

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear
within the text. Whenever possible, these have
been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
 - Pages damaged/
Pages endommagées
 - Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
 - Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
 - Pages detached/
Pages détachées
 - Showthrough/
Transparence
 - Quality of print varies/
Qualité inégale de l'impression
 - Continuous pagination/
Pagination continue
 - Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
 - Caption of issue/
Titre de départ de la livraison
 - Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12X	16X	20X	24X	28X	32X



PUBLISHED
SEMI-MONTHLY.

The only Newspaper devoted to the Lumber and Timber Industries published in Canada

SUBSCRIPTION
\$2.00 PER ANNUM

VOL. 4.

PETERBOROUGH, ONT., AUGUST 1, 1884.

NO. 15.

METHODS OF SAWING TO OBVIATE THE EFFECTS OF SHRINKAGE.

Written for the Canada Lumberman.

Having shown in our previous communication the peculiar action of shrinkage in lumber seasoning; that it is a drawing together of the wood fibres, around the tree, or circumferentially, not radially, and as a consequence boards having the heart at one edge do not shrink in their widths to any appreciable degree, neither do they warp or twist, while boards cut at right angles to this direction or from the side of the log do all their shrinking in the direction of their width, and, unless prevented by mechanical means, invariably warp.

The former, or radial sawing, is technically called rift sawing. The latter, bastard sawing. What is called quarter sawing in New York market reports, in reference to oak flooring, is when the log is first quartered and then the boards sawed alternately from each side of the quarter, the nearest practicable method to true rift sawing.

The question now for consideration is: How to saw the logs in order to obtain the greatest number of boards in or approaching the radial direction. By the usual course of siding down and sawing up stock our boards are generally the reverse of this, or, as shingle makers would say, they are cut bastard. One or two boards in the centre of the stock are radial, but these bring only about 10 in. wide, and have heart in the middle, which is generally a blemish, practically leaves the whole product of the log bastard cut. If this is for rough lumber such as for barn building, sheds, packing boxes, or fencing, where we simply want the highest average widths the log will make, regardless of shrinking or warping, we have attained our object; the log is best sawn to suit the purpose; but if it is for house finishing, for which most of our good lumber is sawn, we have missed our aim. How then shall we secure it? We answer, by directly reversing the usual course in sawing: Instead of leaving as we do a 10 in. stock in the middle of the log when slabbing, suppose that we set our slabbing gang to cut three or four boards out of the middle of the log, leaving two five in. slabbed cants on each side. From the boards which are the widest the log could make we have the best possible cut up lumber for any purpose. The cants can be laid one above the other and run through the ordinary stock gang; or what would be better, to run them through a short stroke, quick revolving gang, specially constructed for that purpose. The saws need not be more than 18 gauge. From these cants we obtain the best flooring and house facings that can possibly be made from the log. By this method no true bastard boards are made, we have sawed from the centre not from the outside. The cut has been principally radial or rift instead of being principally bastard. The shrinking, warping tendency is almost wholly

disposed of, instead of being cut to allow its greatest action. The cost of production may be slightly increased, but the value of the product is much more increased.

Besides this greatly diminished tendency to warp and shrink the lumber will wear much better, or if painted and subjected to wear, or to wet dry conditions, it will retain the paint much longer. Let the reader examine any well worn floor, whether painted or bare, he will find the bastard sawn board worn down, while the radial or quarter sawed boards are high; and if he chooses to carefully observe the wearing action he will find that the continual beating of the wood by the boot heels loosens the fibre, separates the annual growths from one another, particularly where they lie flat or nearly so, to rise up and peel off. On the quarter sawed boards, where the grain of the wood is on edge, the beating action is not nearly so effective, splinters do not rise. I have seen kitchen floors that were generally good, but having a few bastard boards with the heart side up, which is the worst of all positions, for wear; I have seen them from one-half to three-quarters of an inch below the general level of the floor, with the peeling and splintering process continually going on. Painting would stop it just for a short time, then it would begin to rise up in larger patches than before making in the eyes of the tidy housewife a most abominable annoyance. I have known them to make the remark, "I wish all the boards in the floor were like those," referring to some that were quarter sawed, which retained their tight joints and smooth surfaces. If the women all fully understood the points I am now making they would besigue the architect in a body and insist that he place in the specifications for all decent houses: **ALL THE FLOORING TO BE QUARTER SAWED.** There is nothing impracticable in this, lumber can be readily manufactured as I have described: Lot logs of suitable quality and size be selected and boomed separately, then set the gangs as I have pointed out. The output may not be so large, but it would be of much greater value, and if it should fail to bring a corresponding price it will be simply because the purchasers are not yet posted as to its merits.

I have indicated pretty clearly how this rift sawed lumber can be made in gang mills. In circular mills it is not always so easily done. Ripping off heavy cants and afterwards loading them on the carriage, to be resawn into flooring, though quite practicable, is not so convenient. Besides it requires a large saw, which means a heavy gauge, with consequent waste of material to rip up large logs and saw boards out of their centre. If a top saw is employed in the usual way the situation is scarcely improved as the two cuts seldom match, the portion cut by the top saw generally requires to be edged off. But with a new improvement, which I have now ready for the

mill men the top saw is compelled to follow the cut of the lower saw, not only when it runs true, but when it deviates as it frequently does in a moderate degree. With this arrangement we can make a large reduction in the diameter of the principal saw, with a very pleasant reduction in first cost, and, of course, a considerable reduction of gauge: sufficient to obtain by the saving of material a respectable percentage of profit on the whole manufacture. If the plan of resawing the cants into flooring on the circular is considered too laborious there is another alternative: a small circular gang can be placed in the edger, if it possesses the necessary power and feed regulation, &c., &c., cants can be nicely sawed in flooring boards in it. This is no experiment. The Filer & Stowell Co., of this city, whom I have the honor to serve, make the edger which performs the duty.

Of course this method of sawing only approximates true radial or rift sawing, which is for boards of parallel section impracticable. The other method referred to at the beginning of this article called quarter sawing is also only an approximation. By this the log is first quartered, then each quarter is taken separately and sawed up, by cutting boards alternately from each of the flat faces till only a small triangular slab is left. To do this economically requires a special machine. Quarter sawed oak flooring in New York market is quoted about 30 per cent. higher than plain sawed.

For one particular purpose true radial or rift sawing is employed with excellent effect that is in making clapboards or house siding, principally for eastern markets. The original method of making these is by mounting a log four or six feet long, in centres, on a carriage which is made to travel against a thin circular saw which makes its cut directly towards but not quite to the centre. The log is then gipped and moved for the thickness of another clapboard which is similarly cut, and the process continued until cuts are made all around the log, the board being held by the thin edge at the centre. They are then pulled apart, edged and dried and afterwards planed, trimmed and bundled for the market, where they always bring prices greatly in advance of other siding, the style of sawing alone making the difference.

A lumber firm in Manistee, Michigan, H. Eaber & Sons, have been manufacturing this siding by an improved process, having a well designed special machine for the purpose, on which they hold patents in the United States and Canada. There are other firms in the same place also engaged in it. Mr. Albert Cunningham of this city also holds patents and is interested in this class of machinery, and I understand they are arranging with the Wm. Hamilton Manufacturing Company to manufacture under their Canadian patents. As is usually the case the inventor not only supplies a manifest necessity, but leads out and anticipates the

coming want and prepares to meet it, and our progressive trade journals like the CANADA LUMBERMAN announce his improvements and educate the public mind in the onward march of progress.

It is within the memory of young men when the wants of our country were supplied by the mills at the rate of one or two thousand feet per day. Now it is not uncommon to find single circular mills averaging 40 or 50 thousand per day. The progress has been nearly all in the direction of speed, and no doubt we have nearly reached the limit, and, seeing the way our growing timber vanishes, it is high time we paused and considered the question of economy of timber, as well as economy of time. The problem we now have to solve is to make first class timber out of second class logs, and to make more of it than has been heretofore made. The good lumber is often there if we only take the most and skillful way of getting out. Our methods of bastard sawing gives us the knots through all the boards. By the methods we have pointed out it is possible to get considerable good lumber between the knots; but if we cannot escape knots we can get rid of the shrinking, warping and splitting tendency which is an immense gain. Good lumber is still in good demand, it is the common grades that are flat. The object of these articles is to show how the quality may be improved, simply by a change in sawing processes. We think this is accomplished, and should be glad to hear that some of our mill men have made of it a practical demonstration.

W. H. TROUT.

Milwaukee, Wis. July 19th, 1884.

The Forestry Exhibition.

In its first notice of the International Forestry Exhibition, Edinburgh, the *Timber Trades Journal* says of the show of New Brunswick timber:—We are sorry we cannot congratulate the Government of New Brunswick on having sent a representative display, and it is much to be regretted if any false notion of economy has prevented them from voting the necessary funds to have their great forest treasures adequately shown at this important exhibition. From a chat with Mr. E. Jack, in charge of this exhibit, we gathered that the supply of let quality pine in New Brunswick is now very limited, and it is on the hardwoods, such as birch, beech, maple and ash, that his company chiefly rely. We saw some very handsome specimens of these woods, in which there ought to be a larger trade done with this country.

Good Work.

The Ontario Lumber Co.'s mill, of Midland, cut in June 1884.—24 days work,—5,520 logs, making 938,625 feet of lumber and scantling, all made with one circular saw. Also 370,000 pieces of lath.—*Midland Press*.

RAILWAY TIES.

There are now fully 148,000 miles of railroad track in the United States, and therefore about 891,000,000 ties, and the average consumption for renewals should be about 53,000,000, or the product of 569,000 acres of land, at 100 ties per acre, requiring 126,800,000 acres equal to 26,000 square miles, equal to less than half the area of North Carolina, if, as reported, it takes 30 years to grow tie timber.

Mr. Hicks says that the reports to the Forestry Department show that it takes an average of thirty years to grow timber large enough for ties, and that the product is about 100 ties per acre, while the average cost of ties to the railroads is 35 cents. This is a product worth \$35, as the return of an acre for 30 years. If this is all, then with money at 5 per cent. no cost of cultivation and no taxes, it will pay to grow ties on land already wooded worth \$3 per acre, and on land worth \$7 per acre if interest is 8 per cent.

If 113.3 acres of woodland are required to maintain the ties of every mile of railroad, the question with the railroads, says the *Railroad Gazette*, is not simply whether they should produce their own ties, but also whether they may not profitably diminish their consumption. The experience of Germany indicates that an average life nearly three times as long can be had by preserving the ties with chloride of zinc, or crosting (so called for there is usually little or no crostote in the oil used). But even if the product of 60 acres per mile is required, it does not follow that the only escape from a famine will be the cultivation of timber. If land planted or stocked naturally with trees which will make 100 ties in thirty years is worth \$20 an acre—and in many parts of the country it is worth as much as that—at the end of the thirty years required to grow the trees it will represent with interest at six per cent., \$118, and with interest at five per cent., \$88; and if then the land after the ties are cut is still worth \$20 an acre, the \$100 ties, before cutting, will have cost \$98 in the one case and \$68 in the other. But the taxes meanwhile would probably have cost \$50 or \$60 more, and there would be some expenditure for care. If then the land is not cheaper than \$20 per acre, the railroad will probably do better to depend upon some metallic substitute than to grow tie timber, even if it gets 14 years' life out of a tie.

THE TANITE CO.

The dull times and blue outlook have not lessened the activity of this substantial concern. The recent visit to Europe of Mr. T. Dunkin Parot, the President of the Company, completed arrangements by which its European trade will be doubled during the coming year, and shortly after be quadrupled. In view of this fact, and of the successful business transacted this year, (which most manufacturers have found a bad one) the Company is now arranging for a large extension of its factory. This factory was started in the year 1867 by the erection of a stone building 45 feet long and 32 feet wide, two story and attic, with boiler shed extension. The total floor room of the original buildings amounted to 5,550 square feet. The flooring used at the present time is 34,190 square feet. The new buildings, for which preparations are now making, will be an extension of, and the same size as, the original stone building. It will be a substantial structure of stone, supported by heavy iron arches which are to span the wheel pit and overflow.

In order to extend and more thoroughly control the water power, and to secure timber and stone for further operations, the Company bought during last month from Mr. Robert Huston his farm of 130 acres which adjoined the Company's original property. The total amount of land now connected with The Tanite Factory is about 180 acres, and the Pocono creek flows through it for the distance of about one and three quarter miles.

On the property recently purchased the Company is now cutting timber for the preliminary work connected with the improvement of its water power. A new breast work, cribbing, and flumes are to be erected at the dam, and now Fore-bay and Penstock at the factory. This latter is to be larger and more substantial

than the present one; the heavier, or corner and sill timbers, being 14x16 white oak. At present the factory has, in addition to its steam power, a 42 inch Jonval Turbine; but, in the new Penstock, a 24 inch Stevenson Duplex Turbine will be added, and by means of these three motors the various departments can be run independently when desired.

During the last summer the Company put in operation a complete fire system. Iron pipes are laid under ground all around the buildings, and are connected with three pumps situated in different buildings, one detached; one double acting Worthington Steam Pump, one Niagara Steam Pump, and one powerful Pump run by Water Power. Five Plug or Hose houses stand scattered around at a safe distance from the buildings, containing in all twelve plugs or nozzles, and 650 feet of 1½ inch, and 200 feet of 2 inch hose. Fire-axes are in all these houses, and fire-palls and axes liberally distributed through the buildings. Streams of water have been thrown upon the buildings in one minute and twenty seconds after the first signal was given.

For the benefit of such readers as may not have seen any previous notice of The Tanite Co., we will say that it manufactures Solid Emery Wheels and the varied machines with which such wheels are applied, and that its goods are shipped to all parts of the world. It has agencies in all the principal cities of the United States, and also in Canada, Australia, and France, besides sub-agencies in many European and other countries.—*Stroudsburg, (Pa.) Jeffersonian.*

ARRIVALS IN ENGLAND.

The timber ship arrivals between the 2nd of July and the 9th inclusive comprised 100 bar one, of which 50 are sailers and 49 steamers. There are 13 arrivals from Quebec, altogether from the St. Lawrence ports 22, a good instalment of the spring fleet, and much in excess of last year at the same date, when there was a pretty full list of 77 vessels one with another. While our imports are falling off in other produce, timber seems to come forward with all the energy of an impatient market, one reason for which is, no doubt, that, as it is not a perishable article, the time to bring it forward is while freights are low, and it will be sure to be wanted some time or other, perhaps at a better price than can be got for it now.

We note that out of the largest fleet of vessels arriving from the St. Lawrence the first four sailing vessels to enter the port of London from Quebec were for Messrs. Bryant, Powis, & Bryant. Of these, we understand, the Commander Svend Foyn has gone into the Millwall Docks to discharge, so that with this company will rest the credit of having unloaded the largest cargo imported during the season. We believe the 1,100 standards this ship delivers will not be equalled unless one of the big steam liners loads up a full and comple cargo of wood. The Deepdale, that came the year before last from Pascagoula, with 990 standards on board, was the next largest to the sailing ship above mentioned.—*Timber Trades Journal.*

A STRONG MONEY BOX.

Mr. William H. Vanderbilt's treasure vault, in which it is said he recently stowed away some \$100,000,000 in securities, is one of the most redoubtable works of defence on the American continent, though you may not be entirely certain of that by surveying his mansion from the outside. Its foundations were blasted out of the rock; the front wall is 5 ft. in thickness, and the side and rear walls 3 ft., the material used being pressed brick with brown stone trimmings. The beams, girders, and main pillars are iron, incased in fire proof material. The doors, window frames, and minor partitions are iron, marble, and glass. No wood is to be found in the structure. The great vault is 36x42 ft., of wrought iron, steel, and Franklinito iron, is imposing in strength and proportions, and is situated on the ground floor. Its four outer doors weigh 8,200 pounds each, and have every effective and known improvement in defensive devices. A massive wall of masonry surrounds the iron work. A vault, which is burglar, fire and water proof, constitutes a distinct building in itself.—*Scientific American.*

BOBBIN HEADS MADE FROM PULP.

A new industry has been established in Oxford county by Prescott & Forbes who have leased the mill and power at Snow's Falls, Paris, and commenced the manufacture of bobbin heads from pulp. It is claimed these goods are superior to wood, as they do not warp, crack, or splinter by use. The power at Snow's Falls is a safe and reliable one, there being a direct fall of forty feet to the two turbines. Prescott & Forbes manufacture the pulp, which is converted into bobbins and spool heads. Poplar slabs are placed in a press which forces them upon revolving emery wheels. The wood is ground into a fine powder, which is washed off through tubes by a constantly flowing stream of water. By draining and evaporation, the moisture is partially extracted. The pulp is then placed in a large tank or vat and still further dried. It then passes to a cylindrical hydraulic press. A certain amount of pulp is allowed to enter this press, then a wire screen is admitted, then more pulp and another screen, and so on till a press is full. Then pressure is applied until the whole mass is hard and unyielding. This extracts most of the remaining moisture. When this press is opened, the pulp comes out in discs about two feet in diameter and nearly an inch in thickness. These discs are again subjected to pressure and dried in a dry house until "bone dry." They are then tempered with water until suitable for cutting. Next they are passed to a cutter where dies stamp out the bobbin heads, as soles are cut out in a shoe shop. The heads are about five and one-quarter inches in diameter, and one-fourth of an inch thick, with an inch hole in the centre. After being thus cut out, they are again subjected to pressure in a press which is heated by steam so that they are compressed and dried at one operation. In this condition they are shipped to the manufacturers of bobbins, who place them on spindles, turn them to uniform size and finish them with shellac or paint.—*Main Industrial Record.*

A NEW USE FOR ROSIN.

Mr. S. M. Thomas, of Laurinburg, N. C., has written to the *Ashville Citizen*, concerning the best way to improve the country roads in Buncombe. The suggestion merits attention and seems to be a good one. It is to get a charter, from a joint stock company and during the summer, grade the main roads leading into Ashville, making them 16 feet wide and 10 inches higher in the centre than on the edges, and "when the roads are solid and dry put one barrel of pulverized rosin evenly over 50 yards of the road, which would be 35 barrels per mile; a car load would be sufficient for two miles. The cost of the rosin would not exceed \$2.25 per weight barrel (280 lbs.), delivered at your depot. An application of rosin would be necessary every ten or fifteen years. He says he knows in Richmond county of roads that have not been wet except on the surface in sixteen years. He says: "If the above plan were carried out I am fully satisfied that your roads would be as solid in winter as they are in summer. The streets of your city and the side-walks and private walks could be made solid in the same way."

WHAT IS DISCOUNT.

In answering an inquiry, the *New York Journal of Commerce* says: The word "discount" has almost wholly lost its technical meaning. It was originally used to describe an allowance made for the payment of money before it became due, and in this sense is as much as that money, if put to interest, would gain in the same time and at the same rate. Thus \$100 present money will pay a debt of \$100 due one year hence, the discount being made at 6 per cent. The discount, in this sense, on any sum is less than its interest. Thus the discount on \$100 due a year hence, is \$6, while the interest is \$6.36. But the interest laws of the several States have allowed the banks to deduct the interest instead of the discount, and to pay the borrowed instead of the present worth only the not remainder after such deduction. Thus if a man makes a note for \$1,000 twelve months, and gives it to a bank for discount, instead of paying him \$943.30, which is a sum that at 6 per cent. would amount to \$1,000 in a year, they give him only \$940, thus charging him more than 6 per cent. for the sum he receives. In plain terms, they deduct the interest instead of the discount. Out of this has grown the modern use of the word discount, which has simply come to mean a deduction of a given rate per cent. from a given principal. To "discount a note at 6 per cent." is now only to take off 6 per cent. interest. To allow a discount is take off the rate from the face of the sum.

YELLOW PINE.

As a proof of the growing demand there is in the market for the better grades of yellow pine we may mention that the stock in first hands are fetching at the present time really good brands, very fair prices; Quebec 1st bright regulars sells for £24 10s. and best board pine, £30 10s., undersized realising £21 10s. Seconds are also in request, the prices demanded, for 12 and 13 ft. 3x11, being £17 5s., which sellers have no difficulty in obtaining. The pine, ex Lauderdale, in Wednesday's sale, was not by any means a good parcel of 1st dry floated, and fetched very fair prices considering. Quebec freight continues low, and the prospect of their improving is a diminishing one. The same will apply to north of Europe tonnage, which can still be secured at rates that a few seasons back would not have been considered out of the way if reconed by the load instead of the Petersburg standard.—*Timber Trades Journal.*

A New Science.

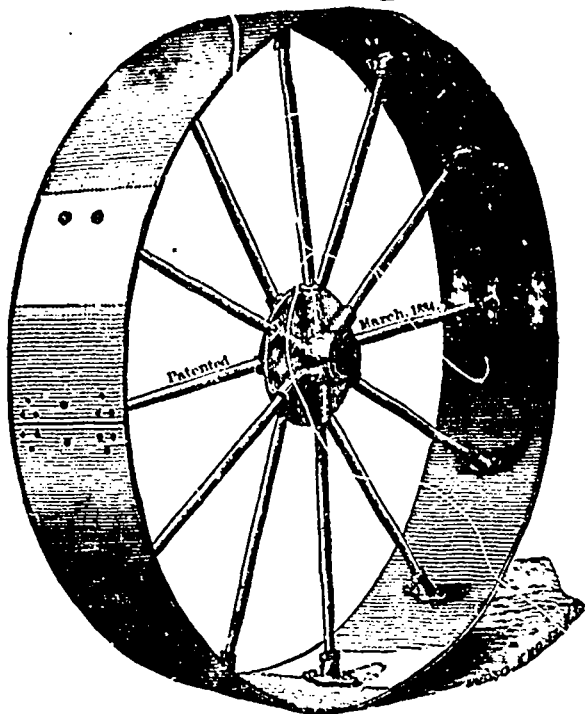
At the London health exhibition Francis Galton has established a laboratory for the "measurement of human faculty." Each visitor will leave a record of name, age, sex, occupation, place of birth, color of hair and eyes, height standing and sitting, weight, length of span of arms, strength of squeeze and pull, swiftness of direct blow, capacity of chest, acuteness of vision, conditions of color, sense and acuteness of hearing, and will take away a duplicate. Mr. Galton regards the art of measuring human faculties as the dawn of a new and interesting science.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on July 1st, 1883 and 1884, and also the Consumption for the month of June 1883 and 1884:—

	Stock, July 1st, 1883.	Stock, July 1st, 1884.	Consumption for the month of June, 1883.	Consumption for the month of June, 1884.
Quebec Square Pine.....	88,000 ft.	401,000 ft.	23,000 ft.	33,000 ft.
Waney Board.....	90,000 "	320,000 "		
St. John Pine.....	8,000 "	22,000 "	00,000 "	19,000 "
Other Ports Pine.....	26,000 "	62,000 "	18,000 "	2,000 "
Red Pine.....	11,000 "	67,000 "	1,000 "	1,000 "
Pitch Pine, hewn.....	571,000 "	472,000 "	90,000 "	278,000 "
Sawn.....	724,000 "	590,000 "	140,000 "	183,000 "
Planks.....	51,000 "	71,000 "	23,000 "	17,000 "
Dantzig, &c., Fir.....	71,000 "	57,000 "	40,000 "	18,000 "
Sweden and Norway Fir.....	0,000 "	07,000 "	0,000 "	10,000 "
Oak, Canadian and American.....	130,000 "	271,000 "	18,000 "	25,000 "
Planks.....	218,000 "	250,000 "	60,000 "	55,000 "
Baltic.....	83,000 "	12,000 "	0,000 "	1,000 "
Elm.....	22,000 "	20,000 "	50,000 "	3,000 "
Ash.....	0,000 "	17,000 "	0,000 "	4,000 "
Birch.....	40,000 "	71,000 "	38,000 "	39,000 "
East India Teak.....	15,000 "	41,000 "	18,000 "	4,000 "
Greenheart.....	121,000 "	55,000 "	9,000 "	8,000 "
N. B. & N. S. Spruce Deals.....	11,037 stds.	14,857 stds.	6,600 stds.	7,808 stds.
Pine.....	678 "	1,451 "		
Quebec Pine & Spruce Deals.....	4,625 "	6,415 "	1,893 "	1,910 "
Baltic Red Deals, &c.....	3,061 "	3,055 "	490 "	1,050 "
Baltic Boards.....	143 "	40 "	85 "	20 "
prepared Flooring.....	5,714 "	3,765 "	1,645 "	893 "

Patent Wrought Iron or Steel Pulleys.



Patented in Canada and United States.

The Perfect Pulley

ANY SIZE FROM
30 in. to 144 in.
Diameter.
4 to 49 in. Face.
SINGLE, DOUBLE or
TREBLE ARMS.
SPLIT or WHOLE
PULLEYS.
Crowning or Flat
Face.
Cannot be burst by
Speed or crushed by
Belt.
LIGHT, STRONG and
DURABLE.
Saves Power,
Journals & Shafting.
As cheap and cheaper
than Cast Iron.
Send for Estimates.

GANDY PATENT STITCHED Cotton Belting.



BEST MAIN DRIVER

Practically indestructible under ordinary usage—unaffected by atmospheric changes. Uninjured by water or steam, or heat that would ruin leather or rubber. Stronger than rubber or leather.

Its peculiar adhesive or gripping power on pulleys enables it to be run looser than any other Belt, actual tests proving it to be 40 to 50 per cent BETTER.

ENDLESS BELTS A SPECIALTY.

As Strong at Splice as elsewhere, and as even and smooth. A few of the large sizes lately supplied in Canada:—

Many of the above are endless, and are the second belts to same parties, ordered after thorough trial. Try a GANDY BELT. Address the Sole Canadian Agents,

60 feet, 13 inches wide, 8 ply.	84 feet, 26 inches wide, 8 ply.
49 " 18 " " 8 "	57 " 20 " " 8 "
49 " 12 " " 6 "	49 " 11 " " 8 "
103 " 22 " " 8 "	37 " 12 " " 6 "
52 " 20 " " 6 "	73 " 28 " " 8 "
101 " 18 " " 8 "	51 " 16 " " 8 "
52 " 18 " " 8 "	37 " 16 " " 8 "
36 " 12 " " 8 "	

SHAFTING AND HANGERS

Note the following:

90 inch Pulley, 16 inch Face, Weight 615 lbs.
48 " " 20 " " Double Arms 575 lbs.
53 1/2 " " 12 " " Single " 273 lbs.

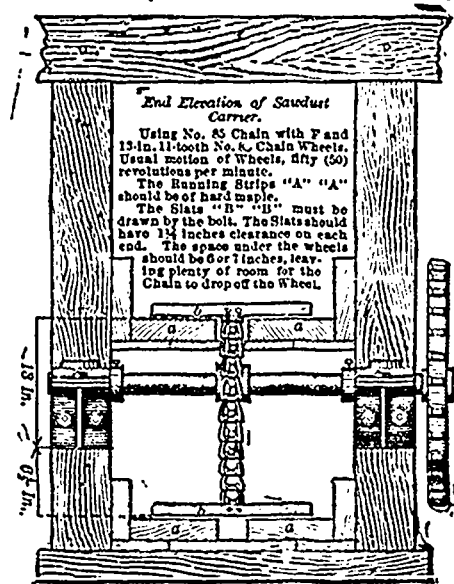
CHEAPEST, STRONGEST & MOST DESIRABLE PULLEY

ADDRESS:

Waterous Engine Works Co., Brantford.

Waterous Engine Works Co.

BRANTFORD, CANADA.



Ewart Patent Link Belt

Transmits power for slow motion without slipping, stretching, &c.

SPECIALLY ADAPTED
For Live Rolls, Lumber and
Cant Transfers.

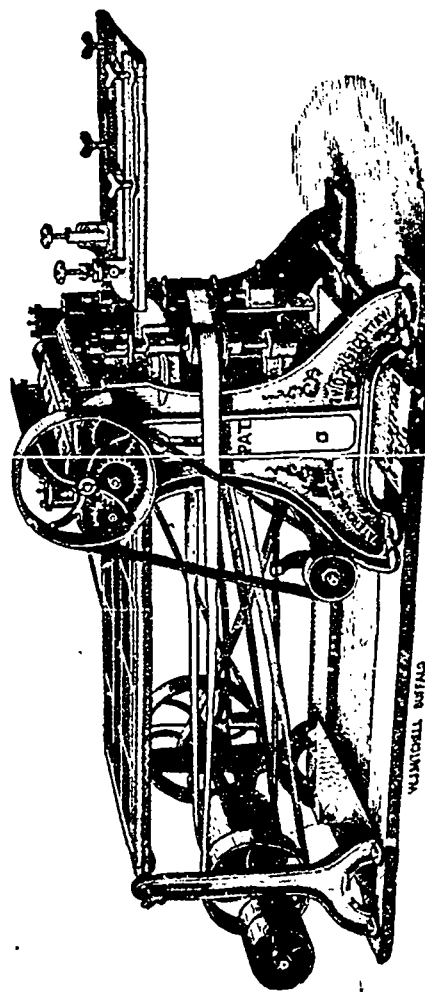
Sawdust, Slab & Offal Carriers.
Log Jacks, Loading Logs
lengthwise on cars.

Loading Ties endwise and
Telegraph Poles lengthwise on
cars, or vice versa on cars
or vessels.

USEFUL TO MOVE ALMOST EVERYTHING

If doubtful whether or not it will apply to your wants. Send for information giving all particulars.

The Economist Planer & Matcher (Combined)



No. 1—Surfaces 24 in. wide to 6 in. thick. Planes and Matches 18 in. Wide
No. 2 " 20 " 6 " 14 "

Strong! Durable! Light! Cheap!
Of the Greatest Capacity and Exceedingly Handy. Send for
Circulars, and mention this paper.

The Waterous Engine Works Co.

BRANTFORD CANADA.

THIN SAWS

American Saws

SAVE YOUR TIMBER, (making the price of a saw every fifteen days) by using our Thin Saws.

60 INCH DAMASCUS Tempered Saws, 9 and 10 gauge, guaranteed at 500 revolutions or less, six to eight inch feed or less.

CLIPPER FLA GE TOOTH SAWS.
LUMBERMAN CLIPPER SAW for thin inserted Saws.

PLA NER SAW.
BROOKE & HOE BIT SAWS.

SWAGES, GUMMERS, CANE-HOOKS, Side Files, Emery Wheels, and all kinds of Saw Mill Furnishings.

Waterous Engin Works Co'y.,
BRANTFORD, CANADA.



A SPECIALTY.

PROPOSITION TO CURTAIL THE CUT.

There has been a movement started at Eau Claire with the object of curtailing this year's cut of lumber in the Chippewa Valley, and as much of Wisconsin as possible, by an early shutting down of the mills—say on September 15 or October 1. A meeting of the manufacturers has been held at Eau Claire, at which it was determined to use persuasive means to gather into the movement as large a number of manufacturers as possible. It was decided that if sixty per cent. of the north Wisconsin mills could be embraced in the agreement to shut down early it would be safe to do it. Letters have been sent to Wausau, Stevens Point, Merrill and other points in middle Wisconsin, urging the scheme, and asking for an expression of views. It is held by the prime movers at Eau Claire that a restriction of the season's output of lumber is absolutely necessary in order to prevent an utter collapse of prices, especially in common stock.

The movement also contemplates a wider reach than Wisconsin. Prominent manufacturers in this city have received letters asking co-operation of all the mill interests around the lakes.

It is thus to be seen that an effort will be made, probably through the agency of the Northwestern Lumber Manufacturers' Association, to induce a general shutting down of the mills, about October 1, all over the Northwest. But whether or not the sweeping object be attained, the Eau Claire manufacturers mean business so far as the Chippewa valley mills are concerned. A circular is now being prepared setting forth the particulars of the proposition, and within a few days all the mill men of the Northwest will be treated to a copy of it.

There will certainly be one difficulty in the way of carrying the proposed measure into effect. On some of the larger streams, like the Menominee and Muskegon, continuous sawing is necessary in order that each mill be served with logs. Some of the mills have contracts to saw a certain amount for outside parties, and the logs which are back in the stream must be delivered as they come down with the entire mass: in no other way can they be reached. A shutting down of mills not sawing on contract would blockade the entire business of delivering to mills that were. Still another difficulty is in the way of successfully carrying out the scheme: It would be impossible to prevent the determination of the manufacturers to shut down at a certain date from becoming known, and that would stimulate mill operators to drive their saws to the utmost speed prior to the time specified, in order to pile up lumber and be ready for the forced scarcity. It is doubtful if the mill men along the east shore of Lake Michigan will listen for a moment to the proposition to curtail the cut. They owe a small one to the "Menominee fellers," having last spring determined to run their mills for all there was in them, irrespective of any attempted combination. A lumber market growing sicker and sicker during the summer may, however, modify their views on the matter that latter or they may be willing to do anything for relief.—*Northwestern Lumberman.*

FIREPROOFING OF WOOD.

Several preparations exist which render wood impervious to heat, and also increase its durability. Some of these solutions have been tested on a large scale, and have proved a success. Although these measures are cheap and their success demonstrated, they have, with few exceptions—as, for example, at Frankfort-on-the-Main, the Hoftheater at Berlin—not been employed. Perhaps constructors of theaters will, in view of those frequently occurring catastrophes, at last comprehend that even the incombustibility of the woodwork would be of inestimable value in securing immunity from fires in theaters, and that the spreading of flames would be greatly retarded when, instead of burning rapidly, as dry wood well, it slowly without flames, chars into coal. The nature of wood makes it an easy matter to change it into what an erulant chemist has called a fire-proof substance. On account of its porosity a solution applied to its surface sinks deeply into its pores, thereby attaining a firm hold, and on

account of its rigidity exposes the covering to abrasion only. Care should be taken where such solutions have been used, to replenish them from time to time, so as to keep the wood entirely covered. It may be well to state here what is meant by "fireproof." As this term is usually used, it signifies the property of remaining intact in high temperatures such as are produced by the conflagration of buildings; but this is not the state impregnated wood or scenery is in. These are destroyed when in contact with a flame; not, however, by burning, but by charring. If we would hold a piece of impregnated scenery in the flame of a Bunsen burner, we will find that the part which was in contact with the flames has been destroyed, that is, it has been charred without producing flames or injuring the parts not in direct contact with the gas flame.

In experimenting on the impregnation of wood, canvas and gauze, I was particularly careful to use only chemicals as they appear in commerce, and undistilled water. In my opinion one of the chief causes of failure in methods in practice which were successful in experimenting, is that the chemicals employed in experimenting were the pure reagents of the analytical chemist, while those in practice contain many impurities which must necessarily alter the results arrived at by purer supplies.

One of the oldest and best known processes is the coating of woodwork by water glass (sodium tetra-silicate), which for a short time gives good results, but soon the covering drops off. The reason for this is that a covering of water glass is as brittle as ordinary glass, and is readily cracked and broken; and secondly, as it dries very rapidly, it does not enter any distance into the pores of the wood, but rests on the surface. Any jar or abrasive action will, therefore, cause the water glass to drop off in small chips. Another objection to this substance is its solubility. It cannot be employed in places exposed to the action of water.

Another process is to paint wood with a solution of three parts of alum and one part of sulphate of iron; after the wood has received two or three coats of this solution, it is thoroughly dried; then a solution of potter's clay and sulphate of iron, having the consistency of paint, is daubed on the prepared wood until all pores are filled, and a thin layer remains on the surface. It is claimed that in this process the alum and sulphate of iron enter deeply into the fibers of the wood, and form indestructible compounds with the chemical elements of the fibers, which cling tightly to them and cannot, as in the case of water glass, be readily washed out. The covering of clay greatly protects the wood from moisture, so that the first solution cannot be washed out or thrown out by the action of the frost. This sounds well, but in practice would be too complicated.

Another objection which makes it valueless for theaters is that the clay on the surface comes off very readily in the form of dust, and, therefore, must frequently be renewed; it is also an unclean process; an actor unconsciously leaning against a piece of wood thus prepared would afterward appear before the audience with a strip of clay dust on his back.

The following is also a complicated process: The wood is painted with hot glue water until all pores are filled, the number of coats depending on the porosity of the wood used. Then apply to the surface, before the glue dries, a powder consisting of one part of sulphur, one of ochre (or clay) and six parts of sulphate of iron. Care should be taken to powder and mix these substances well before applying them. This process labours under the same difficulty as the preceding one described.

TO FINISH PINE.

Pitch pine has of late years come into extensive use in England for the furniture and fittings of churches and chapels, and for the woodwork of private dwellings and public buildings. This wood is, in many instances, very beautifully marked in the grain, and is admirably suited for all purposes where strength and durability are desired. It is in its nature exceedingly resinous, and it is the fact of its being so thoroughly impregnated with resin

which makes it so durable. As a rule, the practice is to varnish or French polish the better class of wood when made of this wood. French polishing on pitch pine cannot be done under three times the cost of giving it two good coats of good varnish, so as a natural consequence the latter method will, and in fact does, prevail. Pitch pine has a strong tendency to quickly get darker in color. This arises chiefly from the effect of the air upon the turpentine and resin contained in the wood (just as varnish gets dark by exposure), and therefore, except the work is required of a dark color to begin with, we would advise that no stains be used on the mass of the work, and that the varnish used be as light colored as it is possible to be got, for if we varnish with a common dark colored varnish the wood will all the sooner become discolored. The work is first coated with a glue size in order to partially fill up the pores of the wood, and make an impervious surface to prevent the varnish sinking into it. This size has also the effect of preventing the discoloration of the wood, through absorbing the varnish, and this is more especially the case if white pine is used, it being softer and more absorbent than pitch pine. The glue size should not be too strong, or it will crack and chip, and it is better to give the work two thin coats of this than to risk failure by one thick coat. Two thin coats will sink into the wood and so have a firm hold, while the thick coat will remain on the surface and be easily chipped off. The size used should be free from any foreign matter and carefully strained before being used. Another plan dispenses with the use of size altogether, is to give the woodwork a coat of Japanner's gold size thinned with turpentine; this sinks into the wood and produces a hard and firm body for the varnish to be laid upon. By this method the varnish becomes an integral part of the wood and cannot chip or peel off. Of course this process costs a little more than when size is used, but it is so little that it ought not to be a consideration in good work. When the work is to be French polished, no sizing is required.

Many kinds of staining colors may be used for coloring pine, and any desired tint obtained, but except for the purpose of imitating inland woods, pitch pine or white pine should never be stained any other color than the darker shades of its own natural color, not necessarily to represent dark old oak, but to represent what it is in reality, pine stained dark. Simple staining solutions are the best. Many very excellent stains may be got by using the ordinary graining colors, viz.: Vandyke brown, raw and burnt sienna, ultramarine blue, etc. In using any of these stains, or in fact any water stains, it is a usual practice to put them on with a brush, and so leave them, but we have found the best plan to be as follows. If we want a dark color, we use Vandyke brown or best Turkey umber with water, tolerably dark in shade. With this we brush over the wood without any previous preparation. We let it stand for a few minutes, then wipe as much of the color off again as we can with a damp rag or cloth. It will then be found that a certain amount of the stain has sunk into the soft parts of the wood, and less so on the hard parts of the grain. By this plan, we bring out the grain or marks of the wood clearer and more distinct than when it is left from the brush alone. If the stain is not deep enough, another coat may be applied in the same manner. For a mahogany stain we use burnt sienna with a little Vandyke brown, then glaze over with Victoria lake; if a yellow stain, raw sienna; for a blue stain we use ultramarine blue, and by adding raw sienna to the blue we form a dull shade of neutral green; for a gray stain, blue-black, with a very small quantity of ultramarine added, and so on *ad infinitum*. All these are permanent colors, which is, of course, an important consideration. We could get more brilliant colors by using scarlet, crimson or purple lakes, but these are fugitive colors, not fitted for use on any works intended to last. It will be understood that we are now speaking of staining woodwork in the mass; that is to say, without imitating inlaying, although most of these colors may be used for that purpose. We here give a list of transparent and semi-transparent colors which may be used as stains:

Red Stains.—1. Burnt sienna. 2. Logwood. 3. Burnt ochre. 4. Madder Lake.
Yellow Stains.—1. Raw sienna. 2. Saffron. 3. Gamboge.
Blue Stains.—1 Ultramarine blue. 2. Indigo. 3. Cobalt.
Brown Stains.—1. Vandyke brown. 2. Turkey umber. 3. Black Japan.
Green Stains.—1. A mixture of Gamboge and Indigo, Gamboge or raw sienna, and ultramarine blue.—*Journal of Progress.*

SWEDEN.

The correspondent of the *Timber Trade Journal* writes to that paper as follows:—**STOCKHOLM, June 28th, 1884.**—Advice from the north of Sweden are to the effect that a large rainfall having again occurred there, the floating in the principal districts is being very successfully prosecuted. The importance of this fact is clearly seen in the very inanimate condition of the trade, as a whole, that has been observed during the last few weeks.

With the exception of the demand for white wood batons and boards, which has been lively lately, market are getting into a very unsettled condition; and the worst of it is that but little prospect of revival exists for the present. Every mail brings us the intelligence of diminished activity in the coal and iron trades of both Great Britain and Belgium, while the shipbuilding industry in the former country is in a state of collapse. A further diminution of consumption in the above countries may therefore be confidently expected, and ought to be met here by a corresponding decrease in the sawings. The quantity of logs now under process of floating in the Hermand and Sunda wall districts, as well as on the Dal River, is somewhat less than what came down last summer; but as the decrease is probably not over 10 per cent. on an average, there is likely still to be an access of first-open-water stock next year, unless active measures are taken to prevent it.

Shipments have lately fallen off considerably from the three principal shipping districts of the lower Gulf, and although the shipments in May have possibly not been so much less than those of the corresponding month last year, those of June, I anticipate, will show a reduction.

As remarked before, the demand for certain sizes of whitewood has improved lately, and slightly better prices are now being quoted: £5 15s. for 6 and 11 in. unsorted deals, and £4 15s. for 2½ x 7 and 6 x battens are being asked in lower Gulf, but I am not aware whether these figures have been paid. About £2 12s. 6d. has been obtained for white battens on c.i.f. sales, shippers in several instances having managed to squeeze about half a crown more through cheap chartoring than had been calculated on. For best redwood brands from Gelfe district I have been given to understand that £11, £9, £8 10s., and £5 10s. for 3x9 and 11 red deals have been lately declined for a fair-sized line. Purchases from same district can, however, be effected for even less than these figures, for marks that are not quite as well known. Sellers in both the Soderhamn and Gelfe districts have not sold nearly their usual quantity to Grimsby and Hull this season. Importers in the two towns named say that they have done better in Finland, whereas your Helsingfors correspondent informed us some time ago that, to the best of his knowledge, but little had been sold to England from that country, better prices having been reached on the continent. I presume the real truth to be that the great Humber ports have bought very little so far, and are waiting for anticipated further fall before stocking up with best redwood goods.

Freights show a very slight disposition to rise for July shipment, and sailing vessels are holding out for a shade higher rates. Much depends on the position of the vessel and whether of suitable size for an order that may happen to be in hand.

RESPECT OLD AGE.—An old favorite is the remedy known as Dr. Fowler's Extract of Wild Strawberry. Thirty years reliable for cholera morbus, diarrhoea and summer complaints.

NO SUCH WORD AS FAIL.—A failure to follow or cure summer complaints can never be truthfully applied to Dr. Fowler's Extract of Wild Strawberry. All dealers sell it.

THE HARDEN HAND-GRENADE FIRE EXTINGUISHER.

Ever since P. T. Barnum, the renowned showman, brought to this country and attempted the general introduction of Philip's Fire Annihilator, about a quarter of a century ago, there have been a number of chemical fire extinguishers introduced, some of which have proved quite successful.

There has been recently introduced a very simple and inexpensive apparatus, called "The Harden Hand-Grenade Fire Extinguisher," and from the result of the numerous tests made before the public in this city, this would seem to fill a want not before obtained.

These little hand grenades extinguish fires on the same principle as the chemical fire engines, which are charged with carbonic acid gas, which by calculation possesses forty times the extinguishing effect upon fire that water has. Those grenade extinguishers consist of a glass globe about four inches in diameter that resembles a small jug, and this contains the liquid which produces large volumes of fire extinguishing gas when brought in contact with flames.

The liquid it is said will stand a temperature of fifteen or twenty degrees below zero; thus all danger from its freezing and becoming useless when wanted is avoided.

A representative of the *Scientific American* was present at an exhibition trial of this extinguisher a few days ago, and witnessed the following experiments:

A fire was lighted at the side of a pine board fence, some 8 feet high by 15 long, the surface of which was coated with tar, and a kindling wood and paper placed against it, the whole having a gallon or so of benzine scattered over it. The blaze sprang up almost instantly, and in less than half a minute the flames shot up twenty or thirty feet. To put out this fire, which it took but a few seconds to accomplish, three of the grenades were flung with enough force to break them and scatter their contents over the fence in the midst of the blaze.

Another trial was also made, in which the grenades were hung against the fence and the fire kindled under them. This time the blaze did not reach the height it attained in the former trial, but the grenades burst by the heat when the temperature had reached about 180 Fah., and the fire was again quickly extinguished. A watchman making the rounds of a factory with one or two of these in his hands would find them vastly more serviceable than a pail of water or a small hose, were either of the latter always on hand, as they so seldom are; and the grenades can be successfully used in cases where it is difficult to exactly locate or get near to a fire. To hang them in places where there is liability to fire, so they will burst before a fire has gained much headway, is one of their obvious uses.

For summer houses and stables, where the materials of construction are usually of an inflammable character and water is seldom at hand, these grenades would prove highly valuable. At the brewery of J. C. G. Hupfel a few days ago a fire broke out which promised to be more or less serious, but it was quickly extinguished by using four of the grenades. *Scientific American*.

Tree Planting.

Lieutenant-Governor Dowdney in his speech at the opening of the North-West Council has the following paragraph:—

"I shall ask your attention during the session to the consideration of a measure for the encouragement of tree planting. Experiments already made have demonstrated the rapidity with which certain classes of trees will grow, and there is no reason why in a few years the aspect of the settled section of our rich treeless prairies might not be completely changed. A large portion of the states of Illinois and Iowa, some fifteen or twenty years ago were as bare of trees as any portion of these Territories and are now fairly well timbered."

Lumbering on the Ottawa.

OTTAWA July 17.—The quantity of lumber which passed through the Government works so far this year has been much smaller than for several seasons past, partly owing to low water, and partly owing to the large reduction of the cut last year.

A. & T. J. DARLING & Co.

TORONTO, ONT.

Specialties—"Darling" Axes, Saws, Outlery, "Black Diamond" Files.

HARDWARE.

HENDERSON BROS. LUMBER AND TIMBER.

Building & Bridge Timber Sawn to Order. Pine, Spruce and Hemlock Lumber by the Cargo.

Steam Saw Mills, Box Factories and Yards. 342 to 350 William St., and 130 St. Constant St., Montreal. Steam Saw Mills, L'Assomption, P.Q. P. O. 204. 1y121



(ESTABLISHED 1852.)

CURRIE BOILER WORKS

MANUFACTURERS OF

Steam Boilers

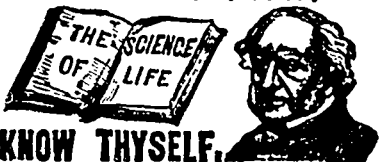
NEW and SECOND HAND ENGINES and other Machinery on hand and for Sale.

CURRIE, MARTIN & Co.

Esplanade, Foot of Frederick Street, TORONTO. 2L1y

266th Edition. Price Only \$1

BY MAIL POST-PAID.



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, embossed 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 Posoboy Medical Institute, or Dr. W. H. Parker, No. 4 Bullfinch 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 are a specialty. Such treated success fully without an instance of failure.

HEAL THYSELF



FREEMAN'S WORM POWDERS.

Are pleasant to take. Contain their own Purgative. Is a safe, sure, and effectual destroyer of worms in Children or Adults.

\$66 a week at home. \$5. outfit free. Pay absolutely sure. No risk. Capital not required. Reader, if you want business at which persons of either sex, young or old, can make great pay all the time they work, with absolute certainty, write for particulars to H. HALLER, Co., Fort and, Melba. 6md145 1y45

WM. LATCH

Wholesale Dealer in All Kinds of PINE and HARDWOOD LUMBER SHINGLES AND LATH.

CONSIGNMENTS BOUGHT AND SOLD ON COMMISSION. 26 Adelaide St. East, TORONTO, ONT. 2L14

PRITCHARD & MINGARD GENERAL ENGRAVERS.

Stenoll Plates, Steel Stamps, Rubber Stamps, &c., OTTAWA, - ONTARIO. 123

Canada Lead & Saw Works, JAMES ROBERTSON,

Metal Merchant and Manufacturer, Office: 20 Wellington St. MONTREAL, P O Box 1600 White Leads, Putty, Shot. Also, Gang, Circular, and Cross-Cut Saws of all kinds. Prices furnished on application. BRANCHES: TORONTO, Jas Robertson & Co. ST. JOHN, N.B., James Robertson. 1y13

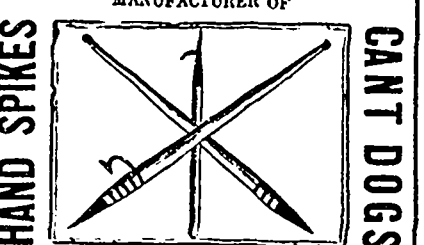
J. T. LAMBERT, Lumber and Commission Agent.

ORDERS FOR DIMENSIONS AND ALL OTHER KINDS AND GRADES OF

American Lumber

PROMPTLY ATTENDED TO. Timber Limits and the Square Timber Trade a Specialty. Office, Wellington Street, OTTAWA. 1L11

WM. AHEARN MANUFACTURER OF



Lumberman's Tools, etc.,

HIGHEST AWARDS IN CANADA and U.S. CHAUDIERE, OTTAWA. 2013

PATENTS

MUNN & CO., of the SCIENTIFIC AMERICAN, continue to act as Solicitors for Patents, Caveats, Trade Marks, Copyrights, for the United States, Canada, England, France, Germany, etc. Hand Book about Patents sent free. Thirty-seven years' experience. Patents obtained through MUNN & CO. are noticed in the SCIENTIFIC AMERICAN, the largest, best, and most widely circulated scientific paper. \$3.20 a year. Weekly. Splendid engravings and interesting information. Specimen copy of the Scientific American sent free. Address MUNN & CO., SCIENTIFIC AMERICAN Office, 23 Broadway, New York.

HILL'S English Extract of BUCHU, One of the Best KIDNEY INVESTIGATORS IN USE.

It is a specific in the cure of all diseases of the Kidneys, Bladder, Prostatic Portion of the Urinary Organs, Irritation of the Neck of the Bladder, Burning Urine, Ureth, Gonorrhoea, in all its stages, Mucous Discharges, Congestion of the Kidneys, Brick-dust Deposit, Diabetes, Inflammation of the Kidneys and Bladder, Dropsy of the Kidneys, Acid Urine, Bloody Urine, Pain in the Region of the Bladder, PAIN IN THE BACK, Urinary Calculus, Fical Calculus, Renal Colic, Retention of Urine, Frequent Urination, Gravel in all its forms. Inability to retain the Water, particularly in persons advanced in life. IT IS A KIDNEY INVESTIGATOR that restores the Urine to its natural color, removes the acid and burning, and the effect of the excessive use of intoxicating drink. PRICE, \$1; or, Six Bottles for \$5. For Circular Sold by all Druggists W. JOHNSTON & CO., 161 Jefferson Ave., DETROIT, MICH.

E. S. VINDIN,

Commission, Shipping, Forwarding and General Agent.

LUMBER MERCHANT

Office, Tempest's Block, Port Hope. 1L1

J. K. POST & CO. LUMBER MERCHANTS

And Shipping Agents. OSWEGO, N. Y. 1L1

HILLOCK & KENT

Wholesale and Retail Dealer in Pine and Hardwood Lumber, Lath, Shingles Veneers, Wave Mouldings & Fancy Woods. 103 Albert Street, TORONTO. 27122

The American Hotel, BARRIE, ONT

Collier St., Adjoining Market. RATES REASONABLE, CENTRAL LOCATION, FREE BUS TO AND FROM ALL TRAINS. Every accommodation for Commercial and LUMBERMEN. W. D. McDONALD, Proprietor. 1L11

VULCAN IRON WORKS

(ESTABLISHED 1842)

STEWART & FLECK, Jr.,

Manufacturers of every Description of Saw and Grist Mill Machinery, Water Wheels, Steam Engines, Derricks Boilers, Steam Pumps, Mining Machinery. 202 REPAIRS PROMPTLY EXECUTED. 1y Wellington Street, OTTAWA, Ont.

GRATEFUL-COMFORTING. EPPS'S COCOA

BREAKFAST. "By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected Cocons, Mr Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—Civil Service Gazette.

Made simply with boiling water or milk. Sold only in packets by Grocers, labelled thus.

JAMES EPPS & Co., Homoeopathic Chemists, London, England. 1y121

DO YOU WANT TO BUY A FARM OR SELL

Examine the list of "FARMS FOR SALE" AND "FARMS WANTED" in the DAILY AND WEEKLY MAIL. THE MAIL has become The Recognized Medium for Farms Advertisements. And contains more of them than all other Canadian papers combined. It is the special reader of the night cases. ADVERTISEMENTS of "Farms for Sale" and "Farms Wanted," "Stock" or "Seed for Sale" or "Wanted" is sent in THE WEEKLY MAIL. For rates per word each insertion, or twenty cents per word for five insertions, or in THE DAILY MAIL at two and a half cents per word each insertion. Address—THE MAIL Terms, Canada.



DEVOTED TO THE LUMBER AND TIMBER INTERESTS OF THE DOMINION.

PUBLISHED SEMI-MONTHLY BY THE Peterborough Review Printing and Publishing Company (Limited), Peterborough, Ont.

Terms of Subscription: One copy, one year, in advance \$2 00. Advertising Rates: Per line, for one year \$0 00. Special rates will be made for page, half page and column advertisements.

PETERBOROUGH, Ont., AUG. 1, 1884.

An immense number of lumber trains passed down from Pembroke early this month, containing on an average about 19 cars.

Mr. E. B. Eddy is running the Skead mills, near Ottawa, to their utmost capacity. Saws are cutting 300,000 feet of lumber daily.

Mr. JOHN ROCHESTER, ex M. P. of Ottawa, who retires from the lumber business, has disposed of his stock by auction. The prices realised were from \$8.50 to \$20 per 1,000 feet.

A PINT of linseed (not linseed oil) used weekly, in connection with a thorough washing with hose, has been found to be one of the best substances to prevent scale in steam boilers.

THE imports of hewn and sawn timber into the United Kingdom for May, 1883 and 1884, and for the five months ending May of the same year show some increase.

T. E. Spoorwood, the timber merchant, has in his boom the largest stock of timber ever brought to this point, and, perhaps, the largest ever cut in the south. It is a piece of pitch pine, navy timber, 72 feet long and 36 inches square at the ends.

It is reported that Martin Russel's limits on the Bonnechero have been sold to Messrs. Pattee and Perley for the sum of \$60,000.

THE World's Fair, to begin at New Orleans next December, and continue six months, is a huge enterprise, but will fulfill a great mission. The exhibits will be more varied than those of the Centennial at Philadelphia in 1876.

Of Black locust, Mr G. L. Record, of Vicksburg, writes to the Aberdeen Examiner: I have been using it for 46 years and find it the hardest timber, lignum vitæ excepted, with which I am acquainted.

WHY the product of so many of the shingle mills of the Northwest should be a disgrace to the name of shingle is difficult to understand from a business standpoint. A correspondent says: "Shingles are getting so poor in quality that they are not worth talking about."

FORESTAL EXPERIMENT STATIONS.

We have received from Mr. Adolph Leue, Secretary of the Ohio State Forestry Association, two pamphlets containing papers read by him at meetings of that Association, one as to Forestal Experiment Stations in Ohio and the other as to the steps taken in the same matter in Germany.

What they are doing in the United States and in Germany affords us an example which we may well follow in Canada. Our forests are no more inexhaustible than those of the rest of the world, and it is far harder to reproduce forests than to conserve them.

A bill is now pending in the Legislature of Ohio, founded upon the plan proposed by the Forestry Association of the State, and we will lay it before our readers when it comes to hand.

FOREST PRESERVATION.

AMONG other indications of the increasing interest taken in the subject of the conservation and reproduction of forests is the action that is being taken by the Forestry Association and the Legislature of the State of Ohio, in regard to the establishment of Forestal Experiment

Stations. That this is not an unnecessary step is proved by the fact that Germany, the foremost country in the science of forestry, is also adopting these small experimental stations, not being yet satisfied that it has as full a knowledge of the subject as is desirable.

In Canada the necessity for some such step is at least equally urgent, but we have to begin still further back. We should institute such schools of forestry as they have in Germany, France and other countries so that we may obtain a supply of skilled foresters and forestry officials.

Forestal Experiment Stations will undoubtedly be useful in combination with those steps, but we have to begin much further back.

This is a matter which concerns the whole community and more especially the farmers, for stripping the country of forests means damage to their crops, as well as their having to suffer their share of the wasteful diminution of our resources in the near future.

RAFTS ARRIVED.

The Quebec Chronicle has the following list of rafts arrived:

- July 21.—D. D. Calvin & Co., elm, Sharples (Sillery). B. Caldwell & Sons, white and red pine, St. Lawrence Docks. Bolduc, Collet & Talbot, spruce deals, St. Anne de Beaupre. Smith, Wade & Co., bright pine deals, Paradise Mills.

QUEBEC CULLERS' OFFICE.

The following is a comparative statement of Timber, Masts, Bowsprits, Spars, Staves, &c, measured and culled to July 25:—

Table with 3 columns: Material, 1882, 1883, 1884. Rows include Waney White Pine, White Pine, Red Pine, Oak, Elm, Ash, Basswood, Butternut, Tamarac, Birch & Maple, Masts & Bowsprits, Spars, Std. Staves, W. I. Staves, Bri Staves.

Quebec, July 25. JAMES PATTON, Supervisor of Cullers.

LIST OF PATENTS.

- The following list of patents upon improvements in wood-working machinery, granted by the United States Patent office, July 15, 1884, is specially reported to the CANADA LUMBERMAN by Franklyn H. Hough, solicitor of American and foreign patents, No. 617 Seventh St., N. W., Washington, D. C. — 301,984.—Boring machine, wood.—H. D. Hoiser, Walsontown, Pa. 302,012.—Clutch.—W. Mathews, St. Jose, Cal. 301,986.—Cutting tooth, insertible.—J. Moon, Newark, N. J. 301,994.—Lath tool rest.—R. H. Hurlbut, Sudbury, Mass. 302,058.—Mortise machine.—J. D. Thurston, South Union, Mo. 302,006.—Planing machine, box.—W. D. Lee, Rillsburg, Pa. 302,100.—Saw, buck.—M. Case, Kasong, N. Y. 302,041.—Saw guard.—J. Sill, Picture Rocks, Pa. 301,996.—Saw gummer.—H. Ihnen, Allegheny City, Pa. 302,183.—Saw handle, crosscut.—J. Adams, jr., Planchard, Mich. 302,205.—Saw tooth grinding machine.—A. Krieger, Columbus, Ohio.

- 301,959.—Sawing machine, circular.—F. W. Chapman, Corning, N. Y. 302,181.—Sawing machine, circular.—S. C. Williams, Brooklyn, N. Y. 302,121.—Shingle edging machine.—J. A. Franzel, Wausau, Wis. 302,192.—Shingle machine, hand.—J. R. M. Crawford, Boonville, Miss. PATENTS ISSUED JULY 22.

- 302,456.—Chuck, compound lath.—B. D. Whitney & H. W. Howe, Wheelendon, Mass. 302,317.—Saw tooth.—J. J. Bowon, San Francisco, Cal. 302,375.—Saw tooth, insertible.—G. H. Bamford, Trenton, N. J. 302,308.—Scrow driver.—J. S. Works, Abbot, Me. 302,467.—Stump extractor.—G. Chamberlain, Olean, N. Y. 302,303.—Tenoning and cross-graining machine.—J. R. Thomas, Springfield, Ohio. 302,629.—Tool, combination.—S. H. Beazley, Grapeland, Tex. 302,496.—Tool holder.—M. C. Johnson, Hartford, Conn.

A REMARKABLE ESCAPE.

Brief mention is made in our casualty list of the death by accident of Captain Short and a man named Randolph at Sauble Point. Henry Gamble, who operates in the vicinity of Grand Marais, was at Saginaw, Mich., July 1, and gave a representative of the Courier the following particulars: "Hook & Randolph have been engaged in putting in a quantity of board pine timber on the Sauble banks, a high bluff on the shore of Lake Superior, and had a force of men at work putting the timber into the lake where it was made up into rafts to be towed below. The bank at this point is 400 feet above the water, and a chute was constructed down which the huge pieces of timber slid into the lake, and a crew of men and a tug then made them up into rafts. On the day of the accident a piece of timber which was crooked was sent down the chute at a terrible rate of speed, and on striking the water it took an unusual course, owing to the crook, it is supposed, shooting seaward and striking a portion of the raft, on which a number of men were at work, struck one of the men, carrying away his head, as complete a severance from his body as though cut with a knife. Going on, it encountered the yawl of the tug, in which was the Captain and two men, struck the former, crushing and killing him instantly, and then, as if satisfied with its bloody sacrifice, stopped in its mad career. The body of the Captain was terribly mangled.

TREATMENT OF TREE WOUNDS.

Valuable trees that have been wounded or mutilated are often sacrificed for lack of the discreet surgery which would repair the injury they have suffered; and Professor C. A. Sargent, of the Bussey institution, has done good service to farmers, fruit-raisers, and landscape gardeners, by translating from the French the following practical hints, which we give with slight abridgement:

Bark once injured or loosened can never attach itself again to the trunk; and whenever wounds, abrasures, or sections of loose bark exist on the trunk of a tree, the damaged part should be cut away cleanly, as far as the injury extends. Careful persons have been known to nail to a tree a piece of loosened bark, in hope of inducing it to grow again, or at least of retaining on the young wood its natural covering. Unfortunately the result produced by this operation is exactly opposite to that intended. The decaying wood and bark attract thousands of insects, which find here safe shelter, and abundant food, and, increasingly rapidly, hasten the death of the tree. In such cases instead of refastening the loosened bark on the tree, it should be entirely cut away, care being taken to give the cut a regular outline, especially on the lower side; for if a portion of the bark, even if adhering to the wood, is left without direct communication with the leaves, it must die and decay. A coating of coal-tar should be applied to such wounds.—Prairie Farmer.

GOOD THE YEAR ROUND.—At all seasons, when the system is foul and the digestive powers feeble, or the liver and kidneys inactive Burdock Blood Bitters are required.

CHOLERA AND TRADE.

We have one formidable and unusual enemy to trade approaching, which may neutralize all the good we might otherwise hope for—that is the cholera.

At present confined to the south of France and limited in its effects, as not much increasing the ordinary bills of mortality, it has already exercised a baleful influence over the shipping trade, which needed no further obstacles to render it unprofitable, but which will now have to run the gauntlet of the quarantine laws and all the delays and costs which they involve. Already the Mediterranean ports are closing against all ships from the East, and if, as it is most likely, the epidemic spreads northward, the Channel ports will also require to be carefully watched, and no doubt a very rigid examination of all vessels arriving from the Mediterranean and a long quarantine in suspicious cases will be the result.

The sole chance left to our mercantile steam fleet lies in its celerity and quickness of despatch. Their voyages are counted by hours, and their navigators are impatient of the smallest delay, even in loading or discharging, lest the small profit of the voyage should be swallowed up by the expenses of keeping the officers and crew. Imagine a steamship making for her port at the rate of 300 or 400 miles a day, the captain counting to deliver his cargo at the rate of 500 tons per diem, being brought up short by a quarantine boat, and ordered into some lazaretto apart, to fly the yellow flag for ten days or a fortnight before *pratique* is allowed him! Regarding the present rate at which the business of the world is driven along, it would seem like a paralysis of the system and a total reversal of the habits of trade. Steamers would cease to be of their usual account in shipping, and better freights than can now be obtained would not induce them to charter in the face of this new and unexpected impediment.

As a social visitation it is not for us to consider what disastrous consequence may result from this pest, having at such a season of the year obtained a footing in Europe. It seems to have been boldly met by science, and collared at the seaside, though many of the inhabitants of Toulon fled for their lives on its first announcement, thinking, with Falstaff, that discretion was the better part of valour. The disease is better understood now than it was when it came among us in 1849, and every precaution will no doubt be taken to limit the area of its ravages. But after all it is common in India, in the chief cities and stations of the presidencies—at Calcutta, for instance, where Europeans go and live out long lives in the midst of it; so that panic seems unreasonable, even should it reach London.

It is remarkable how suddenly it terminated on its great visitation aforesaid. As the summer waned the daily rate of mortality increased, till in the early part of September 400 deaths per diem were announced. The weather cooled, and the next week the number diminished by more than half, and in another week or two it was almost forgotten. People treated it as a conquered enemy, and went about their affairs without the smallest dread of it; nor did it reappear except in a few isolated cases of poverty, with the total absence of all sanitary adaptations.

But whether the cholera is limited to the ports of the south of France or not, there is no doubt but it will very seriously affect the steam shipping trade of Great Britain with the Mediterranean ports.—*Timber Trades Journal.*

VARIATION IN THE LEAVES OF TREES.

The number of our ornamental trees is largely increased by the fact that individual trees sometimes vary from the usual or normal form of the species. This variation occurs in the branches, which may be pendulous, and produce "weeping trees," or erect and fan-like. The leaves vary greatly, both in their form and colors, and the flowers and fruit may strikingly depart from those proper to the species. The weeping beech, the fern-leaved and purple beeches, are three strong and valuable ornamental trees, produced by as many different kinds of variation, affecting the branches, and the

form and color of the leaves. Some variations are produced from the seed, the young seedling trees showing their peculiarities from the start. Variations of this kind are to some extent continued by seed. When the seeds of the purple beech are sown, the nurserymen expect that a large percentage of the seedlings will have purple foliage. Variations are produced in another manner. A branch appears upon a tree of the normal kind, having a different habit of growth, or bearing leaves, flowers, etc., quite unlike those upon the rest of the tree. The term "sport" was long ago applied to variations occurring in this manner; Darwin called them "bud varieties." Such forms are propagated by cuttings, layering, grafting, etc. They often differ from the usual form of the tree in the readiness with which they can be propagated, and sometimes as to their hardiness. The variations in the form of the leaves often give to the tree a very different expression from that peculiar to the species, and the foliage, instead of being dense and massive, is light and feathery. Deciduous trees with simple leaves, may be divided into two groups; one with feather-veined, and the other with radiate-veined leaves. In the first, like the beech, the apple and many others, a strong mid-rib runs lengthwise of the leaf, from its base to its tip, and smaller ribs or veins run from the mid-rib to the margin of the leaf, somewhat like the plume upon a feather. In the other group, the radiate-veined, three, five, or more equally strong ribs, start from the base of the leaf, and diverge towards the circumference, as in the maples, the buttonwood tree, etc. Such leaves are also called palmately veined. We may look upon a leaf as a framework of ribs or veins; these are woody and firm, and give strength to the leaf. The spaces between these are filled with a soft, green, pulpy material, in which the work of the leaf is carried on. In the leaves of the normal form, there is a great difference as to the completeness with which the margin is filled out. Sometimes there is a break in the margin, not even the slight notches so common; such leaves are called entire. The margins of other leaves are variously indented, and this varies from fine notches, to depressions half way or more to the mid-rib, producing that great variety in outline so noticeable in leaves. These forms of leaves are characteristic of species. Leaves ordinarily entire, or with slight indentations on the margin, may vary by having unusually deep divisions; such leaves are popularly known as cut-leaved. The feather-veined leaves have the divisions run from the margin towards the mid-rib, and when these are deep the leaves are often called "fern-leaved." The unusual indentation or cutting of the margin of radiately-veined leaves, produces a very different set of forms. The native silver maple (*Acer dasycarpum*), is one of our most valued trees for shade or for fuel. Among the many thousands of seedlings that have been raised, a number have shown marked variations in their leaves, and several have been multiplied in the nurseries.—*American Agriculturist.*

LAUNCH OF A GREAT SHIP.

The Cunard Line steamer Umbria, the largest vessel afloat except the Great Eastern and City of Rome, was launched June 25 from the yard of Messrs. John Elder & Co., Fairfield, Govan, by the Cunard Company. She measures 8,000 tons gross, her length is 520 feet, her breadth 57 feet, and her depth 40 feet. Her engines are designed to indicate 12,500 horse power, the most powerful marine engines yet constructed. She was named the Umbria by the Hon. Mrs. Hope. She is built entirely of steel, is divided into ten water tight compartments, and has five decks. The promenade deck extends for 300 feet over the whole breadth of the vessel, and the saloons will all be proportionately large. It was matter of remark among the company present at the launch that it is less than ten months since the keel of the vessel was laid. The new ship will run between New York and Liverpool.

UNKNOWN TO SCIENCE.—That preparation is undiscovered which can surpass Dr. Fowler's Extract of Wild Strawberry as a cure for cholera morbus, dysentery and summer complaints.

TO CURE THE TOBACCO HABIT.

A correspondent of the Philadelphia Record says:—

"Your answer to E. B. regarding the tobacco habit is partially incorrect and very discouraging to those wishing to abandon an injurious habit. You are quite right in saying that the only cure is to "quit;" but my personal experience teaches there is other aid than "will power in doing so. I tried tapering off till a 5-cent piece would last me six weeks, but was as far from quitting as ever, I saw that the habit had occasioned an unnatural secretion of saliva, which overcharged the glands and created the nervousness unless something was in the mouth to stimulate them to the action necessary to its discharge. A remedy was needed that would occasion this discharge and act upon the glands so as to reduce the secretion of saliva to a natural quantity. The following preparation answered the purpose admirably: Four ounces of pulverized slippery elm bark, two drams of tannic acid mixed to a stiff paste with gum arabic water and kiln-dried to a hard cake in oven; to be used whenever a desire for tobacco is felt by putting a small bit in the mouth and allowing it to gradually dissolve. It should be used as long as any desire is felt, for some substance in the mouth. Its continued use in sufficient quantities would be a sure cure in many cases of chronic diarrhoea.

Hoping you will use this not only for the benefit of E. B., but of many others who wish to discontinue the use of the magic weed, I remain.

THE ELECTRO-MOTOR.

It may certainly be said that for pumping, sawing, and such like operations of a large country house, an electro-motor, actuated by the dynamo which lit the house at night, would be cheaper and quite as effective as a steam engine. Sir William Armstrong, at his house near Newcastle, has utilized a water-fall in his grounds to light his house by night and to supply it with power by day. The waterfall is 1,500 yards from the house. It actuates a turbine, which it connects by a belt to a dynamo electric converter, capable of transmitting about 10 horse-power into a current of electricity. The current is conveyed by a suitable conductor to the house where it works forty Swan lamps. In daylight it works a saw mill. Sir William Siemens, at his country seat near Tunbridge Wells, uses a steam engine, the waste steam of which warms the hot-houses. During the night the primary machine actuates two powerful electric lights, which are employed in forcing the growth of various fruits and plants which live, as it were, in perpetual sunlight—or its equivalent. During daylight one of the machines is used to work a chaff-cutter and the other machine is at the farm a quarter of a mile away; the other does the pumping of the establishment. At night, of course, they are employed for light.—*Nineteenth Century.*

A Large Dam.

A French engineer in Brazil has lately been selected to construct what will probably be, when completed the largest dam in the world. The dam will be 940 feet long by 58 feet high, and two smaller ones will close side depressions. This work will, it is calculated, back the water over 1,500 acres, and retain 14,000,000 cubic meters of water, sufficient to provide for all the cattle of the regions during three years, and for the irrigation of 5,000 acres of flat bottom land alongside the river bed below. The rivers of Ceara flow in the wet season alone.

English Wheat Growing Useless.

«A bushel of wheat can be brought England from any North American shipping port for fourpence (which is double the freight it was in April), or about fifteen pounds weight for a penny, wheat-growing in England may be expected gradually to die out, as useless and unprofitable.—*Timber Trades Journal.*

GREAT NEGLIGENCE.—There is great neglect with most people to maintain a regular action of the bowels, which causes much disease. Burdock Blood Purifiers cure constipation.

DOWN IN DIXIE.—The wife of Mr. J. Kennedy, dealer in drugs in Dixie, was cured of a chronic cough by Haggard's Pectoral Balsam. The best throat and lung healer known.

Timber Limits and Mills FOR SALE.

Comprising about 300 miles of timber limits, in the counties of Joliette and Montcalm, in the Province of Quebec, bearing Spruce Pine, and Cedar, traversed by the La Marreau, Dufresne, and other rivers.

About 25 acres of land at Ste. Claire, on the La Warren river, 40 miles from Montreal, with fine water power, saw-mill, store, dwelling and outbuildings.

About 100 acres of land at Charlemagne, at the mouth of L'Assomption River, 17 miles from Montreal, with a steam saw mill of large capacity, manager's house, dwellings for employees, machine shop, bakery, store, wharves, etc., ample facilities for loading vessels. A very complete establishment.

Loons and dams on the various rivers. The whole in running order offers a capital opportunity for doing a profitable business, and will be sold on favorable terms at a low price.

Apply to the LIQUIDATORS of the EXCHANGE BANK 6210 Montreal, Canada.

LUMBER DRYING APPARATUS

A Hawkins' Patent DUPLEX HEATER

Containing 2000 feet of 1-inch and 2000 feet of 1 1/2-inch Wrought Iron Pipe, with casing and conducting pipes and a 60-in. STURTEVANT BLOWER, all in complete working order. Can be used either with exhaust or live steam, or both.

This is the latest and most complete method of drying lumber, and will be sold low.—Apply to

T. McAVITY & SONS, 12, King Street, ST. JOHN, N.B.



MILITIA.

SEALED TENDERS, marked on the left hand corner of envelope "Tenders for Militia Clothing and General Store Supplies," and addressed to the Honorable the Minister of Militia and Defence, will be received up till noon of Monday, 11th August, 1884.

Printed forms of tenders, containing full particulars, may be obtained from the Department at Ottawa and at the following Militia Stores, where also sealed patterns of all articles may be seen, viz:—The offices of the Superintendent of Stores at London, Toronto, Kingston, Montreal, Quebec, and St. John, N. B.

Tenders not in relation with sealed patterns of the Department or accompanied by special patterns will not be received.

No tender will be received unless made on printed forms furnished by the Department.

The material of all articles will require to be of Canadian manufacture and Canadian workmanship.

Each tender must be accompanied by an accepted Canadian bank cheque, for an amount equal to ten per cent. of the total value of the articles tendered for, which will be forfeited if the party making the tender declines to sign the contract when called upon to do so, or if he fails to complete the service contracted for. If the tender be not accepted the cheque will be returned.

The Department will not be bound to accept the lowest or any tender.

C. EUG. PANET, Deputy of the Minister of Militia and Defence Ottawa 4th July, 1884.

GOLD for the working class. Send 10 cents for postage, and we will mail you free, a royal, valuable box of sample goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. We will start you. You can work all the time or in spare time only. The work is universally adapted to both sexes, young and old. You can easily earn from 50 cents to \$5 every evening. That all who want work may meet the business, we make this unparalleled offer; to all who are not well satisfied we will send \$1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Fortunes will be made by those who give their whole time to the work. Great success absolutely sure. Don't delay. Start now. Address Stronson & Co., Augusta, Maine.

FORESTAL EXPERIMENT STATIONS.

To the Editor of the Canada Lumberman.

DEAR SIR,—I mail to you a copy of a paper on "Forestal Experiment Stations," which sets forth a plan of organizing such an institution in Ohio. This plan has been made the basis of a bill now pending in the Legislature of this state. There can be no question as to the fact that the passage of this bill would promote the interest of forestry not only in Ohio, but also in other states, and in the Provinces of the Dominion of Canada. I am now making an effort to keep the subject before the people and to show our legislators the interest manifested in this question in the different parts of this great continent, which, I venture to believe, may ultimately induce them to pass the bill. To this end I solicit the co-operation of the leading journalists of this country and of Canada, by asking them to treat the subject in an editorial of their respective papers. These articles I shall collect and append to a memorial to be sent to every member of the General Assembly of this State. You have more than once touched upon forestal experimental stations, and an article from your pen is very desirable. Please favor me with a copy of your paper containing the desired article.

I also shall send you a copy of a pamphlet by Supt. John B. Peaslee. The little work contains, as you will see, nothing new, but abounds in what may be called supposed facts and sentimentalism. It has been published at the expense of the Ohio State Forestry Association and has been distributed broadcast by that body, so that the edition of 7,000 copies is about exhausted.

If agreeable to you I shall take pleasure in sending you an occasional correspondence on forestal topics.

Respectfully Yours,

ADOLPH LEUE.

Secretary of Ohio State Forestry Association.
Cincinnati, Ohio, July 9, 1884.

FORESTRY.

The following letter appears in the Toronto Globe:

SIR,—Allow me to call the attention of your readers who wish to form plantations or wind-breaks, and do not wish to wait too long for their benefits, to a tree valuable for many purposes, easily propagated, and of very rapid growth. This is the Silver Poplar. Within twenty years after planting, it often produces trees of 60 or 70 feet in height, 60 feet in spread, and with a trunk more than three feet through at the base. One such tree, to my knowledge, lately yielded four cords of firewood. I have had some of this timber kiln dried and tested for various purposes. When sawn and polished it is of a handsome light yellow colour, with a beautiful waving grain. In testing it for strength, it was found exceedingly tough, and calculated to bear a much greater strain than pine. In testing it for fuel, it was found to more nearly resemble maple than any other wood, giving as hot and almost as lasting a fire, and leaving a bed of coals almost similar. It is easily propagated from cuttings of its last grown wood, cut a foot long from above a bud to below a bud, and thrust nine inches into the ground.

Any one with whom it is an object to grow timber very rapidly could hardly do better than plant a square block of trees four feet apart each way. They will then grow tall and single stemmed. Even in ten years time they will yield a quantity of wood—that is to say in about one-third of the time in which most other trees will give as much. Anyone, however, wishing to grow them, should be warned that they have, as have many of the poplar varieties, a tendency to throw up independent shoots or suckers, especially when cut by the plough. These are of course easily kept down by care, and will not, according to my experience, be observed near more than one tree in twenty. They will do no injury but be rather of a benefit in forest strips planted with these trees, so far as the value of the forest to the country around is concerned, as a forest dense with undergrowth forms a far better reservoir of moisture than one where nothing but the larger trees are found. There will, however, be but few of

em there, as the undergrowth, in the poplar forest, where cattle were excluded, would most likely spring up from maple and other seeds brought hither by the wind. The only trouble on this point will be found near ploughed land, as, where the plough breaks the roots, young shoots will rise. Where they can be planted beside permanent grass lands or a narrow strip of such left surrounding them, there will be no trouble at all.

In cities, where these trees have been planted in numbers, some objection has been made to them on account of the falling, for about a week in June, of the catkins, as they are called, which are covered with a sort of cotton down. In the Silver Poplar, however, these are small, being about two inches long, and the amount of down falling is not of sufficient amount to create any annoyance by being blown into windows. Another tree of the poplar variety is very objectionable in this respect, the catkins being very heavy with cotton and nearly six inches long, covering the ground below for weeks with a heavy mass of disagreeable rubbish, on account of which habit many of these trees were cut down in Toronto streets some years ago. This is, however, very different in all respects from the Silver Poplar, its leaf being very large, dark green on one side and light green on the other, smooth on both, and the young wood glutinous. The Silver Poplar, on the contrary, has a small leaf, dark and smooth on one side, almost white and downy on the other, as are also the young twigs which bear them. During twenty years, in which I have observed certain of these trees, the suckers thrown out have been very few, and the amount of down falling not worth mentioning.

Where a farm has, as too many have, been denuded of its trees, and the owner wishes in a short time to obtain shelter and timber, this tree, where it can be planted under the conditions above named, will be found very valuable. It would prove especially so, I should think, to our North-West and Manitoba farmers, as, though they have poplar in quantities, it seems to be a much inferior variety. If North-West editors think so, they might be of service to their readers by copying this letter. The tree has the slight disadvantages mentioned; but it has also the advantages, and will be as large in ten years many maples at twenty-five.

Such trees as this, however, though valuable because they can be rapidly grown, are not to be compared to the solid beech and maple, the pine, ash and elm of our native Canadian forests, which are all too rapidly, throughout much of Ontario, passing from the land. Few are aware how rapidly, but you will find on enquiry among the works in wood that our furniture manufacturers have no more walnut; they find white ash difficult to obtain; and even basswood of which we formerly possessed vast amounts, is now so diminished in quantity that the swamp elm has to be substituted. Our agricultural implement makers and car-builders, too, already find good oak, ash, and rock elm so hard to obtain that, where they can, they use iron instead; and in many other woods the present deficiency, as compared with the former abundance, is extremely marked.

Very little has been done towards replanting forest trees so as to grow in forest form. What is being done along the roadside serves an excellent purpose in its way, but the roadside tree grows to branches, not to trunk, and, therefore, not to timber, to obtain which they must be planted in quantity, and but a few feet—say but four—apart at first. So little has been done in this direction, that you with difficulty find in Ontario an acre of planted forest, though, since the matter has lately been brought before the public, many are turning their attention that way, and some are preparing young trees for the purpose. But when we consider what a period must elapse before a plantation of the most desirable woods can supply timber of any size (though in the meantime, it should always be remembered, very useful for shelter), it is above all things to be hoped that many of our farmers will see their way to preserving some portions of the forest which yet exist on their lands. With the view to obtaining valuable opinions as to how far legislation can assist in this matter, I lately addressed communications to the various County Councils in Ontario.

Some of the Committees to whom these were referred have replied. I should be glad if others would do so at their earliest convenience.
Yours, etc.,

R. W. PHIPPS.

Toronto, July 10.

THE FORESTRY EXHIBITION.

The London Times of July 1, commenting upon the International Forestry Exhibition, which opened on that day says: Centuries will scarcely repair the havoc wrought by fifty years of unrestrained arboricide on the Alps, the Pyrenees, the Apennines, in Scotland, Ireland, Denmark, and North America. Half Spain has been reduced to a parched desert by the insaniety, though of longer standing than this single century, which denuded its sierras of their shade. Italy tottering on the brink of a similar fate as the result of more recent folly. Ireland, as was lately explained, has been impoverished by the destruction of sheltering foliage. Vast tracts of Jutland have been changed into heathery wastes by the felling of the pines. In North America settlers acted as if timber were a mere incumbrance and obstruction. Since it has been admitted to be commercially of value its fortune has been almost worse. The population has regarded its forests as a mine, of which the proper destiny was to be severed straightway from the soil. For 20 years after the appropriation of California by the United States the hatchet raged with fury against the noblest woods in the universe. In defiance of laws it continued its vindictive attacks. Fear for the supply of fuel brought the first pause in the devastation in Europe. Frenchmen and Germans began to be alarmed that cutting without planting must end in nothing to burn. In this country, which could dispense with wood as fuel, a similar return to common sense proceeded from a discovery that soil incapable of agriculture might give a profit as woodland. Only gradually has the more important discovery been made, or popularized, that trees may be in the highest degree profitable though they be neither timber nor fuel. A mass of irrefutable evidence has demonstrated that trees play a part in economy of nature for which no equal substitute can be found. Coal may supplant wood as fuel. Iron may replace oak and pine in shipyards. Danish peasants may do without wooden clogs, and authors may learn to dip their pens in other gall than that from the oak. Nature very seldom arrives at an effect in one way without leaving room for human ingenuity to accomplish it in another. Some natural processes are at once so beneficent and so complex that for man not to avail himself of them as they are is to sacrifice irrevocably the most manifest advantage. Nature fits up in every wood a perfect laboratory auxiliary to the ends for which the farmer labors. Agriculture which strips a country of wood condemns itself to the superfluous cost of trying, with a success at best only partial, to create artificial alternatives. The Laputan condensers of sunbeams out of cucumbers were not more foolish than the exterminators in the Old World and New of the vegetable reservoirs otherwise styled forests.

A THEORETICAL BUSINESS CHAT.

We, among others, have lost quite heavily of late through the honest failure of three firms who at one time seemed fully competent, financially, to meet all the waves of adversity which might come, but they all relied too much upon the promises of personal friends and were forced to succumb, as is generally the case when the meeting of obligations depends upon the action of a third party.

It would be well when one is about to enter trade, and concludes that his reliance rests chiefly upon the promises of personal friends, to be sure of it that this man leans upon a broken reed. If he deems it essential to his success that he must secure some one peculiar locality for the establishment of his mill, above all others, he could not entertain a greater fallacy. And a too common belief that certain salesmen must be employed, if competition is met with sufficient strength, to endure a formidable encounter with a rival of enterprise, betrays at once the weakness of a would-be mill or factory owner. The idea of a large building,

brilliantly decorated, a finely furnished office and splendid equipage, is one of the most delusive and fatal of all the notions apt to be considered seriously by the inexperienced.

The miller or manufacturer, in fact anyone who starts out depending largely upon such auxiliaries, will repent his folly and cry for help, when, alas! none of his pillars of strength will do to lean upon even for a single moment.

Real merit, and that alone, can be utilized when the pinch comes. Dreams of a splendid building, hosts of friends, best salesmen and a fine location, all vanish when paying patrons are wanting, and the expense account absorbs not only profits, but capital itself. The manufacturer or merchant finds out not only that he has one weak spot, but many, and that the successful tradesman he had expected to outstrip have suffered nothing by his efforts, but, on the contrary, owe him an obligation for convincing the custom of both places that more pretence and sham will not pass current among honest people.

It is well to have an establishment of easy access and well furnished with all modern appliances, machinery and the like, to make out of the material at hand the best that can be made. Again, one must be assured his qualifications are not outbalanced by his competitor, and by no means ever allow a rival to think for a moment that he can outdo you in politeness and courtesy to all with whom you may come in contact. Reduce expenses to the lowest possible point commensurate with the production of good goods, ask a fair price and be positive that no one can undersell you and make a profit; he may sell at less than cost, but such do not hold out long.

In conclusion, in the majority of instances where we have lost heavily by others' honest failures it has been among a class who, though understanding their own business thoroughly, possessed the ambition which characterizes Americans, and, to make a better show, dabbled in some outside business. This generally means failure in the end, unless you have the amount so invested to spare without crippling your own business.—Lumber Trade Journal.

THE C. P. R.

The Monetary Times of July 11, contains the following:—The assurance of the Canadian Pacific directors that the means already provided are sufficient to enable the company to complete the construction of the line, was needed in the London market. The heavy fall in the price of shares had caused some uneasiness there. But as the Economist remarks, the downward movement, "is in the main due to New York selling," and "when the company would only have been too glad to avail itself of the London market, London was flooded with shares already placed in America." How the attack on stocks in the position of that of the Canadian Pacific is made, the New York Commercial Bulletin explains: "The most sensitive points in the loan market are selected for special attack. Railroad and other enterprises in an incipient stage and which are dependent on credit for their completion are the favorite objects of assault. It is known that a certain amount of the paper of such corporations is floated bearing frequently the endorsement of its supporters and backed by new securities. If such paper can be rendered unnegotiable, or its collateral impaired, or if suspicion can be cast upon the names it bears, that is an achievement to the purpose." In such a state of the market, it is fortunate for a road under construction when, without so borrowing, it has the means provided for its completion. And in this position the Canadian Pacific is now declared to be.

A Big Elm.

On Wednesday last, as some parties were travelling through a bush a few miles northwest from this village, they found a giant elm tree which measured thirty-three feet in circumference four feet from the ground being eleven feet in diameter. The tree is very high, and its magnificent crown of foliage can be seen for miles towering high above all the other trees of the forest. This tree is said to be the largest tree standing probably in this township.—E.

Chips.

A clean and excellent coating for wood is asbestos paint, or better still, the thicker asbestos concrete. These substances act like true paint, adhere tightly to the wood, give good protection against high temperatures, and do not readily rub or chip off. It has but one objection, that is, its solubility in water; but for interior theater purposes this is no material objection. Great care must be taken in purchasing this article, and it should always be tested before being used, as much of the so-called "asbestos paint" which is sold is entirely worthless.—*C. John Hersey, in the Spectator.*

A TRAVELLING man for a well known Chicago lumber firm thus glowingly writes about what he has seen on his present trip west: "Kansas never, in the history of the white man, looked generally as rich as this year. The State looks too enchanting for any effort on my part to describe. Corn, rye, barley, flax, wheat and the grass, and all the vegetables, are out this year in their very finest bib and tucker. The harvester is busy cutting down the wheat and rye. Trade has been light with me except in Kansas. Wishing you all the blessings in the catalogue, and complimenting you on the almost universal circulation of your valuable journal." The above is certainly encouraging for lumber interests in Kansas.—*Northwestern Lumberman.*

The Ottawa Citizen says:—The freighting of square timber by rail from the Upper Ottawa districts is steadily increasing. As an instance of this it may be quoted that Mr. David Moore has, during this season, shipped all his heavy timber cut above Lake Nipissing, from North Bay to Papineauville, by rail, where it is rafted for the Quebec market. The Klock Brothers have also adopted the same principle, and Mr. Alexander Fraser, of Westmeath, is following in the same strain. This is another instance of what the Canada Pacific is doing in General Canada. Mr. Fraser will, during present season, probably ship 250 car loads in the same manner. Other lumbermen are waking up to the fact that the liberal terms of the Canadian Pacific in regard to freight render it cheaper for them to ship by rail than to re-raft at several points between the upper waters and Quebec.

The dealers at several of the north-western markets are complaining that, owing to the different rates in favor of Chicago to Missouri river points, it is nearly impossible for them to work the territory that heretofore has been common ground. While in no way advocating any tariff that does injustice to any one, we will briefly consider the conditions as they now exist. Calling the differential rate 6 cents, the freight charges on a thousand feet of lumber would average about \$1.50 more from Eau Claire, Chippewa Falls and Menomonie to Missouri river points than from Chicago to those points. At first blush this would appear to give the Chicago dealers a big advantage; but really it does not. It must be kept in mind that at the points which have the higher rate the lumber is loaded on cars at the mills. At Chicago the lumber is loaded at the yards but before this can be done lake freight rates varying from \$1.25 to \$1.75 must be paid. This at once offsets the differential rate of 6 cents. Further than this, the Chicago dealers have an extra handling bill in transferring their lumber from the vessels to their docks. All things considered there is no reason why the territory that has been operated in by the dealers of both Chicago and the other towns named should be abandoned by those of the latter.—*Northwestern Lumberman.*

Tree Moving.

A Sarnia architect, Mr. Blaker, has done a notable thing in tree-moving. He transplanted a handsome maple, which was one foot in diameter and 30 feet high, from one part of the town to another, hauling it by means of a capstan. It used to be thought a preposterous idea to move trees of such dimensions, but it is now found to be the easiest, quickest and cheapest mode of establishing shade trees in parks and boulevards. The large trees which were transplanted in Victoria park three years ago are thriving well.

THE NEW BRUNSWICK TRADE.

The St. John, New Brunswick, *Globe* gives a list of the shippers of timber from the ports of New Brunswick, with the amount of the shipments, for the first half year of 1784. The shipments as compared with the same time last year show an increase of some five millions of superficial feet in favor of the present year, the figures in 1883 being 81,611,241 superficial feet. Below are the shippers and statement of shipments:—

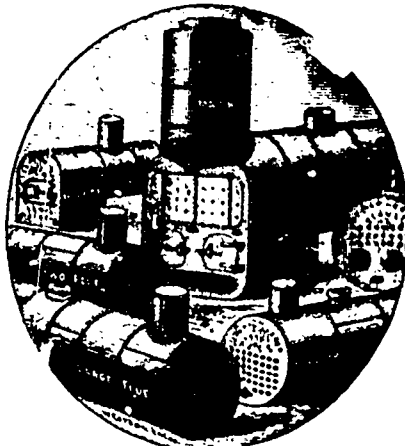
Shippers.	S. Ft. Docks.	Tons Birch.	Tons Pine.	M. Pailings.	Cu. Shd.
Alex. Gibson....	64,605,870	.....	.....	.....	.....
W. M. Mackay...	14,207,230	2,707	412	83	16
S. Scofield.....	2,937,893	1,602	550	.....	.....
Guy, Bevan & Co.	1,007,454	1,001	.....	.....	.....
R. A. & J. Stewart	3,925,371	2,103	.....	.....	15
J. E. Knight,	.....	.....	.....	.....	.....
Stuquash....	091,012	.....	.....	.....	.....
McLachlan & Wil-	.....	.....	.....	.....	.....
son.....	117,023	482	.....	.....	5
Grand totals...	80,813,118	7,915	971	33	39

A Lumber Case Settled.

OSWEGO, N. Y., July 14.—S. R. Wegg, lumber dealer, jailed in March last for fraud, preferred by Ross & Co., Quebec, interested with him in business, was released to-day. Ross & Co. are now satisfied there was no intent to defraud and Wegg confesses judgment to them for the amounts claimed.

JOHN MCGREGOR & SONS

Manufacturers of all kinds of STATIONARY, MARINE and LOCOMOTIVE



BOILERS

And SHEET IRON WORK.

SECOND-HAND MACHINERY Bought, Sold or taken in exchange for new work. REPAIRS PROMPTLY ATTENDED TO. All Boilers Tested by cold water pressure to 150 pounds to the square inch.

DOCK and WORKS:—

Sandwich Street, Windsor, Ont.

D. FOWLER'S
EXTRACT OF WILD
STRAWBERRY
CURES
CHOLERA
CHOLERA INFANTUM
DIARRHŒA.
AND
ALL SUMMER COMPLAINTS
SOLD BY ALL DEALERS.

H. WILLIAMS, SLATE & GRAVEL ROOFER

MANUFACTURER OF AND DEALER IN

Tarred Felt, Roofing Pitch, Sheathing and Building Papers, Carpet and Rosined Waterproof Paper, Ready Roofing, &c. All orders promptly attended to at LOW PRICES.

H. WILLIAMS,
4 Adelaide Street East, Toronto

JUST PUBLISHED.

STANDARD CUSTOMS TARIFF

REVISED TO DATE.

Also contains List of Ports, Banks, Postal Rates, Interest Tables, Parcel Rates to England, Money Tables, &c., to be had from the Principal Booksellers and from the Publishers,

RAE & WATSON, 22 Church Street, TORONTO.

PRICE 35 CENTS. WITH BULLETIN 50 CENTS.

EAGLE FOUNDRY!

GEORGE BRUSH

14 to 34 King and Queen Sts, MONTREAL,

MAKER OF

Steam Engines, Steam Boilers, Hoisting Engines, Steam Pumps,

CIRCULAR SAW MILLS, BARK MILLS, SHINGLE MILLS,

Water Wheels, Mill Gearing, Shafting, Hangers and Pullies,

Hand and Power Hoists for Warehouses &c., &c.

Also, Sole Manufacturer of BLAKE'S CHALLENGE STONE BREAKER.

AND AGENT FOR

"Water's" Perfect Steam Engine Governor, and "Heald & Sisco's" Centrifugal Pumps

Burdock BLOOD BITTERS

Cures Dizziness, Loss of Appetite, Indigestion, Bilioussness, Dyspepsia, Jaundice, Affections of the Liver and Kidneys, Pimples, Blotches, Boils, Humors, Salt Rheum, Scrofula, Erysipelas, and all diseases arising from Impure Blood, Deranged Stomach, or irregular action of the Bowels.

THE Hancock Inspirator

The Best Feeder known for Stationary, Marine or Locomotive Boilers.

THE INJECTOR PERFECTED!

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

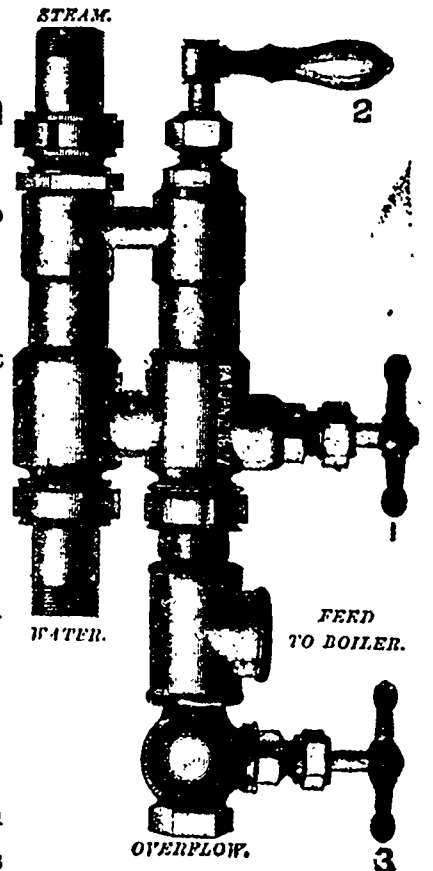
Over 50,000 Now in Use.

MANUFACTURED BY THE

Hancock Inspirator Co'y

5 CUSTOM HOUSE SQUARE,
MONTREAL, P.Q., CANADA.

Manufacturers of Inspirators, Ejectors, and General Jet Apparatus.



Market Reports.

TORONTO.

From Our Own Correspondent.

JULY 24.—Two weeks have passed since my last letter, and still no improvement in the lumber trade, indeed, some dealers say, the bottom has fallen right out. Certain it is that retail dealers feel extremely glum at the present state of trade, but I still hold to the opinion that the fall season will be a fairly busy one, so far, at least, as the home market is concerned, but with the presidential election on hand, which always takes the attention of our American cousins away from their private affairs, we need not expect to have trade anyway rushing this season; although choice lots of clear and picks will find a ready market at fair prices. The trouble, however, is that the percentage of the upper grades in our market is so small that our home market is constantly choked up with the coarser grades and as a consequence prices will rule low. The quantity leaving our docks is small and shipments will fall short of last years, unless it moves much more rapidly for the remainder of the season. The amount of lumber on the docks and piled in the yards varies but little from that of the same period last season.

Table listing lumber prices in Toronto, including items like Mill cull boards and scantling, Shipping cull boards, Scantling and joist, Cutting up planks to dry, Sound dressing stocks, etc.

MONTEREAL.

From Our Own Correspondent.

JULY 23.—We have very little to report in the lumber market for the past two weeks, as business has been duller than at any period during the year. There has been no demand in a retail way, but business is said to be pretty brisk in New York, so it is possible we may get our share a little nearer the fall. Laths, both here and in Ottawa, are very scarce, and prices keep firm. Lumber stocks are at least sufficient for the demand, and in the present state of matters dealers are very careless about increasing them. Prices in the yards are steady, but certainly not any higher. We quote as follows:

Table listing lumber prices in Montreal, including items like Pine, 1st quality, Pine, 2nd, Pine, shipping culls, etc.

SHIPPING.

The shipment of deals has fallen off very considerably since the date of our last report. The rates of freight to the River Plate are steady at \$13 to \$14 but there have been no engagements. Rates for deals to Europe tend downward and may be quoted from 40s. to 50s. according to destination.

CORNWOOD.

The market is very dull and prices tend downward. Stocks are ample, but since the St. John Baptist celebration there has been no demand even in a retail way. For wholesale lots

at the wharves ex cartage we continue to quote:

Table listing prices for Long Maple, Long Birch, Long Beech, Tamarack.

LIVERPOOL MARKETS.

We have advices from Liverpool by last mail which state that the consumptive demand continues very fair. Several cargoes of Quebec goods had arrived, but no sales reported by which to test the market. The heavy imports of spruce deals have caused prices to decline, and the value of a cargo of St. John, of fair specification, is £6 per standard ex quay. Pitch pine is in rather better repute though difficult to sell, and the general opinion is that prices will not go any lower. A lot of Red pine deals from Quebec were placed at £7 15s. per standard ex quay. Halifax spruce deals were sold at auction and averaged £6 1s. 3d. per standard, and two cargoes of St. John, N. B., averaged £6 2s. 6d. per standard.

WINNIPEG.

The Commercial of July 22nd says:—There is no change in the lumber trade. The demand still holds good, in fact much better than was anticipated at this season of the year, but, as yet, it is impossible to give correct quotations, but we hope to have this remedied at an early date. It would be greatly in the interest of large dealers to be able to give reliable quotations to the public.

OSWEGO, N.Y.

Table listing lumber prices in Oswego, N.Y., including items like 1 1/2, 2 & thicker uppers, 1 inch selected sidings, etc.

ALBANY.

Quotations at the yards are as follows:—

Table listing lumber prices in Albany, including items like Pine, clear, Pine, fourths, Pine, selects, etc.

CHICAGO.

The Northwestern Lumberman of July 25, says:—Since July came in the number of arrivals at this port have been less each week than during the weeks of June. The port list for the seven days ended Wednesday night showed

181 arrivals, a large proportion of which have gone through to the yard docks. Offerings at the market have been less in number than during a corresponding time last year. The condition of the market just now is not such as to encourage shipment from the mills as freely as during June. Lumber has dropped so low that the manufacturers dread a further decline, and prefer to hold rather than to risk overloading the market. If the present condition should continue, while the mills were going on piling up lumber, it is difficult to see how a further decline of a quarter could be avoided. Indeed, some of the jobbers are waiting for just this result. Since it is difficult to get bank loans extended, and it is hard to discount paper, the merchants feel that they do not care to pile up lumber in advance of actual requirement, and the latter is not very pressing at present. A revival of demand in August or September will make some difference, but the extent of that cannot yet be determined, nor counted on much in advance under existing conditions. It looks now as if the market would have to drag for at least a month to come.

Quotations are as follows:

Table listing prices for Piece stuff, green, Long timber, green, Boards and strips—No. 2 green, etc.

LAKE FREIGHTS.

Table listing lake freight rates for Grand Haven, Muskegon, Whitefish, Ludington, Manitowish, Menominee, Oconto, Chibougan, Alpena, Bay City, Tawas, Frankfort.

Receipts of lumber, shingles, etc., for the week ending July 24, as reported by the Lumberman's Exchange:—

Table showing receipts of lumber and shingles for 1884 and 1883, including total receipts and increase/decrease.

LAKE RECEIPTS FOR THE WEEK ENDING JULY 24.

Table listing lake receipts for Lumber, Shingles, Lath, Posts, Railroad ties, Wood, cords, Bark, cords, Slabs, cords, Telegraph poles, Spars.

STOCK ON HAND JULY 1.

Table showing stock on hand for 1884, 1883, and 1882 for Lumber & timber, Shingles, Lath, Pickets, Cedar posts.

BOSTON.

Cotton, Wool and Iron of July 26, says:—General business is reported to be very dull, with a full supply considering the limited call. There is a good deal of drumming for the little trade that is to be had, and prices in some cases rule in buyers' favor. The outlook for fall trade is rather uncertain as yet.

CANADA PINE.

Table listing prices for Canada Pine, including items like selects, Dressed, Shelving, Dressed, laths, etc.

BUFFALO.

We quote cargo lots:— Uppers, Common, Culls.

TONAWANDA.

Table listing prices for TONAWANDA, including items like Three uppers, Common, Culls.

GLASGOW.

The Timber Trades Journal of July 12 contains the following:—The past week's imports to Clyde include two cargoes of Quebec timber and two of pitch pine at Greenock; and at Glasgow, besides sundry imports of wood goods per steam liners, there have been arrivals of Nova Scotian birch timber and deals and San Francisco redwood.

A cargo of Mexican mahogany, which is also included in the import list for the past week, is advertised for public sale in Yorkhill Yards on Tuesday next, 15th inst.

An auction sale was held here on the 8th inst., Messrs. Singleton, Dunn & Co., brokers, the goods offered consisting of Michigan and Quebec pine deals; and birch and maple timber, but very little business was done.

Table listing prices for Quebec 1st yellow pine deals, Quebec 3rd spruce deals, Russian birch.

LIVERPOOL.

We learn from the Timber Trades Journal of July 12, that the monthly statistics of the trade show that a fair average amount of business has been done during the past month, though there is little doubt when profits have been made they have been confined to the barest margins.

Freights continue very low, and with a considerable quantity of steam tonnage pressing upon the market there is little hope of any advance upon present prices being obtained.

Very few cargoes of St. John, New Brunswick, spruce have come to hand during the past week, but several cargoes from Nova Scotia ports have arrived; most of these, however, have been already disposed of before arrival.

There is no change in prices, the present intention of the importers being to store future cargoes rather than force them upon a reluctant market, and so weaken prices below their present limit.

LONDON.

The Timber Trades Journal of July 12, says: This week we have to record nearly 100 vessels, wood-laden, to the docks, and 65 in last week's Journal makes a pretty big total for the fortnight; hence the probability is that at the end of the season the stocks in the docks will be much heavier than they were last year. The alterations made in the "Baltic" saleroom this year no doubt have afforded additional accommodation, and to this in some measure may be due the absence of that crowded appearance we used to notice on Messrs. Churchill & Sim's sale days; but still we cannot help thinking that the numbers recently attending have been much below the average. We also miss the usual crowd that in the ordinary way, when anything like a big sale is going on, generally congregates in the vicinity of the saleroom. One or two loiterers we noticed on Wednesday and Thursday last, but no signs of bustle were apparent amongst the few members of the trade that had assembled.

AUSTRALIA.

The monthly circular of Messrs. Lord & Hughes, timber brokers, dated Melbourne, 2nd June, 1884, contains the following:

The amount of business done in timber and building materials since the date of our last issue on the 5th ult., has not been equal to that of the previous three months; still, for this, the dull season of the year, deliveries from yards for consumption have been fairly active.

Auction sales have been principally confined to Oregon timber, Norwegian flooring, American lumber and Kauri pine, and the prices obtained show a slight improvement on last month's rates.

Stocks of every description are very large, and if augmented by heavy arrivals, lower prices must necessarily be expected.

The arrivals have been—Mandalay, from Burrard's Inlet, with Oregon timber, laths and pickets; J. I. Boase, from Boston, with white

pine shelving, T. and G. ceiling, clear pine, spruce deals, doors lath and plaster; Loch Ryan, Marcella, Parramatta, Sussex, Duchess of Argyll, Potosi, Knight of the Thistle, Loch Teilon, Angerton, Drumeltan, Beecroft, Gu. Venice, from Great Britain, with flooring, s. es, lead, galvanized iron and cement; Waitemata, Killarnoy, and Jules Marie, from Kaipara, with Kauri pine; Nemesis, Wendouree, Laura, Gabo, Konoowarra, and Buninyong, from Sydney, with cedar. Claud Hamilton and Adelaide, from Adelaide, Wendouree, from Sydney, with slates.

RED DEALS.—Imports: Nil. Since our last report there have been neither arrivals nor sales at auction with exception of a line, door rails.

SPRUCE DEALS.—Imports: 485 pieces. This parcel arrived in W. H. Besse, and was sold at auction on 30th ult., 11x3 realizing \$1.16d., and 9x3 3d., at per foot of 9x3. The only other public sale has been parcel ex Leading Wind.

QUEBON TIMBER.—Imports: 533,032 feet super. The only arrival has been Mandalay, the cargo of which was sold at auction on 20th ult. at prices ranging from £6 7s. 6d. to £8. The balance of cargo ex Corsica has also been quitted at £6 5s. to £8, besides which we have to report sale privately of cargo ex Oscoola, at a price withheld.

LUMBER.—Imports: Clear pine, 136,341 feet super; white pine shelving, 165,190 feet super; T. & G. Ceiling, 19,132 feet super. The only arrival has been the W. H. Besse, from Boston, and this consignment was offered at auction on 30th ult., when nearly all the clear pine and a portion of shelving was sold. Clear pine shows a slight improvement on previous sales.

PINE.—Imports: Nil. Auction sales.—Nil.

REDWOOD.—Imports: Nil. On the 6th ult. the shipment, ex Kylemore, was offered at auction, when about one-half was sold at £10 per 1,000 feet super.

FLOORING AND WEATHERBOARDS.—Imports: 622,800 feet lineal. The arrivals have been—Loch Ryan, Duchess of Argyll, and Loch Torridon, from Great Britain. Sales by auction have been—Ex Vladimir, Edouard, Kamford, Hans Gude, Helona, Amalfi, Loch Moidart, Loch Lomond, and Loch Ryan. The following are prices realized:—Red, 6x1½, 11s. 9d.; 6x¾, 6s. to 5s. 9d.; 6x¾, 4s. 10d. to 4s. 9d.; 4-out weatherboards, 6s. 6d.; white, 6x1½, 9s. 3d. to 8s. 9d.; 6x¾, 8s. to 7s. 9d.; 6x¾, 5s. 6d. to 5s.; 6x¾, 4s. 9d. to 4s. 6d.; 4-out weatherboards, 6s. 6d. to 6s. 3d.

KAURI PINE.—Imports: 795,221 feet super. The arrivals have been Waitemata, Killarnoy, Jules Marie, from Kaipara. Sales by auction have been—ex Vivid, Davenport, Waitemata, Palace, Peerless, Robin Hood, Jules Marie, L'Avenaire, and Killarnoy, hewn logs realizing 11s. 9d. to 11s. 3d.; sawn fitches, 16s. 3d. to 14s. 3d.

CEDAR.—Imports: 101,334 feet super. Sales by auction have been made during the month of logs at 52s. 6d. to 19s., according to size and quality.

DOORS.—Imports: 873. The arrivals in the W. H. Besse, from Boston, and were offered at auction on 30th ult., when all but one line were sold.

LATHS AND PICKETS.—Imports: Laths, 9,458 bundles; pickets, 3,556 bundles. Sales by auction have been made during the month of Oregon laths, 4½ feet, at 36s. 6d. to 36s.; spruce 4½ feet, 35s.; pine, 4 feet, 32s. 6d.; Baltic, 4½ feet, 24s. to 21s. Pickets; Oregon, 4½ feet, at £8 15s. to £8 10s.

SLATES.—Imports: 182,036 pieces. The arrivals have been Duchess of Argyll, Drumeltan, Beecroft, from Great Britain; W. H. Besse, from Boston; Claud Hamilton and Adelaide, from Adelaide, and Wendouree, from Sydney. The only sale by auction of slates has been a portion of shipment ex Star of Scotia, 20x10 Blue Bangor realizing £11 12s. 6d. to £11 10s.; 20x10 Vermont unfading green slates, at £12.

PLASTER.—Imports: 200 barrels. Sales by auction have been, ex Star of Scotia, Knickerbocker, at 12s. 3d.; ex W. H. Besse, Albert plaster (large barrels), at 14.

CEMENT.—Imports: 5,638 barrels. In consequence of heavy arrivals and large quantities

to arrive, the market is weaker. Sales of best brands have been made at 14s. 6d. to 15s. 6d.

GALVANISED IRON.—Imports: 1,265 tons. Privately, sales have been made at, for best brands, £20, inferior, £19 10s. to £18 10s.

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, coiling, per 1,000 feet super; Kauri pine and cedar logs at per 100 feet super; laths, pickets, and slates at 1,000 pieces.

THE CHOLERA AND THE TIMBER TRADE.

We have in previous numbers shown that the formerly despised timber-carrying trade, was now attracting shipping of the highest class, and in fact was getting into more esteem than the corn trade, which used to take all the good-class ships away from it. What then will be the natural consequence of this Mediterranean scare? Why, that the timber trade, from its wholesome and totally unsuspecting character from a sanitary point of view, will become more popular among owners and commanders than ever it was before, the only trade almost that it will be safe to charter in, to be sure of escaping quarantine, and the result will probably be that, low as freights are now, it will be next to impossible to establish any rise between this and next spring. That they cannot be lower we have evidence in the quantity of shipping laid up for want of employment, and a very uncomfortable fact it is to reflect upon. In the northern ship-building and loading ports it is stated that "the streets are crowded with unemployed men, who are gradually falling in that listless way of standing about which is so significant to those who have lived much in industrial centres during times of depression." In Middlesbrough also, which was such a thriving place even two years ago, thousands are said to be out of employment, and sailors in every port are looking for berths in vain.—*Timber Trades Journal.*

THE NEW ORLEANS EXHIBITION.

The buildings for this gigantic exhibition are now being rapidly pushed forward. The exhibition promises to surpass in size that of the Great London Exhibition of 1862, as well as the recent Centennial Exhibition, in the number of its exhibits. The London buildings of 1862, which up to that time was the largest exposition structure ever erected, contained 1,400,000 square feet. But the main building at New Orleans will contain 1,656,000 square feet, requiring 9,000,000 feet of lumber, 4,500 kegs of nails, and 5,000 boxes of glass, in its construction. It will be 60 ft. high, with a tower 115 feet, and it will have a music hall in the centre with a seating capacity of 11,000. To light the building there will be 15,000 incandescent lamps, and the steam required for the whole structure will be upwards of 3,000 horsepower. The horticultural hall is a handsome structure, 600 feet long by 104 feet wide, with glass roof and glass tower 60 feet high. This will form the largest conservatory in the world. It is intended to arrange around the sides specimens of the choicest plants from Mexico, Central America, Florida, California and all parts of the United States and Canada, and a special commissioner will visit Europe for the purpose of securing specimens of fruits and plants in order to make this display international in character. The centre of the hall will be devoted to an international fruit display, presenting 20,000 varieties. This is nearly double the quantity of any previous fruit exhibit. There will also be an art gallery. About 1,000 men are engaged on the work of the main buildings, which will be ready for the reception of exhibits in August next.—*London Times.*

The Adams Tobacco Company.

A new feature in the tobacco business has been developed by the Adams Tobacco Company, who have within the last two months exported several thousand packages of their goods to Spain via Gibraltar. This tobacco, it appears, is so well liked in that country that the company now has orders which will keep the factory busy for several months, in consequence of which they have had to increase the number of their hands.—*Tobacco Leaf, New York, June 25, 1884.*

J. S. MAYO

IMPORTER AND MANUFACTURER OF

MACHINE OILS

OF EVERY DESCRIPTION.

9 Common Street, Montreal.

AMERICAN LUBRICATING OILS A SPECIALTY.

As I carry the LARGEST and BEST assorted Stock of OILS in the Dominion, I am prepared to fill all orders Promptly and at

LOWEST MARKET PRICES.

1201y

Ireland to Produce Lumber.

The London correspondent of the Toronto Mail says:

Mr. D. Howitz, Forest Conservator for Denmark, has made an examination of the resources and the need of Ireland for forest cultivation. He finds that five million of Ireland's twenty million acres are waste, and might be planted with a reasonable certainty of profit. These lands, he says, would grow valuable timber, instead of the commoner and cheaper kinds. The list of available trees includes 36 conifers, 38 deciduous and hardwood species, and eight sorts of bushes. Mr. Howitz has drawn up from personal inspection a scheme for planting a hundred thousand acres every year for the next thirty years. Should the idea of Mr. Boppe as to Scotland, and Mr. Howitz as to Ireland be put into practice, Canada, in a few years, will have to find a lumber market elsewhere than in England, provided she has not by that time so extended her industries and increased her population, as to cause a large home demand for the products of the consus. The condition of affairs at present, and the outlook in the future, seem to point to the necessity of creating a home demand.

Resources of the Father Northwest.

In commenting on the enormous cost of the Northern Pacific railroad, the San Francisco Chronicle says: "When it is reflected that California produces full one-tenth of all the wheat of the country, and more than one-fifth of the wheat exports, and that we do this with an area of not more than 3,500,000 acres planted in wheat, and that Washington and Oregon have three times as many acres better adapted to wheat than ours, and that within the railway belt of the Northern Pacific, we begin to form an understanding of the future agricultural possibilities of our northern neighbors, whose resources in coal, iron and lumber are even greater than in the cereals. Given a shipment terminus on the deep waters of the Puget sound equal in facilities for large ships with those of San Francisco, and it needs no prophetic mind to foresee the creation of a city there within the lives of its young men which will, in its exports and imports, reach the magnitude of our own."

Two Hundred Schooners' Masts.

The Steamer "Storm King" left City Island, near New York, on Thursday for Boston with a raft of pine spars, intended for schooners' masts. The lot consists of some 230 sticks, worth \$150 each; total value, about \$30,000. A dozen or more are chained together through holes bored near the ends; then follow as many more in the same way until all are in line. A speed of about three miles per hour seems to be about all that can be made. An extra towboat cannot double it. The raft will pass down Vineyard Sound Shoals to Monomoy Point, Chatham, where good weather and smooth water are waited for, if necessary, in order to successfully proceed around Cape Cod.

MACHINERY

SECOND HAND.

One 50 Horse-power Engine.

One Pr. 35 " " (COUPLED)

One 16 " " "

One 10 " " "

One 4 " " "

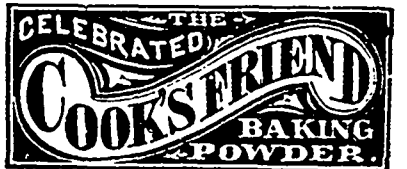
Boilers, 4 to 25 Horse-power.

Steam Pumps, Drills, &c.

625 Feet Wire Rope, (2½ in. AT A VERY LOW PRICE.)

Colquhoun, Drummond & Co.

45 Common Street, MONTREAL.



Is the best and most economical article in use for raising all kinds of biscuits, rolls, cakes, Johnny Cakes, &c. It is made from the BEST MATERIALS MONEY CAN BUY, and is perfectly pure and wholesome. Bread ready for the table can be prepared by its means in TWENTY MINUTES after weighing the flour. Next to salt it is the most useful adjunct to camp supplies.

McLaren's Cook's Friend

IS THE ONLY GENUINE, BE SURE YOU PURCHASE NO OTHER.

PLANER KNIVES, Stave Cutter, Stave Jointing, Shingle do, Cheese Box, Veneer Cutting, Paper Cutting, Leather Splitting, Moulding and Tenoning Knives.

Send for Circular Price List.

PETER HAY, Galt.

PEMBROKE STEAM SAW AND PLANING MILLS

W. R. THISTLE & Co.

Sawn dimension Timber and Lumber, in White and Red Pine, to order and in stock. Shingles, Lath, Flooring, Spikes, &c.

Ottawa Office—25 Sparks Street. G10

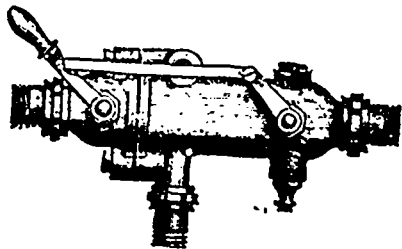
AGENTS wanted for The Lives of all the Presidents of the U. S. The largest, handsomest, best book ever sold for less than twice our price. The fastest selling book in America. Immense profits to agents. All intelligent people want it. Any one can become a successful agent, terms free. HALLS Door Co., Portland Maine.

ROBERT MITCHELL & CO.

Montreal Brass Works,
St. Peter and Craig Streets, Montreal.

THE KORTING INJECTOR

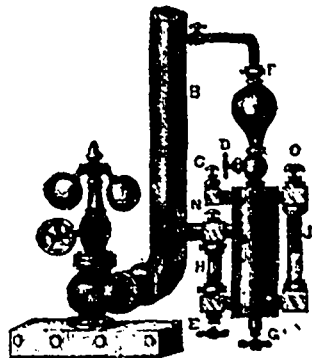
Acknowledged to be the best Boiler Feeder in the World.



Will lift 20 feet, and take water at 150 degrees. Only one handle to start and stop. No valve to regulate. CHEAPER than any other injector in the market. Also, PATENT EJECTORS for conveying Water or Liquids. CIRCULARS ON APPLICATION.

The Continuous Feed Lubricator

Saves 50 per Cent in Oil.



The Ontario Canoe Co., Limited

PETERBOROUGH, ONTARIO,

Manufacturers of all kinds of PLEASURE, FISHING and HUNTING

CANOEES

Patent Cedar Rib Canoes, Patent Longitudinal Rib Canoes, Basswood Canoes, Folding Canoes, Paddles, Oars, Tents, and all Canoe Fittings.



PATENT LONGITUDINAL RIB CANOE.



THE ONTARIO CANOE.



THE JUNIPER CANOE.

Gold Medal, London Fisheries Exhibition, 1883.

J. Z. ROGERS,

President and Managing Director

Send 3 cent Stamp for Illustrated Catalogue.

Canoes for Lumbermen, designed to carry any amount of goods and chattels and strongly built, made to order on short notice.

HUGH GIBSON,

MANUFACTURER OF

KNIGHT'S PATENT "EXCELSIOR"

SAW MILL DOGS

The Sawyer's Favorite

For Holding Logs upon a Saw Mill Carriage while being Sawed into Lumber.

MISSISSIPPI, June 7th, 1883.

HUGH GIBSON, ESQ.,—Your Patent Excelsior Mill Dogs give entire satisfaction, and is certainly up to your recommendation. They are the best Mill Dog in the market. I am very much pleased with them.

Yours respectfully,
PETER McLAREN.

BERKLEY, April 20th, 1883.

HUGH GIBSON, —Sir, —The Dogs I bought of you give satisfaction. They beat any Dog that I ever saw for ripping or edging lumber on carriages. They are just the thing for scantling. I would not take \$50 for them to-day and have to wait for another pair to come from you, because I believe they make two dollars a day for me.

Yours truly,
Geo. S. BROWN, Jr.



Manufactured by HUGH GIBSON, CHATHAM. EXCELSIOR DOG.

MACHINERY.

STEAM ENGINES, STEAM PUMPS, STEAM BOILERS, SAW MILL MACHINERY, Of Every Description.

RUBBER BELTING,
LEATHER BELTING,
MILL SUPPLIES.

SHAFTING, HANGERS, PULLEYS, &c.

MACHINERY SUPPLY ASSOCIATION

Corner Bleury & Craig Streets, MONTREAL.

ROBIN & SADLER

Have been awarded Three Years in succession at the Provincial and Dominion Exhibitions in Montreal, First Prizes for

LEATHER BELTING

Fire-Engine Hose, &c.

Send for Price Lists and Discounts to the Factory

594, 596, 598, St. Joseph Street,

MONTREAL.

Something New in Leather Belting
To Mill Owners, Lumbermen, Manufacturers
USE ONLY

Dixon's Patent Lap Joint Star Rivet Leather Belting

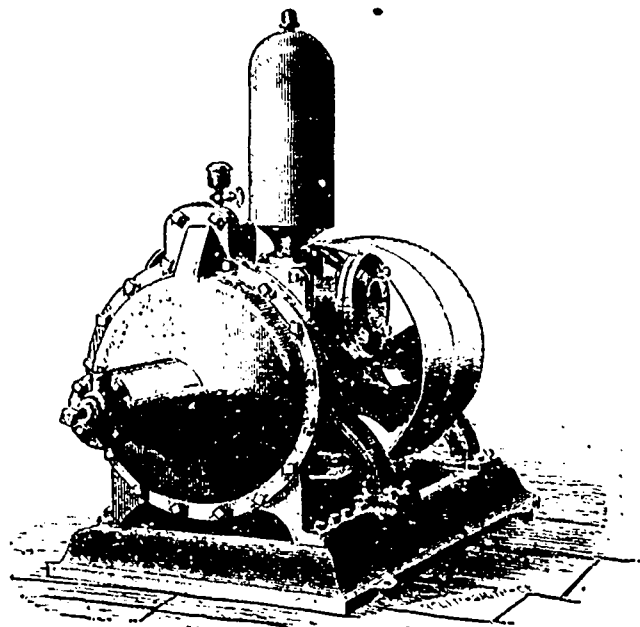
To be had only from
F. E. DIXON & Co., 70 King Street East, Toronto
Send for Circulars and Price Lists.

Central Iron Works

SIMCOE STREET,

PETERBOROUGH, Ontario.

WM. H. LAW, PROP'R.



PROTECTION FROM FIRE

An Improved Rotary Piston Force Pump.

No.	Diameter of Pipes.		No. of Revolutions.	Capacity per minute at table speed.	Price.
	Suction.	Discharge.			
2	2½ in.	2 inch.	250	125	\$100
3	4 "	3 "	250	250	150
4	5 "	4 "	250	400	225

SEND FOR CIRCULAR.

MANUFACTURER OF

Engines, Boilers, Pumps, Saw Mill Machinery

STEAMBOAT PROPELLERS AND ENGINES.

CAS T I N G S

For Architectural Works &c.

IRON ROOFING AND BRIDGES,

AND ENGINEERING WORK IN GENERAL.

Why do You Suffer when you May be Cured by Electricity?

Without loss of time or great expense. Ten or Twenty Dollars spent in ELECTRIC BELTS will do you more good than a hundred expended any other way.

CRYING BABIES.—Babies cry because they suffer. Their little gums are inflamed, and their bodies are more or less feverish. If you will tie around their necks one of NORMAN'S ELECTRIC TEETHING NECKLACES you will see a wonderful change for the better, their sufferings cease, and their general health improves. Ask for Norman's, and take no other, and you will be pleased. Price 50c.

FEVER AND AGUE.—Do not throw away money on worthless remedies, when NORMAN'S ELECTRIC BELTS will cure you. Use one and you will find immediate benefit. Every one is guaranteed.

LUMBAGO.—Those who suffer from this disease will find a friend in NORMAN'S ELECTRIC BELTS when all other remedies fail. Ask your druggist for it, and take no other. Guaranteed.

CONSTIPATION AND BILIOUSNESS and all disorders of the Stomach and Liver are corrected by using NORMAN'S ELECTRIC BELTS. Try one and be convinced. Guaranteed.

FEMALE TROUBLES.—Ladies are benefited more by NORMAN'S ELECTRIC BELTS than by all the science of medicine. They are comfortable and durable. Guaranteed.

WEAKNESS and Lassitude yield to the influence of NORMAN'S ELECTRIC BELTS when all other remedies fail. Try one and you will suffer no longer. Every belt guaranteed.

NERVOUS DEBILITY.—This dreaded and miserable disease is immediately relieved by the use of NORMAN'S ELECTRIC BELTS. Ask for them, take no other. Every belt guaranteed.

INDIGESTION AND SLEEPLESSNESS.—This seven headed monster is more easily overcome by the use of NORMAN'S ELECTRIC BELTS than any other remedy, and it possibly cannot do any injury. Guaranteed.

RHEUMATISM cannot remain long with any one who uses NORMAN'S ELECTRIC BELTS, and Neuralgia is driven away like smoke before the wind. Give one a trial. Every belt guaranteed.

NERVOUSNESS may be entirely cured in a short time by using one of NORMAN'S ELECTRIC BELTS, without any fear of injury. Try one and be convinced. Guaranteed.

TESTIMONIALS—A few Sample Testimonials that speak for Themselves.

Mr. A. NORMAN,
Dear Sir,—I am happy to inform you that the Appliances I got from your Chicago agent have had a most marvellous effect upon my patient who suffered from Sciatica. He could get very little relief from medicine. Shortly after he got your belts he was able to get out of bed, and is now on a visit to his Canadian friends. Send me some more circulars.
Yours truly,
WALLATA, D.T., December 17th, 1883.
DR. D. McLACHLAN.

A. NORMAN, Esq.,
Dear Sir,—I have experienced considerable benefit from your Appliances. I feel stronger and better every way.
Yours truly,
OTTAWA, September 3rd, 1887.
R. E. HALLIBURTON.

Mr. NORMAN,
Dear Sir,—I have been wearing your Electric Insoles for about six months, and have been greatly benefited by them. I recommend them to all who suffer from Rheumatism.
Yours truly,
PERTH, ONT., June, 1883.
MRS. J. GUTHRIE.

A. NORMAN, Esq.,
Dear Sir,—Soon after I commenced to use your Electric Appliances they opened my bowels, cured my cough and cold, relieved my head, and considerably relieved my catarrh in consequence. The discharges from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach is less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good.
Yours truly,
PETERBOROUGH, October 16th, 1883.
J. GREEK.

CURATIVE BATHS: Electric, Vapor, Sulphur, and Hot and Cold Baths.

Baths have been admitted in all ages by every school of medicine, to be one of the best means of curing ailments, maladies and diseases. The Electric Bath is the latest and best discovery in this line. Come and try them. Consultation free. Circular on application.

A. NORMAN, Proprietor, 4 Queen Street East, Toronto.

NORTHEY & CO'S STEAM PUMPS, TORONTO, ONT.

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.

Our Independent AIR PUMPS and Condensers will effect a saving of 30 to 50 per cent. when applied to high pressure Engines.

Simple.

Only two moving parts in Engine.

Compact. Durable.

Having the well known compactness of direct acting Pumps.

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

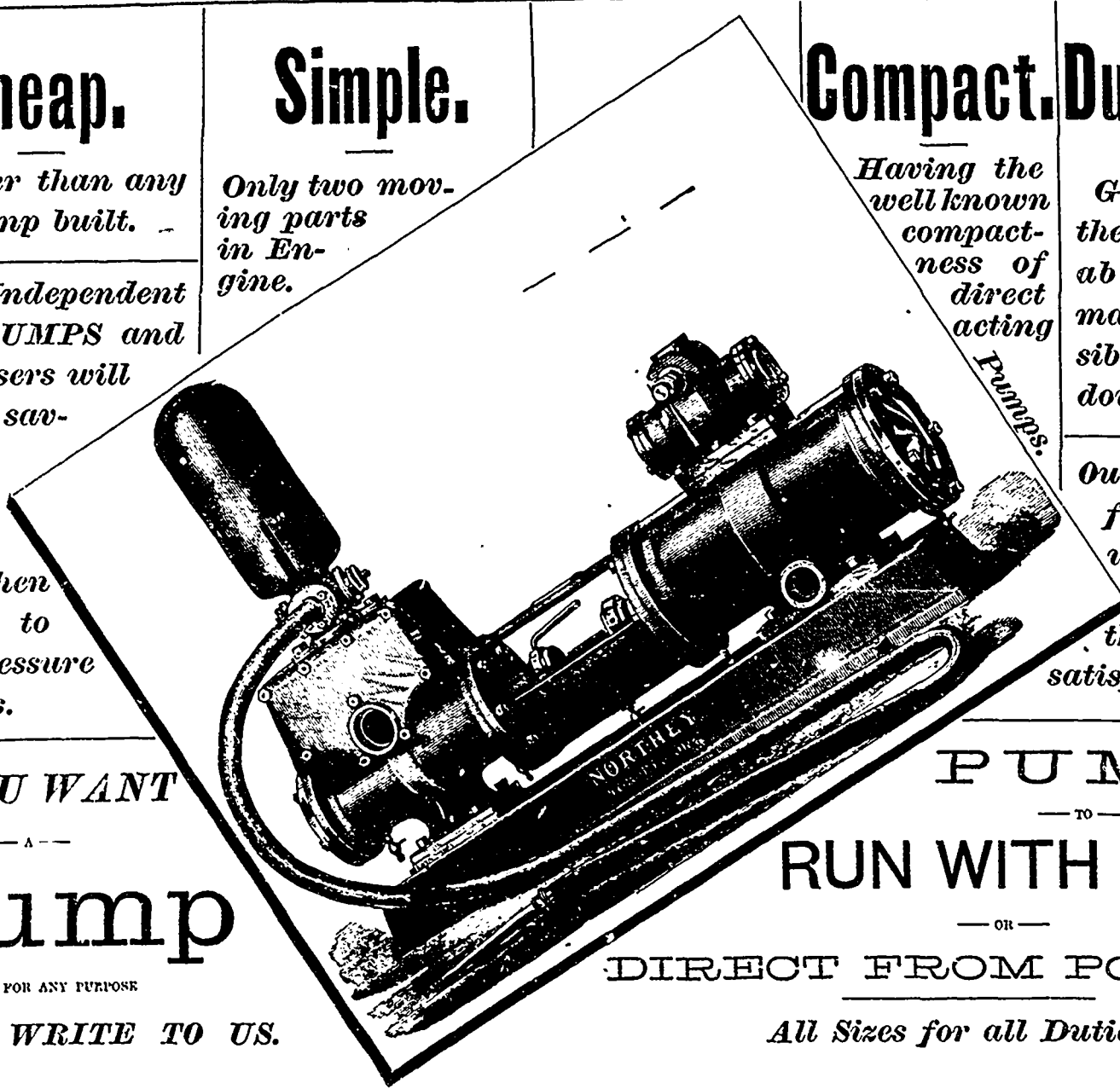
Our PUMPS for general water supply give the greatest satisfaction.

IF YOU WANT

Pump

FOR ANY PURPOSE

WRITE TO US.



PUMPS

— TO —

RUN WITH BELT

— OR —

DIRECT FROM POWER

All Sizes for all Duties.

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.

WE INVITE CORRESPONDENCE ON ANY POINT CONNECTED WITH PUMPS.

SEND FOR CIRCULAR AND STATE YOUR REQUIREMENTS.

NORTHEY & COMPANY,

Corner FRONT & PARLIAMENT STS.,

TORONTO, ONT.

MONTREAL SAW WORKS

CHAS. M. WHITLAW, *Manager.* MONTREAL A. I.

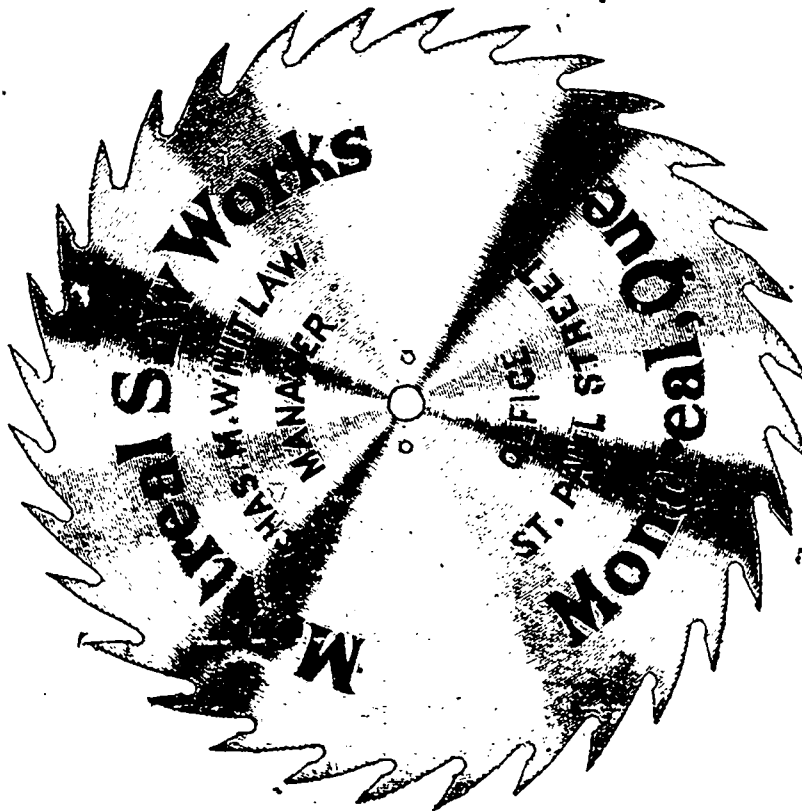
OFFICE: 452 St. Paul Street. P. O. Box, 1167.

- MANUFACTURERS OF -

CIRCULAR, GANG, SHINGLE, CONCAVE GROOVING,
TOP, DRAG, CROSS-CUT AND BILLET WEB, PIT,
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.



Catalogues and Price Lists furnished on application.

THE INTERNATIONAL TENT & AWNING CO.

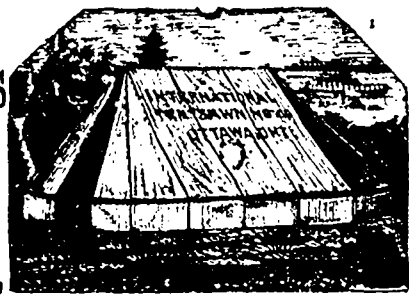
184 Sparks Street, Ottawa.

MANUFACTURERS OF

LUMBERMEN'S TENTS

The Cheapest and Best in the Market!

32
First Prizes
AND
6
MEDALS.



AT
HALIFAX
AND
TORONTO,
1883.

Tents, Flags, Tarpaulins, Waterproof Goods,
Camp Furniture, etc., etc.

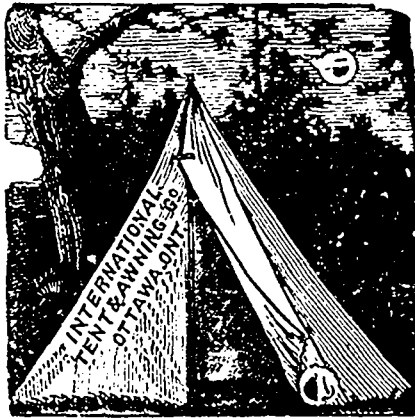
Estimates for Circus Tents, Range Marquees, Hand-made Sails, etc., furnished on application. Liberal Discount to Large Buyers.

PORTABLE CANVAS BOATS MADE TO ORDER

Send for CATALOGUE

AND

PRICE LIST.



Camp Furniture!

SEE OUR NOVELTIES

At Toronto, Ont., and St. John, N.B., we made the best Display of Tents ever shown in Canada—and we never substitute an article inferior to sample in filling orders.

We control "THE LATOUR PAT." for Camp Furniture, the best on earth. The only Gold Medal ever given for this class of goods was awarded to the Latour Camp Furniture at Toronto in 1882.

SAIL-MAKING.

We have secured the services of the best practical sail-maker in Canada. Orders in this line will receive prompt and satisfactory attention, as is usual with all orders entrusted to us.

Agency for the WILDERMUTH BED SPRING, the best in the Market.

A. G. FORGIE, MANAGER,
International Tent & Awning Co.,

184 SPARKS STREET, OTTAWA.

The William Hamilton Manufacturing Company, Limited

MANUFACTURERS OF

SAW MILL & GENERAL MACHINERY

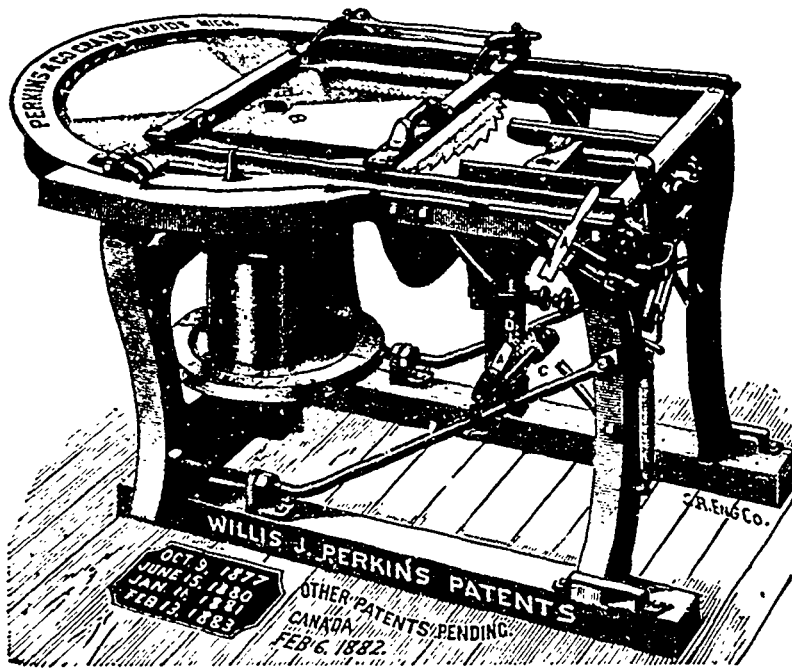
OUR SAW MILL ENGINES are made Strong, Neat and Durable, knowing well the ever varying Strain they are subjected to in driving a Saw Mill.

We wish to call the attention of our Canadian Lumbermen to our First Class HEAVY SAW MILL MACHINERY for Circular Mills and Circular and Gang Mills of the most improved designs. We are prepared to submit Plans and Specifications, together with any information that our many years of close application to the Saw Mill Business may have suggested to us, also when required to enter into contract for building and supplying the machinery complete, superintending the starting of the same, and handing over the mill to its owner in first-class running order.

Besides the variety of Machines we build for the manufacture of lumber we have added to our list the

PERKINS' PATENT SHINGLE MACHINE.

Having obtained the sole right to manufacture and sell for the Dominion. Also Drag Saws, Bolters, Sappers, Jointers and Packers.



GRAND TRIUMPH.

Willis J. Perkins' Drop Tilt!

The only Horizontal Saw Machine on which a thick slab can be cut from the bolt.

SECOND CUT ALWAYS A SHINGLE.

Knots, rots, hearts, bolt squared rift ways, and all irregularities cut off at one clip. This improvement will pay the price of the whole machine every season by increase of quality and quantity cut.

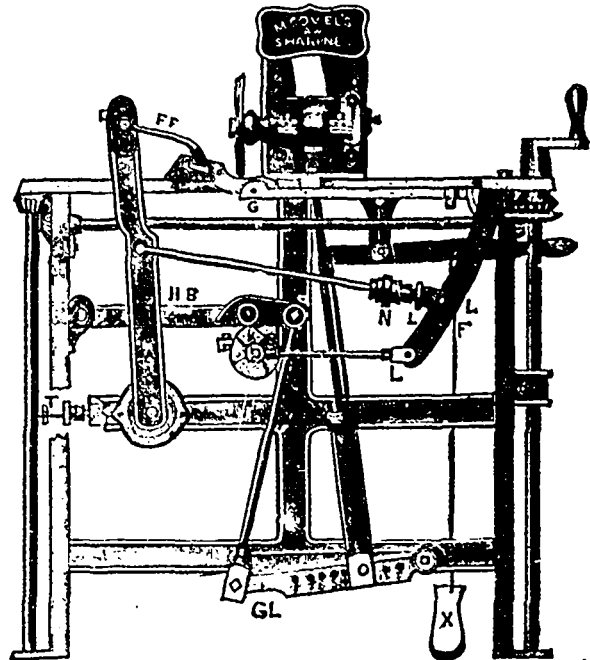
THE WILLIAM HAMILTON MANUFACTURING CO.

PETERBOROUGH, ONTARIO.

SOLE MANUFACTURERS AND AGENTS FOR THE DOMINION.

Send for Price List and Circular.

THE M. COVEL PATENT SAW SHARPENER.



The above Cut No. 1 shows some very important changes that have lately been made, which makes the machines far less complicated for new beginners to operate. Cut No. 2 shows this machine with a circular saw upon it ready for operation.

