed in the vicinity, so that he can climb the point of vantage several times each day and with his glass sweep over the landscape in every direction, quickly scanning an area of 200,000 or 300,000 acres. It is by such plans that fire patrol and fire control have been established in the national forests with an exceedingly small protective force and damage from fire has been reduced to a minimum.

The Rewards of Forestry.

The professional forester cannot hope for big fees and certain pleasant surroundings of life which crown distinguished success in many of the other professions. The first prizes which are bestowed upon the great lawyer, the eminent physician, are not yet open to him. He must be content without much luxury. He will have to spend a good deal of time out of reach of the ordinary comforts. He must be able and willing to rough it without complaint, to sleep on hard beds, eat homely fare, endure prolonged exertion and get along well with plain people. On the other hand, if he is at all fitted for his profession—and a few weeks of actual forest work or good summer school work will tell him whether he is or not—there is open to him a very rich reward—life in the open, in the midst of beautiful, healthful and congenial surroundings, creative work of unmatched usefulness in any material field, a place of large responsibility and dignity and with it all a fair living.

If the forester's temperament is scientific he will have the joy of the discoverer and organizer of knowledge in a rich and almost virgin field, while if it be practical he will have the chance of sharing in a national work of prime importance to our people.

PASTURING SHEEP IN NATIONAL FOREST.

JOHNNY APPLESEED.

By GERALD PRIME

[John Chapman, known as Johnny Appleseed, was born in Springfield, Mass., in 1775. About the year 1803 he removed to the vicinity of Pittsburg and began his life work—raising apple trees for the benefit of others. Keeping in advance of civilization, he passed into Ohio and worked westward until the northern and central parts of that state were dotted with his apple plantations. It was his custom to clear a place in the forest, fence in the patch and plant it with apple seed. Although he went unarmed, he was never molested by the Indians, who regarded him as a great medicine man. He died at Fort Wayne, Ind., in 1847.]

I take my hero from the land.
No foreign soil hath bred him,
No alien force hath moved his hand
Nor on to fame hath led him,
Yet 'gainst the doer and the deed
I match my Johnny Appleseed.

He never heard the loud huzza
Rise at his name's mere mention,
He did not startle nature's law
With marvel or invention,
But what he did, so it's agreed,
Immortalized John Appleseed.

What did he, then, this modest man,
To win his fellows' gratitude?
He was the humblest in the van
Of those whose noble attitude
Toward brother man fulfilled a need—
He civilized with apple seed.

For up and down the midland wide
He passed in annual pilgrimage,
And as he fared on every side
He gave the land its heritage.
A generous soul, from error freed,
His gospel was the apple seed.

His was the true philanthropy;
No taint of sell was in it.
His largess was the apple tree,
And he who would might win it.
So let no churl withhold the meed
Due noble Johnny Appleseed.

Transplanting Trees at Night.

Some remarkable and highly successful experiments in transplanting trees at night have been made by a leading French forester, M. Rounault. M. Rounault was called upon to transplant a large tract of trees toward the close of May. He had observed that late plantings (when the trees had commenced to bud) were much more successful when made at night than when made in the daytime and decided, therefore, to do the work at night. But to make sure he first transplanted in his own establishment at 10 o'clock at night a linden five years old. The linden was carefully watered and did not seem to suffer at all from the transplanting. It continued to grow in the normal manner. With this proof of the truth of his theory, M. Rounault went on with the work of moving the big tract of trees, doing it all at night. Only two of the trees died, and they had not been expected to survive, owing to the bad condition of their roots.

M. Rounault says that the transplanting should not be done when the buds are too tender and should always take place between the hours of 10 p. m. and 2 a. m. He also advises the recovering of the roots with earth from the surface which has been exposed to the wind and sun for several days. This earth should be settled by copious watering, which forces the dirt between the roots, instead of being stamped down with the feet.

Great Demand For Foresters.

A young man can become a forester just as he can become a doctor or lawyer, except that he may have to go farther from home to attend a professional school. Many more trained men are needed than the schools are turning out. The national government, with its 150,000,000 acres of forest under administration—an area more than five times as big as New York state—employs about 100 trained foresters and needs a much larger force. Timber land owners, lumber companies, educational institutions and states which are beginning to take up forestry for themselves are all seeking good men.

THE BRIGHT GIRLS OF ELMHURST.

By ROBERT DONNELL.

ELMHURST academy, coeducational, is not a renowned seat of learning, nor is the charming village which holds it a university town. The institution, however, is of excellent reputation among secondary schools, and the village is known widely for its culture and advanced social condition.

But the feature which has given it almost a national reputation is its remarkable endowment of shade. It lies embowered in an overarching canopy of greenery so dense and symmetrical in its outline that the fortunate village has been transformed into a veritable beauty spot, the theme of poets and singers, the inspiration of the artist and the delight of the casual tourist who steps aside from the broader highways to visit this charming New England byway.

How Elmhurst academy acquired its embowerment of shade was told to a tourist who remained a few days in the village last summer by an elderly resident.

"Fifty years ago," she said, "I was a student at Elmhurst academy. Then, as now, both boys and girls attended. But in some respects the academy was vastly different from its present aspect. For instance, instead of having plenty of shade trees the grounds were absolutely bare of trees. It was a desolate looking campus, I can assure you.

"That was long before Arbor day became an institution in this country, but nevertheless some of us girls conceived a plan whereby our beloved school became a shady bower. For several sessions there had been more or less talk of setting out trees or planting them, but nothing came of it. We girls—it was just fifty years ago last April—tried to induce the young men to get to work at odd times and plant trees about the grounds. They were too lazy apparently.

"Finally the girls called a caucus in one of the academy class rooms one afternoon. It was a secret session. A few nights afterward sixty-five of us met on the grounds at 10 o'clock, carrying spades and mattocks. We also carried a stock of elm seedlings and those of other varieties of trees. Since our caucus we had been reading up on tree culture. We set to work planting the little trees. We had our plan all carefully mapped out. The rows and groups as you see them now were laid out on a diagram, from which we worked at the direction of our chosen leader, who, I am a little proud to say, was myself.

"After we had been at work an hour or so the boys discovered us, though we were trying hard not to be visible or audible. About a hundred of them gathered about the academy grounds and made the night lively with catcalls and laughter at our expense. The boys offered various suggestions, all of which we rejected with scorn. We told them they should be ashamed of themselves for not having taken the initiative, and since we were amply prepared to do the work, and do it right, we wanted none of their tardy co-operation.

"We even refused to let them see us home. They predicted that none of the trees would come up, but our planting was a grand success, as you see. Of course it took years and years for the trees to grow large enough to make good shade, but the result of our night's work now speaks for itself."

A Ranger's Qualifications.

A forester's examination includes tests of his physical powers, of his ability to ride, shoot, handle pack horses and take care of himself in the woods and also of his knowledge of surveying, scaling timber and other subjects incidental to the proper discharge of his duties.

THUS PASS THE FORESTS.

THE FOREST LOVER'S PLAINT.

By LESLIE BROWNE.

"The groves were God's first temples."
From Bryant I quote it.
Those groves have passed away,
Like the man who wrote it.

"Woodman, spare that tree!"
Once gentle Morris pleaded.
The woodman kept right on;
Ne'er the poet heeded.

"Too happy, happy tree!"
Runs Keats' limpid song.
That happiness, alas,
Was not for long!

"Come to the sunset tree,"
Mrs. Hemans calleth.
But go and you'll perceive
How the forest falleth.

"The leaf is on the tree,"
Piped Jefferies long ago.
Too soon, alas, there'll be
No trees for leaves to grow!

What a Forester Must Know.

Just what is the work of a forester? The science of forestry includes the study of everything which has to do with the growth and utilization of forests. Since nature produces forests, on one side forestry is a branch of natural science. The forester must study the laws of nature which govern the growth of trees singly and in mass. He must understand the life activities of the tree—how it produces and sows its seeds, what it needs in order to thrive and how it feeds itself and builds up its structure. All of this may be called tree botany. He must also know the laws which govern the life of the forest itself—a society of trees. This is sylvics, the science of the forest as a product of nature.

But the science of forestry has to do also with the use of forests. It is a very practical science, like the science of agriculture. Forest mensuration, for example, is an important branch of forestry. If a man thinks of buying or selling a piece of woodland he naturally wants to know how much wood is on it—how many board feet of lumber, how many telegraph poles or fenceposts, how much cordwood the standing trees will make. Again, if a man thinks of investing in a young forest he wants to know how long it will take the trees to grow up and how big a harvest he can count on when they are grown. And when the harvest is ready a host of questions arise. Where is the next generation of trees to come from? Which trees will it pay to cut now? How is the timber to be got out of the woods most cheaply and with least harm to the future forest? What steps should be taken to prevent loss by fire, that great curse which so commonly follows lumbering and which has turned millions upon millions of acres of good timberland into barren wastes? The whole subject of lumbering forms one of the largest divisions of the field of forestry.

The Art of Forestry.

The art of forestry is simply the art of making forests useful. A few years ago in this country forestry was commonly thought to be merely a branch of landscape gardening. This is a profound mistake. Forestry creates beauty, but not as its chief aim. The field of forestry is economic. Forests are one of the great sources of national wealth. The forests of the United States each year produce more than $1,000,000,000 worth of wood products, as much as if not more than the yield of all the mines in the country, gold, silver, copper, iron, coal and all the rest. The trouble is that we are gathering this enormous and most valuable product three times faster than the forests are growing and very largely by methods which destroy the forests themselves. This process spells not prosperity, but impoverishment, and in the not distant future. The only way of escape lies through the general practice of forestry.

BEGINNING OF OUR FORESTRY.

WHEN did the United States begin the practice of forestry? Few persons can answer this question correctly. Most people are of the opinion that the beginning of forestry in this country was of very recent origin and that the first step in that direction was taken among the mountains of the far west. Neither fact is correct.

While Washington was serving his first term as president of the United States a recommendation came to him that the government ought to buy live oak islands on the coast of Georgia to make sure of a supply of ship timber for war vessels. The idea appears to have originated with Joshua Humphreys, whose official title was "constructor of the United States navy," although about the only navy then existing was made up of six ships on paper, and not one stick of timber to build them had yet been cut. The vessels were designed to fight the north African pirates.

Five years after the recommendation was made congress appropriated money to buy live oak land. Grover and Blackbeard islands, on the coast of Georgia, were bought for $22,000. They contained 1,950 acres.

Louisiana was bought soon after, and in 1817 the six islands, of 19,000 acres and containing 37,000 live oak trees, were withdrawn from sale and set apart as a reserve. In 1825 con-

FOREST RANGER FIGHTING FIRE.

gress appropriated $10,000 to buy additional live oak land on Santa Rosa sound, western Florida, and subsequently other Florida timberlands, aggregating 208,224 acres, were reserved.

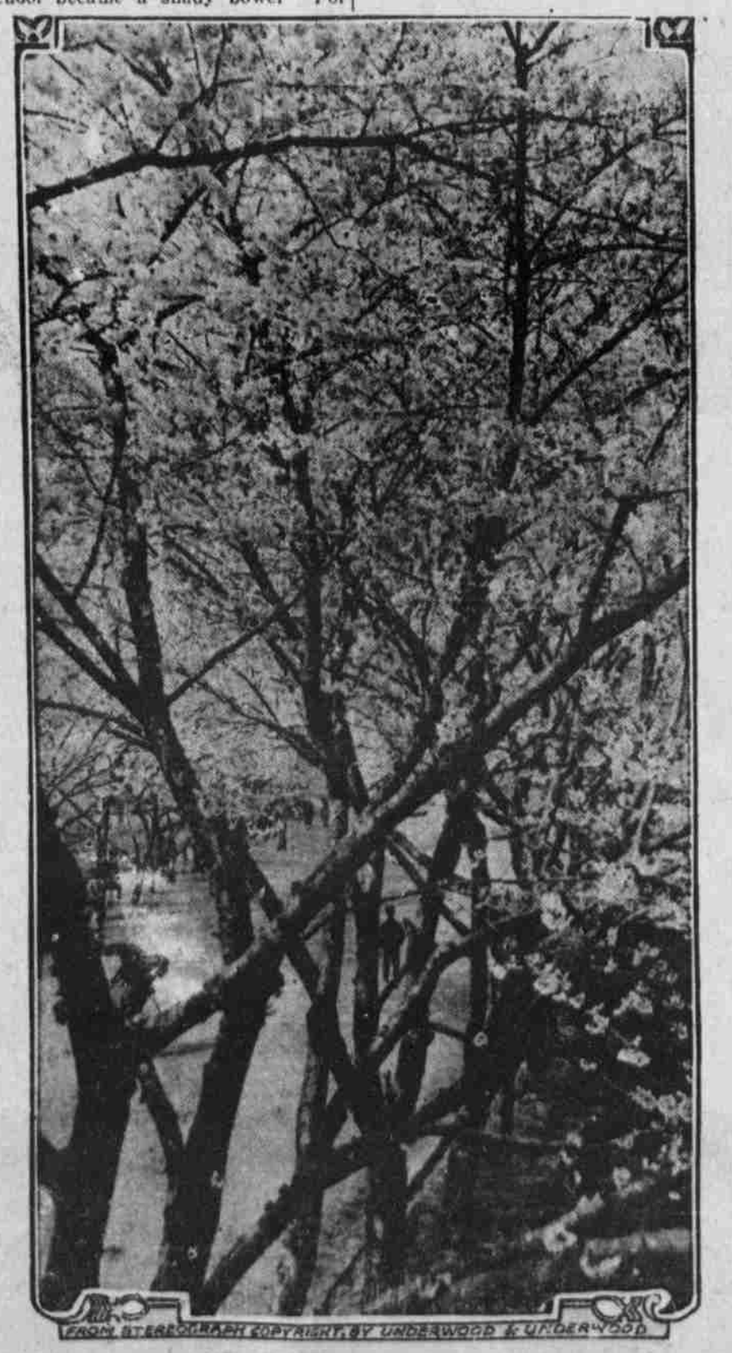
Up to that time nothing more had been done than to buy or reserve land for the timber growing naturally upon it, but the work was to be carried further upon the Santa Rosa purchase. The plan included planting, protecting from fire, cultivating and cutting live oak for the navy. That timber was then considered indispensable in building war vessels. Much had been said and written of the danger of exhaustion of supply. Settlers destroyed the timber to clear land, and European nations were buying large quantities for their navies. In response to repeated warnings the government finally took steps to grow timber for its own use.

Young oaks were planted on the Santa Rosa lands. Difficulty was experienced in inducing young trees to grow. The successful transplanting of the oak is not easy unless done at the proper time and in the right way. The plantations at Santa Rosa were generally unsuccessful, but large quantities of acorns were planted, and a fair proportion of them grew. But the chief efforts were directed to pruning, training and caring for the wild trees. Thickets about them were cut away to let in air and light.

What the ultimate success of the forestry work would have been cannot be told. The civil war brought a complete change in war vessels by substituting iron for wood. Forestry work stopped. The timber reserves were neglected. Squatters occupied the land. After a number of years all the reserves except some of the Florida land were opened to settlement.

Our Water Supply.

We are beginning to see that water is one of the great natural blessings which we must conserve by care and forethought. If we do not it will vanish or turn into a curse. The health of our eastern cities and towns depends on pure water. The prosperity of our manufactures, the development of our commerce and the increase of our western farms are all closely connected with water conservation. The most powerful tool for controlling our water supply is the forest. From this it will be seen that forest conservation is of vital importance.



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