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# SIMONDS

## GUIDE FOR MILLMEN



Vol. XII No. 4

July, 1920



## An Ode to the Sequoia

BY

*Jack Thurston—Poet of the Redwoods*

Sequoia thou monarch, how noble, how grand,  
 In thy virgin forest how proud thou dost stand  
 With thy roots firmly bedded in green Mother Earth  
 And thy tops, high in heaven, seem smiling with mirth.

Thou art grand and majestic, most beautiful tree,  
 And your own Golden State may well be proud of thee,  
 Since thou and thy stately beauty sublime  
 Art found in no other country or clime.

Thou hast stood through the ages, grim giant of old,  
 And thy tales of the past, if they were but told,  
 Would equal the stories of pyramid's pile  
 Or the sentinel Sphynx, that stands guard o'er the Nile.

In thy greatness and splendor thou hast borne storm and blast  
 That has swept o'er thy home through centuries long past,—  
 When the storm king has threatened with lightning and gale  
 Thy thick bark protects thee like an armor of mail.

In the long, long ago, on old Humboldt's broad crest  
 In thy hoary old top built the eagle her nest;  
 She soared o'er thy forests, thy rivers, thy rills,  
 Ere that bright star appeared o'er the Bethlehem hills.

Mr. Jack Thurston is mill foreman and filer for the Rolph Shipbuilding Company, Rolph, California. The above poem was first published in the Eureka, California Herald.

# Simonds Guide for Millmen

Volume XII

July, 1920

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**T**HIS magazine is published in the interests of the owners, operators, and employees of Saw Mills, Planing Mills, and Woodworking Factories in general, and in the interests of those using Simonds Products in particular.

Communications on subjects in this field are always welcome and should be addressed to SIMONDS GUIDE, care of Simonds Manufacturing Company, Fitchburg, Mass., U. S. A.

## A Flight of Fancy

**A**N "Intellectual Giant" once said, "devote thirty minutes of each day to the study of some splendid idea."

Now, this "Intellectual Giant" was one of the regular fellow kind, not the bulging brow fellow or walking encyclopedia, a mere memory tank. He had the right idea. Follow his tip if you want to be one of those selfsame "I.G.'s."

For your thirty minutes today, why not take a little trip, no railway fares, pullman bunks, or bum hotels to mar your pleasure. Let this be an imaginary trip.

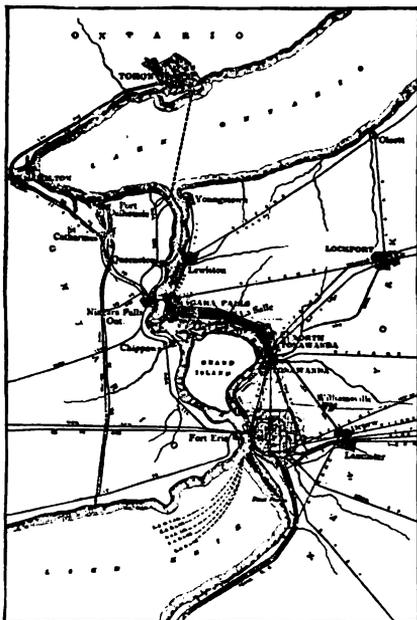
The trip is to be a flight of fancy, to begin wherever you are and jump, still in fancy, to Lockport, N. Y.

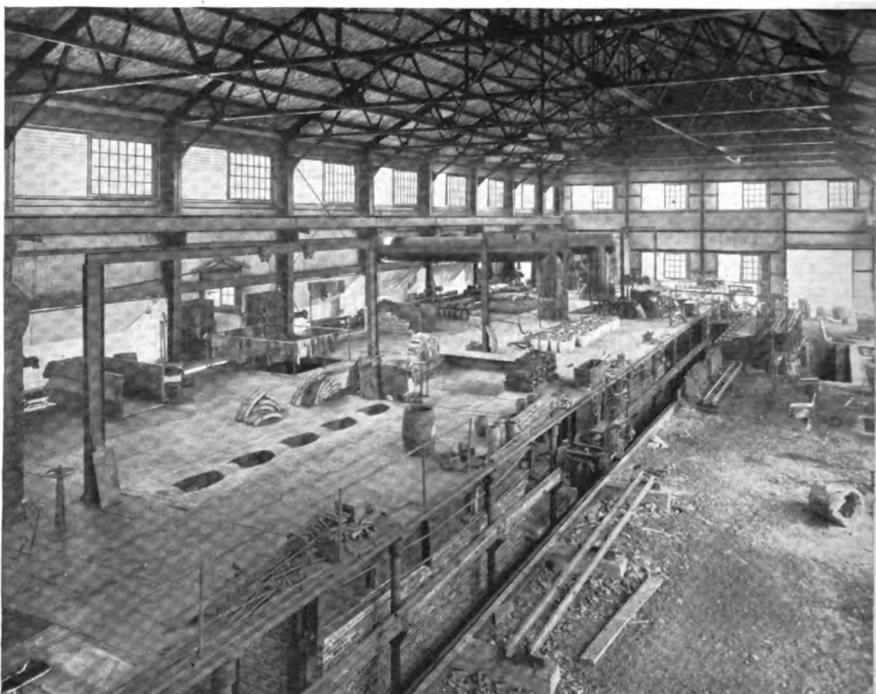
Now, what on earth has Lockport N. Y. or Lockport, any place else, for that matter, concealed in the archives of its Chamber of Commerce, that should merit our thought or cause us to spill any printer's ink in its behalf.

First, let's locate the burg—pardon, we mean "city," for it's a live one of about twenty-five thousand population and one of the "up-and-comingest" places on the map.

Lockport is in western New York State, twenty-six miles from Buffalo and twenty-six miles from Niagara Falls, which two places are also twenty-six miles apart to complete the eternal triangle.

It's the home of Simonds Steel, and it's about the making of Simonds Saw Steel that this thirty-minute trip is to tell you. The faithful eye of the camera will do its best in the way of pictures to make up for the fact that instead of actually being at Lockport you are sitting by your own fireside—no, not fireside; this is midsummer, and you are probably straddling a log on the breezy, shady side of somewhere,—or wishing you were.





Sunday view over the Crucible Furnaces

Now, just be nimble-footed enough to side-step any red hot ingots or sheets of steel the boys are tossing about and we'll look around in some of the steel mills' buildings. Here, have a cigar before we start. Right-o! You've guessed the difference between a Saw Mill and a Steel Mill. Here you can smoke all you deem prudent.

This Steel Mill is electrically operated by power transmitted on direct wires from Niagara Falls at twelve thousand volts. This high voltage is stepped down in our transformer house to four hundred-and-forty volts for the use of the large motors throughout the mill. These motors you will see directly connected to the various rolling mills. Electric overhead cranes, operated at 220 volts, are in each main building to facilitate handling heavy material.

Crucible Steel gets its name from the name of the container in which the mix is melted. The standard crucible is about 15 inches high when covered and 10 inches in diameter at the center outside.

Each holds one hundred pounds of the mixture—high grade iron with chemicals minutely weighed and added—which is thoroughly melted for about six hours at a temperature well up toward three thousand degrees. These crucibles are made of a mixture containing graphite and plumbago, materials which have to be imported, and any man who thinks it has been an easy or an inexpensive job to get crucibles during the last three or four years has one more big guess coming.

The Simonds Mills has four thirty-pot—(pot means crucible)—furnaces, making a total of 120

that can be in operation at the same time. When a heat is finished, the contents of the thirty crucibles, now liquid steel, is poured into one large ladle, thus insuring a uniformity which is so necessary in saw steel.

From the large ladle the steel is poured into ingot moulds there to cool slowly. When the moulds are removed, the ingots are piled up ready for the next operation which is reheating to nearly white heat for rolling, first in the cogging or rough mill and then through chilled rolls to plates or bars of specified sizes in the finishing rolls. There are, as you see, different sets of rolls for the different plates, such as Hand Saws, Circular Saws, and Band Saws.

No doubt you remember a story about this mill, told in SIMONDS

GUIDE FOR MILLMEN eight years ago, when the mill had been in operation here about a year after being moved from its original location in Chicago. The story appeared in January, 1912. At that time Mr. Alvan T. Simonds, then Vice-President, now President of the company, said:

"In the year 1899, the Simonds Manufacturing Company realized after having been buying the best steel obtainable regardless of price, from the best known makers in the United States, as well as in England, that their reputation for high grade saws depended largely on a uniform high grade steel. Consequently in 1900, our own first steel mill was built adjoining our saw factory in Chicago, but owing to the fact that the quality of our goods has been so well appreciated and increasingly



Hot work. Placing full crucibles in furnaces



Pouring steel from crucible into big ladle

demand by the public during the last ten years, we were obliged to build a new steel mill of three times the capacity.

"This we did here at Lockport, in 1910. The first steel was made Jan. 2, 1911. The location is excellent, equi-distant from our three factories, Fitchburg, Mass., Chicago Ill., and Montreal, Que. Unlimited electric power from Niagara Falls is at our door. Our eighty-three acres of land here is sufficient for future expansion."

Simonds "reputation for high grade saws" depended then chiefly and depends today chiefly on "a uniform high grade of steel." The twenty years of Simonds Steel making since that beginning have been years of growth and progress. The twenty years have justified time and again the idea of standard

quality which prompted the steel-making venture first on the part of the late Daniel Simonds, whose memory is still dear to those who knew him either socially or in business.

Just walk this way, please, and we will show you some honest-to-goodness evidence of that growth. Here are two six-ton electric furnaces where the mix is melted direct by electric current instead of by gas as in the crucible furnaces. These electric furnaces are admirably suited to making certain high-grades of steel. Much of the Simonds war-time light armor plate was made here. Another newer feature is the big cogging hammer in a building recently built for its workings. And another new development is the mill for rolling bars for our commercial steel department.

You will be interested in watching a plate sheared to circular form on a specially devised shear, and in seeing cross-cut saw plates made nearly the shape of the finished blades. These plates are now ready for shipment to Simonds factories at Fitchburg, Mass., Chicago, and Montreal, where men who know saw making from soup to nuts, put their years of experience into turning them into Circular and Crescent Ground Cross-cut Saws.

The same process is followed in rolling Band Saw plates but the operation is a bit more spectacular. It's an inspiring sight to see the men with their tongs catch the shimmering red hot ribbons of steel and race down the runway with them as the bands slip through the swiftly turning rolls. Keep out of the way when you see a hot band saw or a

long steel bar come through the rolls because if you don't you'll have a busy minute dancing around to find a place to step where it's cool enough for foot comfort.

You have noticed in every department of the mill a fine lot of men. They don't pay much attention to visitors but keep right on with their work. You see steel making is a job that demands strict attention to itself. The men know it, they are keen about their work; each one sees to it that the particular thing he does is done right. The "reputation" we spoke of a ways back is in the hands of these men and steel-making is their hobby. There's not a man in the mill who doesn't feel proud of the product because he individually helped in its making. If you had a bunch of happy, capable chaps like these



Cogging Mill with ingots ready to reheat



Taking Laboratory test sample from electric furnace

fellows working in your saw mill—and we hope you have—believe me, you would turn out lumber that grades No. 1 all right.

There is brawn, and brain, and science in this interesting game. The science has its nerve center in the chemical and physical laboratories, where nothing but "known and proven facts" about standards of steel quality is good enough to pass. The head of this department is C. R. Paffenbaugh, called "Paff" for short, because he is a long fellow. Then, there is Leslie E. Howard, who is chief metallurgist and has studied steel in so many ways and for so many years that we hardly dare tell the number. "Les" might think we were giving away



VIEW OF SIMONDS STEEL MILL

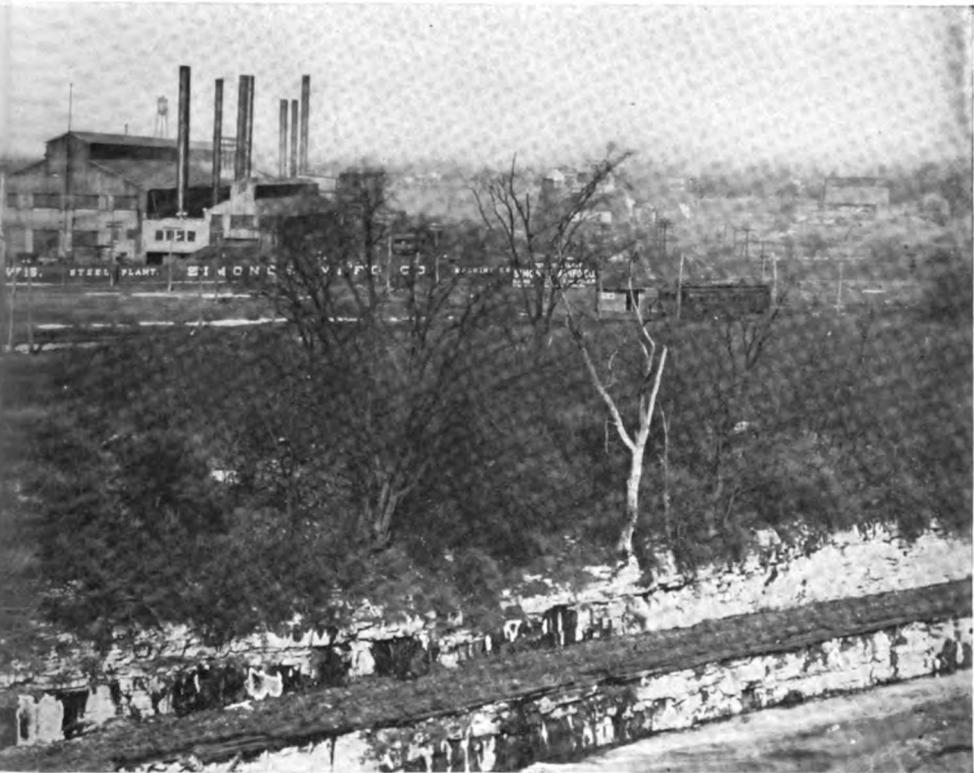
his age. He was largely responsible for Simonds Armor Plate Steel that did its patriotic duty in the recent world muddle.

Fred J. Hillwig, a young giant, physically and intellectually, also a good looker, is master of ceremonies in the plate rolling mills, and Frank E. McKenna, the big fellow with the happy smile, has the goods when it comes to the melting department. What McKenna knows about melting steel has put him at the head of that department of the mill.

Two other men you should meet if you're lucky enough to find these busy executives, are Ralph A. Shaffer and William G. Merriman. Ralph is Steel Sales Manager and if

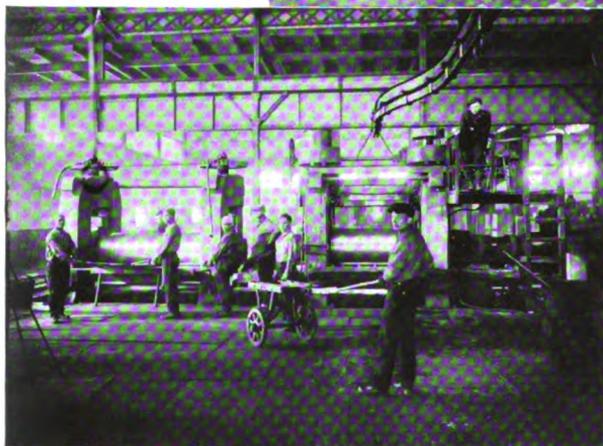


Circular Shear rounding plates for the saw factory



FROM BANK OF THE ERIE CANAL

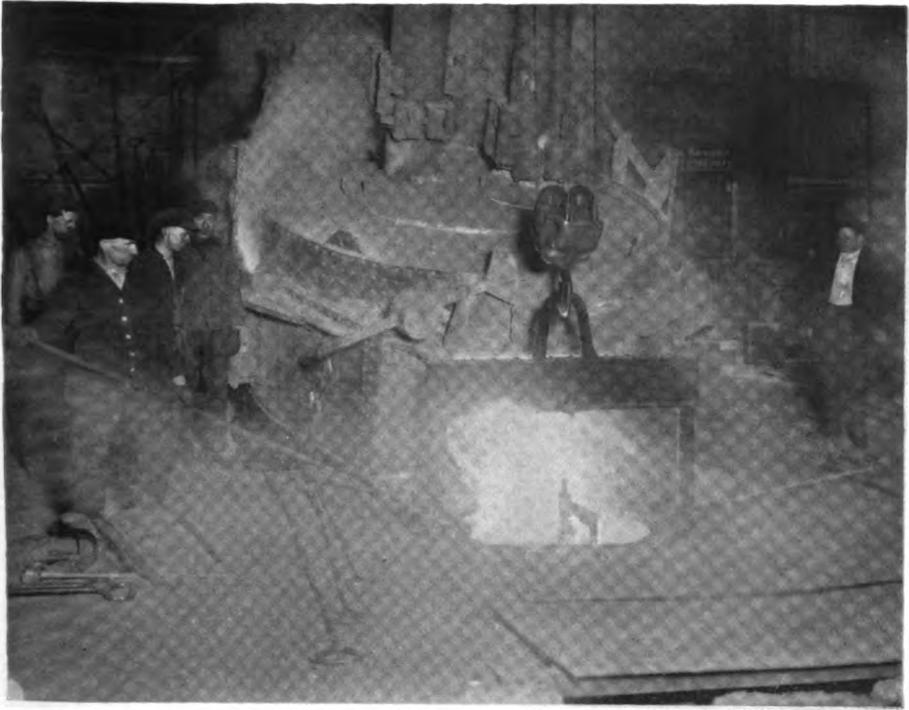
Handling plates coming through the Band Saw Rolls



Rolling mill for circular saw plates

The Laboratory where experts make and keep Simonds Steel analysis right





Molten Steel coming from an Electric Furnace

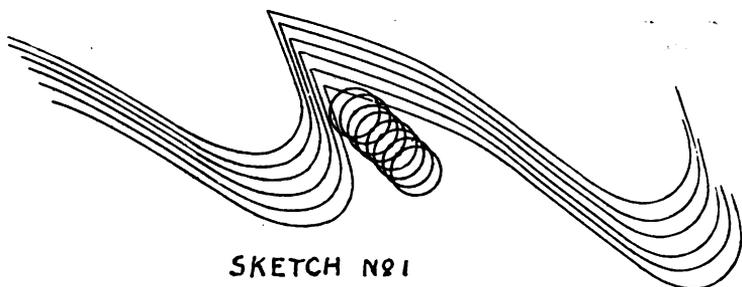
you want to buy commercial alloy steel he will glibly quote you discounts, net prices, base prices, ad infinitum. Mr. Merriam is the Mill Superintendent. He has had general supervision of Simonds Steel making as long as the company has been in the business.

Your trip is nearly ended. We hope you have enjoyed it as much as we have enjoyed showing in our modest way, what really happens at Lockport. There is no need to explain to you now what it's all about. You can beat him to it when one of our travelers starts to tell you about Simonds Steel. You know now and you will appreciate

the man's enthusiasm. We know of no steel mill to compare with this one from the standpoint of modern up-to-date result-producing efficiency. You have seen work here to utmost speed consistent with the policy of furnishing steel that will make saws that will give the greater satisfaction you have a right to expect from saws.

And, finally, let us say again, as we said eight years ago, and as Bill Shakespeare said, umpty ump years before that,

"The friends thou hast and their adoption tried  
Grapple them to thy soul with  
hoops of STEEL."



SKETCH NO 1

## Handling Steel in Saw Teeth

(Continued from May Guide)

By GUY W. FARMER, Shingle Saw Filer

I WOULD like to see a swage made with the clamping screws down a little farther in the head so the impressions would work and move in the roots of the teeth, or see a clamping screw which would hold without eating more or less into the plate. You will note in sketch No. 1 how it works up into the swage which will cause crumbling mostly on the inside or the one which is operated by the lever. This cuts in more than the idle screw causing teeth to crumble or points to break off on the inside corners. In my experience on shingle saws this is the only place I ever have corners break off. I put in a new screw sometime ago and just as soon as it had worked into the swage, crumbling began. Then I knew for sure what did it. I took out the screw and dulled it so it would not cut in. Taking a file, I side-filed off all the swage on both sides and put on new swage. It hasn't given any trouble since. I want you to notice the style of tooth in sketch No. 2 which

hasn't very much hook. You will see in order to get the tooth far enough ahead on anvil when swaging you will have to drop your swage lever some. Swaging first pushes back on the tooth instead of up and ahead, which will make more pressure necessary on your clamping screw to hold it to the work.

In sketches Nos. 3 and 4 note how the two different teeth strike the bolt or timber in making shingles (dotted lines represent bolt.) Sketch No. 3 shows saw tooth with 9" hook such as I run, cutting 16" shingles. The face of the tooth does not go into timber striking tooth full depth of swage like No. 4 would. This causes the point to become dull quicker, takes more power and in pointing up will rub off still more. It will be necessary to swage heavier to get the requires width of swage on the point. While tooth No. 4 is stronger than No. 3, it does not do the work as easy and is harder to keep up. Don't use over 9" hook. I would advise 8"

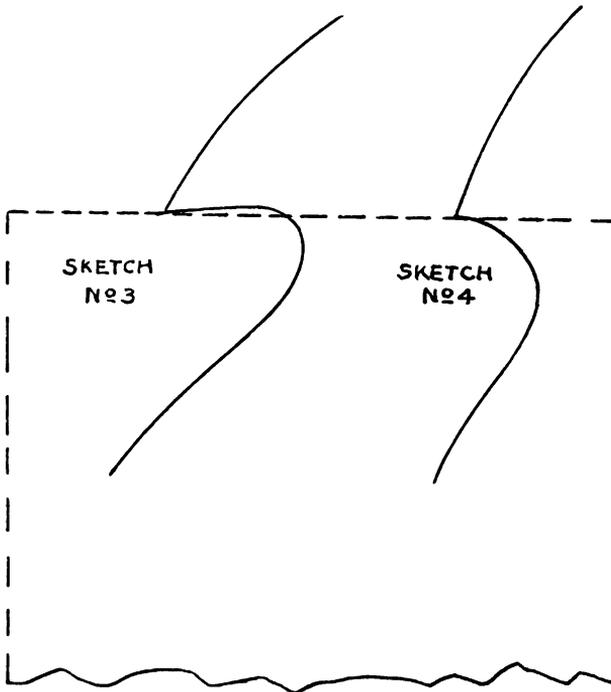


SKETCH NO 2

till you try it a while. Let the face of the tooth be perfectly straight down for  $\frac{3}{8}$ " or more from point. Never let the deepest part of your throat be behind the point but ahead of it so that the steel in the plate ahead will draw on the tooth and not the tooth behind, and push the plate. This will cause it to

do on the shingle side. This gives the saw clearance and when the saw begins to get dull, it will help to keep it from running out and dodging the knots.

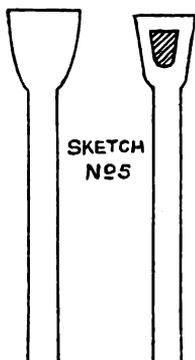
Do not swage saw till it is 11-gauge, then put on the shaper and squeeze it to 13 gauge, the steel won't stand it. It will soon crumble



squeal and wash board as saws will when they have too much hook or too slim a tooth. Never have your tooth deeper in the throat. If more sawdust room is needed, widen the throat but do not deepen. My tooth in sketch No. 3 carries the sawdust with 13-gauge swage machine making forty clips per minute and works good. Saw Manufacturers put too much throat in their teeth as a rule, causing saws to squeal and wash board till shortened up. Carry a trifle more swage on the block or timber side than you

on both sides. Swage just enough so that the shaper will work easy in squeezing it in and remember, if you do not know it, the steel in the swaged point comes mostly from the top of the tooth. Don't think you push it up from the base of the tooth as such is not the case. If it were you would never obtain any thing else but crumbling. One reason why grinding should be done mostly on the back of the tooth is that you will get fresher stock in your swaging. Grinding more on the face causes a weak swage in your sid-

cutters and no stock in your back clearance. In sketch No. 5 is shown the face of the tooth swaged after grinding and how it should look. Do not swage heavier than



SKETCH  
NO 5

broken off on a tooth or two take a file and phlegm the back of the tooth near point, that is so it will look like a cut-off saw tooth on the back with the good corner the longest. Don't touch the good corner with the file. Grease the face of the tooth good and swage saw two or three times (see what you have done.) Put a new corner on, of course, but do not shape this as it has been swaged out quite a lot



SKETCH  
NO 6

needed to obtain enough stock and never carry more swage than you have to as the more swage you have the weaker will your swage be on the outer corners causing it to break off easier. When you have a corner

but side file it to gauge. In another article I will tell you the shaper troubles, I've had them and when I get through you won't have anything but a shaper like I have with clamping or pressure screws on both sides.

ALL WORK AND  
NO EXERCISE  
MAY LAND YOU  
IN A PADDED  
CELL INSTEAD  
OF AN  
UPHOLSTERED  
CAR-!



## Now About New SAWS, PLANER KNIVES or FILES

**O**RDERS for or inquiries regarding any of the products of our five factories may be addressed to any one of our offices listed below. Your communications will be given immediate attention by that office or will be promptly referred to the proper office for such attention.

### Simonds Manufacturing Company

Fitchburg, Mass.

17th Street and Western Avenue  
Chicago, Ill.

90 West Broadway  
New York City

402 Occidental Avenue  
Seattle, Wash.

209 Madison Avenue  
Memphis, Tenn.

85 First Street  
Portland, Oregon

12-14 Natoma Street  
San Francisco, California

420 Canal Street  
New Orleans, La.

8 White Street, Moorfields  
London, E. C., England

### Simonds Canada Saw Company, Ltd.

St. Remi Street and Acorn Avenue  
Montreal, Quebec

55 Water Street  
St. John, N. B.

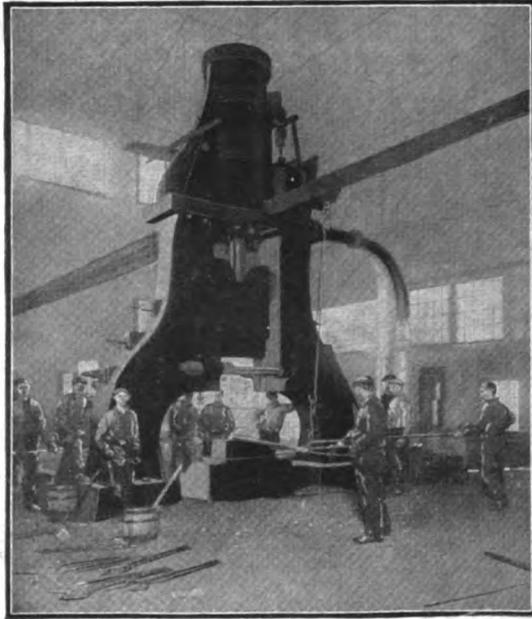
554 Beatty Street  
Vancouver, B. C.

### Simonds File Company

Fitchburg, Mass.

### Simonds Steel Mill

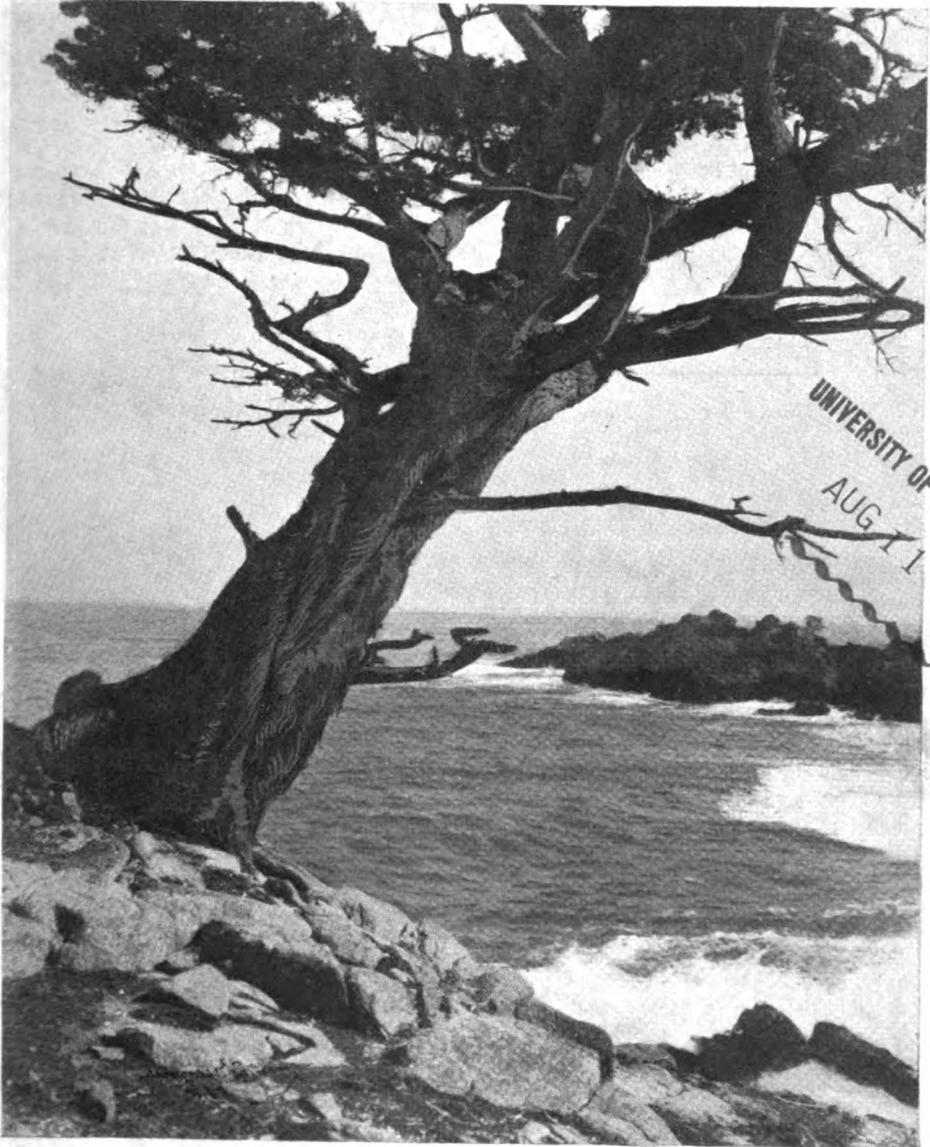
Lockport, N. Y.



One of the big hammers in Simonds Steel Mill

# SIMONDS

GUIDE FOR MILLMEN



Vol. XII No. 5

September  
October 1920



Forest Division from Overseas Logging in a Pine Forest in Southern France—only two years ago.

# Simonds Guide for Millmen

Volume XII

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Number 5

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## Full-o-Pep

**S**OMEONE had a happy idea, one of the kind of ideas that bring out the sunshine and smiles. That idea was to catch the scampering, frousted top, grinning lad in the picture just at the point where his grin was working at top speed. The game is evidently going to his complete satisfaction and he doesn't care who knows it. This is the brand of boy developed by the Swarthmore (Pa.) Chautauqua Association. At least, so we suppose, because it is by courtesy of that association that we reproduce this picture.

"Full-o-Pep" he might be called. "Pep" has been defined as the ability to finish a job the way that you started it.

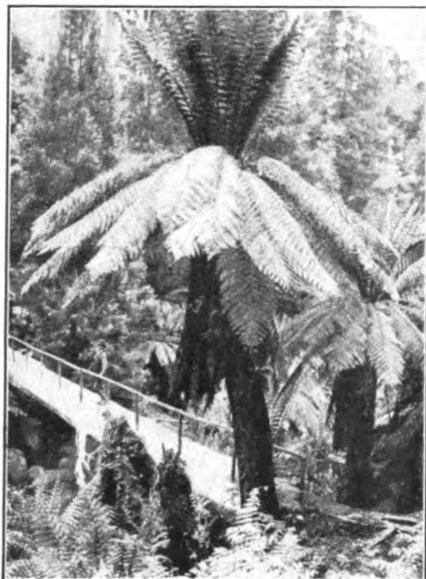
Here is the psychological spot.

That is, here is the place, if one were writing true to form, to break in with a little business story—a story about starting out to make saws fine and fast and everything else and finishing the job right.

But, this time we're going to break the unwritten rules of writing and take an entirely different turn. We are going to take a little stroll around the face of the earth looking at trees, not just plain trees, but trees that you don't run into every day. Trees that are just around the corner of the universe from most of us. The fancy woodworker may

read further along about two special woods but first let's hear about the tree pictured on our front cover.





Giant Tree Bridge and Tree Fern  
of Australia

It might be called a "Cedar of Lebanon" but it shouldn't be for two reasons: it isn't a cedar, and it isn't in Syria, where Lebanon is supposed to be.

It is standing on the peninsular between Monterey Bay and Carmel Bay, not far from the famous old city of Monterey, California and is one of the most picturesque trees known to mankind. These individual trees are a part of the natural belt of Monterey Cypress that are only found growing along this part of the California Coast. The Natural Belt of these interesting old trees is but a few hundred feet wide. No other natural group exists anywhere. The individual specimens which are so familiar to tourists and have been so widely pictured, stand on an exposed rocky sea cliff, where the wide, flat-topped crown, and the queerly bent and gnarled trunk and twisted branches, create an unusual and impressive spectacle.

Among the interesting and unusual departures of nature which we find in Australia, a fern that grows to the size of a tree, though not exactly an ordinary occurrence, surprises none of us. This tree fern when full grown is from twenty-five to forty feet in height and measures eight or ten inches in diameter at the base.

Every year thousands of tourists visit the groves of Big Trees in California. Some of these are 300 feet high and measure 24 feet in diameter six or eight feet above their bases which are a good deal larger. The larger trees are four or five thousand years old. Few sights surpass these forests for grandeur and beauty.



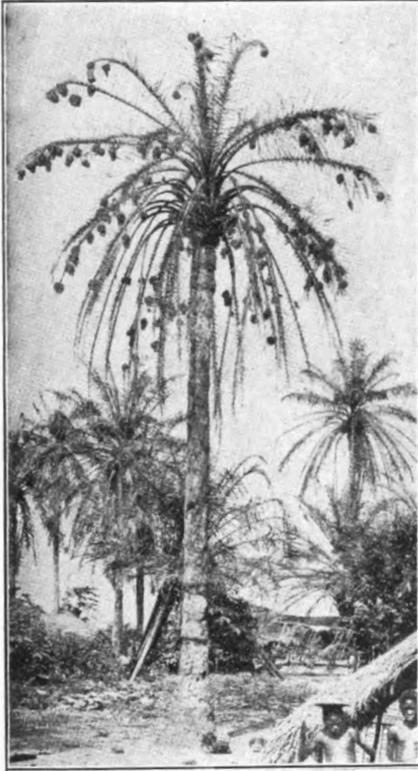
Big Tree, California



Close down to the sandy shores of the tropical seas, the tall Coconut Palms thrive best. Copras or dried coconut meat which serves the natives both as food and currency, is secured from them. The coconut from these trees is the ordinary commercial product.

Although the Baobab tree of Africa seldom grows more than 60 feet high it is claimed that the diameter of the trunk is often as much as 30 feet. Cloth and rope are made from the bark and the fruit serves as food. This tree is known to have been cultivated in Florida.





The home of a flock of weaver birds. At a distance one might easily mistake these nests for coconuts. These interesting little fellows are socially inclined, building their nests in groups. They wisely choose the tall palms with straight smooth stems in order to protect their homes from the inroads of preying animals.

Great Palms now growing on the site of ancient Memphis around which much of interest to the student of Egyptian Art has been found. These trees often grow more than a hundred feet in height and from the top only sends out its branches and leaves.



No doubt thousands of years have passed since the tree of which the only remaining trace is this petrified stump was one of a mighty forest. Truly a relic of former ages. This stump was found in a coal mine at Scranton, Pa.



Photos for this article, Courtesy of *The School Arts Magazine, Worcester*



## Visitor to Canada says, "Wasteful"

**Y**OU waste too much in this country in your lumbering operations," declared Mr. Henrik Carbonnier, of Hanaskog, Sweden, a Swedish forestry expert, who visited Vancouver Island recently. Mr. Carbonnier is honorary attache to the Swedish Consulate General, and is now on a mission for his government to survey the forest reserves of the world and observe the different systems of lumbering. Having spent some time in the province he has formed a broad conception of British Columbia's forest wealth and its future in the world's commerce.

"In my country," he pointed out in discussing B. C. lumbering methods, "we have learned to manage our forests so that we shall waste nothing from the manufacture of them into commercial products, and at the same time we are perpetuating them so that they are actually growing in extent and not becoming smaller as years go by. I think that some day you will also realize the mistake you are making in being so

wasteful now. Our largest tree in Sweden is no bigger than your smallest here, yet we manufacture fine lumber, and we don't waste the smallest part of the tree. Lumber is one of our most important exports and much of it and the pulp we make finds its way into the center of your own Empire. It may surprise you, but Sweden before the war, exported to a large extent to the United States, and if you keep on wasting your resources here, we may yet be sending you our lumber."

Mr. Carbonnier believes, says the *Western Lumberman*, that there should be stronger co-operation among the nations of the world which still possess forest reserves in order that the world's supply of timber may not ultimately be depleted and also that lumber requirements may be handled with greater economy.

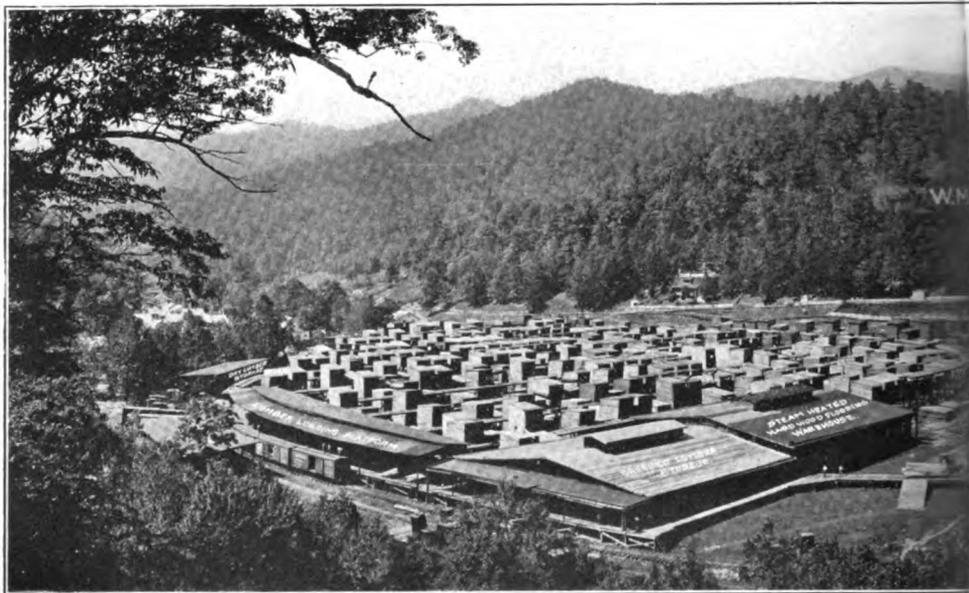
After looking over lumbering operations on the Island, Mr. Carbonnier travelled down the Pacific Coast and then crossed back to New Orleans.

## What do You Know About Wood?

**H**OW much of a study have you made of the various woods grown in the United States, where the different species are found, their characteristics, and how they may be recognized? A scientific knowledge of wood is a valuable asset to any lumberman. We have seen a copy of a book, "Wood and Forest," by William Noyes, which in its 300 pages, treats of wood, distribution of American forests, life of the forest, enemies of the forest, destruction, conservation and uses of the forest, with a key to the common woods by Filibert Roth. It describes 67 principal species of

wood with maps of the habitat, leaf drawings, life size photographs and microphotographs of sections. Profusely illustrated with photographs from the United States forest service, and with pen and ink drawings.

The price is \$3.75. If you want a copy send us money order for that amount and we will forward your order to the publisher. This is done as an accommodation to our readers who might otherwise not have an opportunity to secure this book. SIMONDS GUIDE FOR MILLMEN Fitchburg, Mass.



## Hazel Creek

The Hazel Creek Plant of the W. M. Ritter Lumber Company located at Proctor, North Carolina.

This is one of thirteen band mills operated by one company and produces 136,000,000 feet of lumber annually. At the Hazel Creek Plant, Mr. F. C. Brass is the Mana-

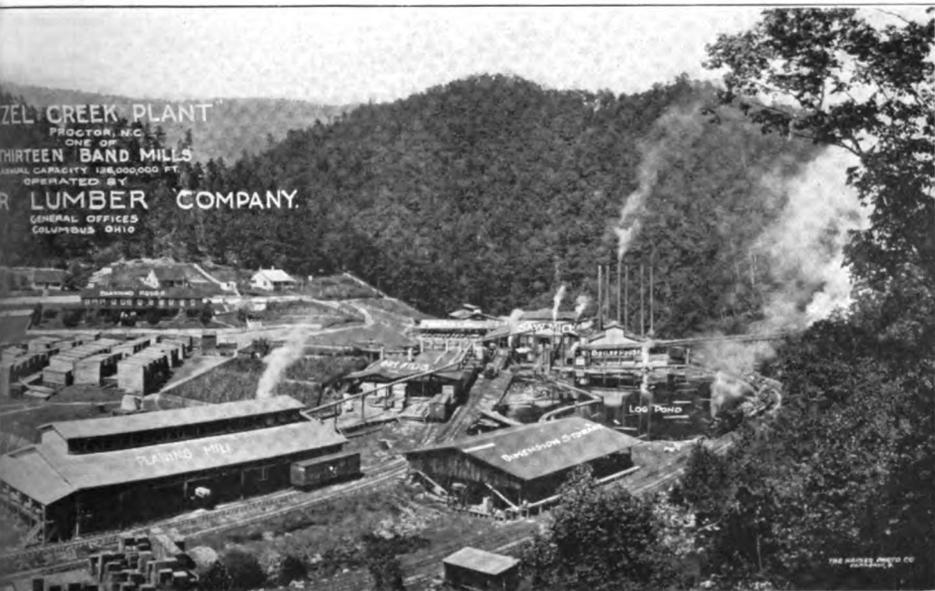
ger, Mr. J. G. Horner, Manufacturing Superintendent, Mr. D. Kimberly, Master Mechanic, and Mr. E. W. Theile, Band Filer. This is a double band mill using Simonds Band, Circular and Cross-cut Saws, and Files.

## Just 300 Years Ago

ON November 11, 1620, in the cabin of the Mayflower, a tiny bark lying off the Massachusetts coast, a little band of liberty-loving men, from "Brittania," entered into what history has styled the Mayflower Compact. This agreement bound the 41 adult males in the ship's company into a civil body politic for the better ordering, preserving, and furthering of their mutual ends. And it provided for such just and equal laws and offices as should be necessary for the general good of the colony.

Ten days later, so records Dr. Charles W. Eliot's inscription on the Pilgrim Memorial Monument at Provincetown, Mass., "the Mayflower, carying 102 passengers, men and women and children, cast anchor in this harbor 67 days from Plymouth, England.

"This body politic, established and maintained on this bleak and barren edge of a vast wilderness, a state without a king or a noble, a church without a bishop or a priest, a democratic commonwealth, the members of which were straitly



tied to all care of each other's good, and of the whole by every one.

"With long-suffering devotion and sober resolution they illustrated for the first time in history the principles of civil and religious liberty and the practice of a genuine democracy."

Meantime, uninformed of the Pilgrims, fellow-colonists of Captain John Smith had met at "James City" (Jamestown), Virginia for the first American Legislative Assembly. On July 30, 1619, they had thus broken ground for the foundation of the present democratic form of government in the United States.

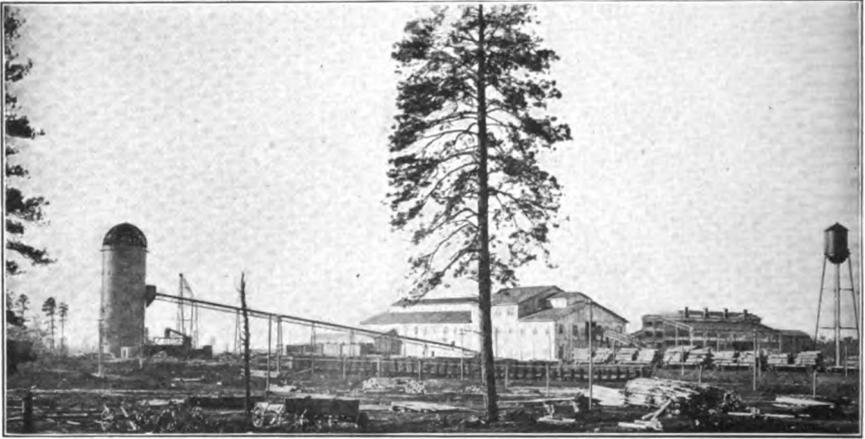
This year (in 1920) these events are being commemorated in the United States, in England and in Holland. In August, the origin of the Pilgrim movement will be celebrated in England. And early in September, meetings will be held in Holland in memory of the Pilgrims' sojourn in that country.

In September, a *second Mayflower* will set sail from Southamp-

ton, England, to follow to the American shore the path taken by the original *Mayflower*. (But this second *Mayflower* will be modern, and therefore much more sea-worthy than her smaller predecessor.)

This boat, carrying many prominent people of England, Holland and the United States, will anchor in Provincetown Harbor in late September. Its arrival will perhaps mark the crowning dramatic episode of the entire Tercentenary celebrations.

These events will not be celebrated in the United States by the citizens of Massachusetts and Virginia alone, nor solely by the New England and South Atlantic states. Communities throughout America are planning to take this opportunity to review the "foundation upon which the United States rests", — and to re-emphasize those principles which these ancestors established — and which their sons, their followers, and their followers' sons have handed down to us through our form of representative government.



## Cutting Pine in Arizona

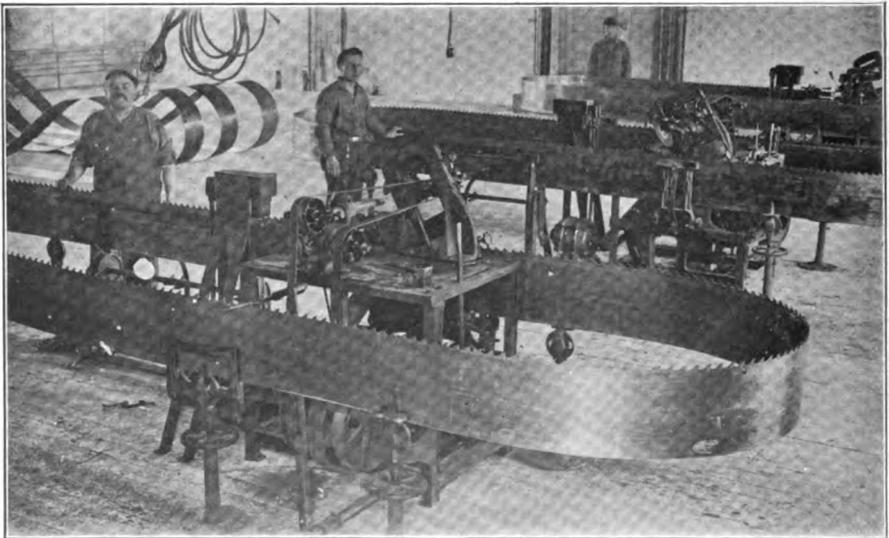
**A** BOUT seventy-five miles south of Holbrook on the Santa Fe Railroad, in the Apache Indian Reservation. Here the Apache Lumber Company, about the first of this year, started operating a new three-band mill. Each mill is individually driven by an electric motor.

They have one double and one single edger, trimmer, wood slasher

and tie slasher. They cut pine exclusively.

The power house is shown in the above picture, at the right, between the water tank and the mill. You may miss the long smoke stacks but they are not necessary as a forced draft is used.

The logging cars operated by this company are all equipped with a dumping device equipped with compressed air, which enables them to





unload a train-load of logs at one operation. This device is the invention of Mr. C. B. Mack, their Master Mechanic.

Mr. Paul D. Henderson has charge of the yard and finished lumber. Mr. Chris Lindstrom has charge of the woods.

A few months after erecting the mill, a large modern planing mill

was built and put in operation. The mill manager is Mr. W. S. Shoaf. The mill foreman is Mr. C. C. Welton.

Mr. Nels P. Smith, the Filer, is shown in one of the pictures, standing by one of the large Band Saws which they operate, the picture shows also his two helpers, Mr. Hill and Mr. Parry, and gives a general view of their extensive filing room.

## Yankee Clothespins

**A**BOUT 20,000,000 feet of timber each year is used in the manufacture of clothespins, according to W. C. Hull of Tupper Lake, N. Y., in a recent address before the New York State College of Forestry, Syracuse, N. Y., the annual consumption being estimated at 1,500,000 to 2,000,000 boxes a year.

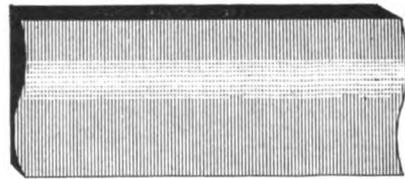
There has been little improvement in the art of manufacturing clothespins for 40 years. The method was invented in New Hampshire and nearly if not all of the machines now in use were manufactured there. New Englanders have been the originators of most of the methods used in wood working, and so far as clothespins are concerned have not been surpassed. For the last 10 years there have been at least five inventions annually for improvements in clothespins submitted to the patent office, but none, says Mr. Hull, has found any degree of favor with the housewives, who are still loyal to the old-fashioned wooden clothespin.

Clothespins are made in three lengths, five, four and a half and four-inch. The five-inch is rapidly going out of use, being used mostly on export orders. Eventually all pins will be four inches in length, as they are as strong and practicable as the longer ones. This saving in

length and consequent saving in diameter is the means of conserving millions of feet of lumber.

England uses 250,000 boxes annually and in 1914 clothespins were one of the first commodities placed on the embargo list, shipments not being resumed until the middle of 1919. Most manufacturers of clothespins engage in the business with the idea of using up slabs and edgings, but this is not practicable because when slabs are cut to the sizes of clothespins they are mostly cross-grained and thus unfit for pin manufacture.

## Clothespin Knives



The Simonds Factories manufacture all kinds of spiral knives such as clothespin knives. Parties interested should write for prices to our nearest office, see address on outside back cover of this magazine.



## \$1,000.00 for Some Boy or Girl

It May be for Yours.

**A**N opportunity for pupils of High Schools and Normal Schools throughout the United States and Canada to participate in an essay competition and win two cash prizes of \$1,000 and \$500 is made possible through the interest of Mr. Alvan T. Simonds, President of The Simonds Manufacturing Company. The subject which Mr. Simonds has selected for the competition is one which will not only give the students an opportunity to display their talents to a considerable degree, but is one which also is of much general interest at this time. "Present Economic Conditions and the Teachings of Adam Smith in the 'Wealth of the Nations'" is the theme which Mr. Simonds has selected.

Of course there are many readers of SIMONDS GUIDE FOR MILLMEN, who have talented sons or daughters, who are entitled to compete in this test of literary ability and economic conception. In every village, town and city in both the United States

and Canada there are boys and girls of school age who have ability which a competition like this will develop. We want to hear from these young folks and through THE GUIDE we say to you, our readers, whether you be mill operator or employee, this is an opportunity for your boy or girl to do something big and compete for large cash awards. Two prizes, one thousand dollars and five hundred dollars, are the awards offered for the best two essays of from 10,000 to 30,000 words on the subject above mentioned. To assist competing pupils to get a full understanding of this offer and the subject on which they shall write, we have printed rules which must govern the contest and have arranged a brief, readable synopsis of "The Wealth of the Nations." Copies of the rules and synopsis will be forwarded to any interested party upon receipt of eight cents in stamps. Send your request to the Contest Editor, SIMONDS GUIDE FOR MILLMEN, Fitchburg, Mass.

## Wood is Lighter than Cork

**I**T is discovered! Wood that is lighter than cork, and which promises to be one of the most valuable products of nature, has been brought to the attention of the industrial world. Its popular name is Balsa Wood, and so light is it that one man finds it not difficult to carry six or eight large planks on his shoulder. Balsa (meaning raft) wood grows in Ecuador and for generations has been used by the natives for building their rafts, but now it promises to supplant cork in the construction of life preservers

and other safety devices of the sea. The discovery and first practical use of Balsa in the general industrial world is credited to Capt. A. P. Lundin, a seafaring man, who during his endeavor to improve lifesaving appliances on board ships, tried out the first Balsa wood in this connection. It was his recollection of observing the natives of Ecuador building rafts of a very light wood which started him on the path to the discovery of the many practical uses to which the wood may now be put. By using Balsa to replace



the ordinary cork life preservers, which heretofore were decorations on most ships, Capt. Lundin succeeded in making an appliance which was not only lighter in weight than cork, but more staunch in construction. In spite of its very light weight, tests made at the Massachusetts Institute of Technology, gave the strength of Balsa Wood as being fully one-half that of spruce. This strength comes from the structure of the wood which is made up of large barrel-shaped cells. The most astonishing feature about the Balsa tree is the rapidity of its growth. There are records showing that trees have grown from the planting of the seed to a height of 36 feet in one year. It has been found that the tree increases in diameter about five inches per year, so

that a tree from 24 to 30 inches can be produced in from five to six years. One of the most valuable qualities claimed for Balsa Wood is the property of insulation against heat and cold, which it possesses in a remarkably high degree because of its cellular texture and the absence of fiber in its structure.

SIMONDS the oldest established maker of Saws, doing a world-wide business in Saws, any style, any size, big or little. Made of SIMONDS EDGE-holding steel quality.

## Possum Wood

Did you ever hear of it?

THE introduction of this wood into our market is, according to a recent article in *Scientific American*, a sign that our once vast forest resources are being seriously depleted. It marks a new step in our relations to the tropical forests which, up to the present time have been called upon to supply only the rarer kinds of cabinet and special purpose woods.

The writer of the article said that he first met this wood when considering it for use in airplane construction, though he found no reference to the wood by this particular name in any of the present day literature on forestry subjects.

The wood is known by a variety of names other than "possum wood" in places where it particularly thrives, that is, throughout tropical America from the Antilles and Costa Rica to the northern states of Brazil and Bolivia.

The tree grows usually in moist locations in lowlands and along water courses, in mixture with other trees of the forest. It attains large dimensions, diameters of from 6 to 9 feet and heights of a hundred feet or so, being fairly common. Very often it is thick and shortboled with coarse branches producing a wide spreading crown. The bark is smooth except for a multitude of conical spines on the lower portions, resembling the ceiba or kapok (silk floss) tree.

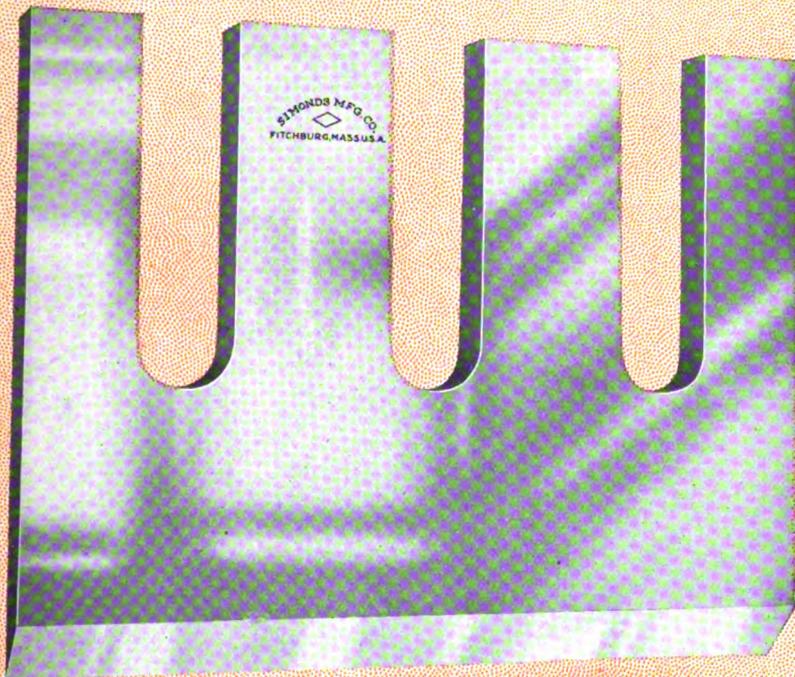
The wood is almost devoid of color or somewhat yellowish, and has a silky luster. It is of about the consistency of bass wood, with rather a more feathery grain, as is usually the case with tropical woods.

## Sawmill Engineering Service

WE are continually receiving inquiries regarding certain problems which come up in the operation of Circular and Band Saws and Machine Knives. These inquiries are gone over very carefully by our saw engineers and answers telling how the problems can be solved to best advantage, are usually promptly forthcoming.

We repeat our invitation at this time to Saw Mill Filers or others who have problems of this kind, to refer them to SIMONDS GUIDE FOR MILLMEN. This is a service which we are very glad to give to our customers and friends.





### THE BRUTE

A Hog Knife is a rough, tough fellow with a rough tough job to do. The Simonds Solid Steel Hog Knives are tempered tough to hold an edge that will eat up any work that comes along to them. The lasting quality of the Simonds Hog Knife should recommend it as most economical and efficient for your use.



## Now About New SAWS, PLANER KNIVES or FILES

**O**RDERS for or inquiries regarding any of the products of our five factories may be addressed to any one of our offices listed below. Your communications will be given immediate attention by that office or will be promptly referred to the proper office for such attention.

### **Simonds Manufacturing Company**

**Fitchburg, Mass.**

17th Street and Western Avenue  
Chicago, Ill.

90 West Broadway  
New York City

402 Occidental Avenue  
Seattle, Wash.

239 Court Avenue  
Memphis, Tenn.

85 First Street  
Portland, Oregon

12-14 Natoma Street  
San Francisco, California

420 Canal Street  
New Orleans, La.

8 White Street, Moorfields  
London, E. C., England

### **Simonds Canada Saw Company, Ltd.**

St. Remi Street and Acorn Avenue  
Montreal, Quebec

55 Water Street  
St John, N. B.

554 Beatty Street  
Vancouver, B. C.

### **Simonds File Company**

**Fitchburg, Mass.**

### **Simonds Steel Mill**

**Lockport, N. Y.**

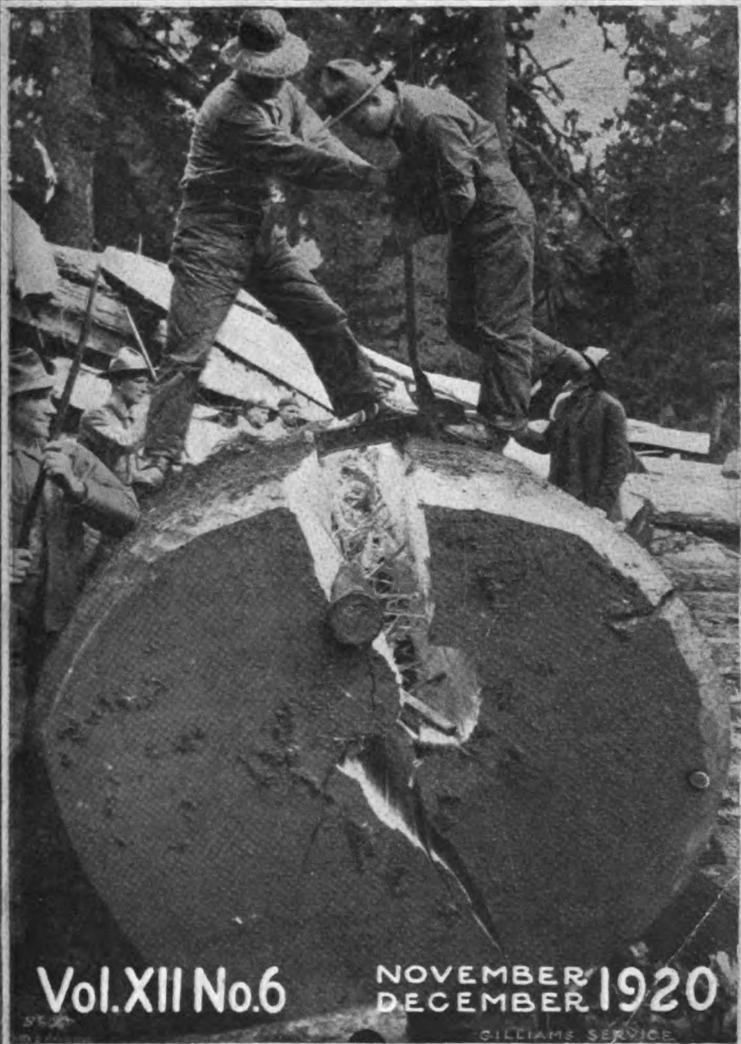
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# SIMONDS

## GUIDE FOR MILLMEN





**Genoa Bay Lumber Company, Genoa Bay, B. C., Vancouver Island**

## You Get Back Just What You Give

**S**TAND up before a large mirror. Look at the face and figure which you see reflected there.

Now scowl and shake your fist!

See how the figure in the mirror *scowls* back and *shakes its fist* at you.

Now smile!

Ah, immediately the corners of the mouth in the mirror turn up, the eyes twinkle, and the whole face fairly beams with the sunshine and radiance of good nature.

Now, friend, exactly as your expression is given back by the mirror, so *in life* are your expressions reflected on the faces of those with whom you come in contact.

This is because the *self-same feelings which are pictured on your face are actually created in the other fellow's mind by your looks.*

That is why the following facts are so true that it is almost unnecessary to state them:

The best way in the world to start a fight is to *show fight*. If you doubt this, try it somewhere, but don't blame me for the result.

A *worried, fretful* look is sure to make anyone who sees it "*down in the mouth.*"

*Sadness* on a face is simply bound to create *depression.*

*Frown* is responded to by *frown.*

*Scowl* answers *scowl.*

And *smile* begets *smile.*

You see, *you get back just what you give!*

The wise men of all ages have taught us to *guard our tongues.*

But it is *not alone* the *tongue* which talks.

A face, though it speaks not, may express, *clearer than words,* happiness, cheerfulness, courage, fear, worry, or any one of a hundred varying emotions which humans are capable of feeling.



Therefore I would say, "*guard not only thy tongue, but thy face as well.*"

Cultivate a *pleasant expression* as a *certain way* into people's hearts.

Develop a *cheerfulness* which will *shine on your face* even when the *skies are dark* and the *whole world* seems *gloomy.*

Build up a *smile* that will close the *gate forever* to the wrinkles of anger, worry and fear which are all too apt to line and crease your face and mar your looks.

It is true that we all have *our* troubles, some of them *very real,* but most of them *trifling* and not worth a moment's fear-thought.

In any case, a *dismal countenance* will only *drive away the very help we need.*

Isn't it a fact that the fellow we instinctively *dislike* is the gloomy and morose individual who continually wears a frown or has a "*whine*" written all over his face?

And isn't it equally true that the one we all *admire* is the *brave,*



*pleasant-faced* chap who never stops *smiling* even when troubles come thick and fast?

We may *know* that he is *smiling* just to hold his courage up, like the boy who whistles in the dark—but we love him for it just the same.

Remember this:

—if you want a fight, *scowl!*

—if you want to create worry, *look worried!*

—if you want to cause any unpleasant feeling in your fellow men, *look unpleasant!*

—but if you want to inspire happiness, confidence, trust and love in others, *look pleasant, please!*

You get back just what you give!

—*Melville Sloan.*



## Logging the Pines of Camors

By J. B. Woods

**T**HERE were various reasons why the Foret de Camors was famous among the scattered forests of old Bretagne. Wild boar were numerous and swift of foot, to the satisfaction of the Duke of St. George, who hunted them horse-back with great ostentation and fair success. When the pigs heard the Duke's crowd coming they hid out among the ditches and earth walls of the nearby farms. Usually St. George managed to kill at least one long haired porker which he divided grandly among the farmers of the neighborhood, keeping only a

choice cut for himself with perhaps the head, if it were a big specimen. And then the farmers departed for their homes with loudly expressed thanks and spent the balance of the day shooting boar in their own fields with single shot-guns. The Duke got the sport and they got the meat without the expense of hunting licenses, which was fine for all but the pigs.

From the tourist standpoint the Camors forests, centering about the famous aged oak in its circle, with smooth roads radiating in all directions to join paved highways, were

picturesque by way of contrast to the other scenes of this strangely beautiful region. And in the minds of foresters and wood merchants the group of tracts was remarkable because it boasted some of the straightest and cleanest bodied shortleaf or Scotch pine in all of France. The wood merchants were strictly commercial in their attitude, but the foresters had raised the trees by hand, as you might say, and they took pride in the fact that the foreigner, pine, had been made to thrive in a region where formerly hardwoods were practically alone and relatively unprofitable as a timber crop. They could and did write books about all this.

Into the village of Lambel, the tiny metropolis of the forest, came a company of American Forestry Troops, winding up the branch railroad from Auray in their side-door Pullmans to make camp in a grove beside the depot while the whole village turned out to watch and comment. And because the time was October 1917, when matters appeared mighty serious for the Allies, and American Army leaders were clamoring for timber products, the Yankee lumberjacks began immediately to organize their forces for sawmilling. One crew continued to work on the campsite, making things as comfortable as possible with the limited supplies of tentage, while others began to hack open several big packing cases of mill machinery to learn what was on hand in the way of machinery and supplies. Shortly thereafter several carloads of horses came in, while nearly every day new items of American stores were unloaded. These loads came from seaports and from the central depot at Gievres; they had crossed the ocean on various ships and were gradually catching up with the forestry troops in all

parts of France. But of course at that stage of the game the transport service was somewhat erratic.

Orders were to make lumber and not to buy it, so for several weeks there were no boards available for buildings and stables. Even after the mill started several weeks elapsed before it was deemed advisable to use lumber for improving the camp and plant. The horses stood in pole stalls, roofed with pine boughs, men slept in unfloored tents and the sawmill was open to the winds. The cook-shanty and the blacksmith shop were identical in design and materials, being pole-framed leantos roofed with wagon-sheets.



Waiting for the daily Accommodation

One day shortly after the Yankees arrived the daily accommodation train disgorged a portly and distinguished individual in civilian knickerbockers, who wore a fine set of whiskers and a cane. He inquired for the Captain and announced that he was M. Fatou, Inspector of Forests and Streams for the entire region thereabouts. He spoke no English and the Captain less than a dozen words of French, so they failed to get along until one of the cooks, a Canadian boy, came over from the cook-shanty to interpret. The old forester waved his arms toward the forest and stated that he had allotted for the Armée Americaine one beautiful

tract of Scotch Pine and that he hoped that we should not require any more timber during the war. Knowing that the stumpage on that tract would not exceed two million feet and expecting that the little portable mill would turn out at least twenty-five thousand feet daily the Captain began to wonder what his men would do after three months. But he had a sudden burst of inspiration and postponed further questions until after lunch.

And it was a lunch to remember. The cook loaded the table and translated both ways, while the Frenchman glorified Mr. Wilson and stowed away white bread smeared with maple syrup. M. Fatou stated with eloquence that he had eaten no white bread since the submarine blockade, while maple syrup had been as a closed book to him until this day. They tapered off with peach pie and American cigarettes and the gentleman was obliged to have assistance to catch his train. As he labored up the high steps the Captain inquired what could be done if the troops ran short of timber. "Ah, that is simple. Communicate your needs to me, and I shall give you more forest." Then as an afterthought he continued through the open car window, "But I must come up here and inspect the forest with you in order to choose the cuttings." Which was, of course, very satisfactory to everyone concerned.

So, with international relations secure, the work began. Saws were not plentiful: either someone had got away with more than a proper share for other jobs, or they had been lost in transit. For a half dozen Simonds Crosscuts constituted the woods equipment, while there were no saws for the mill. Naturally one crosscut was needed for construction work and that was

given to the sergeant in charge of mill building. The others were kept under lock and given out every morning to be returned at night by the men when they came from the woods. But it is remarkable how much can be done with a few saws if they are good stuff, and by careful use these tools kept the job going until more came along, a matter of several months.

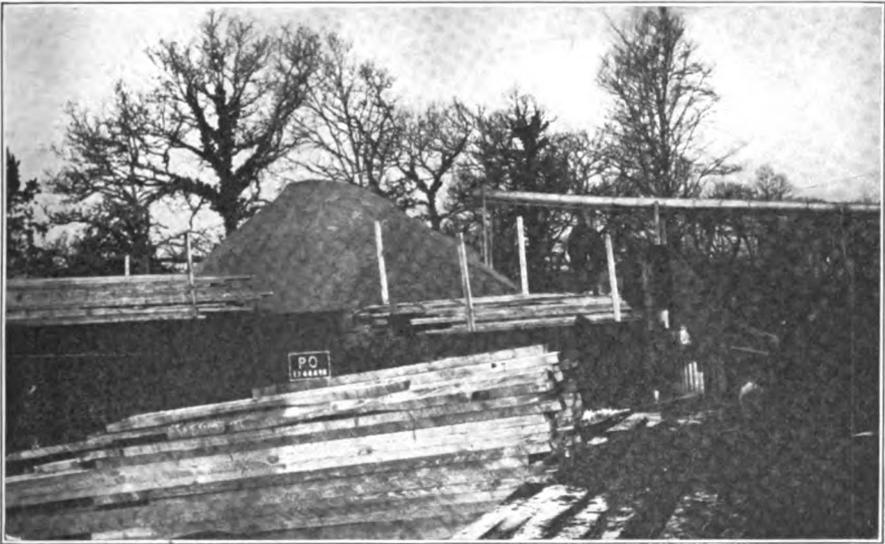


Spur and Mill Built by Yanks at Lambel

Meanwhile the mill was ready to run. The officer in charge ransacked the surrounding towns for suitable circular saws and found none. He got wind of a shipment of big saws marooned in a tiny station away out on the end of the peninsular of Quiberon and spent one Sunday running them down. They belonged really to the British Army, but he got away with them as a loan of course—because British and Americans looked alike to the Chef de Gare and francs were eloquent. By using more francs and cussing loudly he got the saws loaded into a box car and shipped by express to Lambel. Knowing the shortcomings of rail transportation the officer shipped himself also by express in the same car, using one blank *Ordre de Transport* for the whole lot shipment. After three transfers at junction points and a night of discomfort they arrived at Lambel. There was one small saw in the lot and it was put on first.

It sawed about a thousand feet and began to heat under the collar. So they took it off and hammered it. But the beating was unscientific, being administered by a band saw filer who considered circular saws as vermin, and finally he pronounced the saw ruined and threw it away. The big saws were four inches too wide for the husk frame clearance, so the husk was remodelled to fit them. The lug holes were not standard as the saws were made in Britain, so the blacksmith rebored them to fit the rig, and the mill

One day just before Christmas the supply sergeant who met the daily train came bouncing toward the mill waving his arms and shouting for a team. When the wagon returned to the mill it contained a box of Simonds inserted-tooth saws and about a half bushel of spare teeth. There was noise in the camp for a few minutes. The fireman stopped his engine and without a word the sawyer unscrewed the collar, beckoned to a helper, and together they rolled the big saw out of the mill and into the creek. The



Loading cars for the American Army at Lambel, 1917

started again with a fifty-six inch saw on a fifty-two inch mill. They made lumber, but the best that the mill could do was four or five thousand feet to the shift, which was not enough to beat the Hun. At three hundred revolutions the big saws stood the gaff, but at five hundred they cut wavelines in the logs. And three hundred turns were not sufficient to carry through butt logs, as the engine was none too powerful and needed all the speed it could attain.

first shift cut six thousand feet of lumber. The night shift boosted that to ten. Next day the combined cut was twenty-two thousand feet. And within a week they had hit the record. Because lumber was so badly needed three seven-hour shifts were put on at once and in one twenty-four hour day they managed to produce forty-two thousand feet of lumber, using forty-eight inch saws. Saw troubles were over; thereafter the supply was sufficient for all needs.

## Simonds Guide for Millmen

Volume XII November-December, 1920 No. 6

**THIS** magazine is published in the interests of the owners, operators, and employees of Saw Mills, Planing Mills, and Woodworking Factories in general, and in the interests of those using Simonds Products in particular.

Communications on subjects in this field are always welcome and should be addressed to THE EDITOR, SIMONDS GUIDE FOR MILLMEN, care of Simonds Manufacturing Company, Fitchburg, Mass., U. S. A.

### Wonderful Piece of Steel

Here is a letter from a company that has had years of experience and in that time has used many saws but none which have had to stand the test that this Simonds Double Cut Band Saw had to meet.

Huntsville, Ontario  
September 17, 1920

Simonds Canada Saw Co., Limited,  
Montreal, Que.  
Gentlemen:

Believing you will be interested in hearing of an accident which happened on the night of the 14th inst. to one of the 14-gauge double cutting band saws which we purchased from you recently, we shall try to explain the circumstances.

While sawing a 20" diameter peeled birch log, the saw evidently struck a stone, causing the saw to spring back and out of the guide, and when it sprung back, it struck the side of the guide and tore a strip from its edge. The end of this strip ( $\frac{5}{8}$ " wide) struck in the 10" cant, which had not yet been turned down, and passed completely through it in an oblique direction, and protruded through it some 7". The strip of saw left at point it entered the timber, is about  $2\frac{1}{2}$ " wide including teeth, and the distance through the log taken by the strip of steel, is some 15".

In the experience of our company we have never had anything so unusual as this. We are keeping the piece of log described above so that your representative may see it when next he visits us, as it is quite evident that that saw was made from a wonderful piece of steel. Fortunately the saw did not break, but it is, of course, too narrow for use.

Yours truly,  
Huntsville Lumber Co., Limited

# SIMONDS SAWS



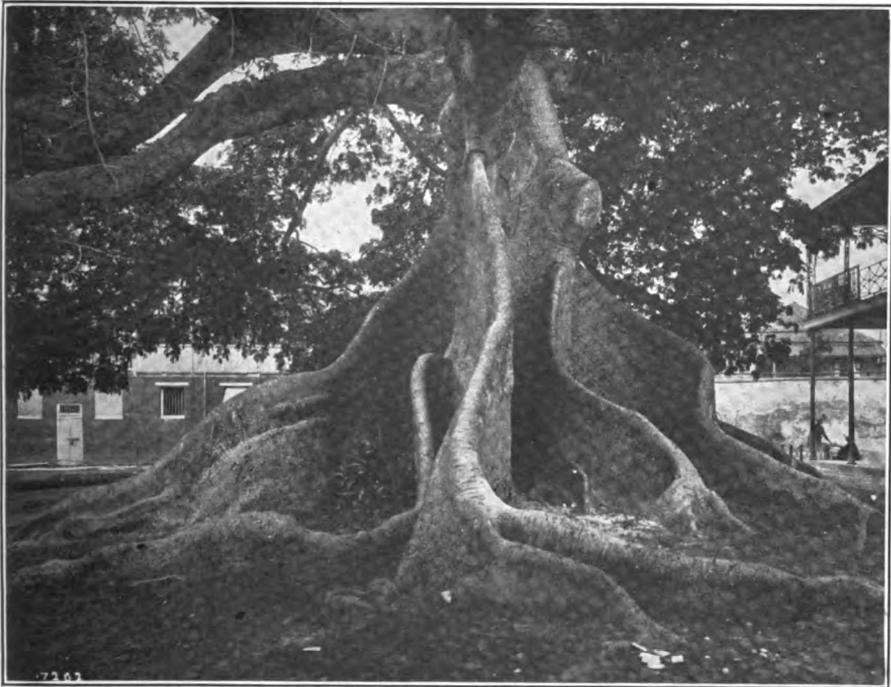
All kinds of industrial and hand saws—of the finest edgeholding SIMONDS STEEL

SIMONDS MANUFACTURING COMPANY  
"The Saw Makers" Established 1832  
Fitchburg, Massachusetts

Chicago, Ill.	New Orleans, La.	Montreal, Que.
New York City	San Francisco, Cal.	Winnipeg, Man.
Portland, Ore.	Vancouver, B. C.	Saskatoon, Sask.
London, W. V.	London, England	St. John, N. B.

**SIMONDS** SAW STEEL PRODUCTS  
MADE RIGHT SINCE 1832

*The "Saturday Evening Post", November 27th issue, will carry a striking half page advertisement of Simonds Saws like the above design.*



The Famous Silk Cotton Tree of Nassau.

## More of the Earth's Odd Trees

*Photographs copyright by Publisher's Photo Service*

**N**ORTH of Cuba and Hayti is scattered a vast archipelago of coral reefs and islands. These are the Bahamas. Once the haunt of bloodthirsty pirates, now, since the coming of prohibition in the United States, the favorite resort of thirsty Americans. The most important of these islands, New Providence, has a population of about 15,000. A notable sight on this island is the gigantic silk cotton tree which sprawls over a tremendous amount of ground in the square of the capital, Nassau, upon which most of the Government buildings front. These trees are natives of South America. One or two species are however, found in the West Indies.

The leaves of the silk cotton tree are finger shaped which coupled with its large flowers gives it a striking appearance.

Banyan trees are not confined to the narrow limits of the West Indies but are found in nearly all semi-tropical countries. It is a most unusual tree. It sends its branches down into the soil where they take root making new trunks. Eventually a great forest is produced. The original trunks can hardly be distinguished from the new. There is one now, standing in Calcutta, over a century old, whose branches cover an area 850 feet in circumference and has 232 trunks aside from the original. These trunks

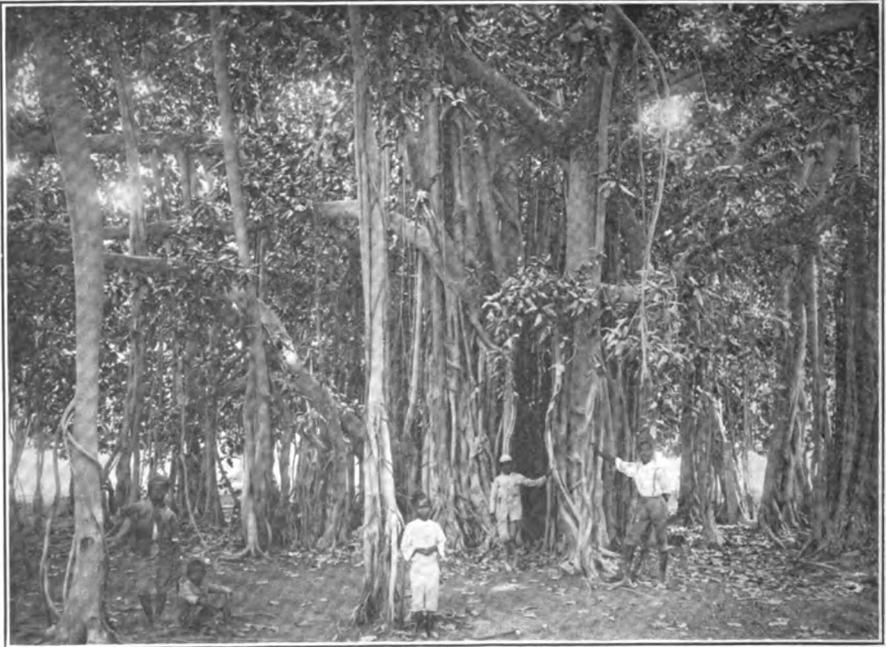


Traveler's Palm, Trinidad

measure 8 to 10 feet in circumference while the mother trunk has a girth of 42 feet.

This tree known as Traveler's Palm is found on the island of Trinidad which lies just north of Venezuela, S. A. Trinidad is famed for its lake of pitch from which asphaltum is obtained for use in making asphalt pavements. As fast as the upper surface of this lake is removed nature replaces it. A seemingly inexhaustible supply of asphaltum is here.

Floating rafts of cocoanuts are rather more unusual than of lumber, however that is the method used in getting the fruit of this Palm which grows in the Philippine Islands, down the rivers to the sea. From this nut, oil is secured for use in lamps. It is also used for a lard



Banyan Tree in Jamaica



Cocoanuts of the Philippines.

substitute. The dried meat is sent to Europe for use in making soap.

The next tree is known to natives as the ceiba (seba) which means Woolly Tree. It gets its name from



Big Tree "Ceiba" of the Amazon Valley

the woolly fibre inside the fruit. This fibre is dried by the natives and used for stuffing pillows—certainly an improvement over the wooden pillow of the orient.

## Will California Perpetuate Its Sugar Pine and Redwood

By M. B. PRATT, Deputy State Forester

**C**ALIFORNIA is the home of the Redwood and Sugar Pine, two splendid trees that are well known to all lumbermen and wood-workers for the excellence of their wood. The Redwood is found in a belt, not over thirty miles wide at any point, along the coast of Northern California. It has a near relative, the Bigtree of the Sierras, but this tree is rarely cut into timber since it is inferior in all respects except durability to the coast species. The Sugar Pine, the largest pine in the world, grows in the Sierra Nevada Mountains intermingled with other

species such as Western Yellow Pine, White Fir, and Incense Cedar.

The perpetuation of Redwood and Sugar Pine is a matter that must be worked out in California, and it is an interesting problem because of the difference in the habits of the two species. Redwood seldom reproduces itself from seed, but sprouts prolifically from the stump. These sprouts grow rapidly and in some parts of California where logging was done in the early days they are now being cut for lumber and poles. On account of the humid region in which Redwood grows it is

a comparatively simple matter to protect it from fire.

Sugar Pine reproduces itself by seed. The young seedlings require sheltered locations and are frequently crowded out by other young trees that are more hardy. They are easily killed by the fires which are so apt to occur in the regions where they grow. As a result, the future of the Sugar Pine is very dubious except on areas where young seed trees are kept and fires are excluded. This is being done where government timber is being logged, but a very small proportion of the Sugar Pine of California is controlled by the Government. By far the largest amount is being cut without any regard for its future. The slashings are not disposed of and the small trees are left at the mercy of fires which generally burn over the logged-off lands of private interests shortly after the mature timber is removed.

Sugar Pine can be perpetuated only through the practice of forestry principles by the Government, State and private operators. The Government should acquire cut-over lands by exchange of stumpage on its lands and protect them against fire so that the young trees may have a chance. The State should likewise adopt a policy of acquiring such land as the basis for state forests on which to grow timber for the future. The lumbermen should be required to dispose of their slash and leave a certain number of seed-trees, not only of Sugar Pine but other valuable species, with the understanding that this land will be taken over either by the Government or State at a fair valuation. Otherwise Sugar Pine is doomed to become a specimen tree instead of an important lumber tree of California.

The problem of a continued supply of Redwood is not so difficult, owing to the ease with which it reproduces. All the Redwood is in private hands except a few small parks where no logging will ever be carried on. The State has a wonderful opportunity to produce it for future generations through the acquirement of cut-over lands. There is no need of planting such lands. All that is needed is a simple system of forest management such as sprout-thinning and fire protection. The California State Board of Forestry has adopted the policy of acquirement of cut-over lands both in the Coast and Sierra regions. It remains for the people of the State to decide just how far they will go in the protection and perpetuation of its two distinctive trees, Redwood and Sugar Pine.



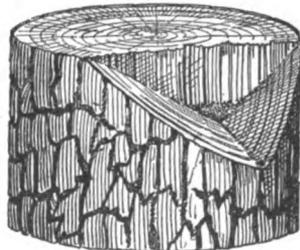
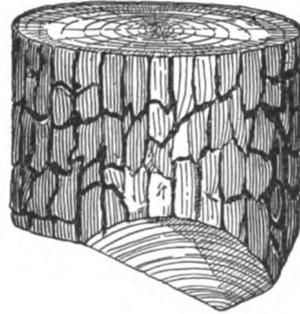
California Redwood

## Prevents "Kickback" in Falling Timber

A lumberjack dreads the "kick-back" of a falling tree. Regardless of his care he knows that danger, injury and perhaps death are within the power of the "kick-back." For generations practically the same method of cutting timber has been in vogue, and although safety methods have been applied to guide the careless, accidents to woodsmen have been frequent. It has been the "kick-back" which continued to lead the number of serious accidents. According to figures of The Southern Pine Association, 25 per cent of the time lost in 1919, due to accidents in logging operations, resulted from the falling of trees and logs. A large portion of this is directly traceable to the "kick-back" of falling timber.

In an effort to eliminate this danger, which stands as a grave menace to their calling, the Workmen's Safety Council of the Edward Hines Yellow Pine Trustees, of Lumberton, Miss. set about to discover a method of overcoming the dreaded "kick-back," and after exhaustive experiments and study, they have succeeded in solving the problem by a cutting plan which is now known as a "V-bed." The committee discovered that by cutting a deep V shaped notch instead of cutting across the tree as formerly, and then starting the saw from the other side so as to meet the upper point of the "V", a key may be formed which makes it impossible for the log to

kick back, and in fact, causes it to jump forward from the stump. Not only is this a safety discovery, but is it also claimed to be an aid to economy because if the cut is properly made no splinters are torn from the log. Then again, two choppers may work at once, instead of only one as is the usual practice.



The "V-bed" is being used through all the operations of the Edward Hines Yellow Pine Trustees. It is being strongly backed and advocated by the Southern Pine Association in their campaign to eliminate accidents in the lumbering industry.

### SAW REPAIR WORK

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## "The Cutting Surface of Band-Saw Teeth"

By R. C. L.

THE question has often been asked by saw men and lumber men alike, just how much of the swage point does the cutting, and how far down the swage is actually dulled by sawing logs. Many answer the extreme point of swage point, others say the full face of swage and still others say both point and sides do the cutting, but the writer after making extensive experiments and observing sawn lumber marks says they are all wrong to a great extent. As 50% of present day Filers sharpen their saws—they are only half sharpened and work under this condition as further explaining will show the reader. If then my ideas are seen clearly and understood and steps taken to avoid these half sharp conditions, then the writer will have done a good work both for the Filer and mill operators as well as for the Simonds saw makers, who are always anxious for the Filers to give saws bearing their name a good showing.

First let it be said, Simonds saws will stand most any amount of abuse and still make their way but they cannot be Saws and Filer too, therefore they must be resharpened properly for best results and the following will show when real sharpening is done. The accompanying drawings show two views of enlarged band-saw teeth, both front and back. Fig. 1, shows the face of swage point with the slight depression shown in the center caused by "shaping" the swage with shaper. This—in slightly bringing the rounding edges of swage up to a straight line forming the wedge shape,—extends the edges leaving the slight

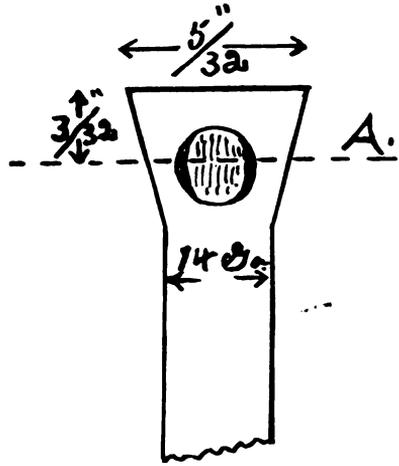


Fig. 1.

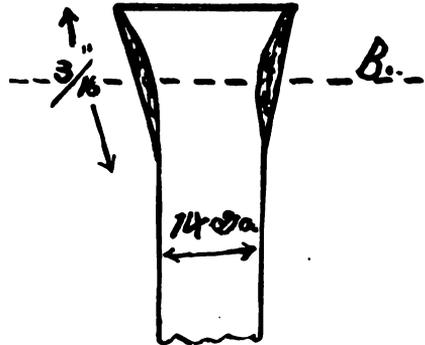


Fig. 2.

depression as stated. Now what surface is actually dulled? Just this—note width of point is  $\frac{3}{8}$ " and note the dotted line extending across swage point and shown as  $\frac{3}{8}$ " below extreme point of swage. (See A.) Now, from dotted line

up to point of swage you have the actual cutting surface of each cutting point in average sawing with band-saw of 14 gauge. In small logs where a much faster feed is given, the cutting surface of under-side of point will at times extend down still further but it will very seldom reach  $\frac{1}{8}$ " or  $\frac{3}{32}$ " below the extreme point of swage. To prove this, any filer may count the number of teeth in his saw, then catch a fast sawing sized log on the carriage and get a board sawn at high speed. Then measure with rule from some certain saw tooth mark to where it appears again, or a revolution of the saw, which will show less than an  $\frac{1}{8}$ " cut per tooth on the average. A hard knot sawn through in the lumber will show up the swage marks very plainly. The spacing makes a difference and such must be taken into consideration. My figures are taken from a saw spaced  $1\frac{5}{8}$ " with 10,000 ft. per M., saw speed. If you have longer spacing or slower speed than this, then it is a case of dulling the swage points further down the face of teeth, as long and short spacing of teeth counts the same as a change of saw-speed. Now to proceed, the actual cutting "CROSS-GRAINED" is done with the extreme point (under side) and the sides of swage-point down to dotted line at (A), are not cutters as is the point, but serve as shearing SPLITTERS—chipping out and completing the (V) outline down to dotted line. Now then we have a cutting surface of the width of swage top or about  $\frac{5}{32}$ " and near  $\frac{3}{32}$ " on each side of swage, making the sharpening surface  $\frac{5}{32}$ " x  $\frac{3}{32}$ " average. The reason for the statement that many Filers only half sharpen their saw teeth may be seen when it is said that 50% of filers do not "face" or allow the grinding wheel to touch the

extreme point of teeth on underside of swage but grind from the swage shank down into gullet and on the backs for sharpness. Others tip the points with a File but never completely file or shine the entire swage surface and thus the "side-splitters" are always left dull. Then as there is more surface left dull by these methods, than made sharp, the teeth which are exposed to the work of chiseling out dust, are only half sharp. If Filers are to have perfectly sharp saw teeth on all sides, they must slow down the grinding wheels and take up all lost-motion in machine so as to "face" the swage point down to about  $\frac{1}{8}$ " or more for safety or do so with the file to secure a wholly sharp saw tooth.

Fig. 2, shows back of tooth with side-splitter braces shown.



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