

ROMANTIC FORESTS OF FRANCE PART OF NATIONAL SCHEME OF DEFENSE

Far From Being Mere Playgrounds and Reserves, They Are Grown Chiefly to Hinder the Advance of an Invading Army.

ONE of the greatest obstacles to the German invasion of France, and now one of the greatest obstacles of German retreat, has been the French forests, of which so much has been heard since war began and concerning which so little is known by the average American.

In France the forests are as much of a defense almost as the French forts. They have played an important part in every war in which the country has been engaged for the last 200 years. They have aided and militated against the French military, but most often they have aided. It was because of the Forest of Argonne, that famous wood now so constantly in the news, that the first Prussian invasion of France was repulsed in 1792. In 1815 the forests provided a cover in which Wellington sprung a surprise on Napoleon at Waterloo. In 1870 the German maneuvers before Sedan were hidden by the tree trunks of Argonne, and later, in 1871, the Forest of Orleans screened the rallying French forces for the last stand.

Sixteen per cent of the territory of France is covered with forests. In the French meaning of the word, a forest is quite different from our own northwestern wildernesses. The majority of the forests in France are varying areas of very old deciduous trees. There is scarcely any underbrush such as characterizes our wildernesses. The big tree trunks tower close together and are singularly clean of impediment, save that afforded by themselves. Mostly they are oaks, beeches, birches and maples.

Size of France's Forests.
These forests vary in size from 200,000 acres to 10,000 acres. In point of area they run:
Ardennes (Northeastern France), 200,000 acres; Orleans, 70,000 acres; Jura, 30,000 acres; Compeigne, 28,000 acres; Argonne, 20,000 acres; Rambouillet, 20,000 acres. There are several of lesser extent.

"The forests of France," said Professor Daniel Jordan, of Columbia University, "have played an important role in every attempted invasion of France. The first to appreciate the forests as not only possible means of defense, but as valuable in many other respects was Colbert, the Minister of Finance to Louis XIV. Colbert-instituted legislation and regulation of forests that are even today held up as models and which still are in effect.

"When the coalition was formed against France in 1793, just after she became a republic, Danton, who had succeeded Lafayette, massed his troops in the forest of Argonne—the same hilly and wooded section now playing such an important part in the present war—and drove back the Prussian invasion with heavy loss. In 1870 Mac-

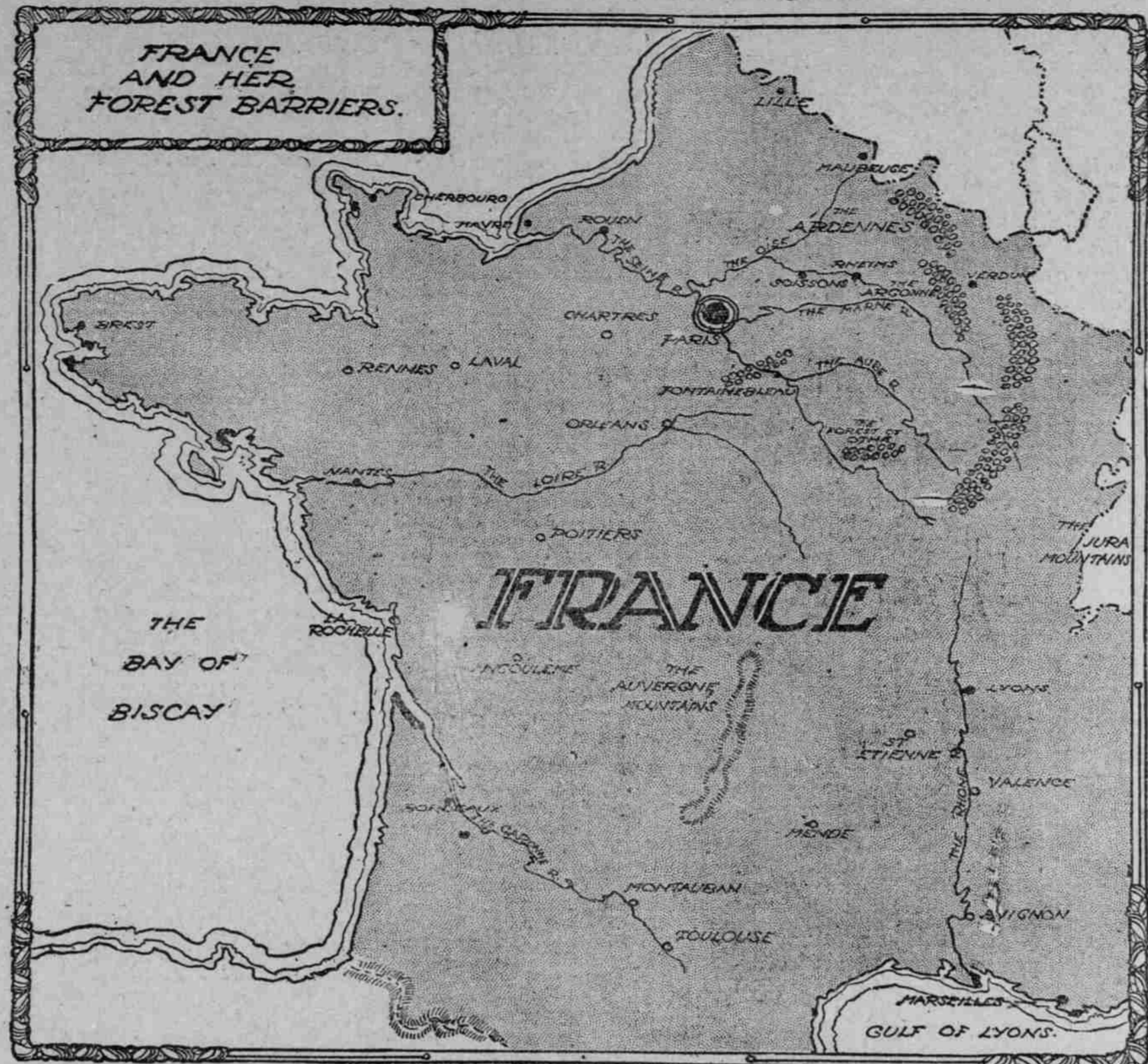
Mahon was beaten because this forest screened the movements of the enemy. At that time there were, as there are today, five passages through Argonne, all of them easily fortified. To effect a way through the tangle of trees, opposing armies at various times have cut and burned away considerable areas at other points than those occupied by the usual passages. Such was the case in the Franco-Prussian war. German troops leveled sections of the woods for artillery fire, and these positions can be easily determined today because of the smaller second growth of trees marking them.

Like Battle of the Wilderness.
"Ardennes and Argonne are the forests which have been the principal scenes of the woodland fighting in the present war. Ardennes, lying north and east of Argonne, has been occupied by both armies in turn. While reports on the subject have been meagre, it is safe to estimate that in the present crisis, where the artillery is heavier than ever before and where the conflict has been particularly desperate, thousands of splendid woodland patri-archs have been leveled by shot and shell and by axes to make way for clear fire from the cannon. Similar conditions must have prevailed in Argonne, further to the south, and in Compeigne. "These forests crown hilly, rugged country. The average altitude of the Forest of Argonne is 1100 feet, though in places it is 1500 feet above sea level. The eastern side of the forest caps a rocky plateau that rises abruptly in ledges difficult of surmounting.

"As progress is made into the interior the way of an advancing army is made difficult by deep ravines and gullies that fall away from the crests of the hills. In many of these ravines are tangled morasses and marshes. "The fighting in Argonne must have resembled the battle of the wilderness in the Civil War, where men fought at close range, shielded by tree trunks, and large numbers of old trees were leveled to make passage for the sharpshooters from field batteries.

Foresters Aid the Soldiers.
"There has been an impression that the French forests resemble large American parks, but that is not so. German forests are much in the nature of big parks, but the French woodlands are far wilder and less accessible. This is evinced by the fact that nearly all of them are filled with wild game, which we have learned have done much toward providing a food supply for the opposing armies.

"The Government maintains in all forests a corps of forest guides, men who live, generation after generation, in the forests, and become intimately acquainted with every foot of ground embraced in them. In time of war it



is provided that these guards shall be armed, and shall act in co-operation with fighting armies in the protection against invaders. Several thousand forest guards were supplied with weapons when war was declared between the allies and Germany, and these have taken an active part in guiding French

armies through the forests, and in aiding commanding officers in selecting the most advantageous points for the mounting of batteries and the stationing of troops.

"But it is not alone here that their usefulness stops. They have been brought up in the forests since boy-

hood. They know every stick of wood in the wildernesses that have been their homes. Hence they are able, through their intimate knowledge of the territory, to perform useful spy duty, creeping up to the very lines of an enemy, making observations of great value and slipping away in the shadows of

the big trees before detection. These forest guides possess all the stealthy cunning and woodcraft of the American Indians.

Les Ardennes and Fontainebleau Bulwarks of War

In one of the German forests. Of the total number of forest acres in France the authorities own, about one-third, the remainder belonging to private individuals. The care of the forests is directly under the eye of the Minister of Agriculture, who has a separate department of conservation, which has charge of the guards and other forestry sub-departments. In connection with this is a school of forestry, where practical forestry is taught, and a course in this is an adjunct to military training.

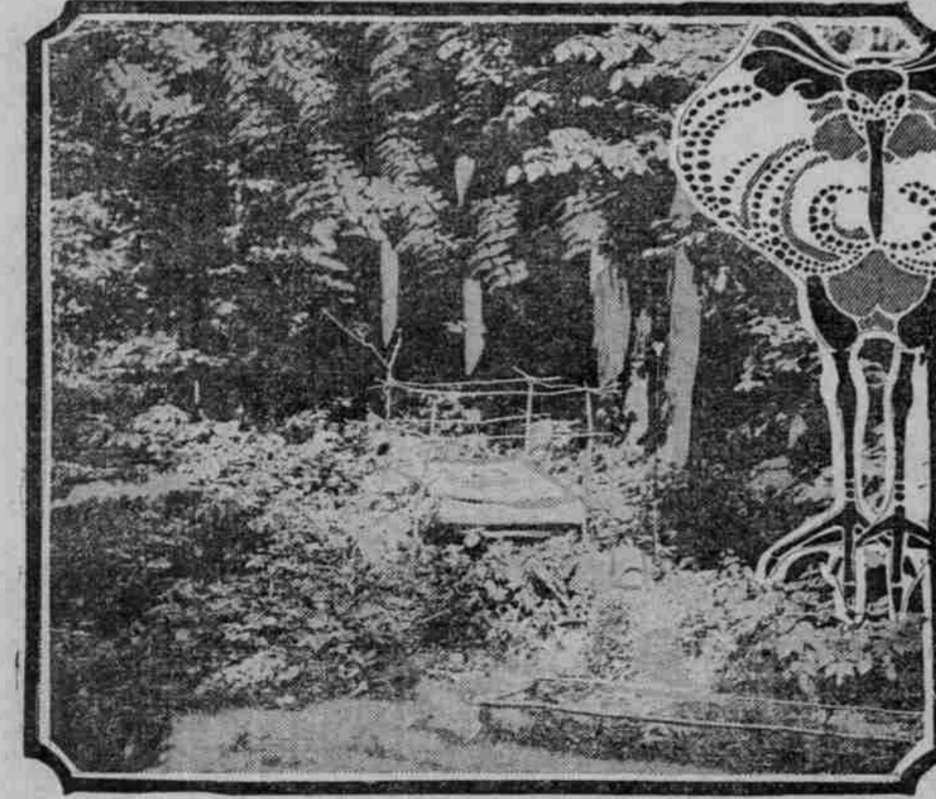
Germany May Destroy Forests.
"Most of the forests of France are in the north and east, running along the line from the Vosges to Lille. In the south there was once extensive forest territory, but following the French revolution and the division of territory among the peasant classes much of this splendid woodland was cut off and never replaced. Chief among the forests in the south are Fontainebleau, which is itself but a short distance southwest of Paris.

"The present war will do much toward completing the devastation of forests started after the revolution and continuing through successive wars. In the German retreat there is little doubt that much fine old timber will be cut for firewood, for breastworks and possibly fired, if the wind is right, as a menace to the pursuing allies."

Education and Japan.
Unbelief in education for the average man is so general among the higher classes that I am afraid we shall have no reform unless some great national disaster causes conversion. There is a lesson for England, and, indeed, for all European races, in the recent history of Japan. The old structure of Japan was in many ways beautiful, but it proved to be without physical strength. Its extreme weakness proved its salvation. Even the teachers of ancient

classics saw that for strength it was necessary to let scientific method permeate the thought of the whole population. And now, at the end of the first chapter of Japan's modern history, we find a nation which can not only defend itself, but which retains all of its spiritual life which was beautiful. Every unit of the population can not only read and write, but it is fond of reading, and its education did not cease when it left school. It is getting an increased love for natural science, so that it can reason clearly; it is not carried away by charlatans; it retains its individuality. One result of this is that in time of war Japan has scientific armies. Not only are its admirals and generals scientific, but also every officer, every private is scientific. Everything in the whole country is being developed scientifically, and we Europeans, bag-ridden by pedantry in our schools and universities, refuse to learn an easy lesson.—Popular Science.

HOW BIRDS ARE TO SAVE BILLION DOLLARS A YEAR



The Rustic Bath

BY ROBERT H. MOULTON.
OUT in the deep woods about Kenilworth, a suburb of Chicago, a man is working out a plan to lop a matter of \$1,000,000,000 a year off the Nation's cost of living. He is organizing a vast army of allies that are expected to make a series of resistance raids on the high-cost-of-living forces.

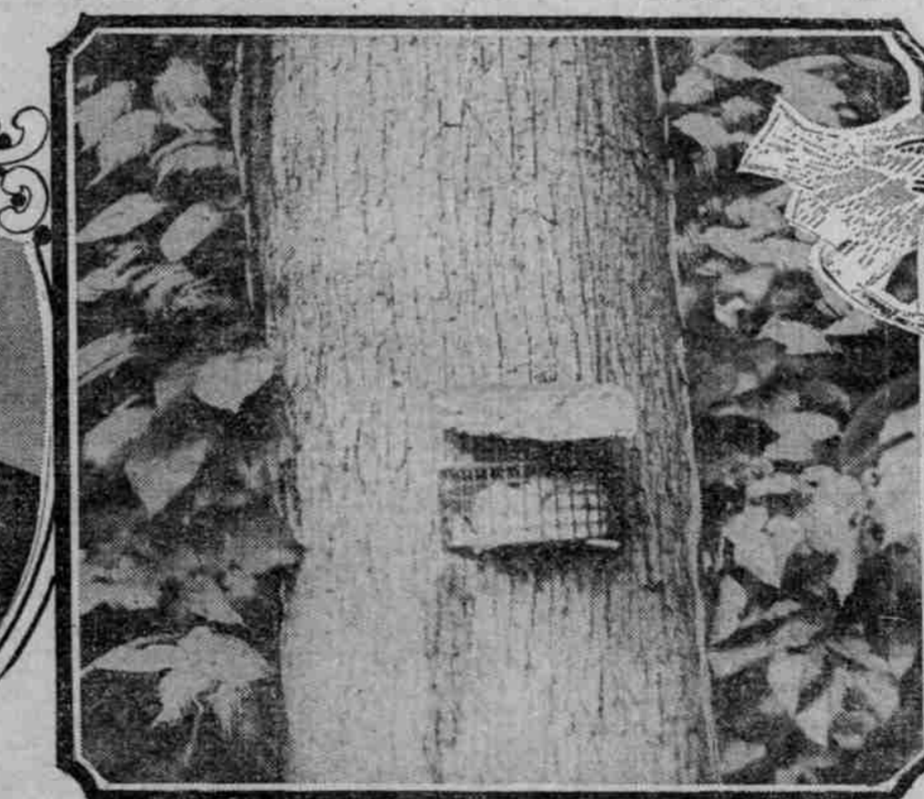
Cereals	\$ 250,000,000
Hay	150,000,000



Chas. E. White

weaker birds and took possession of the entire supply. In order to prevent this the box now in use was constructed. Its back consists of a curved piece of steel that resembles the back of the tree upon which it is hung. The front is covered with a strong wire net that is sufficiently coarse to admit the bills of the hungry birds, but too fine to allow them to remove all of the suet supply at once.

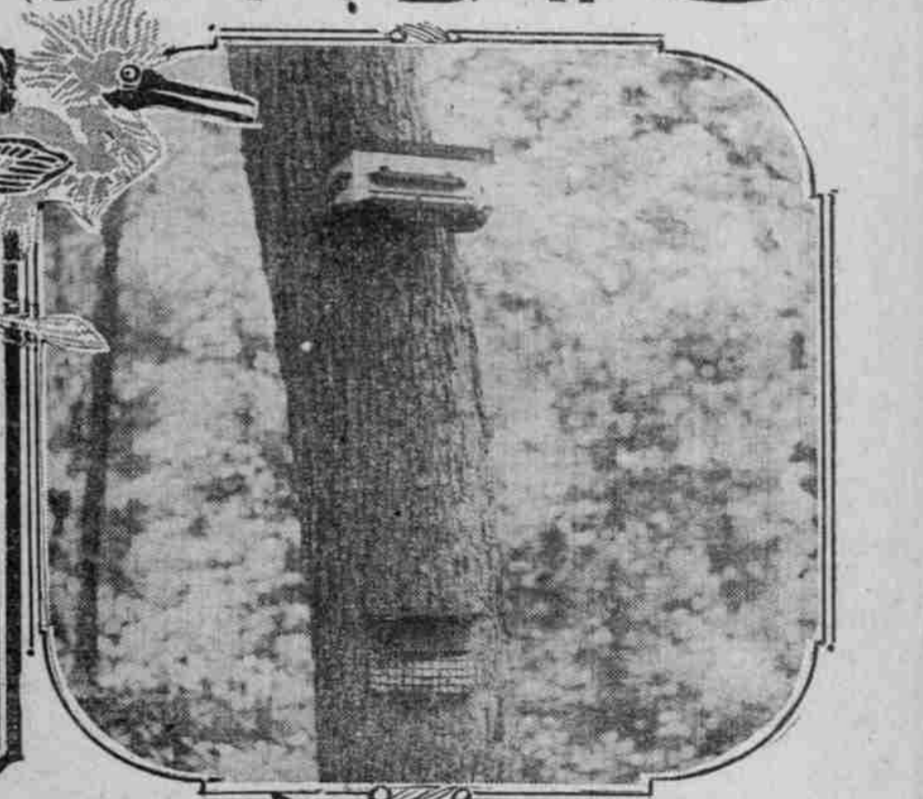
One would never suspect that so pro-



An Open Air Cafeteria, Basket of Bees Suet.

saic a spot as the Chicago Board of Trade would harbor a lover of birds, whose thoughts continually are filled with bird houses, rippling brooks and the notes of the dwellers in the woods. But Mr. White is an idealist with a broad, practical point of view. Certainly he is farsighted to study the very thing which exerts a powerful influence over his business.

Examination of the stomach of a nighthawk, according to Mr. Henshaw,



Working in Combination

revealed 500 mosquitoes—indicating a tremendous slaughter among the enemies of mankind. Insects, it is asserted by Government experts, are more numerous than worms, and are as astonishing an evidence to back up his assertion that to consume twice their weight in leaves per day—which is equivalent to a horse consuming a ton of hay a day.

only orchard in the neighborhood to

COSSACKS ARE COMING!

(Continued From Page 2.)
are companies, perhaps entire regiments, of Bourliattes, who are Buddhists, spiritually governed by priests called lamas, under the dalaialama of Thibet.

My dear, you ought to pass up frivolous things and take an interest in deep subjects. Take history, for instance. Here is an interesting item. Gessler, the tyrant, put up a sign for the Swiss to salute. The wife and mother was a trifle interested. "How was it trimmed?" she inquired.