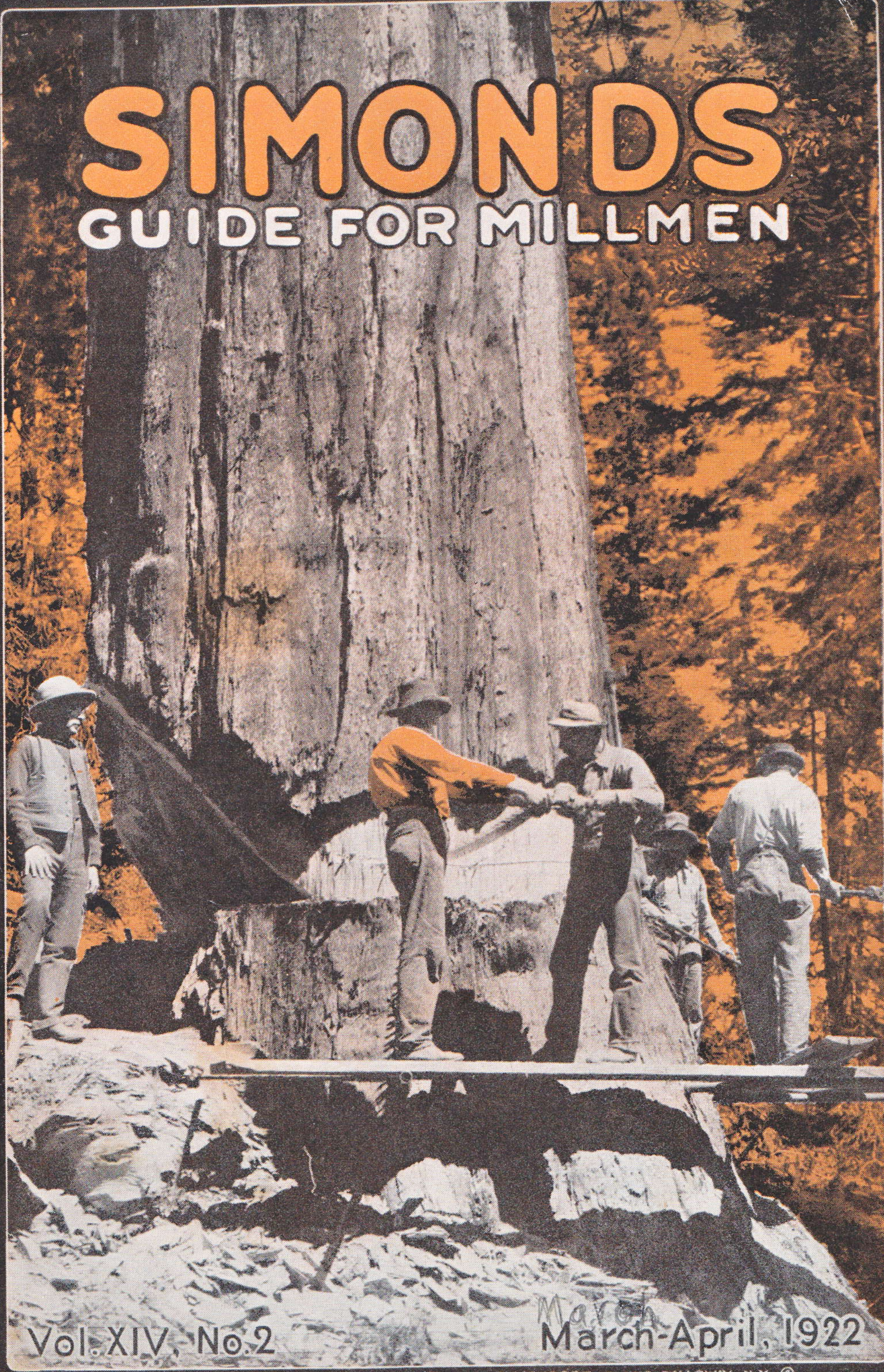
SIMONDS
GUIDE FOR MILLMEN



Vol. XIV, No. 2

March

March-April, 1922

Photo by ELMENDORF, EWING GALLOWAY, N.Y. ©

Nothing today would do so much to bring about better conditions than a resolve on the part of every one to be hospitable and try to make all with whom we come in contact <u>feel</u> happy. Efficiency and happiness are largely synonymous.

Roger W. Babson

Simonds Guide for Millmen

Volume XIV March-April, 1922 Number 2

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.

Clark Evans Writes a Letter to Tom Shields

Spokane, Wash.
Jan. 12, 1922

Mr. Thomas M. Shields
Care of Simonds Mfg. Co.,
Seattle, Wash.

MY DEAR TOM:

I had occasion last week to make a trip north and when I bought my ticket I noticed it read S. & I. (Spokane and International). This naturally caused my mind to revert to the days of the old S. & I. on the coast when you and I walked more miles than some of these later day saints of commerce ever rode. In this reflection, I wonder if you ever think of some of the characters who builded, help build, or assisted in wrecking the district now termed "the West." When the old S. & I. was builded it consisted of two streaks of rust and a right of way. There were but four depots in 72 miles of the road and while there were, on the time card, enough places enumerated as Ehrlich, Jones' Siding, Smith's Crossing, they were all marked with a * which meant "stop only on flag." We were not carrying flags those days and as there were no operators in these benighted sections, we had no way of knowing if the trains were on time, or two days late, so to save time we walked. Sixteen miles was a day then but sometimes in order to reach a bed we made twenty. As a rule the train would overtake us half-way between stops but not

recognizing us would simply whistle us off the track and go by us as though we were merely section hands. That we obeyed these signals is evident as neither of us were ever scrambled by a locomotive. The worst walk we had was from Machias to Getchell, all up hill. By the way, thinking of Machias, last week, I had a bad tooth so had an X-ray made of same, $2.00 please. You remember Buck Egan who kept the saloon at Machias? Well, he had teeth that kept him awake nights. He looked like a lumpy-jawed cow. About this time a dentist showed up at Arlington who hung out a shingle reading, "Painless Dentist." This appealed to Buck so he rambled down to Arlington to let this knight of the forceps look into the cave that nature had left in his face.

He immediately convinced Buck that something should be done so Buck told him to "go to it." He got a half-nelson on Buck and seizing a pair of pliers began to pull Buck's face out of shape. Buck got his feet working but not before this gink had three of his teeth laying on the floor. Buck kicked him into space and gave him a verbal opinion of his ancestry, posterity and even his dog. The office was not open till nine days later. Buck collected the extracted molars, put them in his pocket and beat it for home. Wanted the grinders as souvenirs like a sportsman wants a stuffed duck or a mounted deer head. He placed the three teeth in a highball glass on the back bar and when anybody showed up that was interested in his grief, he would reach for the glass and exhibit the evidence. One of them was perfectly good, the other two, the toredos had worked on and were perforated more or less. Be this as it may, it furnished Buck with a never-ending topic of conversation and as long as he bought drinks everybody seemed interested.

You remember big Jack McDonald who run the logging camp for the Simpson Co. at Getchell. Well, Jack had to make camp early one morning and having spent the evening in Machias, concluded he should have a little ballast aboard before his seven mile walk to camp, so he pounded on Buck's saloon door. One-eyed Wilson who was

bartender and general handy man answered the "call of the wild," came down in his underwear and let him into the life saving station. It was dark so Wilson lit a coal oil lamp and served his guest. Jack said "Give me a 'man sized snort,'" so Wilson passed him a long glass which he poured full and dashed down. "You can always tell corn whiskey" says Jack, "the corn is still in it." "Corn, hell," says Wilson, "you have swallowed Buck's three teeth." Buck was sore as a goat with the itch as all evidence in the case of malpractice he had intended bringing against the dentist, as soon as he got out of the hospital, was destroyed. Jack said he experienced no particular bad results except that he had a gnawing feeling in his stomach for three or four days.

Jack made Buck sore, however, by saying he didn't think the saloon was sanitary. Buck didn't know what sanitary meant but felt it was a mean word.

I must discontinue now as I have to write a customer who owes us $11.00, and at three o'clock I have to give a Jap a music lesson. I hope to see you within the next two weeks when I will tell you my troubles by hand. Regards to all in the Seattle Office, your good wife and your own homely self.

Sincerely,

CLARK.

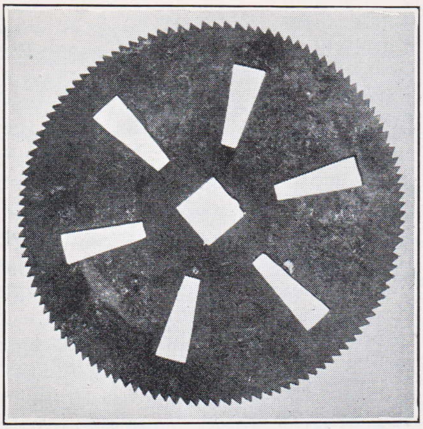
If You Like History

THIS may not be a suitable time to print historical matter because there is so much need now of giving thoughts only to present conditions. One set of Economists, whatever that means, tells us that things go in cycles, that a definite series of events always follow in a definite order other events which are called causes. Another keen, intellectual set of Economists tell us that we must accommodate our minds to changed conditions, to a new order of affairs, because things are different now than they ever were before. We must change with them if we are to keep awake at all.

In spite of the chance to argue from both points of view we are going to give the saw mill men a glimpse back in the history of one tool with which they are all familiar. We have the story now and we might as well tell it as we found it, because you may have time to read it now whereas you wouldn't have if all business were going full blast.

In *Gleanings from Old Shaker Journals* compiled by Clara Endicott Sears, published in 1916, Chapter XXIX entitled "Harvard Recollections," there is the following statement:

"One of the most talented women among the Shakers was Tabitha Babbitt. While watching the operation of making wrought nails, it occurred to her that they might be cut from a sheet of iron rolled to the right thickness. She told her ideas to the smith. He tried it, and cut nails were the result. One day as she was spinning she noticed the brethren sawing wood in the old-fashioned way. She observed that one half of the motion was lost, and so conceived the idea of a circular saw. She made a tin disc, notched it round the edge, slipped it on the spindle of her wheel, tried it on a piece of shingle, found it would cut, and gave to the world the buzz-saw. The first circular saw made under her instructions is on exhibition in



the Geological Building at Albany, New York. She invented the double spinning head our grandmothers loved so well. At the time of her death Tabitha Babbitt was inventing false teeth and had already made a set in wax."

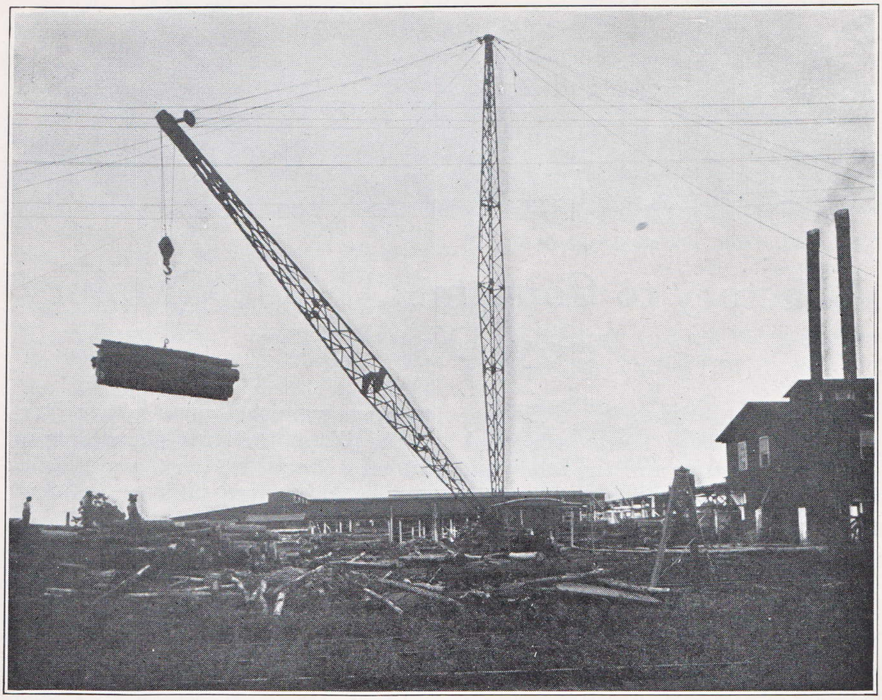
Tabitha Babbitt died in 1858 at the age of 74.

The saw in question, which is among the State Museum collections at Albany, we are told by the Office of the State Geologist, is 12⅜ inches in diameter and $\frac{3}{32}$ inch thick. It is made of steel. We received from that same office this additional interesting information.

In the *History of American Manufactures* written by J. Leander Bishop, and published in 1864, Volume 2, page 265, there is a statement which reads:

"Robert Eastman and J. Jaquith, Brunswick, Maine, (March 16) circular saw for clapboards, etc. This (improved rotary sawing machine) was the first application of the circular saw to the dressing of timber of large size, and the manufacture therefrom of staves, heading, clapboards, etc. One machine was capable of cutting two thousand feet of pine timber per diem. It was in general use throughout New England in 1822. The patent was renewed by act of Congress for seven years, in March 1835.

The *American Journal of Science and Arts*, Volume 5, 1822, pages 146 to 152, contains an article written by Robert Eastman, one of the inventors, in which he describes what he calls an "improved circular saw," i.e. one with sectional teeth. The article states (page 150): "Though the circular saw had previously been in operation in this country, and in Europe, for cutting small stuff, it had not, within the knowledge of the writer, been successfully applied to solids of great depth; to effect which the use of section teeth are almost indispensable."

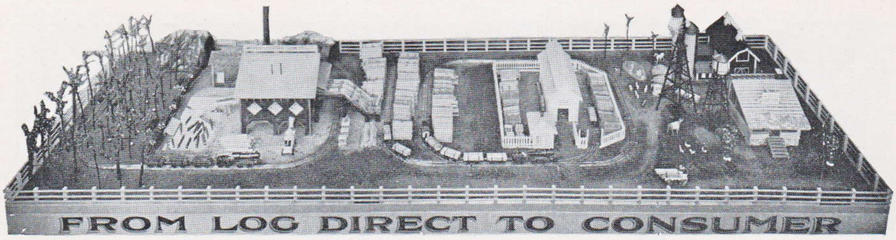


An Unusual Way to Unload Logs

DURING 1920 the increasing shortage of flat cars for hauling logs made it necessary for the Montgomery Lumber Company of Suffolk, Virginia, as well as many others, to haul logs in the high sided steel gondolas. To unload from these cars was a problem which was met by the construction of a 20-ton American Steel Derrick with 115 ft. mast and 100 ft. boom and 16 ft. bull wheel. This derrick is capable of unloading one of the high-sided gondolas in four pulls, or about thirty cars per day. It represents a saving in labor, eliminates the use of standards and wire used to bind them, which formerly had to be used on flat cars, and in addition it enables the Montgomery Lumber Company to pile logs in the yard to a height of 50 or 60 feet.

Some of the difficult problems which were met when this derrick was first installed were soon solved, Superintendent R. L. Woodard, Jr., tells us, among them one problem which lengthened by a very great amount, the life of the rope, which at first broke frequently.

The Montgomery Lumber Company operates a single band mill, with a capacity of from seventy-five to eighty thousand feet per day. They also have an up-to-date planing mill in connection with the saw mill. Mr. Linwood Warrington is the filer.



"Factory to Consumer" Made Graphic By Display

IN a recent issue of *Printers' Ink Monthly* there appeared the above picture and the following interesting descriptive matter regarding it:

"In order to demonstrate graphically the slogan, "From Log Direct to Consumer," the White Yard of Davenport, Iowa, recently constructed the small model exhibit shown above.

"At the left was a small forest and a toy log train carrying logs from the forest to a mill pond. On the other side of the mill the finished product was loaded in another toy train which carried it to a lumber yard. From there it was trucked to a partly finished farm-house. To make this more attractive there was added a completed barn, a windmill, a silo and water tank and a few animals.

"The whole display was painted in natural colors. The mill was dark brown with a slate roof, and some shavings and waste lumber were scattered about it. The lumber yard and buildings were white and the farm buildings red and drab.

"The company found that this little display stimulated a great amount of interest and gave it a good opening to put over some good selling points."

A Good Saw Mill Record

And Incidentally a Good Record for Simonds Saws Because Simonds Saws are Used On These Mills

FOR the month of November, 1921, the Red River Lumber Company of Westwood, California, made this report:

Running ten hours, one shift only, with one 8 foot, 14 inch, 14 gauge double cut band mill, three 6 foot, 14 inch, 16 gauge double cut band mills, two 6 foot, 10 inch horizontal resaws, and a crew of 73 men inside of the mill, including everybody from superintendent to sweepers, during the month of November 22,174 logs, averaging 406 ft., passed from virgin timber into PAUL BUNYON pine lumber as follows:

Log Scale .... 9,008,061 ft.
Lumber Tally .... 10,324,767 ft.

Time lost by each saw for the month, including one extra hour for Thanksgiving dinner (this is trouble shooting, not saw changing time):

No. 1 Band Mill	4 hrs.—36 min.
No. 2 Band Mill	5 hrs.— 0 min.
No. 3 Band Mill	6 hrs.—16 min.
No. 4 Band Mill	4 hrs.—49 min.
No. 1 Resaw	3 hrs.—03 min.
No. 2 Resaw	6 hrs.—59 min.
Total	30 hrs.—43 min.
Thanksgiving dinner	6 hrs.— 0 min.
Trouble, net	24 hrs.—43 min.

Of this 5 hrs. and 30 mins. was Hydro Electric trouble.

It took 398 sharp band saws to transform this amount of logs into lumber, as follows:

No. 1 Band changed saws	90 times
No. 2 Band changed saws	62 times
No. 3 Band changed saws	59 times
No. 4 Band changed saws	61 times
No. 1 Resaw changed saws	66 times
No. 2 Resaw changed saws	60 times
TOTAL	398 times

Each sharp saw on the monthly average cut 25,942 feet of lumber.

R. F. PRAY, Resident Manager.
E. A. FERRIS, Saw Mill Supt.
WALTER LUFF, Supt. of Prod.
C. E. FISHER, Supt. of Special Bills and Sawing

Comparative Figures on Kinds of Lumber Produced in the United States

THE TABLE below compares the year 1909 with 1919 showing the differences in quantities of lumber manufactured in the United States over this ten-year period. These figures are compiled by the Bureau of the Census in co-operation with the Forest Service, Department of Agriculture. It is interesting to note that a decrease is shown in all species except Douglas Fir, Western Yellow Pine and Red Gum. The production reported for Douglas Fir and Red Gum is the largest for any year for which records are available.

PRODUCTION OF LUMBER, BY PRINCIPAL KINDS OF WOOD, 1909 AND 1919

Kind of Wood	1919		1909	
	Quantity (M feet BM)	Percent distribution	Quantity (M feet BM)	Percent distribution
Total	34,552,100	100.0	44,509,800	100.0
Yellow Pine	13,062,900	37.8	16,277,200	36.6
Douglas Fir	5,902,200	17.1	4,856,400	10.9
Oak	2,708,300	7.8	4,414,500	9.9
Western Yellow Pine	1,755,000	5.1	1,500,000	3.4
Hemlock	1,755,000	5.1	3,051,400	6.9
White Pine	1,723,700	5.0	3,900,000	8.8
Spruce	980,000	2.8	1,748,600	3.9
Maple	857,500	2.5	1,106,600	2.5
Red Gum	851,400	2.5	706,900	1.6
Cypress	656,200	1.9	955,600	2.1
Chestnut	545,700	1.6	663,900	1.5
All other species	3,754,200	10.8	5,328,700	11.9

Power Development of Small Streams

WE have just been looking over a book of the above title which has for its purpose furnishing to the layman in an accurate and simple way, a practical and working knowledge of installing and operating small water power plants for furnishing country homes, towns, and villages with electric light, power, heat, water supply, and fire protection. Technical language has throughout been eliminated or made so plain there can be no confusion to any reader. Too long has the knowledge necessary for the developing of the thousands of country home, town and village water power opportunities been buried in the technicalities of engineering works or to be obtained only by the expensive process of employing an engineer who is an expert on water power development. This book removes that hindrance to the country home, the town or village obtaining greater comfort, efficiency and almost all the modern conveniences now denied them. The possibilities of power development on small streams are practically unlimited. There are no legal tangles or governmental restrictions that face many large power projects. The small power plant is the cheapest source possible for the country home, town or village to obtain electricity, power, heat, and water supply. The small power plant is well within the reach of the average country dweller, or the town or village. Water power development has reached the stage where there is a water wheel for every stream from the tiniest rivulet to the great river.

One paragraph tells plain and easy methods of measuring a stream, capacity for developing power, another about temporary and permanent dams. There is a chapter on turbine wheels, and another on overshot and undershot wheels. It occurred to us that this 177 page book might be of decided interest and value to many millmen and we have therefore arranged with the publishers to furnish copies by mail postpaid at $3.50 each. We have no interest in the sale of books but will pass along your order as an accommodation, if you want a copy.

Address Advertising Department,
SIMONDS MFG. CO.,
Fitchburg, Mass.

Traffic Dispatching

"THERE are traffic 'dispatching' problems in a factory or mill not unlike the problems of traffic handling on railroads or congested streets," says a recent issue of *Industrial Management.*

The mere speeding up of work-in-process by proper routing through the plant may cut in two the capital tied up by work-in-process. Consider each piece of material whether it be steel plates, logs or lumber as so many dollars and cents: each piece is eating up its paper profits the longer it is kept unproductive by being in *process.* If each unit represents a twenty dollar bill, then, on a six percent basis, keeping that piece on hand a year takes $1.20 out of your pocket.

High Speed Steel Knives

THE RAPID increase in the use of High Speed Steel Knives is an example of the advance of industry in this country along the lines of greater production.

With a feed of twenty feet per minute the old carbon steel knife stood up and did good work. But the up-to-date mill man was not satisfied with this and sought for larger production by speeding up the machines, only to find that the knives would not hold an edge under the increased load and the machine itself would not hang together with so much additional strain.

The machine maker strengthened the parts of his machine so it would stand up but the old knives were entirely too weak to do the work. So the knife maker supplied a better knife and after trying out various steels finally settled on the modern high speed steel as the best material known that would hold its edge under extreme conditions of feed and that would stand up and retain its hardness under a high temperature such as obtains under the usual conditions of planing hard wood at a rapid rate.

So the high speed knife was brought out as an answer to the challenge of the machine makers for a knife that would finish wood at speeds that were considered very fast in those days.

But as time went on speeds increased further and the demands grew for more and more work from the knives, so that the Simonds high speed knife of today is only a distant cousin of the high speed knife of ten or fifteen years ago.

This advance is largely due to the extensive research carried on all over the country on different woods and on different machines to find out the best material, the proper bevels, the best methods of manufacture such as grinding, the treatment that would bring out the utmost that was in the steel and all the circumstances that make for

Let every man about your place who grinds or uses High Speed Steel Knives read this article. It is filled with the valuable expert information which enables Simonds Manufacturing Company to make now Knives of this kind, absolutely the finest on the market

more and better work with these knives.

The material used is the same steel which turns off steel chips red hot from huge shafts or forgings in our navy yards and machine shops. It is called steel but is really an alloy of tungsten, the same material as the incandescent filament of an electric light. With this tungsten is alloyed iron, chromium, vanadium, carbon and the other usual elements found in steel.

What makes high speed steel so good is the ability of tungsten as shown in the incandescent light to retain its strength and hardness even though it is heated to a red heat which would take all the temper out of the ordinary steel and leave the edge soft and worthless.

This property was called redhardness by some man with common sense, and means just what it says. With properly hardened high speed steel you can heat the knife to a dull red heat and it will still continue to cut either steel or wood and when it cools down to normal temperature it will be as hard as it was before. This property is in fact a good test of the hardening of high speed knives and if these knives are heated till you can just see the red color in them when placed in a dark corner and then cooled slowly, they should be as hard afterwards as they were when you started. If they are not as hard they will not give as good service on the machine for when a piece of hard wood stops under the knives and stays there until it is burnt black, it is easy to see that the edge of the knives must be extremely hot. If the edges get soft it is necessary to grind again to get under the softened skin and you have lost $\frac{1}{32}''$ of the knife that you paid for.

The high speed steel used on knives must however be of a very special analysis that will bring out the properties necessary for cutting wood rather than those necessary for cutting metal. This has meant a lot of work by our steel mill, our factory and our customers in trying out new ideas so that the Simonds High Speed Steel would be always in the lead as their saw steels are in other fields.

Having obtained the best material by actual testing, the methods used in the factory must be always maintained at the highest level so that the quality of the knife will be of uniform excellence.

In making high speed knives only the most skilled men can be used as the hardening, tempering, grinding and straightening are operations which call for a high degree of knowledge and skill. The hardening consists of heating the knife to a temperature just under the melting point, taking care that it does not get out of shape under this heat then cooling the white hot knife in a quenching bath and next heating it to the proper degree for tempering. The temperature in these different operations must be very closely controlled. Our furnaces are all kept under close control by electric pyrometers, maximum variation allowed being 10°F.

After hardening, knives must be ground on all sides and bevelled on the cutting edge. This grinding must be done with care to prevent cracks starting from uneven expansion. In short the same extreme care is given the knives in this operation in the factory as should be used in the mill by the one who has charge of the grinding. This will be covered a little later.

The knives are now balanced and etched and shipped to the customer.

We now come to the millman, who has the reputation of the knife manufacturer completely in his hands for he can make or ruin the knives as he sees fit.

Every man should try to get as much service from a knife as possible. This means that care should be used in setting the knives so that they will be as nearly uniform as possible and all the cutting not come on one or two knives. They should have as little overhang on the head as experience shows is sufficient to get along with. They should be jointed very lightly and the stone run across the knives slowly and steadily. Here is where great variations are found in the service a set of knives will give, for with one man jointing, knives will frequently do twice as many lineal feet between grindings as with another man doing the jointing.

The number of jointings before a heel is developed that is too wide for efficient work should be five or six but in many mills two or three jointings renders a knife unfit for further use. Here is a case where a gentle touch will save half the knife as the only thing necessary is to bring the knife up to square edge again and a few thousandths will take off the round edge as well as an eighth of an inch.

Allowing then that the knives have done good work on the heads and they have to be removed for grinding we come to the grinding room where the knives in many plants are treated not as fine cutting tools but rather as rough pieces of steel that will stand all kinds of abuse.

In the first place let us consider the wheel. A tub or cup wheel is best on account of the fact that it grinds a straight bevel while a circular wheel must grind a concave bevel, becoming more and more concave as the wheel wears down until there is little or no strength at the cutting edge, because the material that should back up the edge has been all ground away. However a circular wheel of large diameter will not put in sufficient concave to cause trouble.

With regard to the grain and grade there is a large variation in these in different mills but this is largely due to different wheel speeds and sizes. What really counts is the speed of the wheel just where it hits the knife. This should be about 4500-4700 feet per minute. To figure this on a circular wheel count the number of revolutions in a minute and multiply by the distance all around the circumference of the wheel measured in feet or take the diameter in feet and multiply by $3\frac{1}{7}$ which will give the distance around the wheel.

Thus a 12″ diameter wheel running 1400 R.P.M. would have a surface speed of (12″ = 1 ft.) $1 \times 3\frac{1}{7} \times 1400$ or 4400 ft. per minute.

Using about this speed and one of the artificial aluminous wheels such as alundum or aloxite the grain should be about 30 or 36 and the grade J. or K. With a surface speed higher than this a soft wheel should be used such as H or J grade, while when the speed is lower than 4600 surface feet per minute a somewhat harder wheel as K, L or M can be used. This is because of the fact that a high surface speed tends to make a wheel act hard due to the fact that top of the abrasive grains break off or wear off very quickly at a high speed leaving a smooth wheel surface which very quickly glazes the work. The best speed and wheel to be used however is dependent on conditions at the mill and each man must decide for himself in the light of his past experience, being guided however by the fundamental principles.

While there is a great difference of opinion regarding wheels and speeds perhaps the most common subject of discussion is whether knives should be ground wet or dry. At first all high speed tools were ground dry. Somewhat later some man of courage tried wet grinding. Today in all large factories wet grinding is the common practice while in small shops the usual thing is to grind dry. Both methods are good, the wet being a lot quicker but if this method is used the first precaution to be used is to have a lot of water while the second is to have a lot more water. The work must be kept absolutely cool and a good sized stream should strike the point where the wheel is in contact with the work. The best way to crack a high speed knife is to grind it wet with not sufficient water.

Dry grinding is used in most of the smaller mills and is giving very good satisfaction but care must be used not to take too heavy a cut or the knife will be unduly heated on the edge and liable to show grinding cracks. The greatest trouble however with dry grinding is a tendency to skin softening which makes the knife too soft on the cutting edge to stand up so it dubs over or wears off till it strikes the harder material about $\frac{1}{64}''$ below the surface. Many complaints about soft knives can be traced to this source and when carefully reground they show no tendency at all to softness.

The question of wet or dry grinding is therefore a question of conditions. If you can flood the knife with water do so but if you can only get a small quantity on the work cut down your feed and grind dry.

But whether you grind wet or dry be sure and grind from the edge to the body of the knife and not from the body towards the edge for the heat is driven ahead of the wheel and if it goes to the edge it will heat it up and even though you are lucky enough not to crack it, you will surely blue it in good shape so that it is soft on the skin and a poor cutting tool till the soft skin is worn off. On the other hand by grinding towards the body the heat is driven into the body of the knife which can easily absorb it without heating very much and what heating occurs is spread uniformly over the knife and therefore expands it uniformly and not on one edge.

This expansion on one edge from grinding is the biggest cause of breakage in knives. You take a long knife say 30″ and heat it to a good blue and at the point the wheel is in contact with the knife you have the same effect as if the knife were stretched out to 30¼″ on the cutting edge while held firmly at 30″ on the back. You can see what a tremendous strain this produces in the knife and if when this strain is present water suddenly cools the edge down quickly at one spot there is no metal in the world that could stand the strain.

In wet grinding the knife must never show color such as blue or purple and in dry grinding the wheel should be kept open and the feed light so that a blue color is never developed on the cutting edge.

All we have said of grinding applies as well to knives ground on the head as to those that must be removed for grinding.

These facts are written with the idea that some knife grinders may have other opinions than those expressed by the writer and if so we ask that you write about them and send them to the SIMONDS GUIDE FOR MILLMEN and we will be glad to publish them or give you a personal reply to any questions or difficulties.

Six ton Cold Melt Electric Furnace pouring into six ton capacity ladle

Crucible vs. Electric Tool Steel

FOR many years the question has been weighed as to whether Electric Steel is really as good as Crucible Steel. Now the answer to this is that "It all depends." After many years of experimental work and thousands of tests in actual use, more and more products are going into Electric Steel. As a matter of fact in the tool steel mills as a whole in the United States, there is just as much Crucible Steel produced as there was ten years ago, and no more; whereas in Electric Furnaces there is ten to fifteen times as much tool steel produced as there is in the Crucible process today, having grown from nothing in about fifteen years.

In addition to every high grade tool steel made in the electric furnace by ourselves and one or two others in the United States there is a large volume of electric furnace steel that is not the equal in any respect of our high grade tool steel, and this going onto the market as Electric Steel has done a great deal of damage to the general reputation for quality.

Do not, therefore, confuse SIMONDS Electric Steel with any others. We put in very high grade material as a base and use the same care in production as we use in the Crucible, and we have proved in thousands of cases that SIMONDS Electric Steel is at least the equal of any Crucible Steel, and in some alloy grades is even better.

We take absolutely no chance on the quality of Steel in Simonds Saws and Knives as we use whichever steel-making process will give us best results for the finished article.

GOOD SERVICE

Circular Saws, Solid or Inserted Tooth, Cross-cut Saws, Band Saws, Planer Knives, Files, and Hack Saws are now shipped in many instances the day the order is received.

Write our nearest office

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

420 Canal Street
New Orleans, La.

12-14 Natoma Street
San Francisco, California

Simonds Canada Saw Company, Ltd.

554 Beatty Street
Vancouver, B. C.

St. Remi Street and Acorn Avenue
Montreal, Quebec

55 Water Street
St. John, N. B.

Simonds Saws, Ltd.

53A Bayham Street, Camden Town
London, N. W., England

Simonds File Company

Fitchburg, Mass.

Simonds Steel Mill

Lockport, N. Y.

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