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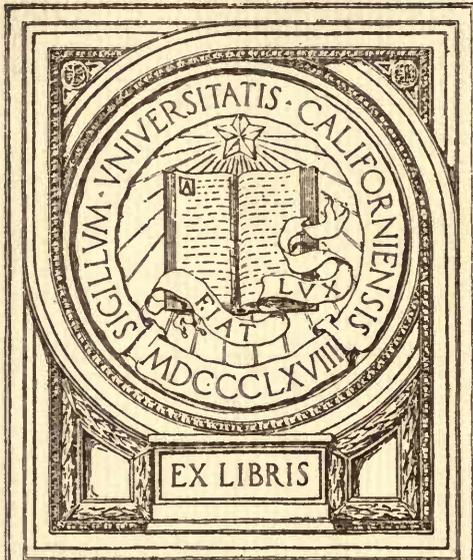
# The Evolution of Modern Band Saw Mills for Sawing Logs



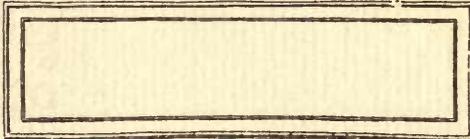
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THE PRESCOTT COMPANY

MENOMINEE, MICHIGAN



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De Witt Clinton Prescott



# The Evolution of Modern Band Saw Mills for Sawing Logs



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D. CLINT PRESCOTT

# Preface

The history herein given and the facts stated are taken from authentic records and also are the result of the personal experiences and observations of the author. It is intended to show the efforts made by the Saw Mill Machinery Builders of this country from about the year 1880 and thenceforward, to produce a Band Saw Mill that would render acceptable service to large saw mill operators.

No attempt is made to display all of the productions of later days, the main object being to show the transition logically from earlier types to the splendid machines now built by THE PRESCOTT COMPANY of Menominee, Mich., under whose auspices this work has been published and is now presented to the Saw Mill world.

By the author,

D. CLINT PRESCOTT.





# The Evolution of Modern Band Saw Mills for Sawing Logs

It is not the purpose to begin this narrative with a history of the crude methods employed by our ancestors to obtain lumber for building purposes; it is enough to know that they were able to obtain the necessary material with which to provide homes for themselves, as well as establishments in which to carry on business, to say nothing of schools and houses of worship; and some lumber for these purposes they certainly did have, and it was not cut by anything like a modern saw mill, either.

It is sufficient to state that we have advanced from the early Hand Whip Saw to machines in order about as follows: The Sash Saw, the Mulay Saw, the Round or Live Gang, the Slabbing Gang and its partner the Flat or Stock Gang; then the Circular or Rotary Mill, and lastly the Band Saw Mill, and one generation of men, some of whom are now alive, has seen all of these machines at regular work in saw mills sawing logs.

In passing it may be of interest to state that the old Sash Saw was usually run by undershot water wheels, and a man would start a cut in the morning and then go to plowing out in his field. By noon, that cut being finished, he would set over the log for another board, go home to dinner, after which he would resume his plowing, and by evening the second cut would be completed; so that by close attention to business a man could get two boards a day.

A sawyer on one of these mills once told the writer that he could sit on a log that was being sawed and go to sleep. When the log had moved up far enough the saw would scratch him when it came down and he then had plenty of time when the saw went up to wake

up and get off the log before the saw came down again. But since then times have changed and we have progressed far away from the Stub Shot to the Circular Mill and to the Band Mill for sawing logs, the Stock Gang being still in use in some instances for sawing cants prepared by both of them.

The use of the Band Mill in place of Circulars and Gangs became very desirable for two important reasons; one of them was that the saw kerf of a band saw is so much less than that of a circular saw that the saving in sawdust yielded a greater quantity of lumber from the logs, thus accomplishing a clear saving of valuable material. The other reason was that while Gangs made perfectly sawed lumber, they produced a great deal of cullen stock from rough or unsound logs, for as the saws are hung in the sash so must the lumber come out, and there is no way of varying the thicknesses to accommodate the quality of the stock. While a Band Mill will not cut so much lumber in a day as a Gang, it is a machine with which a log can be sawed to the best advantage, and that with a saw as thin as a gang saw. So that if the lumber coming from a Gang and often rated as cull, could have been sawed into piece or thick stuff, it would make it valuable and marketable.

This made the Band Mill attractive, and lumbermen began to take an interest in it and to investigate the operations of those known to exist. The result of their inspections, however, was far from being satisfactory, because none of them were doing good work or anywhere near enough of it, and with exceedingly few exceptions the mill men rejected them and regarded them as an impracticable machine for sawing logs, and few dealers would buy lumber that was cut with a band saw.

Mr. L. L. Hotchkiss who operated a mill in West Bay City, Mich., and was very desirous of saving as much of his logs as he could, told the writer that the men to whom he sold his lumber had refused to buy any of it if he cut it with a Band Mill.

A prominent lumberman of Minneapolis also told the writer that he would not take a Band Mill as a gift and be obliged to put it in and use it. And that was the prevailing view among mill men of the northwest generally in 1886.

Band Mills that would satisfy the lumber manufacturers of Indiana and the valley of the Ohio where they were to be found, could never meet the requirements of the men of Michigan, Wisconsin, Minnesota and the Mississippi Valley as far south as St. Louis.

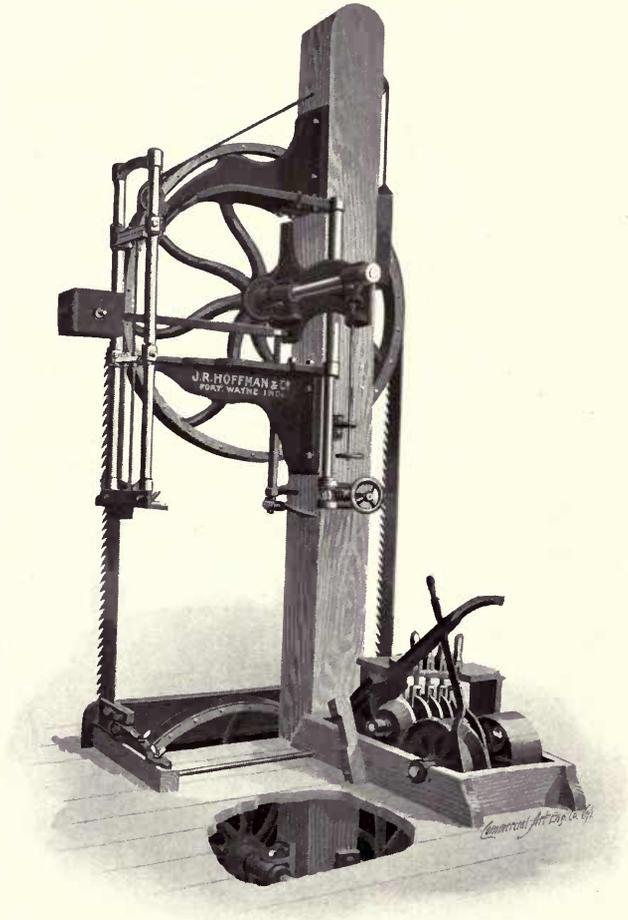
Now what was the trouble? It was simply because a band saw if forced to do a satisfactory day's work, invariably would cut snakey or crooked lumber; and even when sawing a small amount of lumber each end of a board would have a crook, showing that the saw for some reason would deflect from a true line when entering a log and also when leaving it, while the cut through the center might be quite straight; but in all cases the effort to push things so as to get a satisfactory day's work as demanded by the northern mill men, would result in bad snakey lumber every time, and dealers did not want such lumber.

Previous to 1887 there was not a Band Mill in existence for sawing logs that fully met the wishes of lumbermen engaged in large operations, although quite a number of such machines were then at work with varying success in mills owned by men who felt encouraged to try them.

The builders of saw mill machinery were then studiously endeavoring to produce a Band Mill that would perform the full duty of making straight lumber and plenty of it, and a number of them had already devoted several years of hard work upon them. They appeared to know what the trouble was, but were greatly at a loss to know precisely how to correct it.

The story of the trouble briefly told is as follows: A band saw runs on its wheels just the same as a belt runs on pulleys. The saw, just the same as a belt, has a tight side and also a slack side. The tight side is on the log side and the slack side is opposite on the back side; and if for any reason the saw should slip on the lower or driving wheel, then in that case the momentum of the upper wheel would carry the slack over to the front or log side, and a snake or crook in the lumber would be the result. This was generally understood to be the trouble and various expedients, some of which were very amusing, were adopted (as hereinafter shown) by ma-

chinery builders, only to be discarded later as band mill construction developed.



### THE HOFFMAN BAND SAW MILL

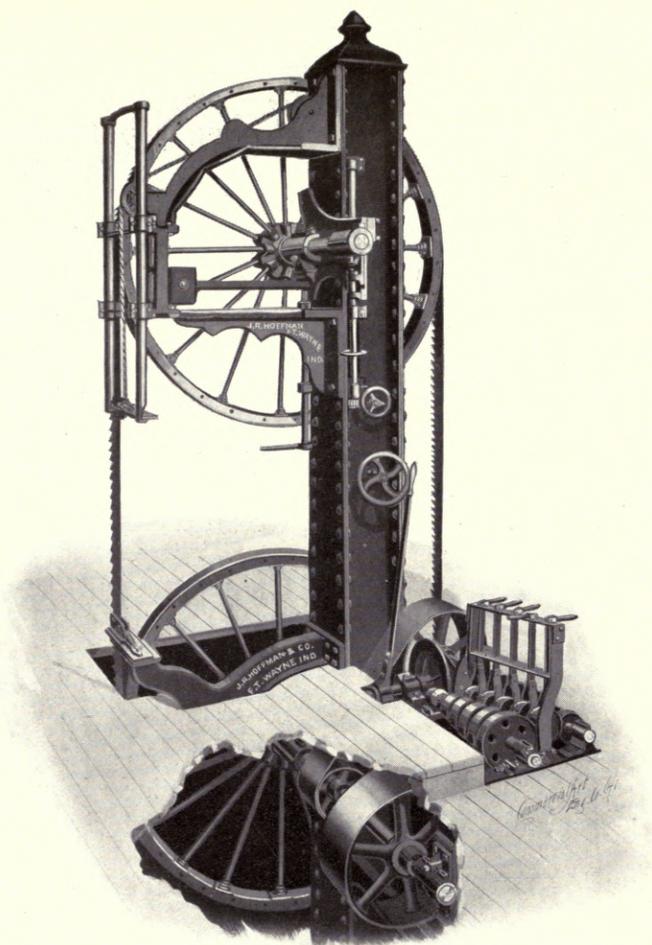
Built by J. R. Hoffman & Co., Fort Wayne, Ind., and advertised  
in the NORTHWESTERN LUMBERMAN May 9, 1885

The first Band Mill to attract the attention of mill men was in operation at Fort Wayne, Ind., in a saw mill operated by the Hoffman Bros. They had used one for several years, and the writer visited their mill in 1885. They were then buying large first clear logs up in Michigan and sawing them into stuff for pigeon holes and other cabinet stock.

The wheels were of wood five feet in diameter, with rubber faces and iron spoke centers. Both wheels were alike. They used a saw five inches wide, which they procured in France, claiming that no saw makers in this country knew how to make a band saw, and they probably did not; but their operations attracted so much attention that they commenced to build and market Band Mills of the same character as the one in use by themselves, and they did sell quite a number of them.

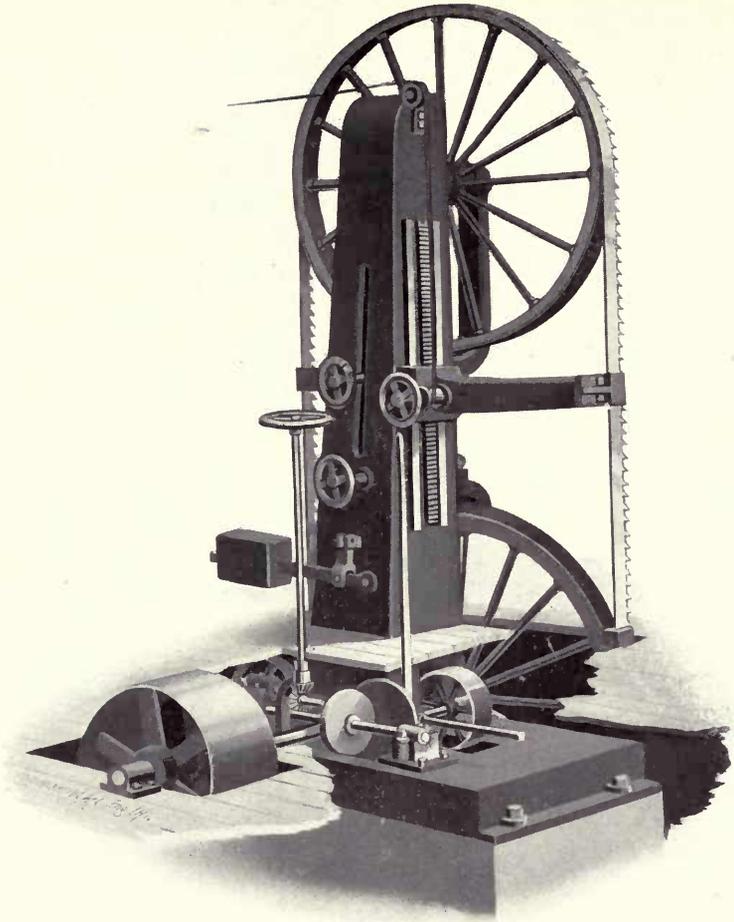
The iron work shown is mounted on a wooden post, and while this mill is insignificant when compared to our modern mills, it nevertheless made a serious impression upon the men who inspected it at work.

J. J. Kennedy of Rib Lake, Wis., had one of them, and was the first man to employ a Prescott Steam Feed to operate its carriage, which he did under the protest of Hoffman's expert who did not believe it could be used; but really it materially increased the cut of the little Hoffman mill.



### Second Band Saw Mill of J. R. Hoffman & Co.

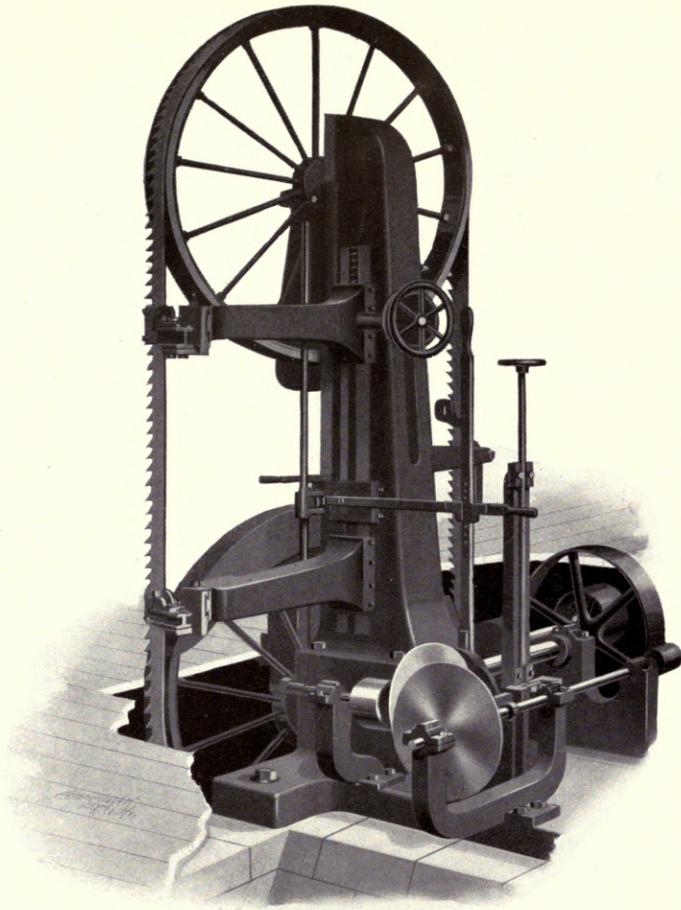
Subsequently the mill of J. R. Hoffman & Co. was enlarged to an all iron Band Saw Mill. It was written up in the Nov. 28, 1885, issue of the Northwestern Lumberman, and thenceforward they advertised until they quit the business. An illustration of the mill is shown above.



### **Band Saw Mill of Cordesman & Egan Co.**

In the Dec. 15, 1883, issue of the Southern Lumberman, Cordesman & Egan Co., of Cincinnati, Ohio, enjoyed a write-up in connection with a new Band Mill for sawing logs which they had devised and placed on the market.

It sold to some extent in the Ohio Valley, but never in the northwest. The wheels had wooden rims with rubber faces and both were alike.

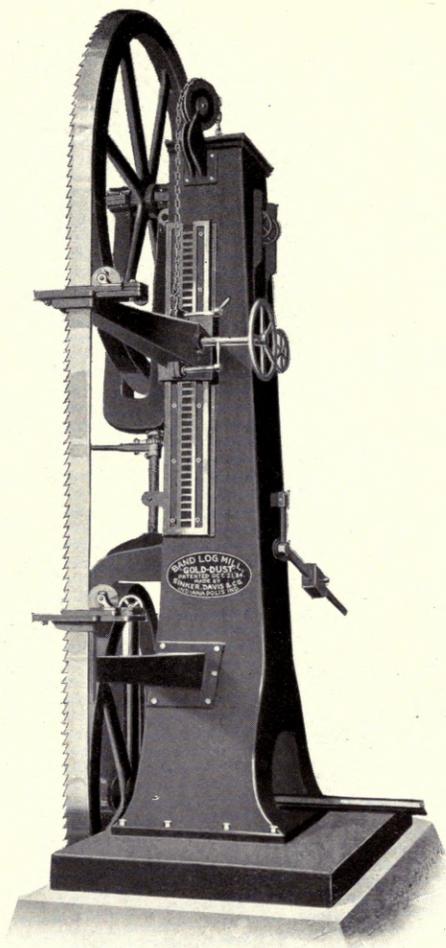


### **Band Saw Mill of London, Berry & Orton**

Up to 1888, London, Berry & Orton of the Atlantic Works, Philadelphia, were builders of log Band Mills and enjoyed quite an extensive trade, and some of them found their way into the northwest. Their mill is here shown.

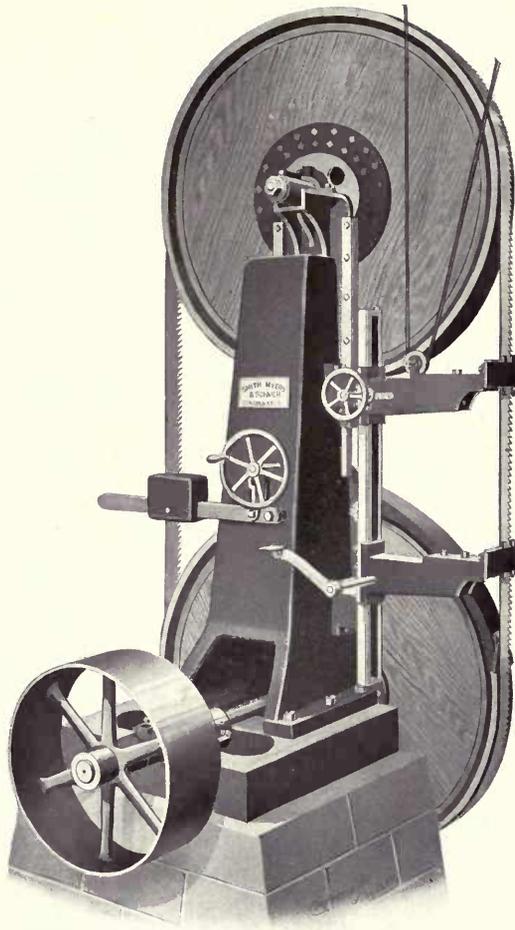
The wheels were six feet in diameter with wood rims attached to a metal rim inside of them; the faces were rubber and the saws were six inches wide.





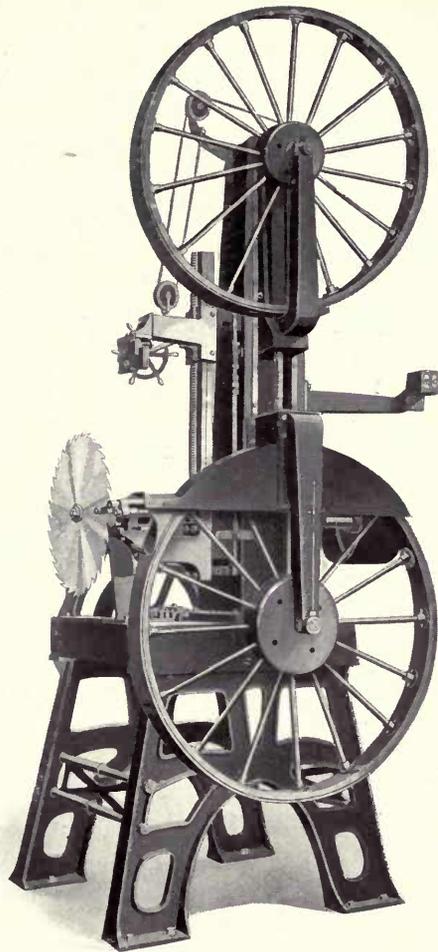
### **Band Saw Mill of Sinker-Davis Company**

Next we have the celebrated Gold Dust Mill built by Sinker-Davis Co. of Indianapolis, Ind. They were advertising this mill in the Southern Lumberman as early as 1884 and were building band mills for some time previous. Their improved mill of 1885 is here shown, wood rims with rubber faces composed the wheels, and their market was the middle sections of the country but never in the mills of the northwest.



### **Band Saw Mill of Smith, Myers & Schnier**

A Log Band Mill was also built at Cincinnati, Ohio, by Smith, Myers & Schnier, and this mill was advertised by them in the Mississippi Valley Lumberman as late as Mar. 9, 1888. It is a crude looking affair with wooden wheels built on iron flanges. They were builders of Band Mills, however, for many years previous and were in competition for business with those previously named.



**BAND SAW MILL OF THE STEARNS MANUFACTURING CO.**

Inspected by the writer at Cadillac, Mich. in 1885

The operation of all these mills did not escape the careful attention of the men who were builders of the machinery found in the great lumber mills, realizing as they did that the right kind of a Band Mill for sawing logs was yet to be created, and they went at it.

And to the Stearns Manufacturing Co. of Erie, Pa., must the credit be given for the first vigorous measures taken to introduce the band

saw into the large mills of the country, and for their efforts to convince lumbermen of their usefulness and value. To that end they built a mill having wheels nine feet in diameter for saws eight inches wide. The rims were of wood with rubber faces, and the spokes were of wrought pipe. It was their belief that a band saw would be less liable to crack if run on large wheels.

In combination with this mill they mounted on the same frame a large circular arbor so that a lumberman could use either a Band or a Circular should he so desire.



**Mr. Wellington W. Cummer in 1887**

Mr. Wellington Cummer, of Cadillac, Mich., was the first to install one of them in his mill; and no lumberman in this country has been more ready to adopt improved methods than he. Mill men generally do not wish to try machines they look upon as experimental in any respect, no matter how good they may appear; usually they want somebody else to try them first, overlooking the fact that an inventor must find some one broad enough to permit

their mill to be used, or one who is willing perhaps to invest in a machine that apparently is a good thing. Mr. Cummer was just the man for Mr. Stearns to apply to in the effort to introduce his new Band Mill. And looking back the writer recalls with so much pleasure the many delightful and helpful interviews had with him. What a comfort it is to an inventor to find a man of his qualities of mind and heart to whom he can go, knowing that he would surely be interested in whatever he might have to say. Such men move things, and Mr. Cummer did.

Other mills of the Stearns Company were put in at Pequaming and Menominee, Mich., and also at Minneapolis, Minn. But these mills were not a complete success. They did serve, however, to open wide the eyes of the lumber world generally and set the pace for other machinery builders to follow.

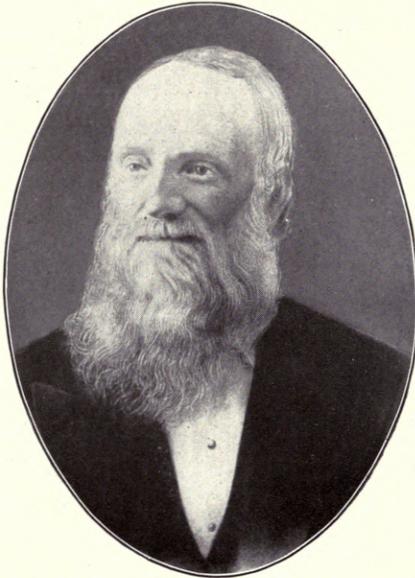
The Stearns Company finally abandoned this construction and adopted a plan modeled on the Hoffman mill, which they advertised in the *Northwestern Lumberman*, January 29, 1887. Their first mill, however, was the better of the two.

The writer pauses here to pay a tribute to the memory of Mr. E. H. Stearns who possessed the brains from which sprung the splendid machinery built by the Stearns Company. To him more than to any other man living or dead, are the lumbermen of this country indebted for the mill equipments which brought the greatest success to them. He was the first man to give grace and beauty of design as well as strength to saw mill machinery. He was the first to produce carriages with accurately setting head blocks with self-receding knees, in place of the old time wooden head blocks with screw sets.

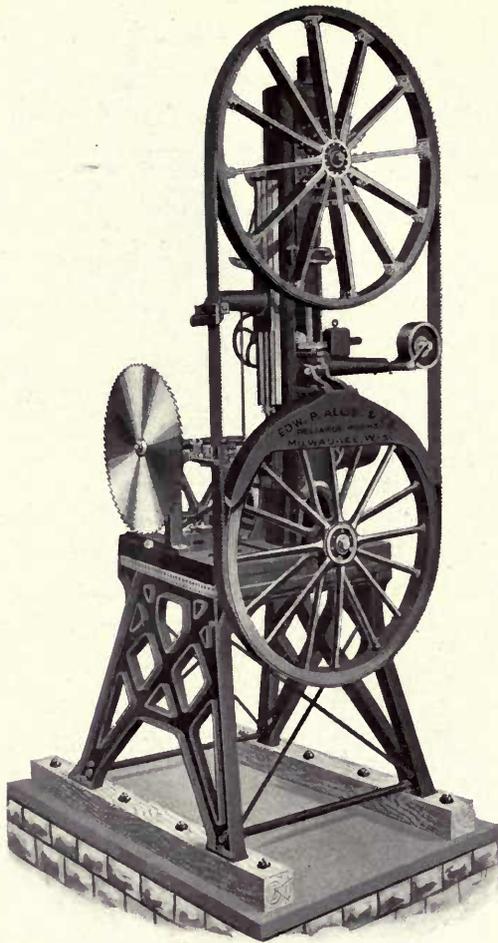
The eccentric setting blocks, and subsequently the double acting set works, which we all now copy, came on the market through him. The big circulars with reversed top saw models of construction, came from him. Live Rollers and labor saving machines originated with him, as also did the splendid Gang Edgers which we now have in place of the old single saw edger with its traveling table.

He designed and built the first of the special heavy class machinery required in California now largely in use in that state.

And yet, with all the splendid service he rendered the lumbermen of this country, he was allowed to go down to his death with not enough to pay his funeral expenses, and few to do him honor. The men with whom he dealt are now mostly dead, but the living successors should remember that to him they are largely indebted for the full measure of prosperity they now enjoy.



**Mr. E. H. Stearns in 1885**



### **BAND SAW MILL OF E. P. ALLIS & CO.**

**Described as the latest candidate in the NORTHWESTERN LUMBERMAN  
of January 9, 1886**

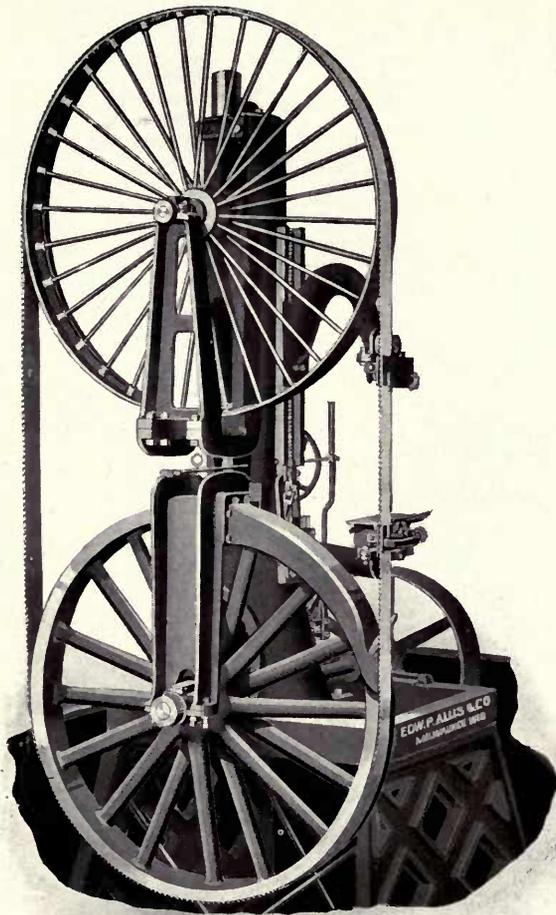
In 1885 E. P. Allis & Co. of Milwaukee, Wis., actively began operations with Band Mills for sawing logs. In principle their constructions were similar to all the others heretofore named, but for nearly four years they persistently adhered to a mill having at least one glaring defect, namely, overhanging wheels; that is, there was no supporting boxes outside of them. In 1889 they corrected this defect.

But the amusing feature in the mill of E. P. Allis & Co. is shown in the effort to keep the slack slide of the saw on the back side of the mill where it belongs, and thus prevent making snakey or dishy lumber. The overhanging wheels, nine feet in diameter for eight-inch saws, are shown. The top wheel was almost entirely of wood, and the spokes were flat and wide, the object being to obtain an atmospheric resistance continually as a pull back on the cutting side of the saw. A tightener pulley was also applied to the saw on the rear side.

This sounded good and they sold a lot of mills on the strength of it; but the wind that came from them would blow the sawyer out of the mill unless the wheel was boxed in, and finally it happened that a saw came off and the wheel did not meet with resistance enough to stop itself, but kept on going, and that burst the bubble.

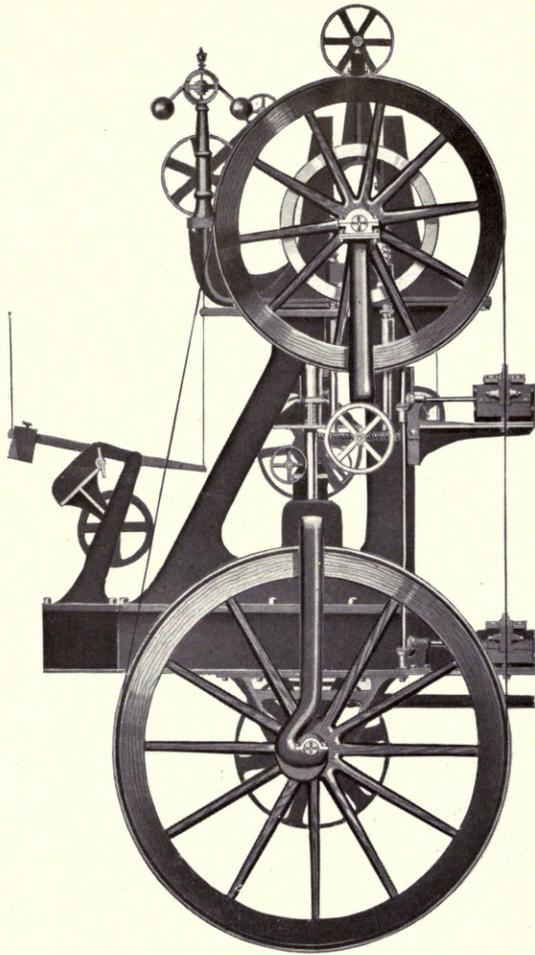
Attention is also directed to the fact that the combination of a circular saw with a band saw, as in the Stearns' mill, was adopted by the Allis Company.





**Second Band Saw Mill of E. P. Allis & Co.**

Improved Reliance Band Saw Mill of E. P. Allis & Co. Advertised in the Southern Lumberman, January 1, 1889, as the "best on earth." This mill they continued to build until 1892. It shows metallic wheels and supporting arms outside of them as in the Stearns mills.



### **Band Saw Mill of Benjamin & Fischer**

Feby. 14, 1885, The Northwestern Lumberman caused a shiver to run through the mechanical world by publishing an account of "A New Entry," and showing two illustrations of a Band Mill for sawing logs invented by Mr. Benjamin of the firm of Benjamin & Fischer of Chicago, Ill. It was extensively advertised, and really

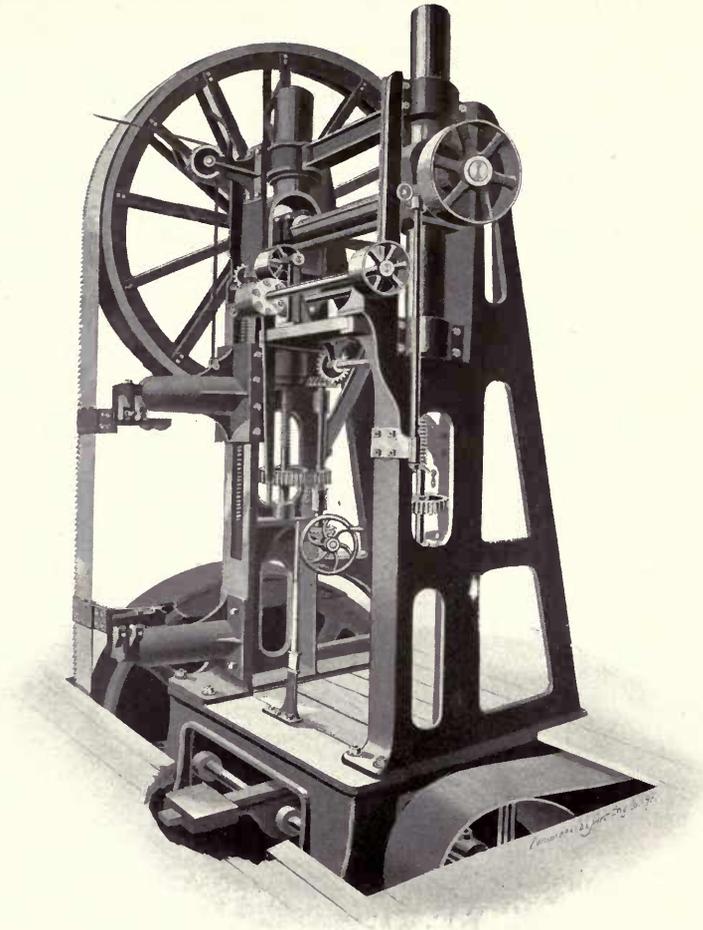
was an ingenious mill. It was intended to correct the defects existing in other mills which had made such crooked lumber, cracked saws, and performed all sorts of mischief, which they really had, and there was no doubt about it.

Apart from the fact that the lower wheel was much larger in diameter than the top wheel, the main distinguishing feature in the Benjamin mill was the application of a ball centrifugal governor to automatically adjust a tightener pulley impinging on the back side of the saw to instantly take up and prevent a slack from going over to the tight side and thereby making snakey, crooked lumber.

One of these mills was erected at Chicago. A car of logs was brought there and many prominent mill men were invited to see the mill at work. A large number attended; but the mill did not satisfy any of them. There was just one thing Mr. Benjamin did not take into account, namely, a governor cannot act until there is a perceptible increase or diminution in the speed of an engine or a machine; consequently in a band mill it got in its work too late to stop the mischief. The mill never went into general service. Its wheels were of wood with rubber faces.

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Early in 1886 Mr. Charles Esplin, of the Pray Manufacturing Co., of Minneapolis, Minn., built a Band Mill upon an entirely new principle, and one of them was operated that year by the Superior Lumber Co., of Ashland, Wis. It was illustrated and advertised in 1887 as "the only perfect Band Mill in use." It transpired, however, that the analysis of band saw troubles and their causes as published by Mr. Esplin was truly perfect, but the Band Mill built by him to correct the troubles was imperfect to the extreme, as will be seen; and the wonder is that he did not see it himself, when clearly on the right track.



### **Band Saw Mill of Charles Esplin**

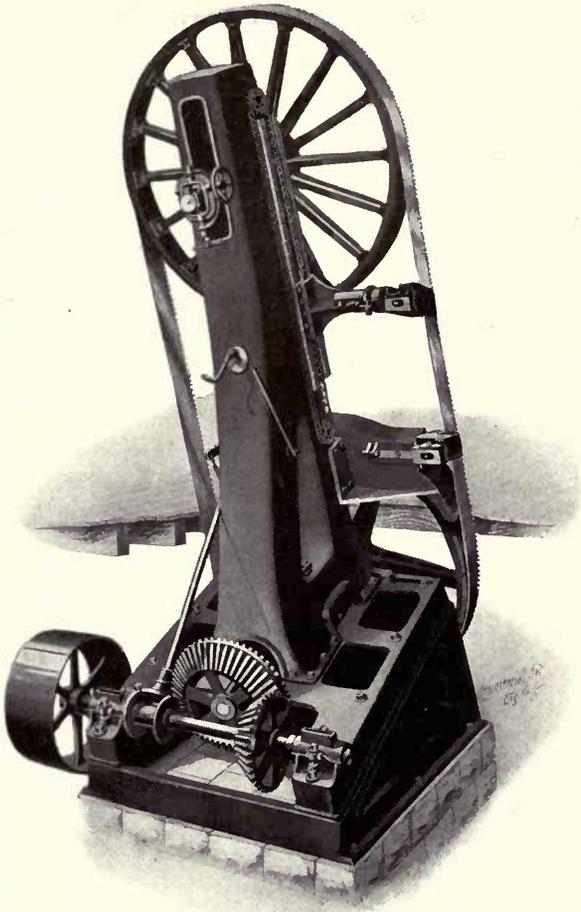
To understand this construction it is proper to state that the attempt is made to apply an exceedingly sensitive and automatic strain to the band saw; a strain instantly responsive to any change in the run of the saw, whether due to expansion or slippage; no matter what might happen the strain would always be uniform, and perfect lumber with lots of it would be the continual result.

The top wheel with its shaft was mounted in fixed boxes, adjustable only in order to change saws. But the heavy lower wheel with its large shaft and belt pulley was mounted in boxes integral with an iron rocker or tightener frame to which was attached a long weighted lever like an old fashioned safety valve lever; and the wheel thus equipped was placed in the saw. Thus it will be seen that the weight of the wheel with its shaft and the rocker frame, lever, weight and pulley, was employed to strain that saw downward automatically; and it was designed that this wheel acting through gravity should respond instantly to changes which might occur to the saw, whereby all slack would be taken up and a perfectly uniform tension be maintained.

This kind of talk was certainly catchy with lumbermen for it also sounded good. There was, however, just one thing Mr. Esplin and others overlooked, namely, if an adjustment is at all necessary to meet changing conditions in a band saw running from 9,000 to 10,000 feet in a minute, then that adjustment must of necessity take place almost like a flash of lightning, and that automatically.

Mr. Esplin's lower wheel, boxing, shaft, belt pulley, rocker frame, lever and weight probably weighed four tons. Such a weight cannot move like a flash, and goes too far when it does move, and broken saws or snakey lumber were the logical result. The inertia of such a mass prevents quick action.

This mill was a failure like the rest, and the designers of Band Saw Mills for sawing logs were left groping in darkness. To be sure, Band Mills to some extent were in use though largely under protest because of the poor lumber they made, the small quantities produced, and the troubles experienced with cracked and broken saws.

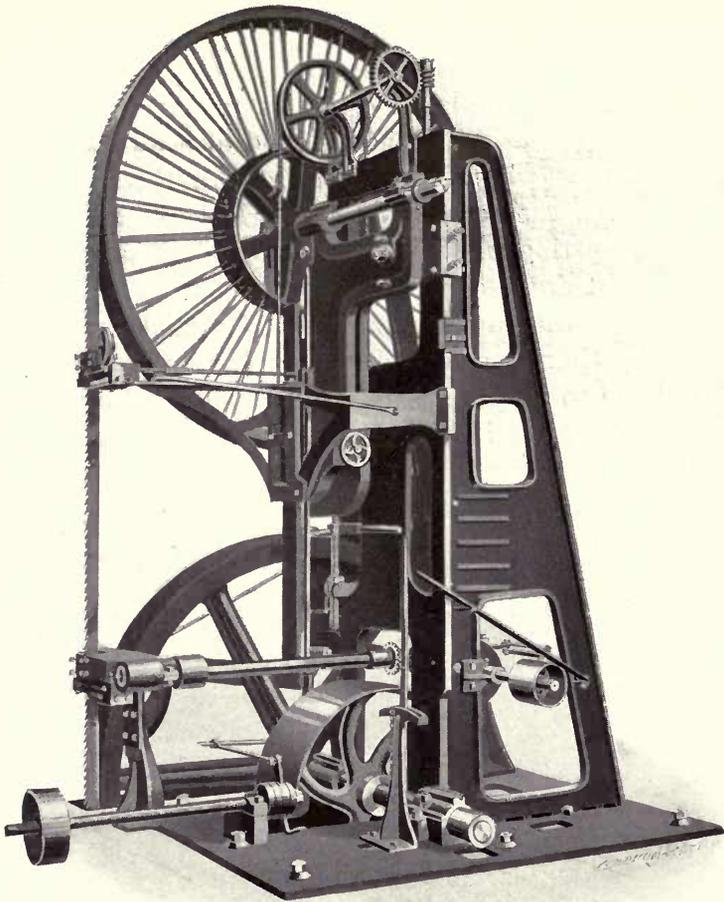


### **Cunningham Inclined Band Saw Mill**

It was in the same year, 1886, that The Filer & Stowell Co., of Milwaukee, Wis., flattered themselves into believing that other machinery builders did not really understand just how a Band Mill for sawing logs should be built, and being perfectly cognizant of the difficulties experienced and of the remedy to be applied, they designed and brought out and advertised the Cunningham Inclined Mill, an illustration of which is here shown.

For a unique organization this mill took the cake. The idea of it was good, and it should have been a winner, but for some reason it was not. They built and sold quite a number of them, and then later they changed to a more sensible kind of a mill.

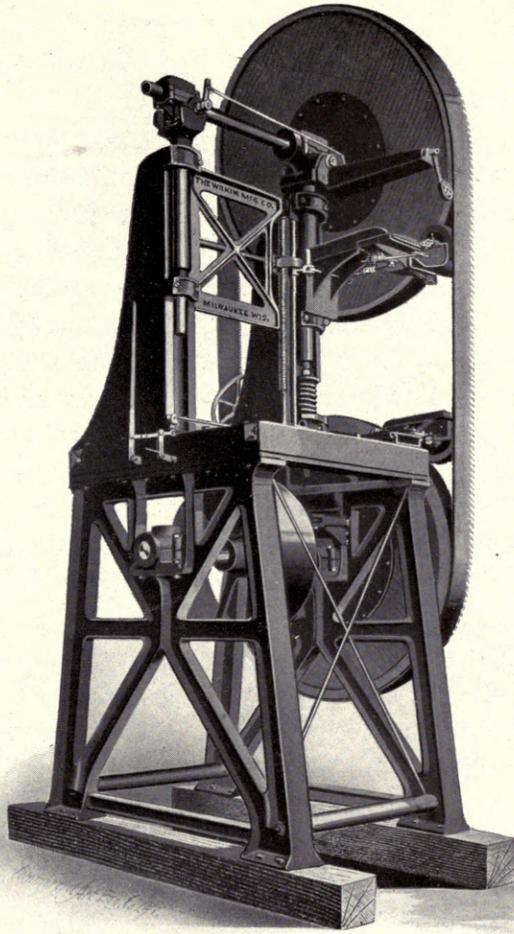
As will be observed, this mill inclined to the rear twenty or more degrees, with the result that the saw would enter a log like a circular saw, cutting under in a manner similar to the circular instead of straight down across the grain as band saws usually do. It was understood that a circular could do straight work and very much more daily than was possible with a band saw. It was, therefore, quite natural to suppose that if a band mill could be constructed so as to operate substantially like a circular with equal advantages, then there appeared no reason why it should not do as good work if not quite so much. At all events it was expected that this mill would do more work and better work than any of its predecessors. But it did not, and proved to be quite a nuisance as it required about six men to place the saw on its wheels every time they were changed; and the mill went out of use.



### **Band Saw Mill of Wilson & Hendrie**

In 1886 Wilson & Hendrie, of Montague, Mich., tried their hand at Band Mill construction. Their mill as here shown is an enlarged copy of the Hoffman mill, but having a cast frame of apparently large dimensions. Locally this mill may have gone into use to some extent, but it found no market among saw mills generally.





**Band Saw Mill of The Wilkin Manufacturing Co.**

And then in 1888 The Wilkin Mfg. Co., of Milwaukee, Wis., advertised and marketed a Band Mill designated as “the most common sense Band Mill made.” It had overhanging wheels of wood with rubber faces.

In one respect this mill demonstrates how easy it is for one to imagine a trouble and then spend a lot of money to correct a trouble that really has no existence.

It was known, of course, that a band saw under stress would be inclined to gravitate to the rear. In this mill the attempt is made to prevent this and compel the saw to follow its proper path around the wheels by raising or depressing the tail end of the top wheel shaft; and in order to do this automatically a steel trolley was applied to the rear edge of the saw, closely following it, whatever its position might be; but any movement of the trolley towards the front or rear was followed by a corresponding adjustment of the tail box of the top shaft. The effect of the trolley on the edge of the saw was bad; and besides that there really was no special need of any device of the kind.

In connection with this mill there are also three other interesting features worthy of mention, as one of them in particular illustrates the method then prevailing of preventing a log from rubbing or dragging against the saw when the carriage was run back or being giggered for the next cut. At the present time an off-setting mechanism is applied to the carriage trucks, but previously a depressor, so-called, was applied to all mills substantially as shown in the Wilkin mill and others illustrated herein. That is to say, both the upper and lower saw guides were movable transversely, and the off-bearer by means of a hand lever, forced the guides back from the saw line, carrying the saw sideways away from the log, and in this manner contact with the face of the log was prevented; but it was hard on the saw.

In this mill, however, there is a new departure as shown by the application of two small friction rolls or pulleys behind the saw, in place of the usual saw guides; the idea being to force the saw out to the saw line by means of the rolls, and then when the carriage was giggered the rolls were moved back and the saw permitted to fall away from the face of the log; this feature being an imitation of the same thing embodied in the Allington mill previously built at Saginaw, but not shown herein. This arrangement, however, proved to be severe on the saws, because such short bends will

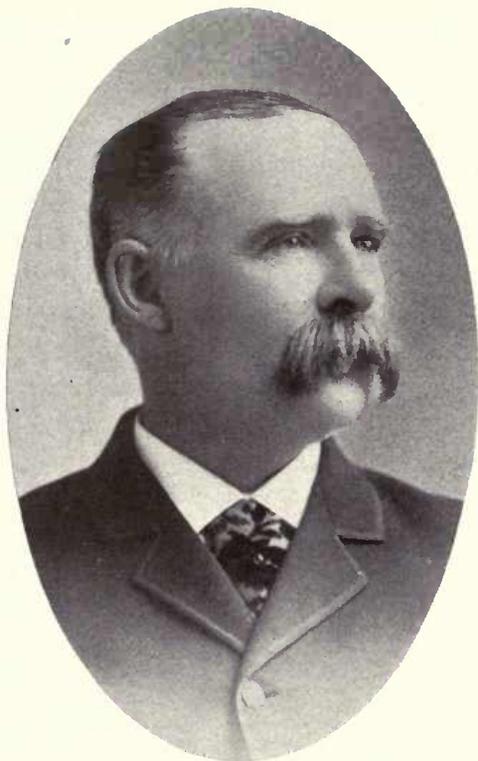
crack them in a short time, and besides this the rolls made such a roar in a mill that not much else could be heard.

Next in this mill a spring was employed to maintain a sensitive automatic strain on the saw; and this, like the other special features of the mill, proved worthless, and the mill, like the Allington, went out of use and is unknown to the art now.

Now in all the preceding it is shown that Saw Mill Machinery Builders were studiously striving during all the years between 1880 and 1887, and some of them to a much later date, to produce a Band Mill for sawing logs that would do good work and as much of it as lumbermen would be satisfied with, and that, too, without so much cracking and breaking of saws. The simple fact that they were continually devising new constructions with a statement each time that now they had struck it, and the further fact that without an exception all of these were entirely abandoned and fundamentally new machines brought out at a later date, prove indubitably that all of their former efforts had failed to meet the full requirements which lumbermen expected and demanded.

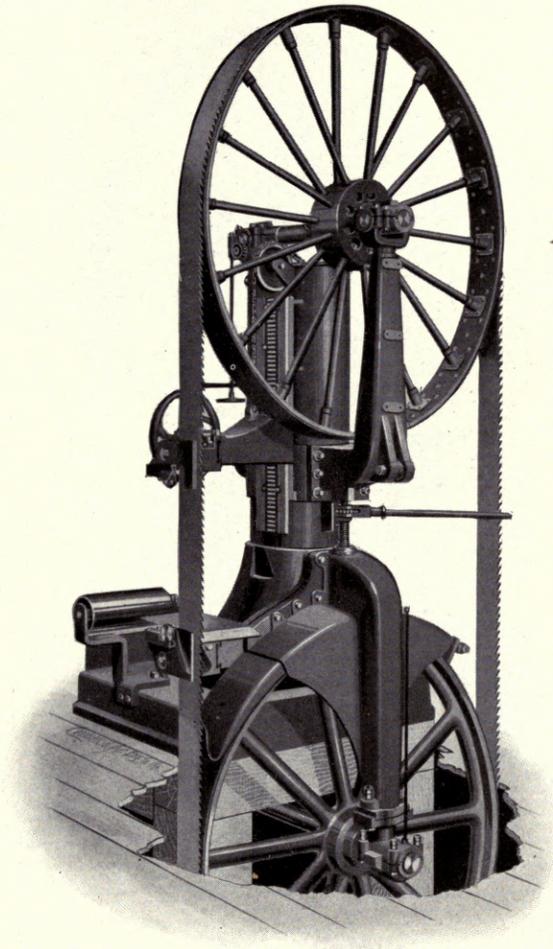
The question then naturally arises, how did it come about that successful cutting band mills of a wholly different type are now universally in use? Who is the man who originated the strictly modern band mill that served as a pattern for all to follow? The following will explain it:

Aug. 23 and Sept. 13, 1887, patents were issued to D. C. Prescott, then of Marinette, Wis., for improvements in Band Saw Mills, and other patents followed shortly thereafter on further improvements.



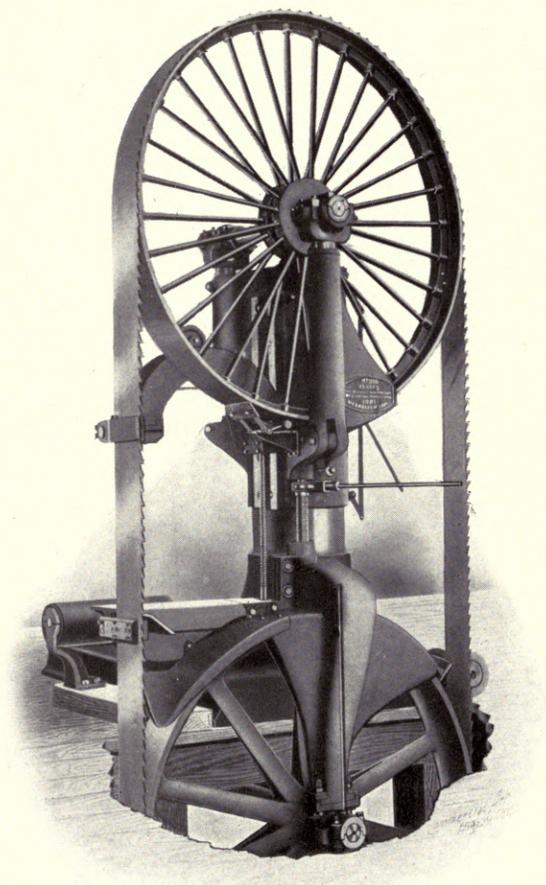
**D. C. Prescott in 1887**

The creation of these mills was purely upon the principle previously described by Mr. Esplin who so signally failed in its application. Plainly it was evident that to secure a nervous, sensitive and constant strain on a band saw, it was imperative to reduce the weight upon the straining levers to the least possible quantity consistent with strength, and to make all the pivotal points as near frictionless as possible by the intervention of knife edges or ball bearings; and while it was impossible to reduce the weight to a point so as to accomplish an automatic adjustment as quick as a flash, it is a fact, nevertheless, that in the Prescott mills of that date a strain was automatically maintained sufficient to successfully accomplish the work of sawing lumber accurately and in acceptable quantities. And these were the mills that set the pace for all other builders and revolutionized saw mill constructions.



### **PRESCOTT BAND SAW MILL**

**Patented September 13, 1887; over 150 built and most of them are  
in service at the present time, 1910**



### PRESCOTT BAND SAW MILL

Patented November 26, 1889, with set-off for increased space  
from saw line to column. 8 foot wheels, 12 inch saws

The light metallic top wheel with its shaft, runs in boxes mounted on plungers, and from them stems lead down to the straining levers, and all were made as light as possible. Characteristically about all band mills now employ this system, and whether they have a single column or a double column, the arrangement is substantially the same.

We often read of big day's work performed by some make of band mill, but it is proper to say that the day's work performed in the saw mill of the North Wisconsin Lumber Co. at Hayward, Wis., has never been equaled. This was done by two of Prescott's No. 3 mills, being the second one illustrated, as follows:

### NORTH WISCONSIN LUMBER COMPANY

Hayward, Wis., Aug. 23, 1893.

D. CLINT PRESCOTT.

Dear Sir:—The North Wisconsin Lumber Company made the following cut: August 22, 1893, with two Prescott Band Mills only, 609 selected logs, scaled full. Average 1.97 to 1,000 feet, 309,400 feet.

Lumber scale, 1 inch,	45,236
1 ¼ and 2 inch,	294,077
	<hr/>
	339,313 feet

The cut of August 22nd shows what can be done with large logs, and the cutting was as perfectly done as any day's cut we ever made. W. H. Elliott, Superintendent of Valley Lumber Co., Eau Claire, and A. L. Ulrich, of Rice Lake Lumber Co., will vouch for the cut of August 22nd, as well as Captain Rogers, our Superintendent, and myself.

Yours truly,  
R. L. McCORMICK,  
Secretary N. W. L. Co.

It is of interest to note the gain of about 30,000 feet by sawing the logs with a Band Mill instead of a Circular Mill.

This record, widely published at the time, coupled with the fact that nearly three hundred Prescott mills were then in successful

service, is evidence enough to show that all other Band Mills as herein shown had become obsolete and were back numbers, and were abandoned for the later constructions all are now familiar with.

But before any of them, or any of the others that have appeared on the market since then, can boast of big cuts or a superior grade of mills, it is up to them to show a better record than the one above given; a record that will be vouched for by Mr. McCormick who is still alive.



**R. L. McCormick in 1893**

There are also two of this same type of Band Mills now running in the saw mill of the Fosburgh Lumber Co. at Norfolk, Va., and notwithstanding they are nearly twenty years old, there are no Bands on the Atlantic seaboard anywhere that equal them today, either in the quality or extent of daily output.

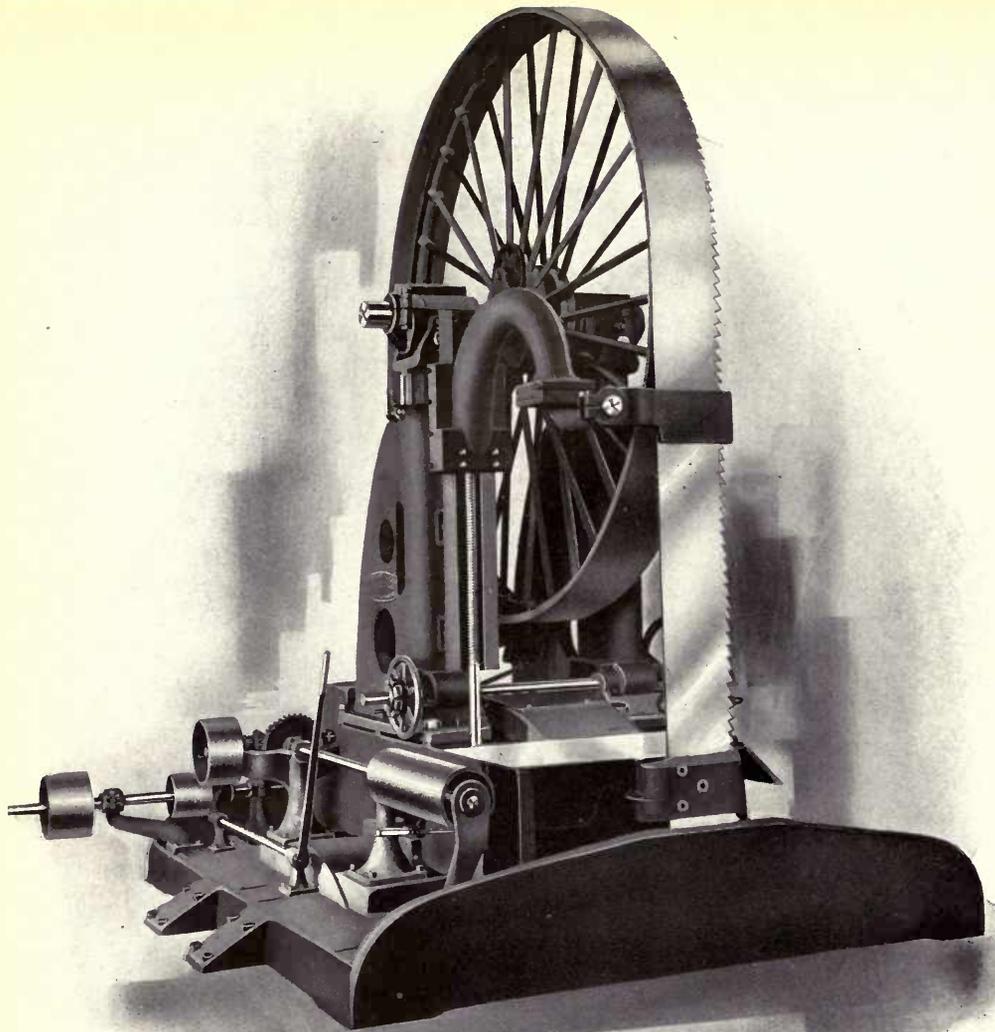
The short, compact mill with the base above the overlays of the saw floor, originated with Prescott. Wood rims with rubber faces on the wheels were speedily abandoned by him, and wheels all of metal were brought into use, so that a filer in rolling tension into the saw had a clean wheel free from bunches of pitch and saw-



dust which stuck to the rubber faces and produced unbalanced wheels; but then everybody supposed that rubber faces were a necessity. Mr. Prescott demonstrated that the mill was vastly better without them.

The late improvements made in frame constructions merely add stability without increasing the quality or extent of the output, this being entirely dependent upon a light weight of the top wheel with its shaft and boxing in combination with a straining lever sytem made as frictionless and sensitive as possible; for without these good conditions no band mill will render duty of the highest grade.

Logically, then, the same principles and elements of construction have been embodied in all the splendid Band Saw Mills now built by The Prescott Company herein shown.



## STANDARD HEAVY BAND MILL

Of 1910, for sawing logs

Of this type The Prescott Company builds the following sizes, both right and left hand, single or double cutting:

Diameter of wheels 7 feet for saws 10 inches wide.

“ “ “ 8 “ “ “ 12 or 14 inches wide.

“ “ “ 9 “ “ “ 12 to 16 “ “

Next is shown the Pacific type of the Prescott Band Saw Mills for cutting large logs, having wheels 9 feet in diameter, and using saws from 12 to 16 inches wide. They are built for double cutting as shown, as well as for single cutting. Their dimensions are about as follows:

Base 9' 7'' by 11' 7''.

Maximum distance between guides 6' 6''.

Distance from saw line to column 4' 6''.

Maximum length of saw 53' 6''.

Weight from 42,000 to 45,000 lbs.

When desired a steam cylinder is applied for operating the upper guide, and a reversing engine for adjusting the top wheel when changing saws.

Their straining mechanism is exceedingly sensitive, their shafts are large, their boxes 18 inches long and water cooled; so that in every respect these mills are perfectly equipped, and a 20-inch double belt is necessary to drive them.

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For the largest logs of the Pacific coast cut with a Band Saw Mill, The Prescott Company advanced to a mill of the same type but having wheels 10 feet in diameter for saws up to 18 inches in width.

The base of this mill is 10' 7'' by 14' 6''.

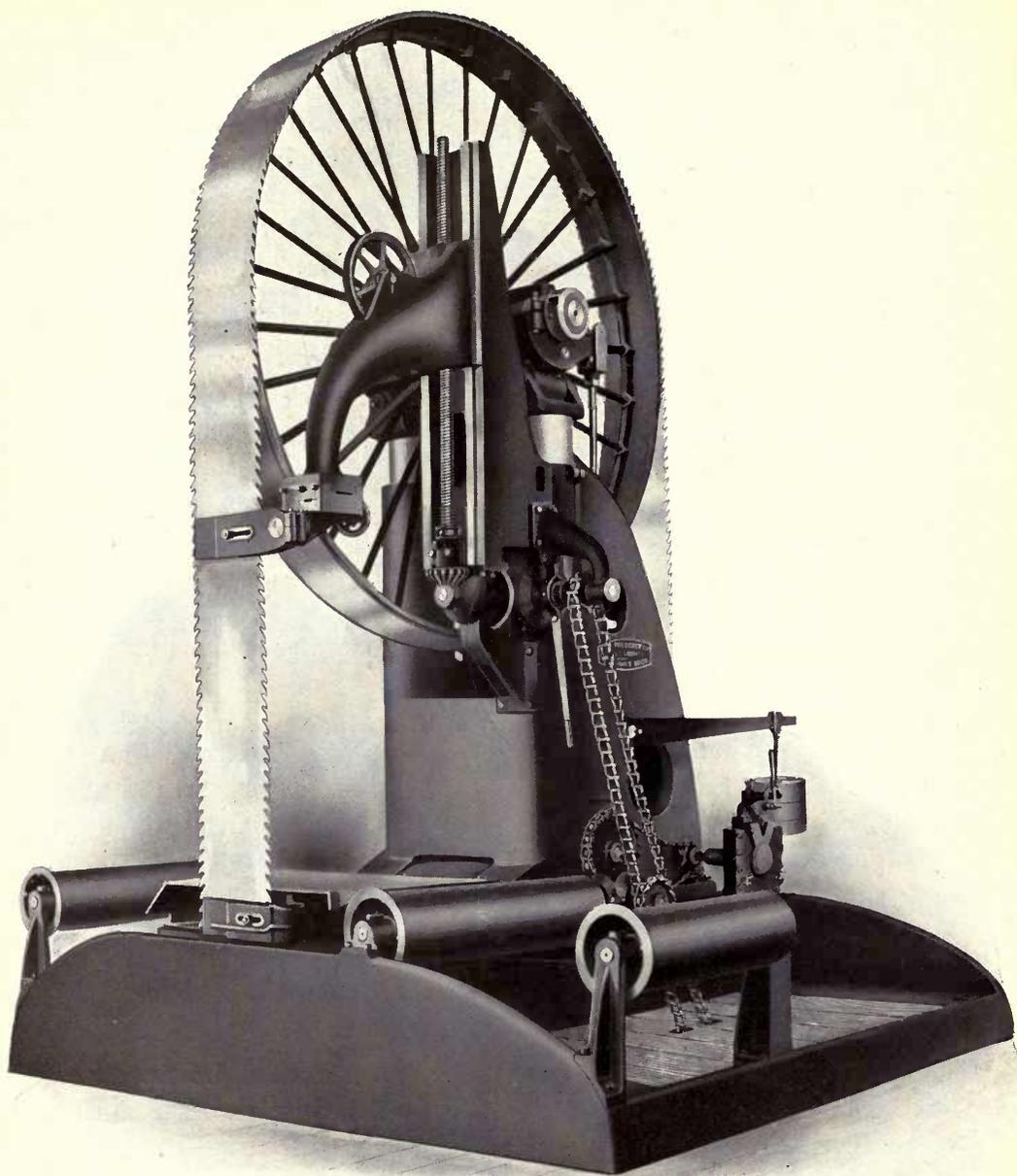
Maximum distance between guides 7' 3''.

Maximum length of saw 60' 9''.

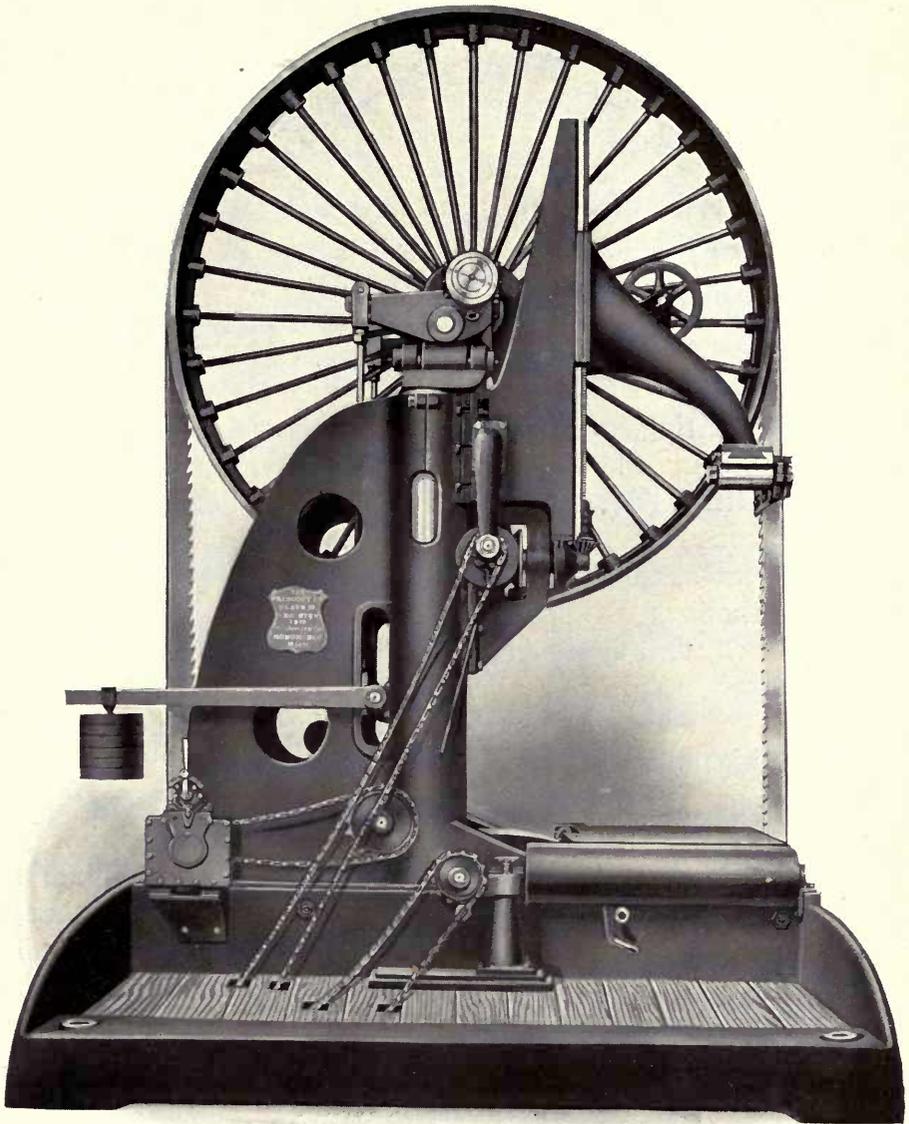
Distance from saw line to column 5'.

Weight from 54,000 to 58,000 lbs.

The shafts are large with 20'' water cooled boxes. Steam is applied to operate the top guides and adjust the top shaft when desired. A 24-inch double belt is necessary to drive it.



PACIFIC COAST, 9 FOOT SINGLE AND DOUBLE CUTTING BAND MILL



**PACIFIC COAST, 10 FOOT BAND MILL**

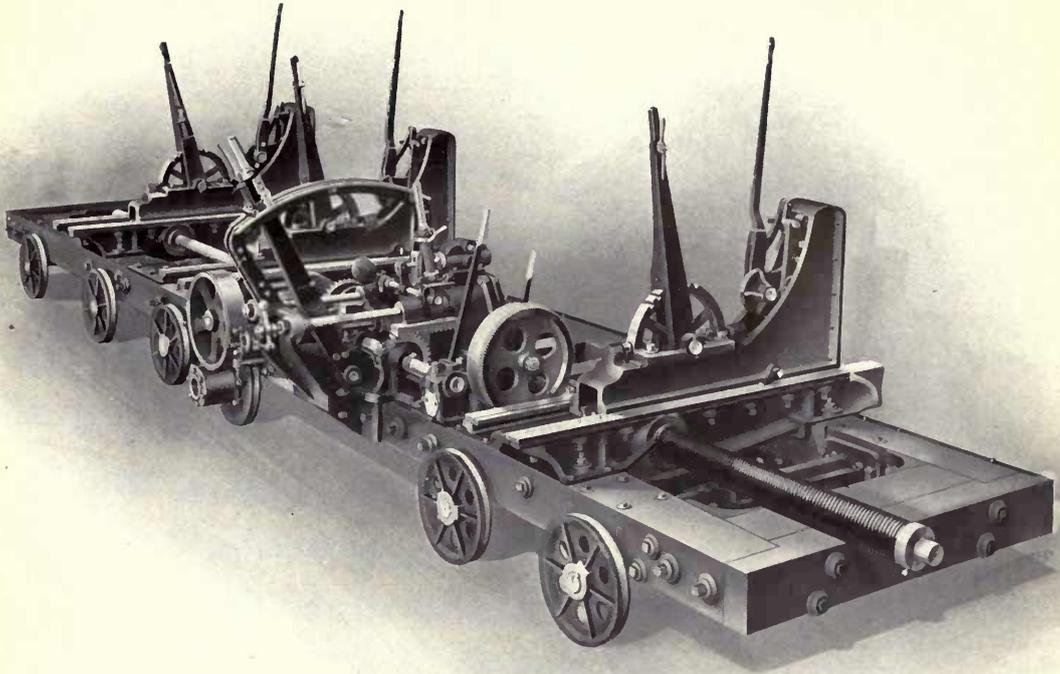
In every respect these mills are splendid creations and exhibit a vast stride in advance of the earlier mills described herein.

All of these mills are provided with a surrounding base, a powered upper guide, quick opening lower guide (as shown on page 45), live roller, means for maintaining alignments and adjusting the upper wheel when changing saws, the latter being done either by hand or power as required; and the upper wheel in all of these mills when raised to the maximum point admit of the use of a long saw for sawing occasional large logs, a saw two feet shorter being in use normally for medium sizes of logs which are mostly cut. And these mills in combination with a Prescott carriage constitute an equipment absolutely unrivaled by any other productions in the world.

Rack and pinion head blocks, every piece of which is an open hearth steel casting, are furnished in sizes varying from 36 inches to 72 inches, being the distance the knees recede from the saw line; and these with frames proportionate in dimensions and composed of well seasoned southern pine timber, well ironed and braced, comprise great strength and durability.

For mechanically exact setting, all racks, pinions, taper sets and ratchet wheels are cut from solid blanks in a gear cutter. The knees are operated either by hand lever and quadrant, the familiar way, or by a Prescott Steam Setting Machine, which advances them for 4-inch lumber or any thickness less, varying by 1-64th of an inch to every click of a pawl on the ratchet wheel, and that too with a single rearward and return stroke of the piston, so that great speed and accuracy are the characteristics of this machine; and with it an increase of cut is obtained by reason of the fact that the setter does not get tired, and no sawyer will have to wait for him. And more, with them a mill man can keep a good setter who otherwise might be on the hunt for an easier job.

These carriages are also supplied with Friction, Spring or Steam Receders, which latter can be employed in all cases where Steam Sets are used for which steam is delivered to the moving carriage. The value of steam receders consists in the ability to advance or

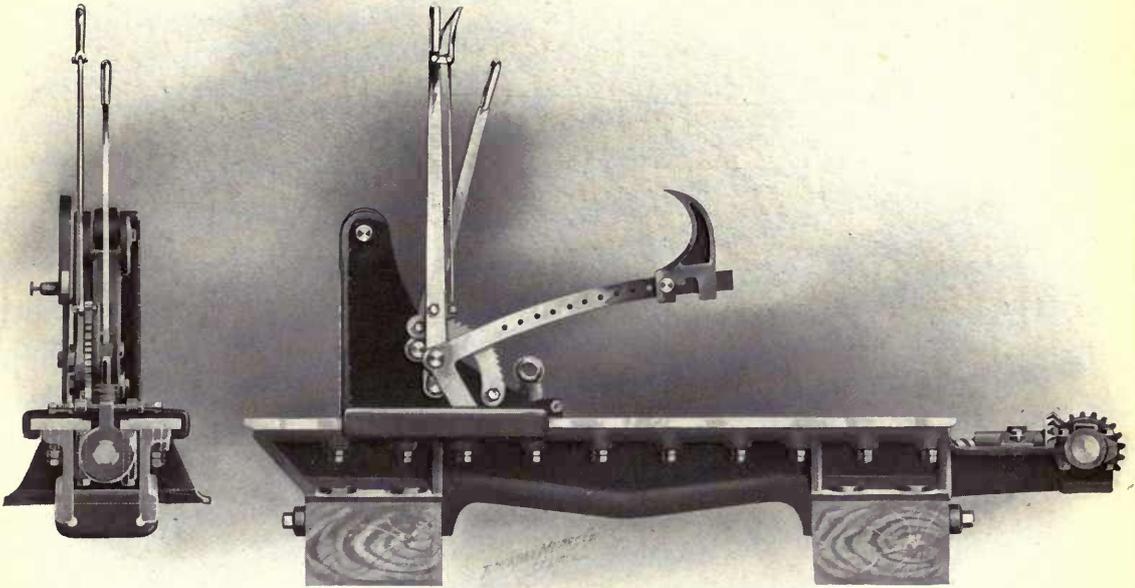


**Standard 3-Block Carriage with 4-inch combined steam and ratchet set works**

recede the knees at any time whether the carriage is moving or at rest, and for receding the knees of large blocks sawing short logs only.

A Revolving or Flat Scale always indicates the position of the knees. Dogs hold the logs. An Automatic Offset gives a clearance of the saw when on the gigg, and Steel Trucks and Steel Track necessarily go with such a carriage, composed either of heavy T Rail, or the lighter rolled track, according to the size and weight of the carriage.

For accuracy and speed these carriages have no equal, especially when handled by a Prescott Direct-acting Steam Feed.



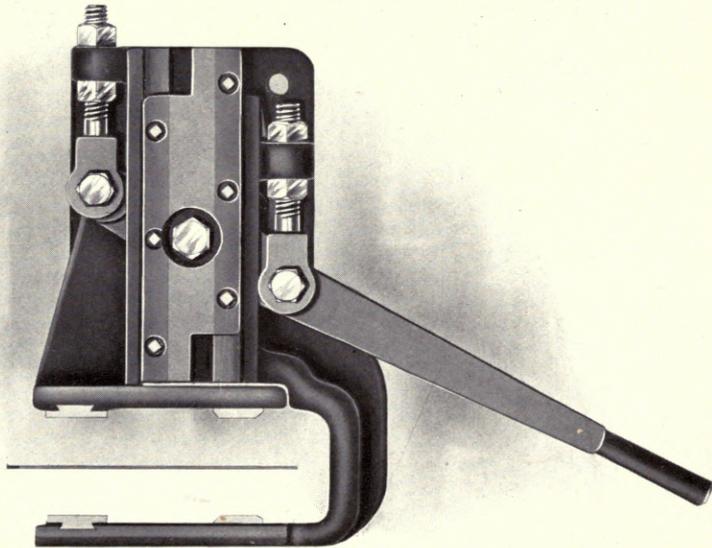
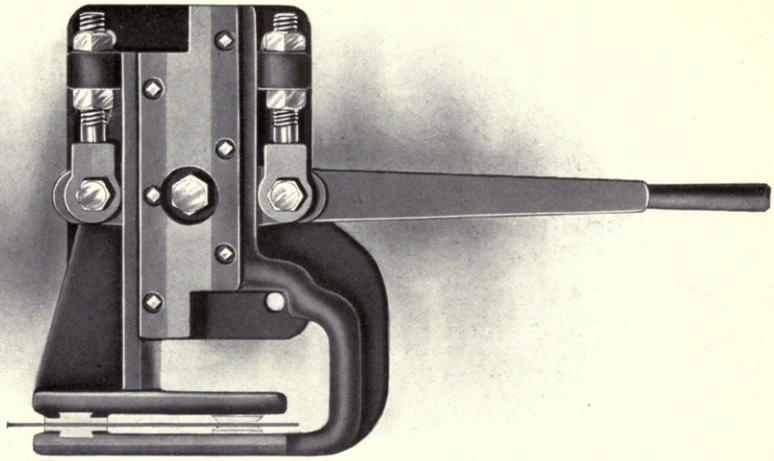
### PACIFIC COAST SCREW BLOCKS

Both the knees and bases of these blocks are composed of solid open hearth steel castings faced with heavy steel bars, presenting wide surfaces for the knees which are grooved to fit them. The knees are supplied with rolls, spud and extension hook dogs. The screws are 4-inch pitch and triple threaded. The gears are steel and cut in a gear cutter and are actuated in setting by hand levers and quadrant or by power in accordance with the wishes of a purchaser.

The Prescott Company furnishes these blocks in the following sizes, viz.: 72-inch, 84-inch and 96-inch; being the distance the knees recede from the saw line.

And in all other respects the equipment of the carriage is very heavy and fully up to date in every respect.

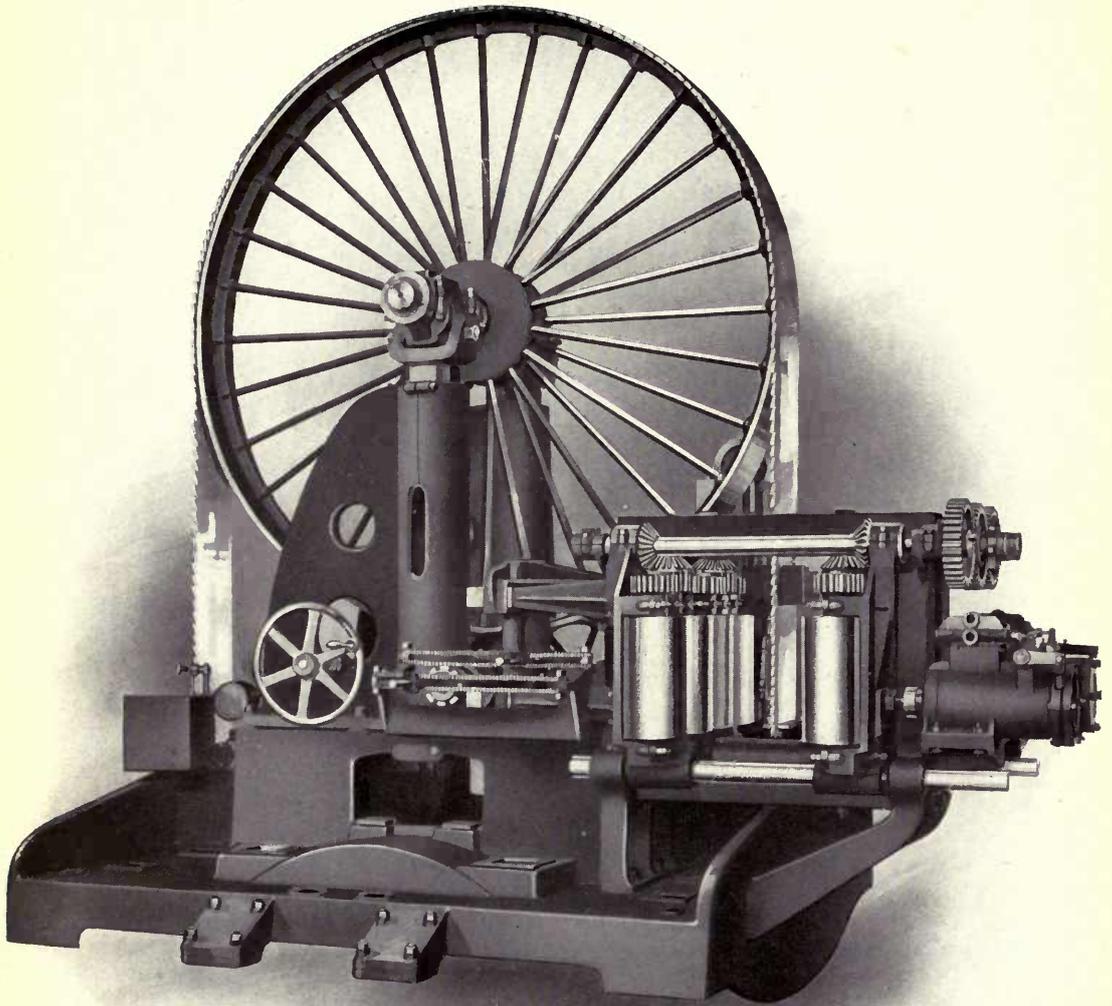




### **QUICK OPENING LOWER GUIDE**

These Guides are applied to all Log Band Saw Mills built by The Prescott Company. When slivers, bark or sawdust wedge in the Guide and cause trouble and heat the saw, then the Guide is promptly opened by the off-bearer and the stuff falls through.

When changing saws the Guide can be promptly opened.



**VERTICAL BAND RESAW**  
Made in 7-foot, 8-foot and 9-foot sizes

## The Prescott Vertical Band Resaw

This machine is built in three sizes, viz.:

With wheels 7 feet in diameter for 10-inch saws.

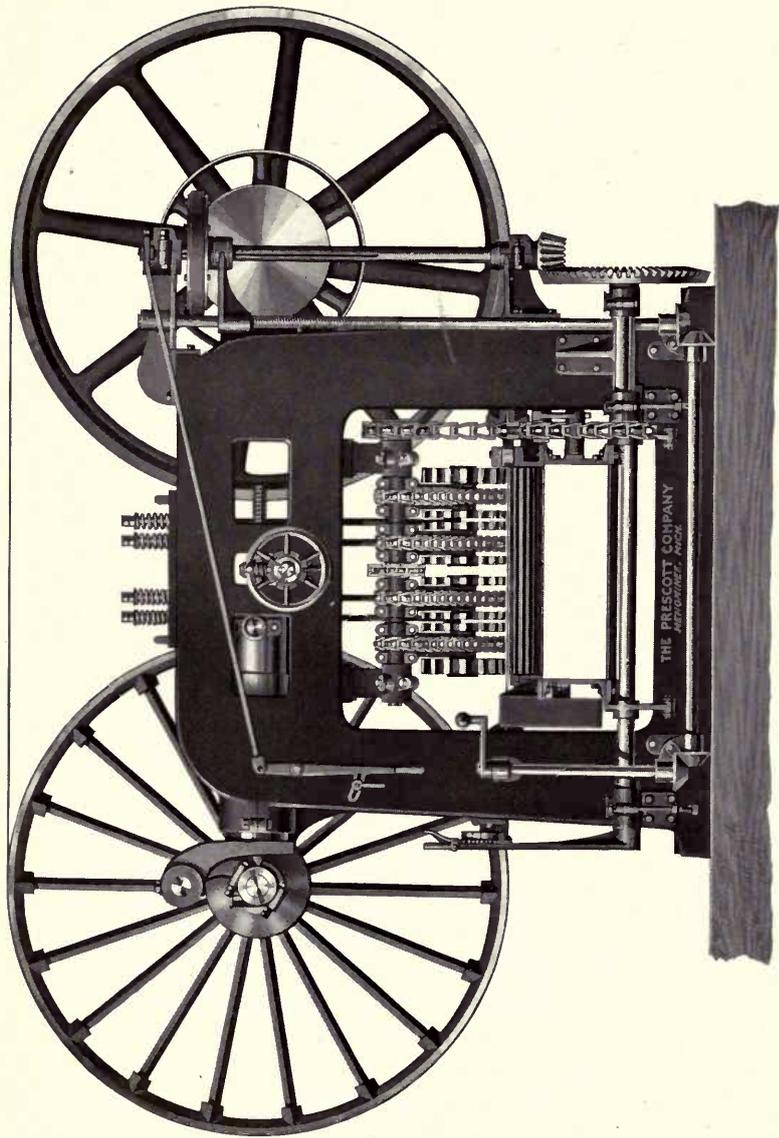
“ “ 8 “ “ “ “ 12 “ “

“ “ 9 “ “ “ “ 12 “ “

It is distinctly a machine for resawing plank, cants or timber up to 16 inches in thickness. The mill proper is provided with a surrounding base and is constructed upon the same principles as are all Prescott Log Band Mills. The feed works being driven by the machine itself makes the whole self-contained. The outside pressure rolls, are adjusted by power; and the inside rolls are operated by hand levers and notched quadrants, and regulate all thicknesses of lumber to 1-32 of an inch. And all of these rolls are power driven. All gearing is steel, the upper guide is power operated, and the mill itself is made self-centering when desired, although this feature is not specially necessary in this machine.

No finer machine exists for resawing lumber and timber coming from a log Band Mill or a Circular.

It is not adapted for resawing slabs.



**HORIZONTAL BAND RESAW**  
Built by The Prescott Company, Menominee, Mich.

# Standard Prescott Horizontal Band Resaw Mill

## For Resawing Slabs and Planks

The machine shown upon the opposite page has wheels 6 feet in diameter, and admits upon the feed rollers a slab nearly 30 inches wide and about 12 inches high, so that half logs of considerable size may be sawed as well as slabs.

Numerous feed rollers are employed instead of the endless platen or apron, thus insuring efficiency and durability.

The feed rollers are mounted upon an independent frame which can be withdrawn when necessary for purposes of repair. This is adjustable vertically by means of a hand lever with quadrant for setting the machine to saw lumber into the required thicknesses.

The base and frame are heavy and substantial, and the machinery is located above where it is accessible and out of the way of the dirt which may accumulate. A very sensitive saw straining mechanism is applied.

The pressure sprockets are supplied with power for such material as may require it, and is omitted, however, when it appears unnecessary. The feed can be increased, diminished or reversed.

The machine is located upon beams on the line of the overlays, requiring no special substructure to support it.

Other sizes are supplied for special uses and further information will gladly be given by correspondence.

# The Prescott Company

Manufacturers of

Strictly Modern Saw Mill Machinery of  
standard sizes for medium logs and a  
heavy class for the large logs of the  
Pacific Coast or elsewhere  
comprising:

**Band Mills**

for logs and resawing purposes,

**Circular Mills,**

**Carriages,**

both Rack and Pinion and Screw  
Setting,

**Steam Setting and Steam**

**Receding Machines,**

**Edgers — 3 types**

**Trimmers — 3 types**

**Log Stops and Loaders,**

**Rift Sawing Machines,**

**Steam Jump and Swing Saws,**

**Offsets, etc., etc.**

**Slashers,**

**Lath Mills,**

**Live Rolls,**

**Transfers,**

**Log Jackers,**

**Steam Niggers,**

**Log Turners,**

**Kickers,**

**Dogs,**

And a full line of Transmission Machinery all built for either  
Wood or Steel Construction.

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ESTIMATES FURNISHED.

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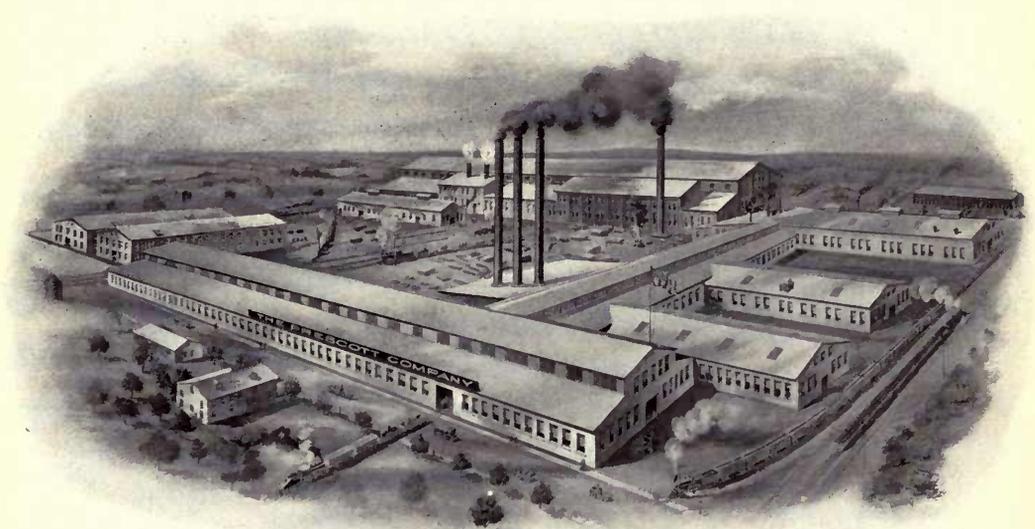
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