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PETERBOROUGH, ONT., JUNE 15, 1885.

NO. 12.

PROPOSED SCHOOL OF FORESTRY.

In the English House of Commons on May 15th, on the motion for going into Committee of Supply,

Sir John Lubbock called attention to the state of forestry in this country, and moved for a Select Committee to consider whether, by the establishment of a forest school or otherwise, our woodlands could be rendered more remunerative. After pointing out that this was the only great country in Europe which took no notice at all of its national forests, he said this was a time when it was peculiarly desirable that they should have an inquiry of the kind he proposed; because, in the first place, the head of the Indian Forest Department was in this country at the present moment, and they might have the advantage of his co-operation and advice; and secondly, because the Indian Office was at the present moment engaged in organizing the system of instruction of the Indian officials. He thought it would be very desirable to consider the whole subject before the Government made any arrangements that would apply to the Indian officials. If a well organized forest school was established it would afford a valuable nucleus in the first instance. He did not, however, wish to express any decided opinion in favor of the establishment of a Government School of Forestry. It was a subject for inquiry. Every one, he thought, would admit that they could not have a successful school without having access to a large tract of forest. It was almost impossible for private individuals to establish for themselves a satisfactory forest school, and it might be possible to render our national woodlands available to private institutions, so that young men might have the advantage of instruction in arboriculture.

Dr. Lyons, in seconding the motion, stated that total amount of woodland in Ireland was only 350,000 acres, being 45 acres less than in 1441. The amount of timber in England was infinitely below that which she ought properly to possess for the purposes of the natural protection of the soil, and for the protection of our herds and flocks. The question of our timber supplies was of the greatest agricultural, commercial and industrial importance to this country.

Sir H. Maxwell said that there was an immense quantity of money wasted just now in mistaken forestry operations. (Hear, hear.) No one who had spent any portion of his life in studying the subject could fail to be distressed in going through the country to see hundreds and thousands of acres of neglected woodland. (Hear, hear.) Considering the amount of private energy and self denial involved in the formation of woodlands, it was not too much to ask the Government of this country to recognize that, and to take steps to place within the reach

of the public the best possible information on the subject.

Mr. Gladstone thought there was great room for improvement in the management of our woodlands, for there was a widespread and mischievous superstition against cutting down trees, and very few indeed understood how to cut down a tree. Everything was done too much at haphazard, and he thought the appointment of a committee might be of great advantage. But as to the establishment of a school he desired to keep entirely from any engagement.

Sir W. Barttelot, Mr. Ackers, Mr. Dawson, Dr. Farquharson, and Sir G. Campbell also spoke, and the motion for the appointment of committee was agreed to.

PRESERVATION OF OUR FORESTS.

There are reasons entirely independent of economic value which make the preservation of our forests a matter of prime importance, and would make their ruin a national calamity. It is not that they have much influence on the rainfall. Those who hold that they do so mistake effect for cause. The rain produces the forest and not the forest the rain. A forest growth may not of necessity follow an adequate supply of moisture, but the supply of moisture is an indispensable condition of it. The utility of forests, aside from their marketable value, lies in their power, not to cause the rainfall, but to regulate its distribution. In this they are of incalculable benefit. When they cover the ground about the sources of great rivers and their tributaries, the porous soil, with its mosses and its accumulation of fallen leaves, acts as a vast sponge to retain and slowly deliver the water that falls from the clouds in the form of rain or snow. When the sheltering trees are destroyed and the ground is laid bare, all the water runs off at once; the brooks that had before flowed continuously and with comparative regularity become roaring torrents in spring and dry channels in summer, while the rivers that depend on these sources of supply swell into freshets at one season and shrink into insignificance at another.

The recent destructive floods in the north of Italy, and notably along the river Po, with all the misery they have brought, are ascribed, and no doubt with truth, to the partial denudation of the mountainous country about the sources of streams. The arid and comparatively valueless condition of certain parts of Spain is due to similar causes. It is for us to see, while there is yet time, that similar evils do not fall upon us. That wonderful region of the West known as the Great Divide, gives birth to the Missouri, the Yellowstone, the Columbia, the Colorado, and the North Fork of the Platte. The preservation of its sheltering forests is of vital interest to all the regions watered by these

rivers. The same is true, in a different degree, of the sources of many lesser streams within our national territory. Sometimes, as in the case of the Hudson, the sources of the river and its whole course lie within the limits of one State, and the local government is therefore master of the situation. If New York should permit the Adirondack forests to be destroyed, she, and she alone, would be answerable for the consequences. But, in most cases, our great rivers rise in one or more States or Territories, to flow through or by the domain of others on their way to the sea. Here the State authorities are powerless, and if the remedy is to be applied at all, it must be applied by the Federal Government. Momentous interests are at stake, and the welfare of the whole nation demands careful consideration.—Francis Parkman in June Atlantic.

COMMENCING BUSINESS.

"Never start until you are ready" is an old proverb, and we venture to think that if 50 per cent. of travellers and clerks who start in business as timber merchants, were to pay a little attention to this old adage, there would be less competition, fewer bankruptcies, broken hopes, and homes. It should be the aim of every man to improve his position, but we can recollect some cruel turns in fortune's wheel to young men who, having accumulated a little money or having had it "left" them, have decided to cease making a fortune for another and have started in business for themselves. It generally happens that these aspirants are good employes, and as such command fair salaries, but they have had no experience in knowing what it is to have plenty of debts on one's books, and plenty of bills to pay. There seems to be an idea among some men that they have only to fit up an office or stock a yard, and then orders will flow in, all of course for cash, and a round of prosperity, culminating in a fabulous fortune, will be the result. Unfortunately this does not generally happen. The few "friends" who promise to do their best for the new aspirant soon get used up, business does not roll in in an unbroken stream, bills are not paid promptly, and he has to wait an unconscionably long time for his money. We have known such men, with plenty of money on their books, who soon found themselves in financial difficulties. And this kind of business soon tells, for beginners, as a rule take orders at the lowest possible figure, in the hope of building up a connection, and when they get it they either linger through years of mental misery and penury, or seek the relief which the Bankruptcy Court affords. Between bad debts, comparatively few good orders, and dull times generally, the business quietly dies out, and is quickly forgotten by all save the man who ventured his all in it. And he, broken in heart and pocket, becomes a wiser and a sadder man.

No greater mistake is made by men of too little capital than starting in business. Here and there we have examples where men have been exceptionally lucky and have pulled through, but in many cases the struggler only goes through a brief period of hope to a crushing disaster. And the worst feature of these small capital men is that they who, above all others, need a fair return for their goods, sell them at ruination prices, and when looked at from a sensible standpoint seem to invite the ruin they try to avert. Thus striving for business by working for less than a fair remuneration is productive of other evils than those it entails upon those who practice it—it tends to reduce prices all around, and to awaken suspicion regarding the credit of men who will meet their bills. Whilst we rejoice to see men from the ranks come to the front, we have no sympathy with those who start without looking fairly ahead, and trust to good luck to pull them through, or the Bankruptcy Court to lift them out of their debts and difficulties. One of the chief disadvantages that people with small capital have to contend with is that they are forced to buy on credit of the larger houses, then, in order to meet their engagements, they force trade and accept paper from people who are known to be untrustworthy. Some of the leading merchants in the West India Docks are well acquainted with all this, yet the evil continues. Meanwhile the discount houses grow fat, because among the impetuous classes they get, instead of a fair rate of interest, something like 20 per cent., and when once in these bill brokers' hands, life becomes a perfect misery.

In conclusion, we are of the opinion that employes in good positions are often far more comfortably situated than their employers, and it is worse than folly to commence business without sufficient capital, relying on connections which rarely are of much solid benefit alone.—Timber.

Durable Timber.

The durability of the framed timber of buildings is very considerable. The trusses of the old part of the roof of the basilic of a St. Paul, at Rome, were framed in 816, and were sound and good in 1816, a space of nearly a thousand years. These trusses are of fir. The timber work of the external domes of the Church of St. Mark, at Venice, is more than 810 years old, and is still in a good state. Alberti observed the gates of cypress to the church of St. Peter, at Rome, to be whole and sound after being up nearly 600 years. The inner roof of the chapel of St. Nicholas, King's Lynn, Norfolk, is of oak, and was constructed upwards of five hundred years ago. Daviller states, as an instance of the durability of fir, that the large dormitory of the Jacobins' convent, at Paris, was executed in fir and lasted 400 years.

A NEW FEED FOR SAW MILLS.

We take the following description of new feed for saw mills from the Chicago *Northwestern Lumberman*, which, as will be seen by our remarks at the end of the article, are also manufactured in Canada by the Wm. Hamilton Manufacturing Co., of Peterborough:—

"Steam feeds have become so well known and are considered so indispensable in 'every well regulated' saw mill, that any improvement in this direction will at once command the attention of every manufacturer of lumber.

"Herewith is presented an illustration of a new twin engine feed, which appears worthy of special notice, and fully entitled to have its merits, as claimed for it by the manufacturers, examined. They modestly claim that it is the simplest, least liable to derangement, most easily and perfectly controlled, most economical in the use of steam, and the cheapest as well as best of all the steam feeds now in the market. The small model placed on exhibition at the exposition at New Orleans is said to have attracted more attention, and received more encomiums from visitors than any other single machine in the whole saw mill department there. It is the invention of Mr. Albert Cunningham, who also invented the famous 'boss dog,' and various other machines, all of which have proved eminently practical and successful.

"It will be seen from an inspection of the cut, which illustrates a pair of 10x16 inch engines, that the matter of simplicity in engine construction has well nigh reached perfection, there being practically only two moving parts in each engine aside from the crank and shaft. The casting forming the lower part of frame projects at each side of the machine, and forms trunnions or pivots, on which the cylinders are vibrated. The cylinder castings being extended below the parts in which the pistons work, are bored out to receive the trunnions. The upper surface of the trunnions have steam ports communicating with two separate cored ways, passing completely through the central portion from end to end, and forming what may be termed valves. The cylinders have corresponding surfaces, which may be termed valve seats, working in contact with the trunnions, which are provided with suitable steam ports communicating with the ends of the cylinder. The crank-pin box is secured directly to the piston rod, and has a sleeve formed with it, which clasp and slides upon a guide bar which is secured rigidly to the cylinder head. Thus, as the crank revolves, the cylinder is caused to swing, and its motion upon the trunnion, in conjunction with the steam ports and steam passages in trunnion, effects the steam admissions and exhausts. It will be observed that the motions that accomplish this result are obtained directly from the crank-pin, which cannot possibly get misplaced in relation to these parts either through wear of parts or slippage. So when the parts have once been properly assembled in the shop their correct working for all time is assured, and a uniform and smooth working machine is made certain. By a novel and simple arrangement of the parts the pressure of the steam when working in the upper part of the cylinders and tending to separate their surfaces from the surfaces of the trunnions working in contact, this pressure is made to react on the lower cover plate in a manner to overbalance and retain the cylinder in place and maintain a tight working joint, and at the same time automatically compensate for differences of expansion or any wear of parts. Thus the usual expensive and complicated arrangement of eccentrics, yokes, valves, valve rods, valve fastenings, packing boxes, etc., and consequent lost motion arising therefrom, are entirely dispensed with, and precisely the same functions are performed by the single means above described.

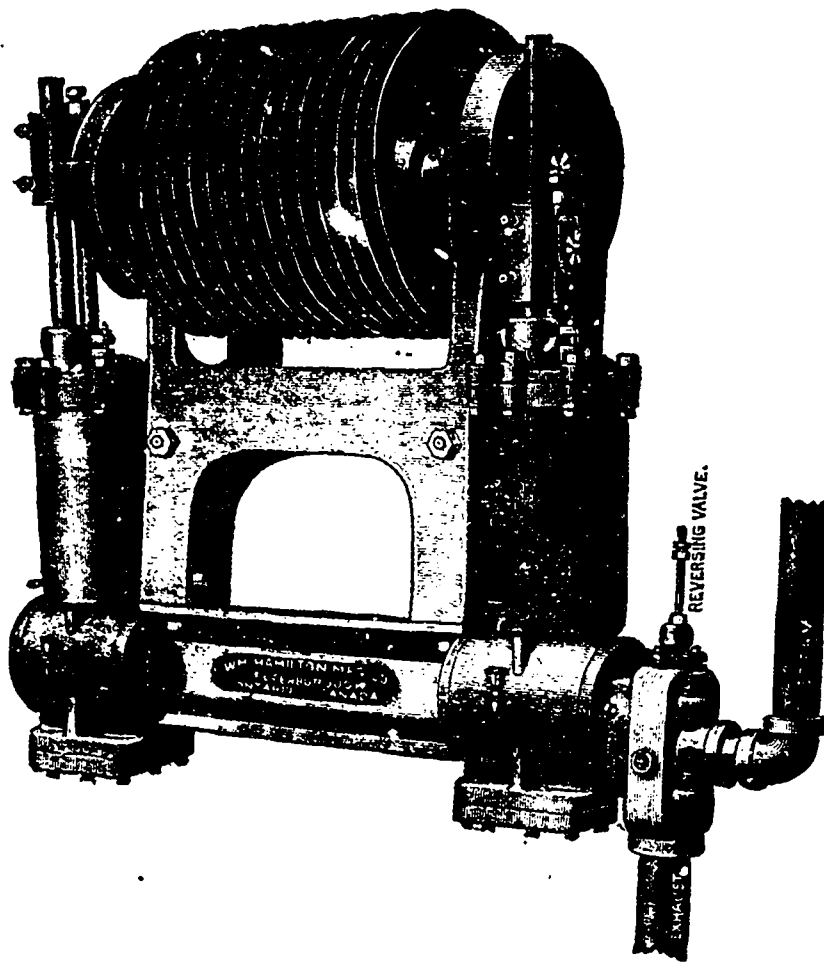
"The starting, reversing, stopping and controlling the feed is all accomplished by the simple balance piston valve contained in the casing, shown in the cut at right of machine. The sawyer's lever may be attached by suitable connections from any desired location. This valve casing is interchangeable with the cap at the other end of trunnion, so that it may be placed in the most convenient position as to steam and lever connections.

"The machine illustrated by above cut has a

rope drum 30-inch diameter by 30-inch face, and will drive carriage to saw a log 85 feet long. The drum can be made longer or shorter, to saw any length desired.

"Heretofore two sheaves have been used in connection with the drum; one at each end of carriage way. But when the required movement of carriage is less, or a wire rope is used, permitting a shorter drum, so that it may be brought up between the carriage ways, it is advised that but one sheave be used, the rope drum taking the place of the other. Thus a much shorter line is used to produce the feeding movements of carriage, and there will be, therefore, less spring of line, and also avoiding at least one-third of the wear on the line due to the sheave which is dispensed with. By substituting a gear wheel for the rope drum, this feed can be applied to carriages having a rack and a movement secured, which is preferred by some to the rope connection.

"The manufacturers intend also to build these machines after a plan of a different proportion having a larger drum of much less force, more particularly for wire rope, believing that when thus applied, the former objection to wire rope, that they are not durable, will be done away.



The short life of such a rope is due to their being used, heretofore, on drums and sheaves much too small, as is abundantly proved where used in transmitting power over larger sheaves. A slower movement with larger engines using sheaves not less than five feet in diameter, will, in the opinion of the manufacturers, make the most durable, economical and perfect feed yet introduced. We had almost forgotten one principal claim for this invention which is that every ounce of steam is utilized, as none is admitted into the engines that is not used effectively. This style of engine it is thought will commend itself for its economy of construction, durability and simplicity for various other uses, such as running elevators, hoisting engines, etc., where a simple, easily reversible engine is required.

"The Filer & Stowell Company Cream City Iron Works, Milwaukee, Wis., are the manufacturers, who will give all other information desired, and quote prices on application."

MANUFACTURED IN PETERBOROUGH.

In addition to the above we might here state for the benefit of the lumberman of Canada, that the William Hamilton Manufacturing Company, of Peterborough, are the manufac-

turers of the Cunningham steam feed for the Dominion of Canada. They, from drawings sent by the inventor, built, and had running in their shop this spring, the first of these engines, and before they had them got up in Milwaukee. They have shipped two of them this spring, one to Messrs. Playfair & Co., of Sturgeon Bay, with rope feed, and one to Messrs. Francis Carswell & Co.'s new mill at Calabogie Lake, on Kings' on & Pembroke railroad—they also supplied them engines, boilers and all machinery for mill.—They are now building one for the Rathbun Company, of Deseronto, for their heavy timber mill. This one will work like the one for Francis & Co., with rack feed. Any other information can be had from the William Hamilton Manufacturing Company, Peterborough. Send for circular.

POWER REQUIRED TO DRIVE MACHINERY.

"How many pounds of steam does it take to turn your engine over without the machinery at work?" said one engineer to another recently. "Well, I don't know," he replied, "about ten, I suppose."

"I will wager," said the other, "you cannot

one kind of oil is thought as good as another. To us it seems strange that men should be willing to pay tithe to carelessness, to waste means on nothing when money is so hard to get. It is certainly a small thing to line up shafting, and to look after the other details. In the matter of oil, it is a well settled fact that the purist is the best and cheapest, and that the use of cheap lubricants (so-called) is a mistake. Pure graphite, which is fast coming into use as a lubricant, is said to give very satisfactory results. Shafting that is in line will work without any binders on the bearings, for the belts serve the same purpose, and no cap is needed except a slight cover to keep dust out. By actual test with a dynamometer, Bourne gives the following work done by an engine of 73½ horse power; two pair of stones four feet eight inches in diameter grinding wheat; two of the same size grinding oat meal; one dressing machine and fanner; one dust screen, and one sifter. One set runs 35 revolutions per minute, the other 80. The oat meal stones run 120 and 140 revolutions per minute.

It also instances a cotton mill of 2,562 spindles, each making 2,200 revolutions per minute. The bobbins were 1½ inches long, the thread portion being 2 3-16 long. There were also five turning lathes, three polishing lathes, two bobbin machines, two saws—one 22 inch the other 14-inch—and 24 bobbin heads. When all the machines were off except the spindles, the actual power required was that of 21 horse, so that each horse power drives nearly 123 spindles. A small engine of ten inch bore, and 4 foot stroke, making 35 revolutions with steam at 90 pounds, drove two muley saws of 34 inch stroke, cutting 30 feet of yellow pine per minute, 18 inches thick.

The friction of a steam engine in good order is variously estimated at from five to eight pounds to the square inch. Of course, the proper way to find out the actual figures, is to take a diagram with the engine and shafting in motion and another with the engine alone, the difference of the two showing the effective pressure. Very few are will to take the trouble to do this, but go on grumbling at the high price of coal and the waste of fuel, when they alone are to blame for not keeping their machinery in proper order.

Another thing that is very generally overlooked by manufacturers is the selection of the best and most suitable engines and machinery for the work they have to do. This is very often left to some one who has no practical knowledge of machinery whatever, but may control a good deal of stock in the company; or he may be a friend of some officer of the company lately graduated from a technical school, who knows everything about machinery, as all technical graduates do; and there is no one a machinery builder likes to get hold of as well as one of those theoretical mechanics, as he can put off the most inferior workmanship on him, if it is nicely painted, and looks good, and has some new attachment on which he lays the greatest importance, and without which the machine would be imperfect, when in reality the whole machine, attachment included, would not be worth the freight it would cost to take it to the factory, and the same with the engine.

He has read of some new design with several patent attachments, each one saving upwards of 25 per cent. of steam, so that with half a dozen of them he can run all his machinery without any steam or boiler, and some generated for heating his shop and steaming his lumber, but when these machines and engine come to the practical test of doing the work, all those improvements are found to be worse than useless; they are an actual injury, and will need the care of a machinist continually to keep them running at all, until the company got their eyes opened by having their rival in the same business turning out 50 per cent. more work with less men. Then the machinery has to be all changed in order to be able to compete with those others that had their machinery selected by a thorough, practical mechanic, that didn't know a word of Greek or Latin, or that such men as Archimedes or Eustod ever lived.—*American Wood-Worker.*

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pass the centre with less than thirty."

He looked incredulous. "To-morrow morning I will try it."

And he did so. He opened the throttle when the gauge showed 15 pounds, and the crank was on the dead half centre; but the wheel never stirred. He waited a little while until the cylinder got hot; he blew the condensed water out and tried again at twenty, but the crank never moved. At twenty-five pounds it made half a stroke, but stopped on the centre, and at thirty, after being pryed off the centre, it moved off slowly.

"I wouldn't have believed it," he said.

This was a high pressure engine, 12 inch cylinder, 30 stroke, working at a boiler pressure of 60 pounds to the inch. Half the pressure was absorbed in the friction of belts, shafting and machinery. This is not an isolated case. It is quite common, and few engineers are aware of the great loss daily incurred by simple neglect. It is not difficult to account for it when we reflect that in many shops it is accounted of no importance if shafting is out of line, or belts laced up so tight that bearings heat; that it is of no moment whether the separate machines are in good order or not, and that

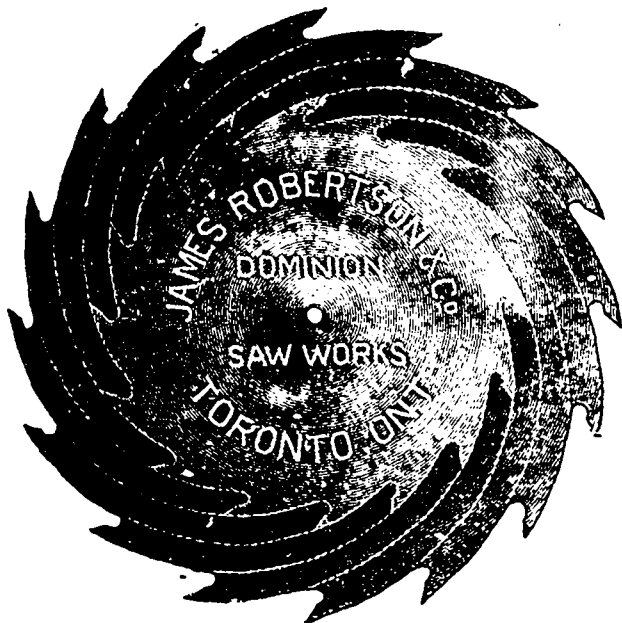
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RULES FOR THE MANAGEMENT OF STEAM BOILERS.

1. Condition of water.—The first duty of an engineer when he enters his boiler room in the morning is to ascertain how many gauges of water there are in his boilers. Never unbank or replenish the fires until this is done. Accidents have occurred, and many boilers have been entirely ruined from neglect of this precaution.
2. Low water.—In case of low water, immediately cover the fires with ashes, or, if no ashes are on hand, use fresh coal. Do not turn on the feed under any circumstances, nor tamper with or open the safety valve. Let the steam outlets remain as they are.
3. In cases of foaming.—Close throttle and keep closed long enough to show level of water. If that level is sufficiently high, feeding and blowing will usually suffice to correct the evil. In cases of violent foaming, caused by dirty water, or change from salt to fresh, or vice versa, in addition to the action before stated, check draft and cover fires with fresh coal.
4. Leaks.—When leaks are discovered they should be repaired as soon as possible.
5. Blowing off.—Blow off eight or ten inches at least once a week; every Saturday night would be better. In case the feed becomes muddy, blow out six or eight inches every day. Never blow entirely off except when boiler needs scraping or repairing, and then not until fire has been drawn for at least ten hours, as boilers are often seriously injured or ruined by being emptied when the walls are hot. Where surface blow cocks are used, they should be often opened for a few moments at a time.
6. Filling up the boiler.—After blowing down allow the boiler to become cool before filling again. Cold water, pumped into hot boilers, is very injurious from sudden contraction.
7. Exterior of boiler.—Care should be taken that no water comes in contact with the exterior of boiler, either from leaky joints or other causes.
8. Removing deposit and sediment.—In tubular boilers the hand holes should be often opened, and all collections removed from over the fire. Also, when boilers are fed in front and

blown off through the same pipe, the collection of mud or sediment in the rear end should be often removed.

9. Safety valves.—Raise the safety valves cautiously and frequently, as they are liable to become fast in their seats, and useless for the purpose intended.

10. Safety valve and pressure gauge.—Should the gauge at any time indicate an excessive pressure, see that the safety valves are blowing off. In case of difference, notify the parties from whom the boiler was purchased.

11. Gauge cocks, glass gauge.—Keep gauge cocks clear, and in constant use. Glass gauges should not be relied on altogether.

12. Blisters.—When a blister appears there must be no delay in having it carefully examined and trimmed, or patched, as the case may require.

13. Clean sheets.—Particular care should be taken to keep sheets and parts of boilers exposed to the fire perfectly clean, also all tubes, flues, and connections well swept. This is particularly necessary where wood or soft coal is used for fuel.

14. General care of boilers and connections.—Under all circumstances keep the gauges, cocks, etc., clean and in good order, and things generally in and about the engine and boiler room in neat condition.

The above rules are those adopted by the Hewes & Phillips Iron Works, Newark, N. J.—*Mechanical and Milling News.*

Says the *Montreal Gazette*:—Our Quebec correspondent telegraphs on May 30th, the following sales took place to-day: Bryson's raft, about 55 feet average square pine, with a quantity of waney, at about 26c.; Klock's raft, upwards of 60 feet average square pine, with a quantity of waney, at about 30c. Both are large rafts.

The Morning Dress.

It is said that a lady's standing in society can easily be determined by her dress at the breakfast-table; an expensive, showy costume, indicating that the wearer has not yet learned the proprieties. But no one need be afraid of being called "shoddy" if her loveliness is as apparent by daylight as at the hops. Perfect beauty is never the attendant of disease; above all, of those diseases peculiar to women, and which find a ready cure in Pierce's Favorite Prescription. Price reduced to one dollar. By druggists

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THE WATERSHED OF EASTERN ONTARIO.

The following is from Mr. R. W. Phipps' annual forestry report, published by the Ontario Government, and continued from our last issue:

Starting from Lake Nipissing, we find we must climb on the engine to travel along the line newly built. Passing on a little way, we see terrible evidences of fire. Here for miles, far as the eye can follow, is nothing but the bare upright whitening trunks of great dead pines surrounded by worthless brushwood. The pine is of little use after a fire—the worms attack the trees at once, and destroy them before the lumbermen could attempt to save them. Much valuable timber has been lost here. Arrived at the terminus, which, to save cutting, is seventy feet above the water, the southeast bay of Nipissing, stretching broad between its wooded banks, its surface dotted with islands of picturesque beauty, lies before us—the great expanse of water dark and tossing green below—the evening sun touching island and forest edge with gold above. Here, from the mass of logs, across broad, which float far below us, comes a spiked chain running in the bottom of an inclined trough 140 feet long. Towards this the logs are pushed by a pike-pole, they lie on the spikes of the chain, are carried along, and come up one after another, a string of black and wet-looking monsters, reaching from water to summit. Here they will be loaded directly on the cars, and, the five miles of railway past, they can float down the Ottawa.

Descending to beach, the foreman and myself enter a little green skiff and embark on Lake Nipissing, where, three miles along the shore, we are to see a lumber camp just in process of formation. Neither the cars nor the boat are of artistic formation, but the boatman is powerful, the boat flies across the blue waters, and reaches a beach of white sand and covered with stunted poplar and balsam. Here, on a green bank of some height, a space has been cleared, half a dozen tents pitched, trunks, luggage and tools lie all around, and the ubiquitous French cook, his big fire and big kettles, are at work as usual *al fresco* in the centre. This stunted bush is rising on the burnt ruins of a once magnificent pine forest. From here to the far distance there is little but *brute*, the poplar undergrowth, the innumerable lofty trunks of dead and worn-eaten pine. (This low poplar, it may be remarked, is of the aspen kind, and the whole yellow landscape of innumerable acres trembles and flutters in the lightest summer air.) The fire which swept the country here has, however, spared some thousands of good pine trees in this immediate neighborhood, and the object of the camp is to secure those which are sufficiently large. We walk a mile to the rear, and watch the process of erecting the lumber shanty. They have erected, of inferior or worm-eaten pine logs, four walls eight feet high, and are now roofing it with what are called scoops—trunks of pine trees flattened and hewn into troughs, a double layer of which, the upper layer inverted to shed the rain into the lower, forms the roof. Six stalwart choppers are cutting the grooves in these, while every now and then along the track into the bush comes a horse at full trot, his driver running by his side, a fresh flatted log of white pine dragging smoothly on the ground behind him.

Opposite the main shanty will be others for stables and stores, and in a few days the men will be in one, the horses, provender and tools in the others, and the winter work of getting out logs will commence in earnest. What is principally noticeable to the forester's eye in the whole operation is the quantity of tree tops and chips left everywhere on the ground where trees have been felled, thrown everywhere to right and left where roads have been cut already, when work is scarce begun. We again take our skiff and return to our railway terminus, as the shadows deepen over Lake Nipissing. Here we see Mr. Booth, the brother of the senior partner.

We stay here all night, and in the morning by rail, and boat, return to Callender station. Next day we drive a circuit of some miles round Callender, and find settlers located in pine forests, or so near them that one fire is pointed out as having burnt this summer a length of five miles, broadening so as to include

the pine strip in which it was running, but stopping at the hardwood, as is often its manner. Three fires, of which I saw the remains, have occurred in the parts of Mr. Booth's limits supervised by Mr. Cahill this summer. Many thousand dollars' worth have been lost here. Nothing is more pitiful than the aspect of these burnt forests. The pines are spectres—the soil is burnt—all is gone. What is worse is, it goes to obtain so little. The whole farm which is obtained by the burning will seldom give \$50 rent a year for many years.

The next stage is to the north shore of Lake Nipissing. We stay at Sturgeon Falls, and I see Mr. Mackey, who holds extensive limits here.

At the village of Sturgeon Falls, a small collection of new pine houses rising in all directions among a mass of stumps, surrounded by a low forest of balsam and cedar, the stream falls in a succession of small and picturesque cascades. It is now all cleared land here, but this must, when untouched forest, have looked inexpressibly beautiful. Far removed from the sounds of labor, or even the presence of civilized man, a lofty and secluded forest bordered either bank. It was a place where the Genius of the River might have been fancied descending these white and foaming steps overarched with sylvan green. Now, it is a stream falling over some ridge of rock, with a couple of sandy fields on each side.

In a bark canoe, paddled by a boatman at either end, all day long I go up this stream, passing many a mile of forest, yellow with approaching fall, dropping their overhanging leaves into the waves along which our canoe glides, silently, easily, but so slowly as ever to bring longings for the cedar cliffs of Toronto Bay, their rattling rowlocks, the long sweep of their oars, and their treble speed—passing many a clump and stretch of valuable pine, darkening tall against the sky—many a great cliff of overhanging granite, its summit one hundred feet above; its lofty crags disjointed and threatening to fall, but all, firm and loose, covered high with pine, spruce and cedar, growing apparently from rock alone, their roots deep in crevices, their shafts swaying in the fierce winds that sweep along the cliff, but holding tenaciously their place—passing, too, many a long stretch of burned land, where innumerable whitening spectres of former pine trees fill the scene from the river back to the distant horizon—an interminable array of ghastly trunks above, a mass of tangled brush below, red and yellow with the colours of autumn. This roar of rapids is heard ahead, and presently here is a good opportunity of seeing one method by which lumbermen pass these obstructions. Here is a long embankment of high rocks extending diagonally across, over which the river used to plunge at two points close to either bank. Mr. Mackey, on whose limits we now are, has built all along three fourths of this ledge a mass of crib work of heavy logs, faced against the current with a great sheeting of other logs, smooth and flat, stand on the river bed and leaning against the crib work. This, which is 200 feet long, closes up one opening, and runs the river, and, of course logs in the driving season, over the other. Over this the whole mass of the Sturgeon river now goes with terrific force. Even yet this fall is divided—one half—that farthest from you as they stand on shore—falling perpendicularly—the other rushing down aslant—a bright green darting mass against the white foam beyond—as if a great sea monster sprang perpetually through an eternal cauldron—both together falling into a boiling gulf, rising and falling into white cataracts again, till it tears its way past the enclosing rocks, and forms again the quiet river below.

Up this cataract somehow we must get, and now we see the superior points of the bark canoe. I walk along the bank past the falls—the two men easily shoulder the boat and follow, and in the calm river above we embark again, and pursue our way up the stream, till, some miles further, we reach the Smoky Falls, so called from the vast mass of vapor which overhangs them. This fall is of unique beauty. Over high rocks, diagonal, as the other, across the river, the level torrent pours, falls in mass on a great projecting shelf not far beneath, and is thrown outward—a giant whirling semicircle of

foam, falling full below, still confined by another shelf of granite crossing the river bed, and boiling white and over it to the depths beyond, across which, beneath sun, a bright rainbow ever glows—the whole accompanied by a volume of sound scarcely imaginable.

Other sounds, however, rise above it as we look—a perfect uproar of yelling and scraping on the hard rocks—and here are a large party of lumbermen, as many as can cling on all sides of a forty foot boat and pull it with ropes ahead, dragging it by main force over the portage—here a hundred feet rise and fall of solid rock. One of them hurriedly hands us a letter to post, and away they go screaming in French, shouting in English, down the mountain side, to embark again for their winter camp high on the banks. Here on this beach lie all the trunks, barrels, conspicuous are monster ones of molasses—tents and blankets, axes and augers—a mass of material ominous to many a grove of giant pine whose branches the north wind, their visitor for over two hundred years, shall shortly know no more. But we must retrace our steps. On our way back we examine a lumber camp of last winter. It is reached by a path from the water's edge up a gully to the level. Here is the scene of square timber "getting out," and it shows but too well how much is wasted. Here lie many great logs of good pine, three feet through, spoiled by deep cuts made to see if the heart was sound, without which it would not answer for squared timber, though quite good for sawing purposes. Here are short ends—nine, eight, seven, and four feet, in multitude, cut off to leave a sound stick, left to rot, though excellent for board, lath and shingle purposes. And here, above all, is such a compound mass of heads of trees, lying with their branches drying in the air, across of them nearly, strewn through the woods—such piles on piles of chips and rubbish as to leave no doubt of the inflammable nature of lumber debris. The lying timber in the untouched forest is not so. We advance into it, near by, where no trees have been cut. What is here is not equally dangerous. All is more or less covered with moss or damp. Ignition would be here difficult—there very easy.

From these notes of the preceding journey, some idea will be had of the scenery and surroundings, among which the lumbermen carry on their hardy trade. It would, however, take years to visit, in the manner sketched, all the lumbering regions of Ontario, which are wide stretching and often difficult of access, while the men employed in procuring and sawing the timber form many small armies of no insignificant numbers. It is not uncommon for a lumbering firm to employ from a thousand to fifteen hundred men, and there are many firms. These men will be under the charge of perhaps half a dozen foremen, who will each have his district, his depot for supplies, and his shanties erected at the numerous points where his men are chopping, such as we have seen them some pages back. Winter and summer, throughout immense territories, along a thousand rough-hewn roads, up a thousand streams, supplies are pushing their arduous way to the lumber camps, with, as Horace says, "what toil of men, what sweat of horses," can scarcely be conceived. All winter the axes resound, the pine trees fall at a million different points, and all summer again great argosies of logs float to Quebec to await shipping for Europe; or, stopping at Ottawa, or some inland point, are sawed, distributed through Canada, or sent to States.

In the tour previously partly sketched, (for of course many places were visited, and many opinions obtained, besides what space would allow to quote) I found that two suggestions seem to have presented themselves to the minds of all who considered the question of preserving our fine forests. First, increasing the number of men employed in summer to watch the forest and prevent fires. Next, the setting apart of a portion of territory for forest exclusively.

After placing myself in communication with those best acquainted with the localities, I have obtained the following opinions, which appear unanimous, namely:—That there is but one territory in Ontario south of Lake Nipissing where the last scheme can be carried out, which is a part of the Nipissing District, where there

are between twenty and thirty townships with few or no settlers. There are also there valuable pine forests. Speaking also from a forestry point of view, irrespective of the lumbering interest, I should be glad to see this portion kept in forest, as it is one of the chief watersheds of Ontario, and nourishes many streams flowing north, east, south and west, which, of course, are of great value to the cultivated areas through which they flow. Mr. Russell, of Pembroke, Crown timber agent for the region, defines it as "Commencing at township No. 2 of Nipissing—Elnora, Maria, Head, Rolph, Wylie and McKay in Renfrew, extending west to townships Laurier, Paxton, Butt, Hunter and Pock, inclusive." If settlement at any bordering point has made progress, which cannot be to any great extent, the reserving line could be drawn to suit it. Much of the region is unfit for agriculture, but would be very valuable if kept in forest.

It appears to me that throughout the whole country visited, as well as, from report, many parts adjacent, settlers are too apt to locate themselves on soil unfit to be of lasting value for agricultural purposes. It is evident that if this could be checked by directing these men to better and separate localities, it would tend greatly to reduce the number of forest fires, for settlement necessitates the use of fire in clearing, and, especially when at all carelessly managed, the fire is too likely to get beyond control, and spread far into valuable timber. Such men as were retained in summer to watch fires could, I should think, in certain localities, being themselves well acquainted with the country, direct settlers to proper sections, and act in conjunction with the Crown land agent in charge. It has been suggested, also, that if settlers who set out fire were obliged to give their neighbors notice, proof could then always be obtained as to whether it was done carefully or not. The general opinion is that lumbermen, settlers and sportsmen are alike too often careless in the use of fire, and that some measure should be taken to enforce the provision of the Fire Act by all. This, and the suggestion concerning a reservation of land in the Nipissing District, are the two measures I consider needed, as far as the country south of Lake Nipissing is concerned. It is important that some steps should be taken in the matter, as the loss by fire is very large.

AUSTRALIA.

The monthly circular of Messrs. Lord & Hughes' dated Melbourne April 2nd, says:— Since our last circular, dated 11th ultimo, we have to report moderate offerings of all descriptions of timber at auction, and the demand has been met by importers at about prices ruling at date of last circular; imports have been on a liberal scale, and have fully met requirements.

Deliveries from the yards have been regular and large, and the trade generally is in a healthy condition, demand still continues for building purposes, while building allotments at the various land sales are sought after eagerly, the indication of which is continuation of building operations.

RED DEALS.—Imports: 255 standard, 13,250 pieces from the Baltic. The arrivals have been Govalia from Hudikavall, and Veritas from Gothenburg. There have been no public sales since our last advice. Stocks in first hands are heavy and sales difficult to effect.

SPRUCE DEALS.—Imports: 179 pieces spruce, 2,412 pieces Baltic white. Arrivals have been—Ariadne from Boston, and Veritas from Gothenburg. On the 26th ult. the cargo ex Lake Lee-man was all sold by auction, 9x3 spruce realizing 2½d. per foot running of 9x3; 11x3 red pine at 3½d., 9x3 at 3½d. to 3d.; the other sales being parcels ex Haroldine and Penobscot, 9x3 spruce at 3d., 11x3 at 3½d., and 3-7-16d. per foot 9x3.

OREGON TIMBER.—Imports: 1,351,537 feet super. The arrivals have been Dunstaffnage, Nehemiah Gibson and Floetwing; the cargo ex Dunstaffnage comes to the order of one of the trade, and goes into yard for consumption. The only sale by auction has been cargo ex Fresno on 20th ult., at prices ranging from £6 7s. 6d. to £5 15s.

LUMBER.—Imports: Clear pine, 303,126 feet

super.; white pine shelving, 230,520 feet super.; T. and G. coiling, 143,313 feet super. The arrivals have been Mabel Taylor and Richard Parson in New York, and Ariadne from Boston, besides small parcels ex S. F. Horsey and Jupiter; late prices being fully maintained for best qualities.

REDWOOD.—Imports: Nil.
FLOORING AND WEATHERBOARDS.—Imports: 2,272,680 feet lineal. The arrivals have been Bonhour from Fredericstadt; Port Chalmers, from Glasgow. Sales by auction have been ex Zenobia, Java, Schwanden, Wilhelm, Ole Moller Waaland and Regina, at following prices:—Red 6x1 1/2, at 10s. 6d.; 6x 3/4, at 2s. 3d. and 8s.; 6x 1/2, at 5s. 9d.; 6x 1/4, at 5s.; 4-out weatherboards, at 6s.; white 6x1 1/2, at 8s. 3d.; 6x 3/4, at 8s.; 6x 1/2, at 5s. 9d.; 6x 1/4, at 5s. and 4s. 11d.; 4-out weatherboards, at 6s. 3d. and 6s.

KAURI PINE.—Imports: 609,410 feet super. Arrivals have been Defiance, from Kaipara; Killarney, from Russell; Kentish Lass, from Hokiangang, and Orsen, from Hummock Island, the latter bringing further instalments from wreck of Robin Hood. Sales by auction have been made of cargoes ex Louise, sawn boards, fitches, shelving and flooring; and logs ex Jules Marie, the last mentioned being taken in one lina, at 12s. 9d. Other sales have been ex Claribel and Mercury.

CEDAR.—Imports: 137,900 feet super. Arrivals have been per May Newton, from Ballina, and usual coasting steamers.

DOORS.—Imports: 165.
LATHS AND PICKETS.—Imports: Laths, 8,979 bundles; pickets, 19,714 bundles.

SLATES.—Imports: 449,300 pieces. There have been no auction sales since our last.

PLASTER.—Imports: 300 barrels. The only public sale has been of portion ex Penobscot, Albert Mills plaster, large barrels, at 13s. per barrel.

CEMENT.—Imports: 9,873 barrels. There is no alteration to report since our last, and no sales have taken place by auction.

GALVANISED IRON.—Imports: 1,539 tons. No sales by auction. Privately, quotations range from £20 to £18, according to brand, size and parcel.

EXPLANATION.—Red deals and spruce deals are sold at per foot of 9x3; T. and G. flooring at per 100 feet running; Oregon timber, redwood, clear pine, shelving, ceiling, per 1,000 feet super.; Kauri pine and cedar logs at per 100 feet super.; laths, pickets and slates at per 1,000 pieces. Shorts are all lengths under 12 feet.

ANOTHER USE FOR PAPER.

Popular Science News says:—One of the most remarkable uses to which paper has been put of late years in the manufacture of zylonite, a substance which, at the will of the manufacturer, may be made in imitation of horn, rubber, tortoise shell, amber, and even glass. The uses to which zylonite is adaptable are almost infinite, but perhaps the most extraordinary is the manufacture of cathedral windows. The discovery was made by an Englishman named Spills about 15 years ago, but it was only about five years ago that a company was formed in London for its manufacture.

The basis of the zylonite is a plain white tissue paper, made from cotton, or cotton and linen rags. The paper being treated first with a bath of sulphuric and other acids undergoes a chemical change. The acid is then carefully washed out, and the paper treated with another preparation of alcohol and camphor. After this it assumes an appearance very much like parchment. It is then capable of being worked up into plates of any thickness, rendered almost perfectly transparent, or given any of the brilliant colors that silk will take. It is much more flexible than either horn or ivory, and much less brittle. Combs or other articles made of it, in imitation of tortoise shell, are said to be so perfect in appearance as to deceive the eye of the most practiced workman in that substance.

"Throw Physic to the Dogs".

When it is the old-fashioned blue mass, blue pill sort, and insist on using Dr. Pierce's "Pleasant Purgative Pellets," a modern medical luxury, being small, sugar-coated granules, containing the active principles of certain roots and herbs, and which will be found to contain as much cathartic power as any of the old-fashioned, larger pills, without the latter's violent, drastic effects. The pellets operate thoroughly but harmlessly, establishing a permanently healthy action of the stomach and bowels, and as an infallible remedy are unequalled.

ARBOR DAY.

RESPECTFULLY INSCRIBED TO HON. H. C. JOLY.
While summer tints the spring's pale cheek,
And nature blushing greets the change,
While zephyrs kiss the buds and seek
Some leafy grove wherein to range,
Care smooths the furrows of his brow
And mirth entwines her garlands gay—
O'erjoyed as beauty's charms on dower
All things to keep sweet holiday,
Then ring the echoes round our homes,
Born on the breath of blooming May,
As noontide laughs when summer comes
To ring in Arbor Day.

Shrined in a wreath of forest green
The woodman built his humble home,
When fortune smiled, a dubious queen,
And Flora frowned, an unkindly gnome;
But now 'tis ours to claim the shade
Our fathers toiled to drive away—
To bring the saplings from the glade
And plant perennial holiday,
Then ring the echoes through the land,
Born on the breath of blooming May,
As summer brings us sweet command
To ring in Arbor Day!

The globe, reclaimed by anxious thrift,
Demands a crown with parched breath;
Through dust the highway seems to sift
A sigh for shade across the heath;
The sun-burnt pavement of the street
Reflects a prayer in every ray
For shelter, where the townfolk meet
To welcome summer's holiday,
Then ring the echoes through the town,
Born on the breath of blooming May,
As moon and maid, summer crown
And ring in Arbor Day!

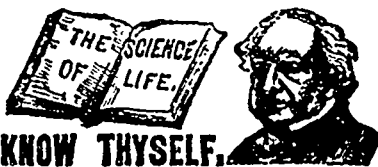
Around our homes the twilight steal
To bathe the elm and maple leaves,
Beautify their altar foliage we feel
How e'er for us its solace weaves;
For now the pleasure-toll is o'er,
Our acorns grown hope-fears alloy;
The arbor planted near our door
Embower's life's dying holiday,
And sweet the echoes fill our hearts,
Born on the breath of time's decay;
The past is ours, though youth departs
To ring in Arbor Day.

—J. M. H. in the Quebec Chronicle.

"A little fire is quickly trodden out,
Which, being suffered, rivers cannot quench.
Procrastination may rob you of time, but by
increased diligence you can make up the loss;
but if it rob you of life the loss is irremediable.
If your health is delicate, your appetite sickly,
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This book should be read by the young for instruction, and the afflicted for relief. It will benefit all.—London Lancet.

There is no member of society to whom this book will not be useful, whether youth, parent, guardian, instructor or clergyman.—Argonaut.

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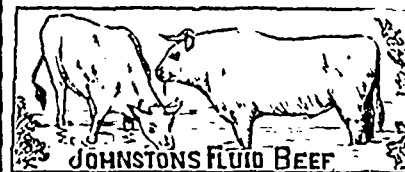
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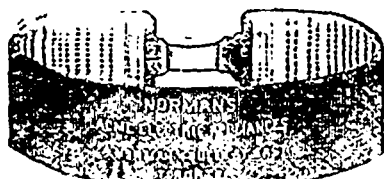
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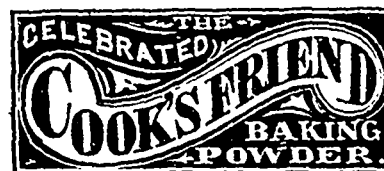
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Yours truly, J. GREEN.

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Communications intended for insertion in the CANADA LUMBERMAN, must be accompanied by the name of the writer, not necessarily for publication, but as a guarantee of good faith. Communications to insure insertion (if accepted) in the following number, should be in the hands of the publishers a week before the date of the next issue.

The CANADA LUMBERMAN is filed at the Offices of Messrs SAMUEL DEACON & Co., 154 Leadenhall Street, London, England, who also receive advertisements and subscriptions for this paper.

PETERBOROUGH, Ont., JUNE 15, 1885.

Logs to the amount of 50,000,000 feet are to be transported by railroad from Baldwin to Whitehall, Mich.

CAMERON, who runs the Rolling River, Man., saw mill, intends starting one in Menendosa.

THE Shaw tanneries at Waterloo and Warden, Que., will not be started again, for want of bark in the neighborhood of the respective places.

THOMPSON'S planing mill, Buffalo, and about one million feet of lumber at Black Rock were burned June 3rd. Loss, \$50,000.

THE average price paid for sawing lumber at Manistee, Mich., is \$1.75 for piece stuff when dumped on the dock, and \$2 when cross-piled.

A FIRE on Rosebud river, Montana, May 28, consumed a large amount of valuable standing timber.

JAMES ABBOTT and James Lee, of Geneva, Van Buren County, Mich., cut and piled 50 1/2 cords of beech and maple wood in six and one-half days, or over four cords each for every day.

ON May 27th, near Blanchard, Mich., Dwight's shingle mill was burned by forest fires, together with several other buildings. Shingles to the amount of 100,000, and logs enough for 3,000,000, were burned.

By late forest fires in Fruitland, Muskegon county, Mich., several thousand cords of wood and a great deal of fence were destroyed, besides much standing timber. Among the losers of wood were Aug. Wixtrom and I. Collins.

A CARGO of 103,000 feet of pine lumber was received by Dole & Fogg yesterday, from St. John, N. B., says the Bangor Whig of 26th May. The importation of pine lumber from a foreign port is something very unusual.

REPLACE SOME OF THE TREES.

To the Editor of the Canada Lumberman.

Sir,—Perhaps you will allow me a space in your valuable columns for a few words on a matter undoubtedly very important, I mean the necessity which exists for immediate action concerning the preservation of a proper amount of forest throughout the country. As yet, the remains of the old forest, existing in small or larger portions everywhere, have prevented us from feeling the full extent of the evils which a few years will undoubtedly bring on us, if general action be not soon taken. For only in a very few parts of Ontario is care taken to preserve those portions of forest. In most of them cattle are allowed to wander in such numbers as must ultimately destroy the trees. They eat down the young saplings, let the sun in on the roots of the older trees, let the drying winds blow through, and the complete destruction of the woodland, that deprived of the means of reproduction, is only a question of time.

In those sections where even the last portions of forest have almost vanished, the ill effect is already becoming very apparent. Not to speak of the loss of shelter, the injury done in the matter of rainfall, which it is one function of forests to distribute equally, is very great. An old resident near Lake Erie, writes that the forest in his locality being all gone, they can plainly observe that the moisture, rising from the lake, no longer falls as it once did, in frequent and beneficial summer showers, but is carried over further inland, where it falls in heavy torrents which sometimes by force of weight and volume do as much harm as good. From many such indications it is plain that no further time should be lost in attending to the preservation of our trees. Several ways in which this might be attempted may be mentioned.

1.—Whoever yet possesses some portions of forest in good order should by all means rigidly exclude cattle from any part thereof he can spare to remain as forest.

2.—Rows of evergreens, pines, spruce, cedar, etc., should be planted from two to six feet apart, along the north or exposed sides of every farm. They can be planted in early June or August, and should be planted as soon as they are dug. If the roots dry they die. Choose small trees.

3.—Some fresh plantations of forest trees, acres in extent, along the north, of farms would be far better than the evergreen rows. An excellent way of getting well-rooted young trees, is to go to the forest in June, cut circles around young trees, say nine inches from the tree, and cut large tap roots a foot or more deep, then leave them till fall, by which time many small roots will have formed inside the circles, and the tree be far more certain to grow when transplanted then. They should be planted in numbers, say four feet apart each way, the ground kept lightly stirred for a year or two and after that, if mice and cattle are kept away, they will do without care. Or if you do not object to waiting longer, it is easy to get seed and grow the young trees, which, transplanted twice will then have plenty of roots.

There is another reason, besides climate and shelter, for doing these things. Wood is getting very scarce, and in a few years he who has a good plantation of hickory, oak, elm, cherry, ash or other good wood closely planted, and growing as then they will to high, straight sticks of clear timber, will be regarded as one who is coming into a small fortune—but the work should not be put off.

Yours, &c.,
R. W. PHIPPS.

Toronto, June 9th, 1885.

PROGRESS IN LUMBER PRODUCTION

In no business is so much advancement being made as in the mill business. The roller process flour bears ample testimony to the progress in this direction in flour mills, but it is only one feature of scores which might be mentioned to demonstrate the onward march of the modern flour mill. We believe it a safe assertion that there is no other class of manufacturers more enterprising in this direction than the average saw mill man; at least we can say it with the utmost confidence in regard to those operating on the Saginaw river. If there is any new

invention which promises a single advantage in lumber production, or a saving in the wear and tear of machinery, or any labor saving machine or implement which may be advantageously utilized in a saw mill, it has only to be presented to the average Saginaw river saw mill man, and its merits demonstrated, even theoretically, to receive recognition, and practical application. Hence our statement in the outset, of the advancement in modern milling, especially saw milling is susceptible of being fully sustained.

When one remembers the primitive whip-saw and its tedious and laborious methods, worked by two men, one above and the other beneath the timber to be divided into strips, which was considered a wonderful implement in the distant past, and which is even yet utilized in many ship yards, and take one single step to the modern circular with its capacity of from 50,000 to nearly 100,000 feet of well sawed lumber per day, the transition is wonderful, and seems almost incomprehensible to those not identified with the business. After the whip-saw came the muley, which for many years was considered the acme of lumber producing implements. Its sway for years was undisputed, and its reputation stood triumphant and supreme. But man's increasing necessities, made advancement in lumber production imperative, and time being considered money by the American mill owner, any device which has the merit of labor-saving is eagerly seized and receives the practical application; hence the American saw mill in these modern days is really the pioneer in improvement, so far as machinery is concerned. And so rapid has been the advancement that steam and modern machinery now absolutely take the log from the mill boom, pass the same to the saw, and converts it into lumber, conveying the product to the hands of the pilers, with a single circular saw as the producing medium, at the rate of from 5,000 to 8,000 feet per hour.

The circular saw at present stands at the head of lumber producing machinery, although the band saw is now contesting for supremacy; and in view of the advancement of the past who will dare to assert that the former will not in the future be relegated into banishment, as wanting in the qualifications which serve to meet the demands of the modern saw mill. But the saw alone with its wonderful productive capacity would be useless considered alone, without the endless appliances which necessity and inventive genius has produced as aids in the form of mill dogs, trimmers, slab cutters, endless chain haulups, steam log docks, live rolls, butting saws, steam carriages, lath mills, bolters, stave and lath machines, and an innumerable list of other appliances, which serve to make up the necessary outfit of the saw mill of the present time. Truly the progress in the work of lumber production, and in the advancement in mill machinery has been beyond the comprehension of those not interested in the business, and must be seen to be appreciated; and an examination of a modern saw mill with its productive capacity of from 200,000 to 400,000 per day, when all its ramifications are set in motion, or utilized, is one of the most wonderful sights of the times.—*Lumberman's Gazette.*

TYNE.

The *Timber Trades Journal* of May 30th says:—The Whitsuntide holidays occurring this week have again interrupted the usual tide of business, extending as they do over in every case two whole days, and in some places, where trade is quiet and repairs needed, to more. A few vessels have arrived from Baltic and south of Sweden and Norway, and the usual Gothenburg and Christiania traders are also to the fore, but the amount of imputation is not very large, though apparently large enough for the limited demand. The fever of speculation bred by the war scare appears to have quietly passed away, and prices have now fallen to their normal condition; a good deal had been sold for arrival, and many merchants bought cargoes at the flood tide, and will doubtless have to submit to a sacrifice in selling.

There is no improvement to note in the ship-building trade. Some yards have secured a few orders, and some Government orders have been placed on the river, but all combined are not of

sufficient importance to make any tangible improvement. This will cause a weaker demand for American goods during the present season, and, in spite of the higher prices demanded by Quebec shippers, there appears a good deal of difficulty in placing goods for arrival even upon old figures.

GLASGOW.

The *Timber Trades Journal* of May 30th says:—There have been no arrivals of Quebec deals here yet, but imports are daily expected per steamer. The first of the season had come to hand earlier than this last year. The passage of vessels in the Atlantic at present appears from reports to be hindered and made unusually dangerous by enormous masses of ice that are met with, and in most unlikely latitudes. The wood goods which the vessels now due may bring will be welcomed, as old stocks are about exhausted.

The first arrival of birch to Clyde this year has just come in per the Luis A. Martinez, a cargo of Pictou birch now being discharged at Queen's Dock, Glasgow, and which contains wood of varied dimensions, comprising a number of large squares. This will be a matter of great interest to the trade, the market presently being bare of birch timber. It is to be brought to sale, we learn, on an early day.

A small cargo of Namsos staves and battens is the only arrival at Greenock to note during the past week. There have been no auction sales to report. At the last Dean of Guild Court hold here there were as many as twenty-six applications for linings for new erections, but the bulk appeared to be made up of alterations and additions. Still the consumption of wood going on is considerable, and this being Whitsuntide term a large number of workmen are employed to have property in order for tenants.

RAFTS ARRIVED.

The *Quebec Chronicle* says that the following rafts have been entered at the Supervisor of Cullers' Office, Quebec since May 1st:

King Bros., deals, etc., Lyster.
Wm. Simpson, birch, sundry coves.
John McKee, elm, oak, hickory, Hadlow cove.

Allen & Panet, birch, St. Raymond.
Wm. Simpson, birch, sundry coves.
Robt. Dollar, waney white pine, sundry coves.

Fairville & Co., pine and spruce deals, Pierroville Mills.

Strickland, white pine, &c., Dobell's cove.
Dunn & Co., black walnut logs, Hadlow cove.
H. McLean & Co., white pine, etc., Cape Rouge.

D. D. Calvin & Co., oak and pine, sundry coves.

A. Baptist and others, deals, &c., Three Rivers.

Flatt & Bradley, staves, Dobell's cove.
May 21.—P. H., Grandbois, spruce deals, St. Casimir.

Louis St. Laurent, ash, birch, and waney pine, sundry coves.

Wm. Simpson, Birch, sundry coves.
Flatt & Bradley, staves, Point-au-Pizeau.

E. L. Kelsey, "Dobell's (Sillery).
May 22.—D. D. Calvin & Co., oak and pine, sundry coves.

A. Fraser, white and red pine, St. Lawrence Docks.

May 27.—Burton Bros., elm, oak, &c., Sillery cove.

J. T. Murphy, "Indian cove west.
E. L. Kelsey, staves, Dobell's (Sillery) cove.

R. H. Klock & Co., white pine, etc., New Liverpool.

May 29.—Zophirin Perrault, birch, Price Bros. cove.

D. D. Calvin & Co., ash, sundry coves.
June 1.—James Walsh, birch, Indian Cove East.

June 2.—Flatt & Bradley, elm, Hadlow cove.

June 3.—R. R. Dobell & Co. (McKee Lot), birch, Hadlow cove.

JOSEPH DONALDSON, of Bad Axe, Mich., lost 70,000 feet of logs by forest fires.

BENT SHAFTING.

Who is not bothered occasionally by shafts that are bent somewhat? Every miller, I suppose. A wooden shaft can be straightened by taking hard seasoned lumber and baking it in a stove or oven until it is baked as small as possible. Then it can be dovetailed into the shaft at the crookedest part. Straightening an iron shaft is a more delicate matter, but it can be done by fixing three or five points of stone or iron, so that fire will not affect them, and so that the upper surface will be in exact line. Then lay the shaft upon them and fix it firmly, so that the bend will be up. Build a fire along the shaft and heat it evenly the whole length, when a comparatively light pressure will bring it down until it touches the points previously leveled or fixed in line. Then allow it to cool, and it will be found to be straight. The shaft must not be heated so hot as to cast a scale. The following is another plan of doing the same thing: Support the shaft at the extremities, and when left free to adjust itself, the crooked or convex side will be down. Then fasten it securely at either end, so that it cannot move, and apply a lever directly under the bend. While forcing it up from below, pound from above with a heavy sledge, which will expand or lengthen the concave side, and gradually bring it straight. But, after straightening, the hammered part must not be turned off, as it would again resume its crooked shape.—*Ex.*

BARB WIRE FENCES.

In the case of Hillyard vs. the Grand Trunk Railway Company, a Brockville jury awarded the plaintiff a verdict of \$225 for the loss of a colt from the Mand S. stock, which died from injuries received on a barb wire fence erected by the railway along the highway. The mare was being taken to pasture, led by a halter, and the colt was frisking around its dam, when it ran into the fence, receiving several severe cuts, from which it subsequently died. Mr. Justice O'Connor, in his charge to the jury at Brockville, seemed to lean to the view that a railway is bound by statute to fence its track from the highway, so as to protect the public and the property of the public from injury, and having so expressed himself he left it for the jury to say whether a barb wire fence was such a one as would satisfy the statute, and if not whether the colt was sufficiently under control, and then did it die from the injuries received. The jury gave a verdict in the plaintiff's favor. Yesterday Mr. W. Nesbitt moved before the Q. B. Divisional Court to set aside the verdict, and enter a verdict for Defendant on the ground that the statute only requires a railway to erect such a fence as will keep cattle off the track, and that a barbed wire fence is a legal fence, unless it is proved to be a nuisance. In support of the motion also, it was contended that the colt was not properly in charge, and that in any event it did not die from its injuries. Messrs. M. E. O'Brien, of Prescott, and G. H. Watson supported the verdict. The argument was very interesting, counsel for plaintiff comparing a barb wire fence to a miniature array of small daggers, while for the plaintiff it was described as an invention to prick the animal slightly, and prove more effective for the purpose of keeping the track clear. The court was free in remarking upon both sides of the case, the Chief Justice comparing the fence to the Scotch thistle with the motto attached to it, *Nemo me impune lacessit*, while on the other hand one of the Justices favoured the fence, and said it was objected to only because it was new, referring in illustration to the language of the Duke of Wellington, to the effect that it percussion caps were introduced into his army, men would shoot each other, and the consequence would be calamitous. Judgment was reserved.—*Toronto Mail.*

THE MYSTERY OF NIAGARA.

The mysterious and awful depths of Niagara's canon are fruitful subjects of comment. Some portions of it are reasonably supposed to be bottomless. When the first railway bridge was constructed here some ambitious persons attempted to sound the canon directly beneath it. They filled a large tin pail with stones and lowered it. The currents merely played with it. Then they took a stronger cord, attached a

bar of railway iron to it, which actually floated, owing to the fierce counter currents.

A few years ago the United States lake survey came here, and, as a recorder of the survey, I know of the remarkable data obtained. We saw at once that the current would buoy up a large sinker, and proposed to test the smallest possible weight. We took a lead weight in the form of a plum bob, weighing thirteen pounds, and attached it to a small but strong cord. Then we secured the services of one of the ferry boatmen and started out into the stream. The boatman was ordered to row as nearly under the falls as possible, and the result will never be forgotten by a member of the party in that staff.

As we approached the falls the roar became more and more terrible, until we were not only unable to hear, but the lips positively refused to open and utter a sound. For several days afterwards some of the party were so deaf as to be unable to distinguish one word from another. The lead was cast first near the American falls, where bottom was found at eighty three feet. Near the main falls we found one hundred feet of water. Here the carman's strength failed, and the little craft began to dart down stream.

At every cast of the lead the water grew deeper, until in front of the inclined railway the old guide and most of the party became horror-stricken and refused to go further down stream. Here the water told off 193 feet. We were then able to compute the depths lower down by simply ascertaining the width of the stream. Directly under the lower bridge the water narrows considerably and deepens to 210 feet. Lower down, at the Whirlpool rapids, the gorge gets very narrow and the current terribly fierce. Here the computed depth was 350 feet. One place in the gorge is still narrower, and would exceed a depth of 400 feet.

When the depth of the water is taken into consideration the height of the canon walls above the surface must not be forgotten. These walls range from 270 to 350 feet in height, often perpendicular, so that the total depth of the canon ranges from 250 to 700 feet. This great depth of the gorge leads directly in imagination to the canon's wear.—*New York Times.*

LIST OF PATENTS.

The following list of patents upon improvements in wood-working machinery, granted by the United States Patent office, June 2, 1885, is specially reported to the CANADA LUMBERMAN by Franklyn H. Hough, solicitor of American and foreign patents, No. 925 E. St., N. W., Washington, D. C.:

- 319,373.—Cant hook—J. Winebrenner, Hoels, Ind.
- 319,071.—Lathe tool holder—C. W. Coleworthy, Boston, Mass.
- 318,938.—Saw, circular—E. Allen, Norwich, Conn.
- 319,181.—Saw mill carriages, etc.—E. M. Birdsall and G. Stringer, Ark.
- 319,019.—Saw set—A. F. Peelman, Kensington, Ill.
- 318,076.—Saw setting device—T. Gibbons, St. Louis, Mo.
- 319,425.—Saw tooth swage—J. M. Ryan, Vicksburg, Mass.
- 319,262.—Saw swage—A. Jacobs, Cheboygan, Mich.
- 319,395.—Sawing machine circular—W. H. Doane, Cincinnati, Ohio.

High-Priced Art.

"My, but those art works do run into money," remarked a passenger whose breath smelled like the south side of the Ohio river. "It beats all what fools some folks make over pictures. When I was in Chicago I saw a little painting about a foot square that was held at \$500. Spect some simpleton will come along and buy it. If I had a million of money you'd never catch me paying \$500 for a little painting like that."

"That's the way you talk," spoke up a bashful drummer, "but I'll bet you paid four times as much money for a painting not a tenth part as big."
 "What, me?"
 "Yes, you."
 "What kind of a painting?"
 "The one on the end of your nose."—*Chicago Herald.*

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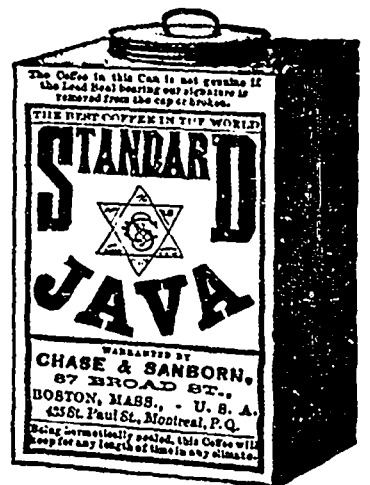
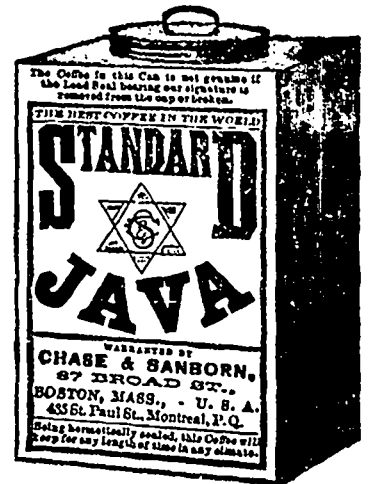
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1211



A Steamer Burned.

The steamer Peerless, of the Ottawa Navigation Company's line, took from Montreal to Montebello a large excursion on Wednesday. She had taken on the most of the party for the return trip when the fire broke out. The steamer had to be taken out and settled to save the hull and machinery. The steamer was valued at \$90,000, and was insured, but was not entirely destroyed.

A Disastrous Fire.

The town of St. Cesaire, Que., suffered severely from a fire on Tuesday night. The residence of the Hon. Senator Chaffer was burned, together with seventeen other houses. The burned out residents were nearly all well to do people. The damage is estimated at \$150,000, but the loss, in most cases, is partially covered by insurance.

Organic weakness or loss of power in either sex, however induced, speedily and permanently cured. Enclose three letter stamps for book of particulars. World's Dispensary Medical Association, Buffalo, N. Y.

Don't disgust everybody by hawking, blowing and spitting, but use Dr. Sage's Catarrh Remedy and be cured.

SETTING MACHINES.

Setting machines belong to the same class of work as erecting shafting, and is much the same thing—a matter of judgment rather than of acquired skill.

The only general rule that can be given is to set them level, with their shafts and spindles parallel to the line shaft. There are, however, many plans of doing this, and a word on the subject will not be amiss.

When a new shop is built, and the line shaft erected, or when its position is determined, and before it is erected, each floor of building should be scribed with what we should term a machine line—that is, a base from which the engine, the line shaft, countershaft, and machines may be set, independent of each other and yet with accuracy.

To do this, take the centre line through the building both ways, and scribe it on the floors not with a scribeawl alone, but with a wagon maker's scribing hook, that will cut a deep groove. After striking with a chalk line, tack down a straight edge, and score the lines with the scribing hook, so that they will remain as long as the floor lasts, or at least as long as machines are to be added. Plum up or down, as the case may be, and scribe each floor in this way; whether machines are to be set on floors or not, there are sure to be some uses for these base lines. If there are good floors, scribe the lines on the walls, drive stakes, or put them on the ceiling; lay them somewhere, in each story, and in each room. When these lines are once made, the setting of machines becomes a simple matter, for lines parallel to, or at right angles to, them are easy to lay out, and shafts or spindles can be set true by measurement if they are first levelled.

The common practice when a shaft or machine is to be erected is to square it from something which has previously been set by something else, on the principal of measuring by succession, a practice no mechanic would think of in other cases. If machines have iron frames and stand on masonry, they can be fixed by running melted lead or brimstone under the feet after setting and bevelling them. On earth floors, however, it is not necessary to build masonry for any except reciprocating machines. Stakes of locust cedar, or mulberry wood, set in the earth from three to four feet deep, and then sawn off level on top, make almost as good a foundation for any machine as masonry. It is, however, exceptional to find machines set on the ground, a plan that has nothing to recommend it, for when attempted there has to be a floor over a great part of the room, that usually costs as much as a complete floor would, if it had been laid down at the beginning.—*American Wood-Worker.*

THE BAND SAW.

A writer in the *Northwestern Lumberman*, who claims 15 years' practical experience in using band mills, says:—

We have been using the band saw mills for sawing logs for the last fifteen years with unvarying success, and at no time have we used a band mill, and we have used nine or ten of them that had not a sawing capacity of 20,000 feet of 1 inch boards per day of ten hours, and at times we have sawed 30,000 feet of softwood in ten hours. As to its average capacity, we sawed 6,000,000 feet in one year, with one machine running part of the time day and night. It has been a great wonder to me that the five, shrewd northwestern lumbermen have gone on from year to year, for at least the last ten years, without seeing and testing the advantages of the band saw in the manufacture of lumber economically, as regards both the lumber saved and the power required to manufacture a given quantity of boards for a given quantity of logs (scale measure) in a given length of time. A 60 horse power engine will run three band saw mills with a capacity of 20,000 or 25,000 feet each per day with a surplus of power to run the necessary edgers and cut-offs to trim the lumber. Take this as a starting point, then say the mills average 20,000 feet each and you have 60,000 feet per day of ten hours. On this amount you save in saw kirk (the band saw taking only one twelfth of an inch) over the ordinary circular saw in use at

least 2,000 feet, or one fifth more lumber from what goes into sawdust, for which in some cases furnaces are erected to burn the "hills," costing more than one band saw mill. This 12,000 feet destroyed would at least be worth \$10 per thousand or \$120 which is lost per day, or \$24,000 in season's sawing of 200 days. This \$10 per thousand is a low estimate for first class pine lumber, as a considerable proportion would be upper, worth 50 per cent. more, which would make at least \$30,000, lost or saved, in 200 days' sawing. For instance, say three mill cost \$6,500 put up and started exclusive of power, you would still have a nice little margin of \$23,000 on 200 days' sawing, and also have your mills. To the mill men who value the lives of their men (and we know both the humane and thrifty do), we say we know of fifty hard saws in use that have never for the last ten years fatally injured a man. Another advantage in the use of band saw mills in pine or other kinds of lumber: You can saw a taper log or a partly rotten log, and get all the good lumber out of it there is in it, which you cannot do with a gang-saw.

LOGGERS AT MEAL-TIME.

They literally chuck their food; and it would be more correct to say of them at the table, using their own unique term, that they are "chucking" than that they are "eating." When a meal is ready the cook opens the door and calls and the men rush in with a silent, grum, determined energy, that is suggestive of a gathering of old soldiers in the banquet rooms of Valhalla. The secret of this is that the men all wear rubbers or packs, and so move on the floor without noise; and the eagerness with which they crowd forward, bareheaded, with swinging arms and leg striding far, and all without a sound, almost makes the beholder wonder if he has not by some mistake got down into the wrong place. Hungry men are reticent. The sensation of hunger overpowers all sense and reverts civilization for the time to savagery. These men march in and seat themselves at the tables without a word. If there were only one table and food enough for a dozen of them, they would, it is easy to see, scramble and fight for it like savages, and the strongest one among them, that is, the greatest bully and glutton, would be elected chief. But there is plenty, as they know, and so each goes to his place, loads his plate and begins chucking without ceremony.

For five minutes you hear nothing but the incessant clashing and clattering of knives and forks against tin plates, and see nothing but the upward jerk of a hundred hands and the downward bob of fifty heads as, midway, the well trained jaws, agape, are catching the chuck on the fly! By that time the stomach has got fairly to work, the sensation of hunger is relaxing its grip, the social instincts begin to exert themselves again, the savages are once more becoming civilized. Here and there you hear them talking. Quip and quirk are on the wing, contentment is in the air. In five minutes more the place has become jovial and the more skillful chuckers are leaving the room with pipe and tobacco in hand, to finish the meal with the inevitable smoke. Then off to work, and a repetition of the same scene at the next meal.

Salt meat, often half-boiled, potatoes ditto, fried pork stuck fast in half cold pork grease; good fresh beef rained forever here and here after by being fried while swimming in pork fat; fresh beef boiled and served without seasoning of any kind; beans that sometimes are scooped from barrel to boiler and so "baked" without change of water or vessel—a deed against which every Boston stomach must rise in protest—bean soup served with the beans so hard that they will break between your teeth, and the water as clear as when the work began, but with its transparency a trifle obscured by bits of broken cracker that seem to float and sail around their iron-bound coast; hot sado biscuit, a spoonful of flour to a quart of soda, it seemed to me, very short with oceans of lard; mince pies of hashed beef and pork, salt and fresh dried apples, with molasses to suit, and raisins thrown in to support the crust that is made of chilled pork fat sprinkled with flour; tea that is boiled down, filled up and boiled

again, and kept boiling from meal to meal, dished out from the boiler grounds and all, into measures that are half filled with cold or luke warm water, and drank from tin cups whose inner surfaces are coated with the brown and dirty looking sediment of the over boiled tea, without sugar or milk—all this sort of thing the boys endure day to day with an amiability that would make new England dyspeptics miserable with envy.

But it must not be understood that camp cooks are without skill. They are often good cooks. Most of them can make excellent yeast bread, which is, after all, the staff of life. But there is so much work to be done, and only the one man, with one, or at most two, choro hands to assist him, that much of it must be hurried over and slighted. From four in the morning until eight or later at night the cook must be on duty the season through. "Mike," our French cook, is as good as they average. He is active and industrious, and will cut more meat, in his way, dish up more potatoes, hash, fried pork, stewed steak, soda biscuit, baked beans, etc., in five minutes than any other man I ever saw at work, and they way he will place and arrange dishes on a table is luminous with dexterity.—*Charles Ellis in the Current.*

CORKS.

Few persons have any conception of the important part which the cork plays in the commercial world.

Cork-tree forests abound in countries bordering on the Mediterranean, though the finest quality is found in the Spanish peninsula. There the cork-tree is cultivated especially for its bark, the gathering of which is an industry in which the whole communities are engaged. The bark is composed of two concentric layers. The interior is a fibrous tissue, called the mother or tannin, while the exterior is a spongy, elastic substance, the corkwood of commerce. The cork harvest occurs in summer, when the tree is in full sap. Circular cuts are made in the bark with a hatchet, while a vertical one is also made. The two edges are then raised and the handle of the hatchet used to strip them downward. A tree is not unbarked until it is 20 or 30 years old.

Corkwood, in its crude or uncut state, varies in value, according to its purity. This difference in price accompanies it through the various stages of manufacture, and classifies it for its multiform uses.

Machine-cut cork are of different grades, variety and prices, and are devoted to all sorts of purposes. The finer quality are used for mineral waters, and other carbonated beverages, which are dependent upon the retention of the carbonic acid gas. The finest cork, that which is almost free from the black and crumbling streaks found to a greater or less extent in all corkwood—is hand cut by experienced workmen, armed with razor-edged knives of peculiar shape. These are principally used in the bottling of champagnes or other fermented wines, and command a high price.

Manufacturers of champagne, in addition to the labels which the place upon each bottle, have adopted a system of branding the corks with the makers' names. Of late there has sprung up a new industry, the buying of old corks which bear the brands of celebrated makers, and for which high prices are in most instances paid. The object in the purchase of these corks is manifold. While a great portion of them are bought by the original owners of the corks as a matter of protection or for other purposes, the majority find their way into the hands of manufacturers of inferior goods.

In order to push their respective wines, the agents of the foreign houses have resorted to the device of buying back their corks. This serves as an incentive to dealers and to waiters to force upon customers brands of champagne on which they can make the greatest perquisites. With this object in view other agents are employed, whose duty it is to visit all the leading hotels, restaurants and wine rooms in the country, and offer the waiters or attendants employed therein sums ranging from five cents to a dollar or more for every cork bearing their brand that is returned to them. With such an inducement it is not surprising that waiters will extol the wares of the highest bidder.—*Bottlers' Gazette.*

PRACTICAL SCIENCE.

The contractors for the Suakim and Berber railroad have decided to adopt electric lighting in order to encounter satisfactorily the obstacles as to climate, etc., of which so much has been said. By this means they intend to construct the road during night time, when the temperature will be such as Europeans can withstand with tolerable ease, while during the heat of the day they can take their rest. To carry out this arrangement a firm of Leeds, England, have already supplied two complete installations for the electric lighting.

The engine boiler and dynamo for each set, as well as the support for the lamps when not in use, are all neatly fixed on a specially designed light railway truck. When in use the lamps will be hung from iron tripods 32 feet in height, and placed at intervals of 30 yards along the line of the proposed railway. The tripods are made of light iron tubing jointed at the top and made telescopic in the middle, so that they can be folded together, removed and united whenever required with the least possible trouble. The insulated cable to convey the electric current to the lamps is coiled on reels, two being supplied with each installation. On these reels the cable can be run off or wound up, as required. The lamps, which are of 2,000 candle power each, can also be moved forward, one at a time, from one end to the other as the work of construction proceeds, a simple switch arrangement being provided for the cutting off of the current from any particular lamp without interference with any of the others. The dynamo machines are of the Brush type and are driven by Parsons' patent highspeed engines. The boilers are of the locomotive type and are supplied by means of a feed pump with water from a tank fixed under the dynamo machine which latter, by this means, is also kept cool during work. The carbons of the lamps are arranged to burn for a period of 16 hours.—*Iron Age.*

THE WALNUT.

A writer in *The Garden* (London) wonders why this tree is comparatively but little planted, a singular fact when the beauty and value of its wood are taken into account. For gunstock and much of our fine sorts of furniture, walnut timber is valuable. Walnut trees, moreover, are free growing on almost all kinds of soil, and the crops of nuts which they produce would pay at least the rent of the land on which they grow, while frecholds might be purchased with trees of fourscore years of age. Walnuts in a landscape, also, are trees of mark, their magnificent heads of fine foliage in parks or paddocks rendering them especially adapted for such situations. They associate well with oak, beech, elm, sweet and horse chestnut, as well as with various other trees, and they do not rob the land more than their companions do. Their smooth, glossy leaves are washed clean by every shower, and the foliage is not so thick as to throw the rain of the grass or to keep air currents from circulating freely among the branches. There are, therefore, no trees either in park or pasture under which herbage grows better than it does under walnuts. Besides, walnuts come into leaf late, make their growth quickly, and lose their foliage nearly all at once after the first autumn frost. Thus a chance is given to take the leaves out of the way, so as not to injure the grass, while the shining dark young wood, with the grayish mature limbs, are left full in view. As to any tree that will grow more quickly into a size to be useful, I do not know where to look for it. I have seen old walnut trees that measured from 60 feet to 90 feet high; diameter of branches from 60 feet to 96 feet; and of bole or trunk from 3 feet to 5 feet diameter; and no doubt large trees are elsewhere to be found.

Fire in a Colliery.

LONDON, June 3.—A fire broke out in the Phila Colliery, near Durham, to-day. Three hundred miners are in the pit. All attempts to subdue the flames or render the miners assistance have failed. Great excitement exists, and is feared the majority will perish.

Later despatches say that all but 22 miners have been rescued. Those missing are supposed to have been killed. The fire was caused by an explosion of firedamp.

Chips.

FOREST fires lately prevailed at Woodstock, Big Indian, Mount Pleasant, and other points in the Catskill mountains, N. Y.

THE Rainy Lake Lumber Company, at Rat Portage, Algoma, Ont., has its new machinery in shape, plenty of logs, and will make a large cut this season.

THE new town that is growing up about the plant of the Harman Lumber Company, on the Sturgeon, above Escanaba, Mich., has been named Forest City.

THE Lake Michigan & Lake Superior Transportation Company has contracted to carry 3,000,000 feet of lumber from Ashland, Wis., to Chicago, this summer.

A NEW YORK state paper says that lumbermen on the north branch of the Saranac river, that state, are hiring men to protect their timber tracts from forest fires.

A LOG 24 feet long, hauled at Blackman Brothers' camp, at Piltchuck, Snohomish county, W. T., measured six feet eight inches in diameter at the small end. The stump was eight feet across the top.

FIRES in the woods of Sugar valley, and in the White Deer mountain region, Pa., had, on May 23rd, swept over 25 square miles of territory, destroying timber, ties and fence rails to an estimated value of 1,000,000.

THE forest fires about Newberry, on the Detroit, Mackinac & Marquette railroad, upper peninsula, Mich., were on fire, May 21st. Dollarville was reported destroyed, and eight houses in the vicinity of Newberry.

ON May 21st forest fires were reported to the north and west of East Tawas, Mich. Fires south of the Detroit, Bay City and Alpen railroad were destroying a large amount of pine, and burning everything on the ground, including down timber and logs on the skids.

REPORTS from various parts of the eastern townships, Quebec, indicate that the recent rains have been a great boon to lumbermen, who would not otherwise have been able to float their logs to the mills this season in consequence of the hot weather in the early spring.

WHITE & FRIANT, of Grand Rapids, Mich., own a fine tract of cork pine 10 miles east of Kalkaska, Mich., and have been negotiating with parties there for a mill site. The matter has awakened much interest at Kalkaska, and the citizens offer the firm 40 acres of land if they will erect a mill on it.

THE total number of boiler explosions in the United States in 1884 was 162, by which 254 people were killed and 261 others injured. This number falls slightly below the preceding year. Fifty-six of the explosions were of saw mill boilers. The percentage of 1884 was 37 per cent. of all the explosions, instead of over forty per cent. the year before.

WORK on the Chignecto Marine railway to connect the Bay of Fundy to a point on the Straits of Northumberland, has been begun. This road is to be on the same plan as that of Ead's ship railway across the isthmus, and will obviate necessity of circumnavigating Nova Scotia in passing from the coast of New Brunswick into the ocean eastward. It will be 25 miles long, and will cost \$5,000,000.

MOUNTAIN fires had burned for a week previous to May 22nd, north of Stroudsburg, Monroe county, Pa., and the vicinity of Buskill. Great damage was reported to the lumber interests and to the farmers. A forest fire was also raging between Bangor and Pen Argyl. The fires on the Blue mountains, in the vicinity of Danielsville, Northampton county, which were partly subdued two weeks before by a rain storm, broke out afresh and were spreading rapidly, causing apprehension that a great deal of valuable timber would be destroyed.

A TERRIBLE STORM.

CHICAGO, ILL., June 2.—A heavy storm of thunder and lightning, wind and rain struck the city this afternoon, lasting nearly an hour. Numerous buildings in the outskirts were struck and several demolished. John Montagu, a watchman

for the McCormick reaper works, standing near a fire alarm box, received a shock, from the effects of which he died. A number of other persons were injured. Lightning struck the brick wall of the new baseball grounds, ten feet high, demolishing three hundred feet and badly shattering the rest. At Lake a man standing near the chimney had his skull fractured and a child was badly bruised in a shanty which a bolt struck and nearly annihilated. To-night the lightning is blinding, and rain falls in torrents. Apprehension is felt for the safety of vessels on the lake.

June 3, 1 a.m.—Within the last hour and a half four more persons have been killed outright by lightning.

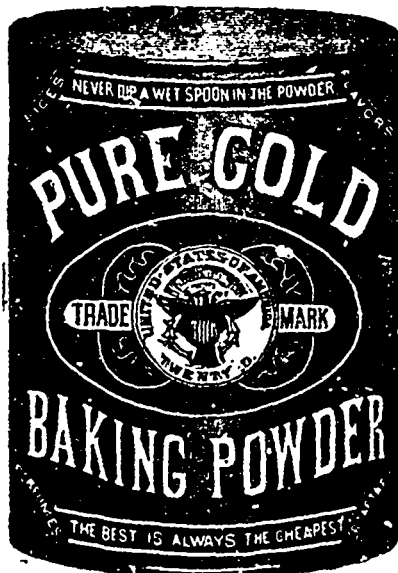
Snapping and Bubbling in Boilers.

In cases of externally fired boilers, there is noticeable a snapping and bubbling sound at the bottom after pulling down the fires with a strong draught on, prior to blowing down. This is due to the "mud" (organic and inorganic substances) which has settled during the night, while the boiler was losing heat on the lower side, the water becoming comparatively quiet on the inside. The steam bubbles are made at the bottom, underneath the mass of mud, and, when sufficiently buoyant, come in contact with the colder water above and are condensed, forming a snapping noise in collapsing. The important fact involved is that this never occurs in a clean boiler with comparatively pure water. —Manufacturers' Gazette.

Catarrah—A New Treatment.

Perhaps the most extraordinary success that has been achieved in modern science has been attained by the Dixon treatment for Catarrah. Out of 2,000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is none the less startling when it is remembered that not five per cent. of the patients presenting themselves to the regular practitioner are benefited, while the patent medicines and other advertised cures never record a cure at all. Starting with the claim now generally believed by the most unskillful men that the disease is due to the presence of living parasites in the tissues, Mr. Dixon at once adapted his cure to their extermination; this accomplished the Catarrah is practically cured, and the permanency is unquestioned, as cures effected by him four years ago are cures still. No one else has ever attempted to cure Catarrah in this manner, and no other treatment has ever cured Catarrah. The application of the remedy is simple and can be done at home, and the present season of the year is the most favorable for a speedy and permanent cure, the majority of cases, being cured at one treatment. Sufferers should correspond with Messrs. A. H. DIXON & SON, 305 King street west, Toronto, Canada, and enclose a stamp for their treatise on Catarrah. —Montreal Star. 19122.

— TRY —



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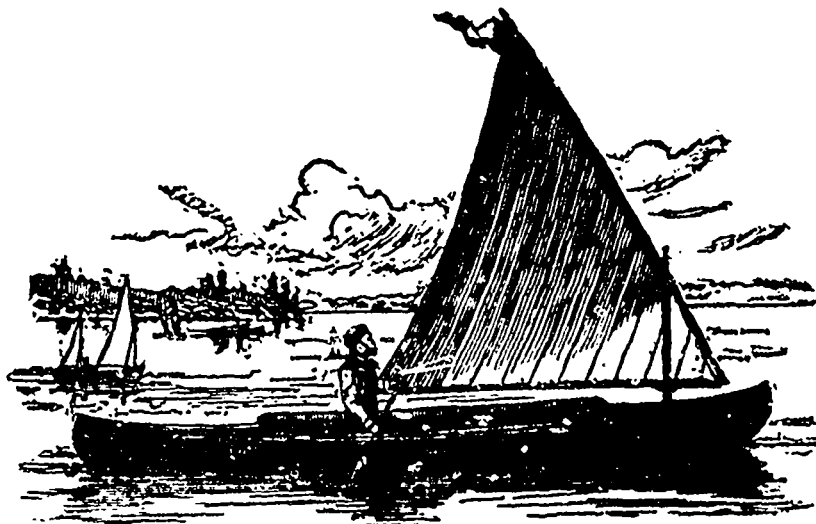
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4 Adelaide Street East, Toronto

Market Reports.

TORONTO.

From Our Own Correspondent.

JUNE 9.—Retail men report trade satisfactory as regards the quantity going out, but owing to excessive competition only a small margin of profit. Many young men having no experience of the lumber business, having been a few months in a lumberman's office, perhaps, and some not having gained even that much knowledge gained by contact with a lumberman, go into selling on commission or otherwise, and prices get cut so low that a living profit is not left for the men of mature experience having to bear the expenses connected with a yard. There is more buildings in course of erection at the present time than at any previous time in my recollection, and yet the individual benefit to lumbermen is not felt by reason of the large number engaged in the business.

Short bill stuff on the opening of the spring sold in many cases for \$11.50 per M on car here and will not bring more than \$11.00 now, and a corresponding drop at the yards, so that 16 feet and under may now be quoted at \$13.00 from yard. There is no scarcity of any kind of lumber, except it may be said that dry 1 1/2 cut up and better is hard to obtain except in small quantities.

There is but little going over the docks for the sufficient reason that there is but little fit to ship, last season's stock being nearly exhausted. A number of vessels have left here for other ports light, not being able to obtain cargoes.

During the last week considerable lumber has arrived here from Ottawa by the G. T. R., on a 9 cent. rate, making the car of 24,000 pounds \$21.60, only the same figure as from Gravenhurst, as between the C. P. R. and G. T. R. scrimmage the lumbermen are likely to derive some benefit—so mote it be. The latter have been under bonus long enough and anything that will help them from the former will not be amiss. If we could only have competition between the N. & N. W., or at least some other road constructed that would come into competition with that road, lumbermen would be well pleased, as between high rates of freight, excess loading and damage for detention of cars, the lumbermen have no very smooth travelling. The present cutting in rates between the C.P.R. and G. T. R. will, however, be some slight compensation.

Table with 2 columns: Item description and Price. Includes Mill cull boards and scantling, Shipping cull boards, Scantling and joist, up to 16 ft., etc.

MONTREAL.

From Our Own Correspondent.

JUNE 9 As was expected there has been a considerable extension in the output of lumber during the past two weeks but now there has been rather a falling off and business has become decidedly dull, especially for the building trade, but shipping, shows a good deal of activity and a considerable number of rafts have been passing down to Quebec. Stocks are ample for all requirements, and prices remain steady as last quoted, viz., as yard:—

Table with 2 columns: Lumber type and Price. Includes Pine, 1st quality, Pine, 2nd, Pine, shipping culls, etc.

SHIPPING.

There has been a good deal of activity shown in the trade for the past fortnight. A good demand exists for freight room at steady rates although vessels are plentiful. There, however, have been no vessels loaded as yet for South America. Since our last the following clearances have been made at the Custom House: Per SS Carmona, for London, 24,861 pcs. deals; per SS Sarain, for Liverpool, 25,520 pcs. deal; per SS Bristol, for Bristol, 13,795 pcs. deals; per SS Ocean King, for London, 5,600 pcs. boards and 232 pcs. deals; per Lako Huron, for Liverpool, 3,795 pcs. deals and 4,890 pcs. boards; per SS Coreau, for London, 916 pcs. deals; per SS Oxenholme, for Liverpool, 19,879 pcs. deals, 1,330 keel ends and 4,825 pcs. boards; per SS Siberian, for Glasgow, 9,854 pcs. deals; per SS Escalona, for London, 5,280 deals; per SS Lako Superior, for Liverpool, 3,821 pcs. deals; per SS Scotland, for London, 21,898 pcs. deals and 1,635 pcs. Walnut; per SS Toronto for Liverpool, 16,129 pcs. deals; per SS Avalara, for London, 14,510 pcs. deals; per SS Somerset, for Bristol, 2,706 pcs. deals; per SS Norwegian, for Glasgow, 61,572 pcs. deals; per SS Lake Champlain, for Liverpool, 1,353 pcs. deals and 2,510 pcs. lumber; per SS Suffolk, for London, 37,425 pcs. deals, 9,200 pcs. boards and 1,152 ends; per SS Erl King, for London, 2,760 pcs. deals; per SS Cynthia, for Glasgow, 8,870 pcs. boards and 5,587 pcs. deals; per SS Lauderdale, for Barrow, 32,886 white pine deals, 952 ends and 9,436 pine boards; per SS Hanoverian, for Liverpool, 2,939 pcs. boards and 7,481 pine deals; per SS Montreal, for Liverpool, 12,637 pcs. boards and 6,393 deals; per SS Glenmarvon, for London, 66,192 pcs. deals, 7,232 pcs. boards and 2,716 ends.

CORDWOOD.

There is a very slow demand existing at present for firewood. Prices are steady and are considered fair if there was only a demand. Stocks are getting heavy and a good deal of inferior quality is still coming in by the boats. Dealers are not sanguine of doing much this summer as coal is likely to be reasonable. We still quote wharf prices ex cartage as under:

Table with 2 columns: Wood type and Price. Includes Long Maple, Long Birch, Long Beech, Tamarack.

OHIO GAO.

THE CARGO MARKET.

The Northwestern Lumberman of June 6th says:—The number of cargoes arrived in port during the week was 185, as compared with 184 last week, and about 200 for the corresponding week last year. The over Sunday fleet numbered 54 vessels, about 30 of which were found in the market by Monday morning. Since then the daily arrivals have numbered from 15 to 25, and the market has not been overcrowded with offerings. On Thursday, when this report was closed, the wind was in the west, blowing a stiff gale, so that the prospect for another fleet right away was not bright, while there was nothing but a cargo of shingles on the market.

The commission men had a small tussle with the Monday fleet. A large majority of the offerings were dry No. 2 inch, and the yard dealers elevated their noses at it, and talked low prices or nothing. But the commission men spread their legs apart and braced themselves against the bears influence. The yard merchants clamored for piece stuff, and the little they got was to all intents piece stuff, when it had been meagerly piece out among the hundred yards—there was just about enough to give each one a piece to carry off on the shoulder. Of course when a man goes down to the market to buy dimension, and finds only coarse inch lumber, of which he already has enough, he does not bite eagerly at the bait that is offered him. But the Monday fleet was disposed of without a very long delay. The No. 2 stock dragged a little at weak prices, but the few cargoes of pine stuff went off without much trouble.

While it cannot be said that a lower price for No. 2 stock has been established, it is true that lumber sold on Monday and Tuesday at a range of 25 to 50 cents a thousand lower than previous prices. This was effected on account of the pressure of the large fleet. But after a clearance

of the market of its load, it is doubtful if fair to good No. 2 stock could have been bought any cheaper than it was the week before. The bottom of the range is still at \$9.00, but more has sold as low as that during the week than previously. A desirable cargo of No. 2 stock will bring \$10 a thousand, and very good, more. Our highest figures on No. 2 stock—namely, \$11, is intended to include all that can be classed as No. 2, which embraces very good common lumber. But it must not be inferred that much that is sold on the market here is of that grade that sells above \$10 a thousand.

There is very little medium, and next to no No. 1 stock being offered at the market docks. It has been either bought at the mills, or is being held for future sale. One man at Muskegon holds a quantity of strips running a large per cent. to C and better, at \$15.50 a thousand there. Buyers on this side think such a price too high.

The reason why no more dimension is coming to market is simple, and easily understood. The dry stock over the lake, in pile when spring opened, was mostly bought by yard men who had it shipped directly to their docks. They were able to get it at about 50 cents a thousand better than they would have had to pay on the market here; besides they could not have bought it here when they wanted it, or in such quantity or quality as would make it advantageous. It is claimed that green piece stuff that has been sold here at \$8.50 has been bought to arrive at \$3, and that millions of feet have been thus contracted for. This a sufficient reason why there is a meager market supply of piece stuff, and why it is eagerly wanted by those who depend on the market for their purchases.

Short dimension green has sold this week at \$8.50, when the cargo was good. Scalaway stuff has to go as low as \$8.25. Dry lumber is 50 to 75 cents higher, the difference between dry and green narrowing down as the season advances. Long dimension brings 50 cents a thousand more than short.

Standard shingles are coming moderately, and sell at a range of \$1.95 to \$2.05 for brands that anybody wants. Very few shingles of any class but standards are arriving.

Lake freights are flat. Lumber is now being brought from Muskegon for \$1 a thousand, in many instances.

Quotations of cargo prices are as follows, so far as the market has developed them:—

Table with 2 columns: Cargo type and Price. Includes Dimension, short, green, Dimension, short, dry, No. 2 boards and strips, etc.

Lake freight rates are quotable as follows:

Table with 2 columns: Freight route and Price. Includes From Grand Haven, dry, From Muskegon, by steam, White Lake, dry, etc.

AT THE YARDS.

There is no marked change in regard to prices. Sales are being made independently of the printed list, though the range from it is not great on all the more saleable kinds of lumber. In the present jog-trot state of business there is no motive to slash prices, neither is there much regard paid to an arbitrary list. Each house, while wishing to sell for all the lumber will bring, does not stick for the last dollar on a thousand when such a course would hinder a sale. It is likely that for some time to come, probably all summer, there will be no variation from the present manner of doing business. Assortments of stock that are now broken will be gradually filled by constant receipts, and the weather will carry on the process by converting green lumber into dry. So it will be seen that during the summer months, there will be no reason why there should be a scarcity or an advance in prices of a marked character.

Receipts of lumber, shingles, etc., from Jan. 1st to June 4th as reported from the Lumberman's Exchange:—

Table with 2 columns: Year and Receipts. Includes 1885, 1884, Lumber, Shingles.

FROM JANUARY JAN. 1, 1885, TO JUNE 4, 1885, INCLUSIVE.

Table with 3 columns: Year, Lumber, Shingles. Includes 1885, 1884, Decrease.

STOCK ON HAND MAY. 1.

Table with 3 columns: Year, Lumber, Shingles. Includes 1885, 1884.

LAKE RECEIPTS FROM JAN. 1 TO JUNE 4.

Table with 2 columns: Lumber type and Price. Includes Lath, Wood, cords, Posts, Railroad ties, etc.

BOSTON.

The Journal of Commerce of June 6th says: There is a fair trade in supplying the demand for the many building operations in progress, but there is a very close competition for business, and prices in general rule very low. Spruce is in active demand and scarce and cargoes meet with a ready sale firm prices. Hemlock boards are also firm. Western pine is quiet and steady, Southern pine is quiet but rather firmer. Desirable walnut, cherry, and quartered oak are quite firm. Poplar is arriving freely, much of it being of poor quality.

CANADA PINE.

Table with 2 columns: Lumber type and Price. Includes Selects, Dressed, Shelving, Dressed, 1st, 2nd, Dressed Shippers, Dressed Box, Sheathing, 1st quality, 2nd.

ALBANY.

Quotations at the yards are as follows:—

Table with 2 columns: Lumber type and Price. Includes Pine, clear, Pine, fourths, Pine, selects, Pine, good box, Pine, common box, etc.

OSWEGO, N.Y.

From Our Own Correspondent.

We change quotations on shingles and lath. Cheap railroad freights have enabled Michigan dealers to deliver shingles and lath in this vicinity at very low figures.

Table with 2 columns: Lumber type and Price. Includes Three uppers, Picking, Cutting up, Fine Common, Common, Culls, Mill run lots, etc.

BUFFALO.

We quote cargo lots:—

Uppers.....	\$45 00@46 00
Common.....	17 00@18 50
Culls.....	12 50@13 00

TONAWANDA.

CARGO LOTS—MICHIGAN INSPECTION.

Three uppers.....	\$45 00@46 00
Common.....	18 00@24 00
Culls.....	12 00@13 00

LONDON.

The *Timber Trades Journal* of May 30th says:—There was a somewhat small attendance at Wednesday's sale. There was the same noticeable absence of boys marking catalogues, and their places lent an air of thinness to the assemblage which was ideal more than real as far as results are concerned, and though, perhaps, the brokers would prefer to see the room full, it is to those who buy alone they have to look.

Another reason why the seats were not fully occupied was the holiday time, and Whitsun-week is not usually a very active one for business; merchants are rather inclined to take things easy a bit, and starting with a Monday bank holiday there is not much earnestness imparted into transactions of the remaining five days—four we might have said, for Saturday is, after all, only a business day in the centre of the city by courtesy.

The weather presented an agreeable contrast to the previous sale, and those who came to buy were free from those atmospheric disadvantages that appertained to the proceedings of Wednesday week. Bidding was pretty active for some goods, but others hung fire most lamentably. The yellow pine logs submitted fetched their price, but we observed no hardening tendency in the spruce logs offered, and though the limited stocks here coupled with the moderate stocks at the shipping places must ultimately lead to a rise, there is no evidence of it to be found in the present tone of the market, as represented by the public sales.

The pitch pine goods ex Caroline and Nymphs, though only representing deck and stowage goods, went, we consider, low, being freshly imported, and by no means second rate. There was a total absence of competition for this description of wood, the bidding being confined to a few of the principal dealers, and one of those latter took the bulk of the lots without having to bid twice.

We noticed a little lot of Canadian cedar in the sale, a wood that has not come on the market for a considerable time. It is a very durable wood, and we believe in Canada and the States they use it for sleepers, for which it is well fitted, but it is perfectly useless for pencil work. It has been tried for push backs, but was not liked, though the color was good for fancy articles. The value put on it in the sale-room must, we suppose, be taken as a representative of what it is worth in the market, and that must be low indeed, as 8d. a foot was all that was bid for it, and being without reserve it had to go.

Spruce seemed to sell rather better than the day before, but still the price is not as good as the limited stocks would lead us to expect. Flooring went low, and it was only the chance of securing a bargain that kept buyers to the front.

The season is slipping along, already we are within four weeks of the longest day, and yet only a small portion of the opening shipments of the year are on their way. Things have been undoubtedly quiet, and trade will continue to be of the same unsatisfactory nature while competition is so much against home industry. The burden entailed on trade by the additional taxation could not have happened at a more unfavorable time. Incomes derived from shipping have already been diminished by the low freights, and the expense of working vessels at little or no profit, if not actual loss, is sufficient drain on capital without its being further reduced by the tax collector. The Whitsuntide holidays have, it is reported, been the quietest known for years, and it is very significant of the depressed condition of affairs that the railway earnings have been so low during Easter and Whitsun weeks.

The "old reliable"—Dr. Sage's Cathartic Remedy.

LIVERPOOL.

The *Timber Trades Journal* of May 30th says:—For all the business done this week the market might as well have been entirely closed as during Whit-week the whole of the time is devoted to holiday making; in fact to such an extent is it carried out that, with the exception of Tuesday, which is the recognized Manchester market day, many markets are entirely closed until Wednesday, and others do little if any business during the week. Even large public companies suspend work every day at noon, and the doors are closed with amazing promptitude, so as to permit the employes to join in the numerous excursions got up for the schools and charitable institutions.

The imports continue light, so far as entire cargoes are concerned, but by the regular lines of trans-Atlantic steamers and sailing vessels we have had the customary quantities of oak railway waggon scantling, whitewood, staves, and other descriptions of timber from the United States. An exception must, however, be made in black walnut wood, which is scarce and advancing in price. Shippers of this wood have for some time past been getting unremunerative returns for their consignments, and as their home and continental markets afford them a more profitable business, the wood is going in these directions.

There is no change in the value of spruce deals, but as the import is confined to small quantities coming forward in vessels bringing birch and pine timber, the stocks are slowly getting worked down to moderate dimensions.

We notice two public sales announced for next week, when some of these goods will be offered "to arrive," and it is to be hoped that with the resumption of business more life may be infused into the trade, though few are found sanguine enough to expect it.

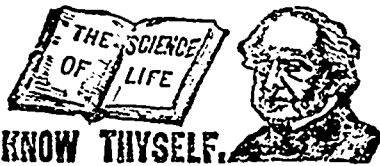
THE Rathbun Company, Deseronto, are shipping large quantities of building material to many points along the line of the Midland Railway.

THE Henderson Lumber Company, headquarters at Montreal, has been incorporated, with a capital stock of \$100,000.

Above all other earthly ills,
I hate the big, old-fashioned pills;
By slow degrees they downward wend,
And often pause, or upward tend;
With such discomfort are they fraught,
Their good effects amount to naught.
Now, Dr. Pierce prepares a pill
That just exactly fills the bill—
A Pilllet, rather, that is all—
A Pleasant Purgative, and small;
Just try them as you feel their need,
You'll find that I speak truth, indeed.

266th Edition. Price Only \$1

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KNOW THYSELF. A Great Medical Work on Manhood.

Exhausted Vitality, Nervous and Physical Debility, Premature Decline in Man, Errors of Youth, and the untold miseries resulting from indiscretion or excesses. A book for every man, young, middle-aged and old. It contains 125 prescriptions for all acute and chronic diseases, each one of which is invaluable. So found by the Author, whose experience for 23 years is such as probably never before fell to the lot of any physician. 300 pages, bound in beautiful French muslin, on boxes of covers, full gilt, guaranteed to be a finer work in every sense—mechanical, literary and professional than any other work sold in this country for \$2.50, or the money will be refunded in every instance. Price only \$1.00 by mail, post-paid. Illustrative sample 6 cents. Send now. Gold medal awarded the author by the National Medical Association, to the officers of which he refers.

This book should be read by the young for instruction, and the afflicted for relief. It will benefit all.—*London Lancet.*

There is no member of society to whom this book will not be useful, whether youth, parent, guardian, instructor or clergyman.—*Argonaut.*

Address the Peabody Medical Institute, or Dr. W. H. Parker, No. 4 Bulfinch Street, Boston, Mass., who may be consulted on all diseases requiring skill and experience. Chronic and obstinate diseases that have baffled the skill of all other physicians identify a specialty. Such treated successfully without an instance of failure.

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CIRCULAR, GANG, SHINGLE, CONCAVE GROOVING,

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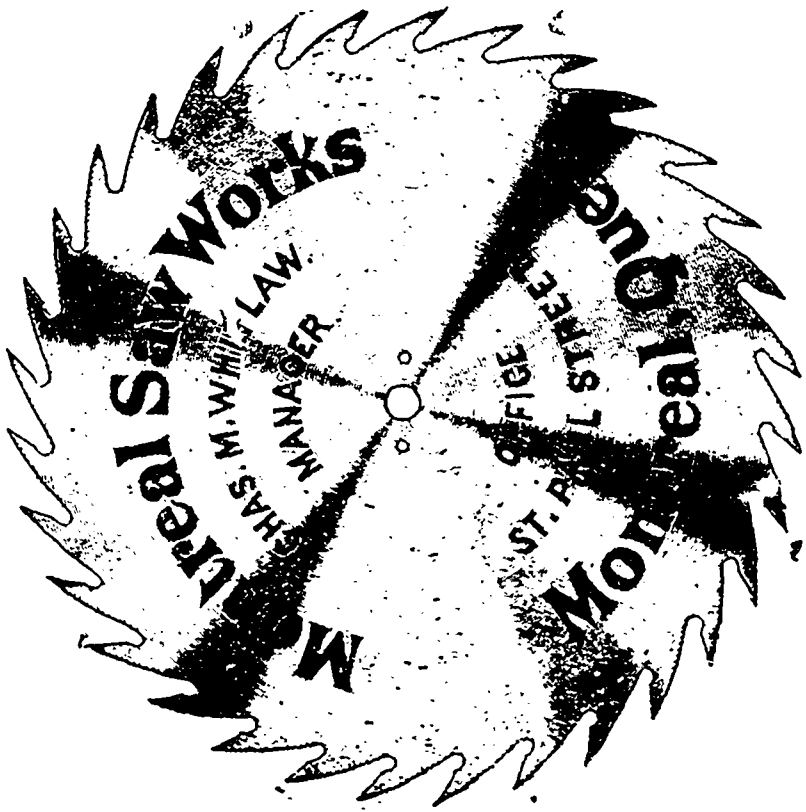
ICE, AND ONE MAN CROSS-CUT SAWS,

—AND DEALERS IN—

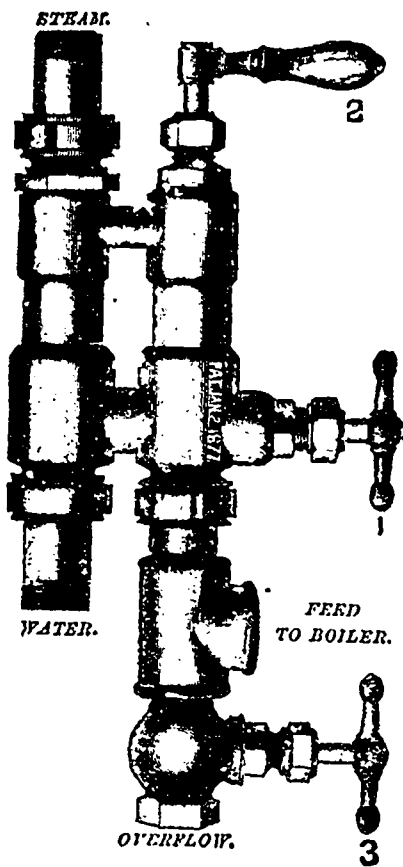
BAND SAWS, BARREL AND HEADING SAWS, EMERY

WHEELS, GUMMERS AND CUTTERS FILES,

RUBBER & LEATHER BELTING, SWAGES, SAW SETS.



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Best Feeder known for Stationary, Marine or Locomotive Boilers.

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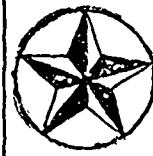
All sizes lift water 25 feet. No adjustment required for varying Steam Pressures.

Over 70,000 Now in Use.

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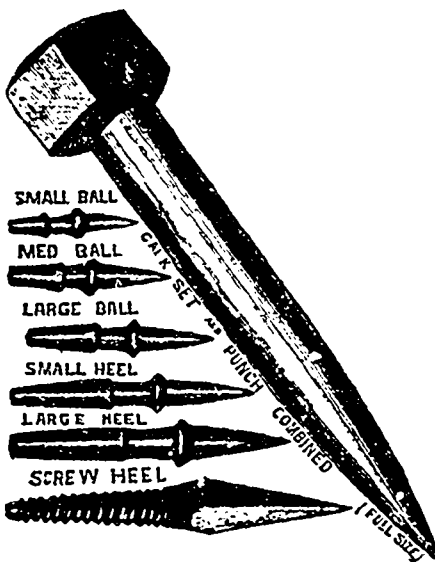
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Our CALKS are made with small trip hammers from the best quality of steel and tempered in oil. The quality and temper can be tested by driving them into a bar of wrought iron.

These calks are now used by all the principal Drivers in Maine and New Brunswick. Kept by dealers in Lumberman's Supplies.

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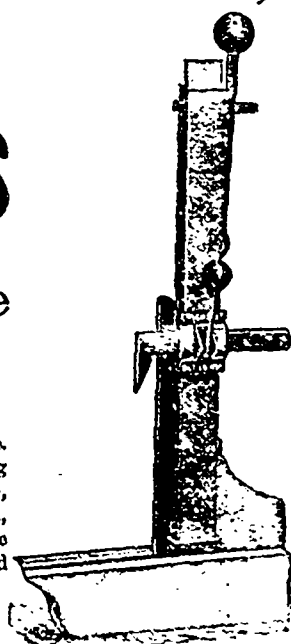
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SAW MILL DOGS

The Sawyer's Favorite

For Holding Logs upon & Saw Mill Carriage while being Sawn into Lumber.

These Milldogs I guarantee to give satisfaction in every case. They will hold a frozen log as well as a soft one, for cutting Scantling, Square Timber, &c. These Dogs cannot be excelled, I sell them all on their own merits, give ten or fifteen days trial, and then, if not satisfactory, return them to my order, as I have no agents on the road this year, I will sell them at a reduced price. Send for Circular and price list.



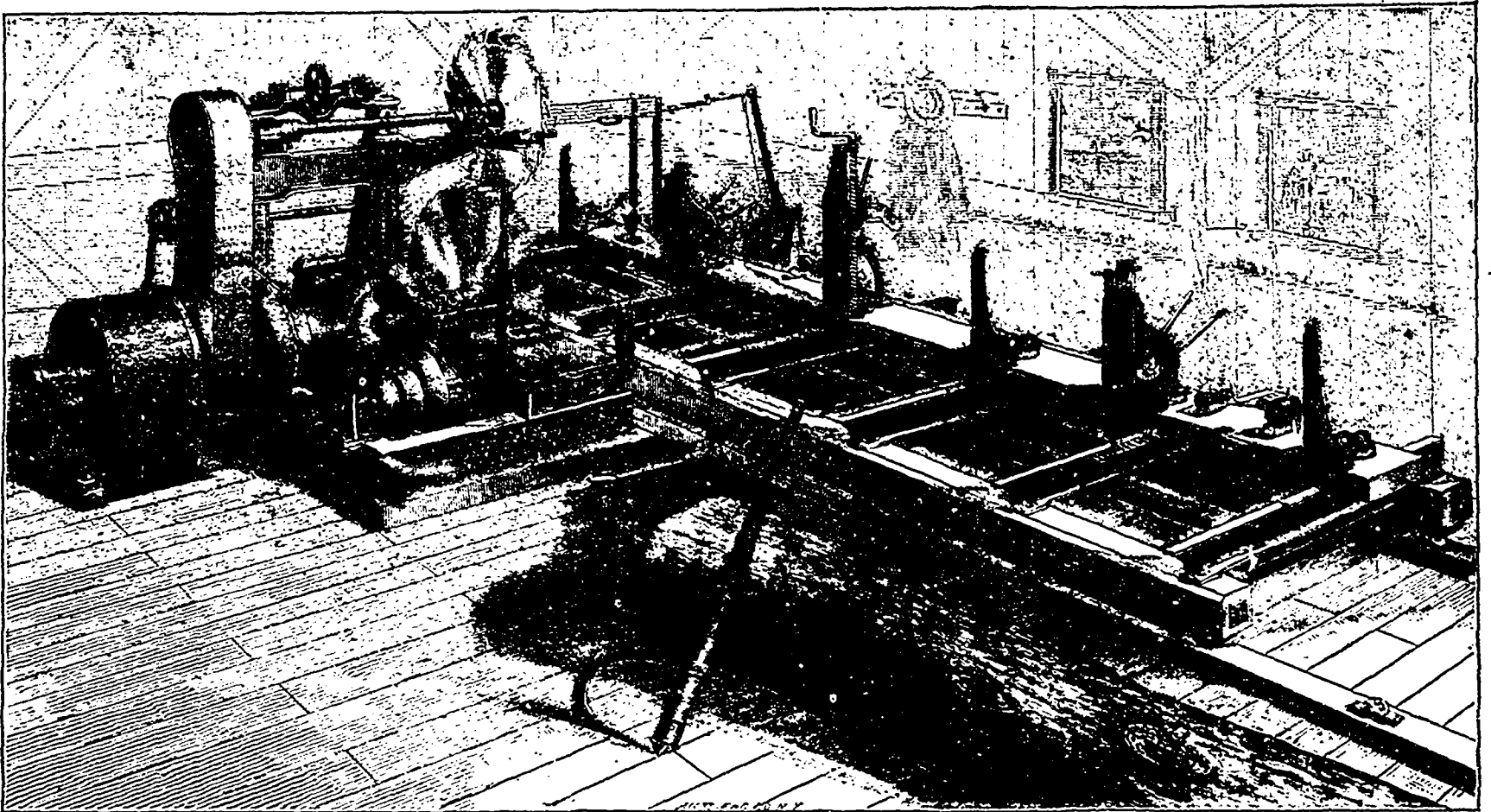
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Circular Saw Mills,
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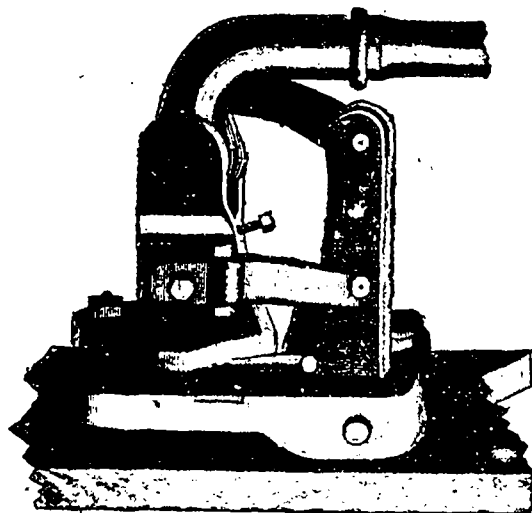
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Manufacturers of Saw Mill and General Machinery.



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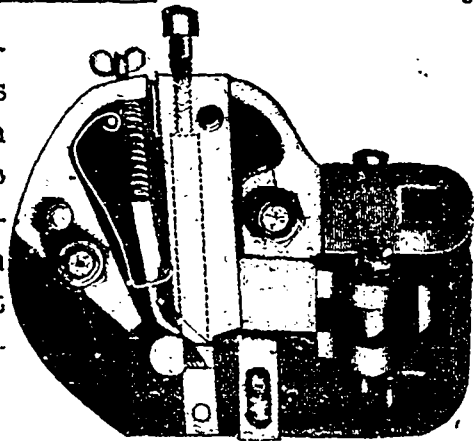
IMPROVED PRESSURE SWAGE

This SWAGE has been constructed to fill any conceivable wish of those who are favourable to, and think it the only

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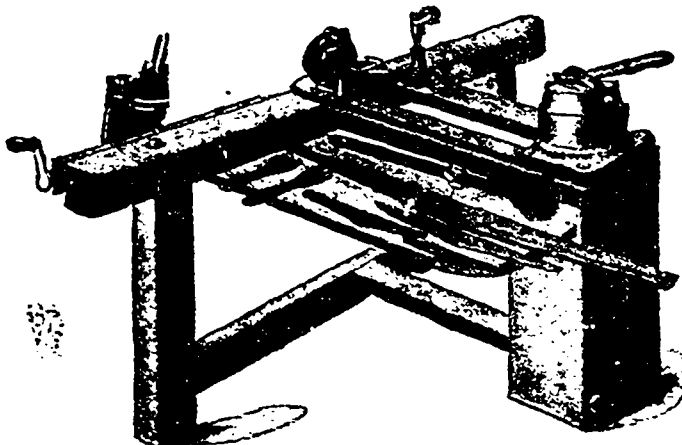
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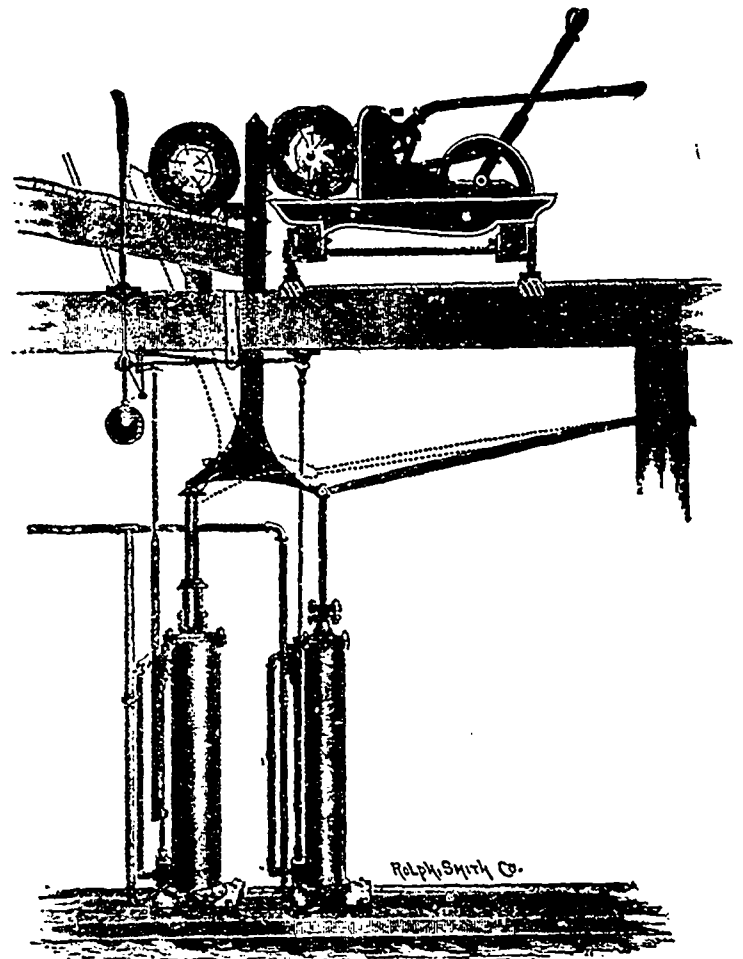
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This is without doubt, from my knowledge of what is wanted in every mill, together with the many testimonials I have received from those using them, the best outfit for hammering and the general care of Saws, that has ever been introduced, and accompanying each Bench is my "Handy Guide" book, giving all necessary instructions how to remedy any and all defects in the Saw. I have added improvements to it since I got the cuts out represented in the "Handy Guide" and done away with some parts there represented, leaving the Bench a model acquisition for the File Room.

THE KALAMAZOO STEAM "NIGGER"



Ralph Smith Co.

It is four machines in one—Log Loader, Log Turner, Hand Spiking Machine, and Machine for Springing Timber Straight on Sawmill Carriages. It saves time, which is money. Is durable, being made entirely of iron, steel and brass. It is very quickly and easily controlled, the machine being worked by direct steam, is elastic in its movements (thereby obviating its liability to breakage) which is a very desirable point in a machine. By using this machine your circular mill will saw from five to seven thousand feet more per each eleven hours, according to cutting capacity of mill. We guarantee this machine to be first-class in workmanship, durability and utility. It has given entire satisfaction to every one using it. They are very cheaply set up in mill requiring only a base for the cylinders on lower floor, and no bridge-trees shafting, boxes, pulleys, belts or chains. Both cylinders are supplied with steam by a one and a half inch steam pipe. It requires less steam to work it than it takes to overcome the friction on the old style friction turners. It works only while turning or loading logs—balance of time it is entirely idle. Another important use to which we direct your notice, is in springing and straightening long timbers. We would be pleased to receive your order for one or more of the above Machines, feeling confident that it will give you entire satisfaction.

We Guarantee each Machine in every Particular.

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Pumps for Fire Protection a Specialty.

—SAVE INSURANCE.—

Our Combined Boiler Feed and Fire Pumps are a NECESSITY IN EVERY WELL ORDERED STEAM MILL or FACTORY.

Cheap.

Cheaper than any Pump built.

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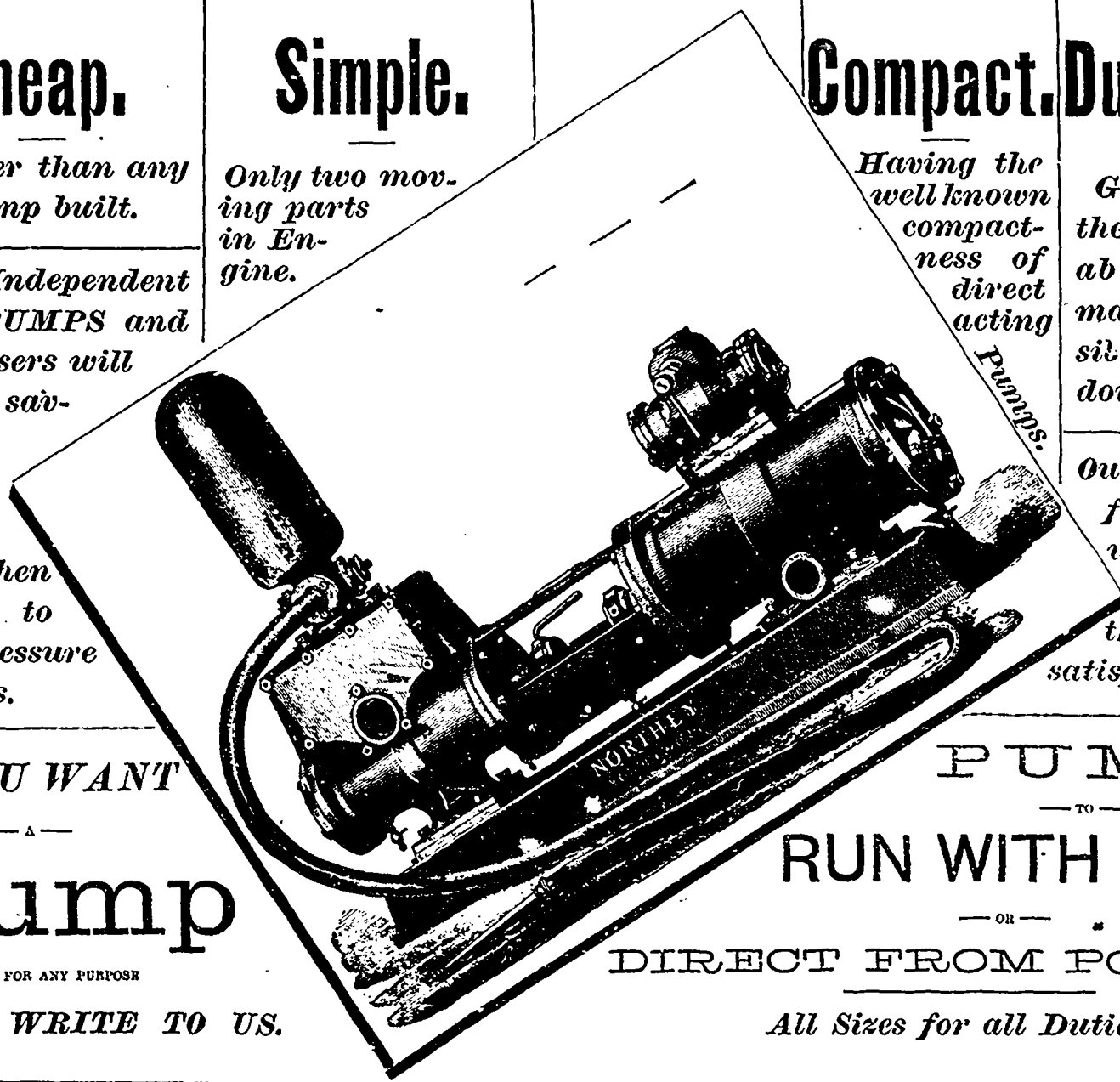
Only two moving parts in Engine.

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Guaranteed the most durable Pump made; impossible to break down.

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Our make of Pump is specially adapted to Mills in out of the way places, as they can be absolutely relied on, and occasion no vexatious stoppages for repairs.

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"POCONO" AND "PARADISE."

So many of our Mill Men and practical Sawyers have formed their opinions as to the quality of TANITE EMERY WHEELS for SAW GUMMING by a trial of one class only—our old and well-known CLASS 2 wheels—that we deem it necessary to call attention to the above comparatively new classes. All Mill Men should understand that there is no absolute and accepted standard as to Saw Gumming Wheels. The preference for one or another make is as much a MATTER OF TASTE as is preference for cheese, or wine, or music. Most of our competitors make but one class of Saw Gumming Wheels. We make FOUR, and there is about as great a difference among these four classes of Tanite Wheels as there is among the wheels of different manufacturers. It is quite probable that some who failed to be satisfied with our Class 2 may find some one of the other classes exactly what they want. It is equally probable that some who have been regular and well satisfied users of our Class 2 or 3 Wheels may be still better pleased with our "POCONO" or "PARADISE." We suggest your sending an order for four wheels, one each of Classes 2, 3, "Pocono" and "Paradise," in order that you may settle the question which does suit you best. We are furnishing the "Pocono" largely, and the demand is largely increasing. For the "Paradise" there is but a light demand, but it comes from experienced men. We also make a Special Class to suit the requirements of the AUTOMATIC SAW GUMMING MACHINES so largely used in the North-West.

THE TANITE CO., STROUDSBURG, PA.
MONROE CO.,

ST. CATHARINES SAW WORKS!



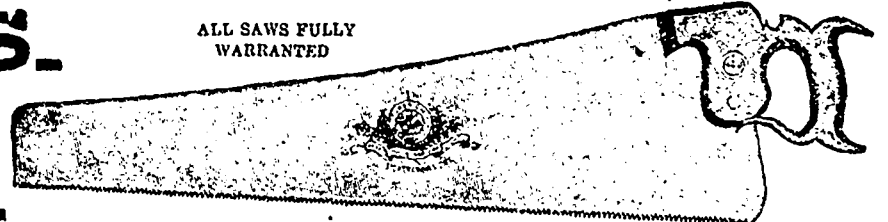
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MANUFACTURERS OF EVERY DESCRIPTION OF ST. CATHARINES, ONTARIO.

SAWS.

ALL SAWS FULLY
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Sole Manufacturers for the Dominion of
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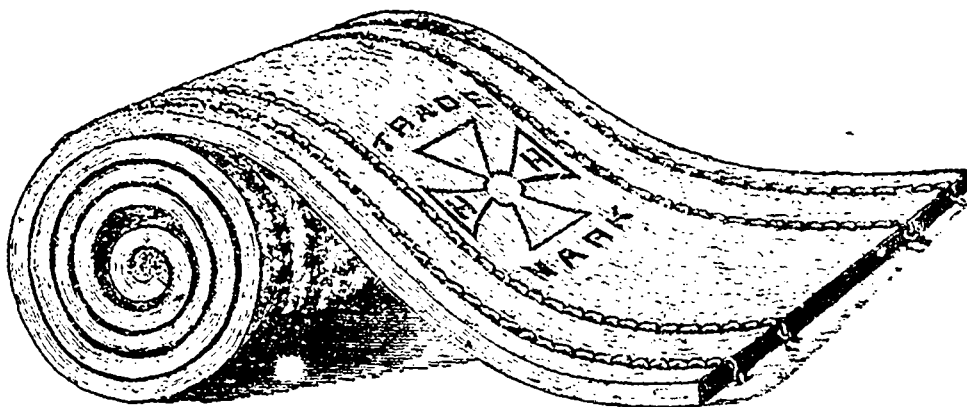
All Our SAWS are now made under the "SIMONDS" PATENT PROCESS.

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Patent Stitched—Steam Power Pressure Stretched—Oak Tanned

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Dear Sirs—Your Patent Sewed Belt has been in use in our City Mills for some time. We are thoroughly convinced of its superiority over any belt, American or Canadian. We have used in an experience of over 25 years. It stretches so little, and gives so little trouble, that it is superior with riveted belting. The weight is only double its price in fibre and does not stretch. We heartily recommend it to manufacturers as the cheapest and most satisfactory belt in the market.
Yours respectfully,
W. C. MARSHALL,
Foreman, City Flour Mills.



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The Best, therefore the Cheapest, Belt in the market.
Replaces, when used, all others.
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Single equals medium double.

Stretches but little, always retains its original width.
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Runs straight and true, does not start at the laps.

25 per cent Stronger, 33½ More Lasting, and 12½ Heavier, than any other Leather Belt