

**BURRARD INLET SAW MILLS.**

A correspondent of the *Columbian*, writing from Granville, Burrard Inlet, states that the Moodyville saw mill, the largest in British Columbia, is owned and operated by a Company of that name. On account of temporary slackness in the lumber trade, the mill has been idle for the past six weeks, but is to start up again in a few days. It is run by a 600 horse-power engine, usually employing, when running to its full capacity, about 75 white men, besides a force of Indians and Chinamen, and has a daily average capacity of 85,000 feet. It has one 62-inch double circular, 1 edger, 1 scantling machine, 2 planers and 1 lath mill. Attached to it is a large machine shop, a blacksmith's shop, and a millwright's shop. The company send out annually about 26 vessels laden with lumber, taking with them 12,000,000 feet rough, 2,000,000 feet dressed, 340,000 feet pickets, 54,000 bundles of lath, and nearly 600 spars. The spars go to England, the balance of the export to South America, Australia and China. The company run six logging camps, averaging 25 men each, and each camp averages 20,000 feet of logs per day. It also runs a comfortable and exceedingly well-managed hotel, besides a large cook-house for the workmen and a general store.

The Hastings saw mill is owned and operated by a company of that name, and, next to that of Moodyville, the largest in the country, is run by four separate engines. It has one 62-inch double circular, edger, lath mill and a gang. Attached are a machine, blacksmith and millwright's shop. The mill employs about 60 men, besides a force of Indians and Chinamen, and has a daily average capacity of about 75,000 feet. The company last year sent out 23 vessels laden with lumber, taking 13,000,000 feet rough, 2,000,000 feet dressed, 192,000 feet pickets, and 4,500 bundles laths. The total export went to South America, Australia and China. The company also runs five logging camps, in each of which are employed about 25 men; also, a general store and a large cook house, for the company feeds and lodges nearly all its employees.—*Victoria, B. C., Standard.*

**THE WORLD'S HARVEST.**

Harvest prospects and the prices likely to rule are two things on which, in this country, much depends. The harvest will probably be good in Ontario, and the area sown in Manitoba justifies the expectation of a large aggregate increase in the amount of wheat for export.

Prices of wheat will depend upon the total production of the world relatively to the demand, the rates of freight and the quantity left over from last year's crop. In Europe the price of wheat is nearly as low as it has been at any time within a century; and it is the more remarkable that this occurs a few weeks before the new harvest, a time when prices are generally above the average of the year. Even before the average price can be reached, there will be much leeway to be made up. It is too soon to ascertain what the prospect of the world's crop will be; the indications are that there will be a full average, and it is certain there is a tendency to increase exportation from certain countries. The wheat exporting countries of previous years are meeting new and more formidable competitors. Of these India is the most powerful, with, apparently, great possibilities of increase. The Australian wheat crop, by this time harvested, is reported to be much above the average. In Great Britain the prospects are that the year's crop will be better than that of 1883, and France is expected to produce an average crop. From Germany, Denmark, Holland, Belgium and Italy, only unfavorable weather between now and harvest can reduce the yield below the average. Egypt and Morocco are assured a full measure. From Austro-Hungary and Roumania come whispers of damage to the crops; and in Russia the prospect varies, in different localities, but on the whole seems to be good.

Stocks in Europe are believed to be large for this time of year; and in India there remains a good deal of wheat to come forward. Only a deficient harvest, of which there is no sign, or an extraordinary demand, of which appearances do not favor, the expectation, could cause any material increase in prices. There is no question

that, relatively to the demand, there has been an increase of production. The extra competition has been much felt by European agriculturists, where land is dear and rents high. The complaint is made that much European wheat has been sold below the cost of production. If this be true, the production of wheat for exportation, in countries outside of Europe, is determining the price at the centre of consumption. But wheat cannot long be sold below the cost of production, though the cost of production may be lessened by a lowering of rent; otherwise, the growing of wheat on soils where it would not pay the cost of raising, must cease. If this should happen, there would be a tendency for prices to recover, by contracting the circle of competition.

The reduction of freights, which has been carried to an abnormal point, favors the European consumer and the distant producer, at the expense of the European farmer. Cheap freights enable the American, the Indian, the Russian, and other producers, to place wheat in London and Paris, at lower figures. But in all the exporting countries the competition has been keen; it has been said that many of them have been sending their surplus wheat to Europe, at prices which do not cover the cost of production. This somewhat startling avowal needs confirmation. If true it shows a state of things which cannot last; no country can long afford to sell wheat below cost; wheat culture would, if the price did not cover cost, have to be diminished out of Europe as well as in Europe, until the equilibrium was restored. The carriers of the wheat, sold below cost, are said to have been working without profit; and if so, this is a state of things which must right itself. The building of new vessels must, in such a state of things decrease. This has actually happened, and, on the supposition that the facts are correctly stated, a diminution of tonnage must be brought about by the natural process of wear and tear. But some exaggeration may be suspected in the statement that part of the world's tonnage engaged in the shipping of wheat has latterly been altogether unproductive. Still, if not absolutely true, it is very near the truth. Great Britain is reported to have a surplus carrying power of three millions of tons; hundreds of vessels, steam and sail, are unable to find employment on any terms.

Are, then, the Malthusian laws being repealed? It is true that population nowhere presses on the means of subsistence, and that the fact of a superabundant production of wheat places an abundance of food within the reach of all? Unfortunately it is not true. Take an example from the facts before us. The excess of tonnage throws shipbuilders out of employment, and men without wages, in a time of plentiful crops and low prices, are liable to suffer the pangs of hunger. The pressure of population on the means of subsistence is not universal—it never is—the contact is confined to certain points, which are, according to circumstances, more or less numerous. In the midst of the greatest abundance there will always be men without the means of buying food.

The present is a period of transition, which must lead to a readjustment. If it be true that in Great Britain, France and Germany, wheat is being grown at a cost which prevailing prices do not cover, and if the same thing is happening in wheat exporting countries outside of Europe, the loss cannot be long sustained; where rents do not come down in Europe, wheat lands must go out of cultivation; and out of Europe something that will pay the cost of production must be grown instead of wheat. This diminution of culture would of itself raise prices. The world's production of wheat can never, for any length of time, exceed the consumption. If production was greatly increased, additional mouths would come into existence to restore the equilibrium. Starvation freights are already regulating themselves. When the transition period, through which we are passing is over, things will, through a readjustment in harmony with the new conditions resume a normal condition.—*Monetary Times.*

**A SEARCH WARRANT.**—If there is any lurking talent of sorcery in the system, Burdock Blood Bitters are warranted to search it out.

**THE POWER OF NIAGARA FALLS.**

To any one who is interested in mill privileges where low water is unknown and the hours of use unlimited, the discussion of the possibilities of using the power of the falls of Niagara as given in a paper read before the American Society of Civil Engineers, recently held at Buffalo, N. Y., must be very entertaining. The author detailed the flow of the river at 275,000 cubic feet per second; falls along the rapids, 65 feet; height immediately at the falls, 165 feet. From these data it will be seen that the total horse power reaches nearly 7,000,000. To make use of this enormous power by water wheels, in the estimate of this engineer, would require a plant representing a cost of \$3,000,000,000, which represents the amount of power that is thrown away by the neglect of the energy of the falls. The possibility of using this enormous power by transforming the same into electrical energy, and then transmitting it for use in distant quarters, must have afforded a very interesting discussion. The power now in use from the waters of the Niagara is taken in a canal across the peninsula upon which the village of Niagara Falls is built, taking the water at the extreme point of the rapids and delivering it into the river below the falls, making use of the entire head amounting to 230 feet. This canal is nearly one mile in length, 35 feet wide, with a depth of about ten feet. A large number of factories are now distributed along the banks of the river taking the water from the canal and discharging over the sides of the precipice. The water wheels are set under heads from fifty to one hundred feet, and are capable of developing among the largest from 1,000 to 1,500 horse power each. This, together with a small overshot wheel under a six foot head on the Canada side, represents the extent of the use that is being made of this gigantic power at the present time, unless the race-ways at Goat's Island and along the mainland are to be taken into account where at least a thousand horse power is being developed under heads from four to sixteen feet.

**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 installment 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, Fowis, & Bryant. Of these, we understand, the Komandor 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.*

**VARIATIONS OF SPEED.**

The contrivance of step cones with shifting belts is a cumbersome and troublesome one for procuring gradation of speed. In many cases it answers its purpose, but in others some more sensitive and intermediate device would be better. A change of speed is readily obtained by a change of position of a driven wheel on the face (side) of a driver wheel or disk. The face of this disk may be either straight or slightly dish, and the driven roll or small pulley traverse the face of the disk from the shaft to circumference. It is evident that while the driven wheel is nearest the shaft of the disk

it will revolve the slowest; and also it is evident that as the driven wheel is run out toward the circumference of the disk it will revolve the faster.

The shaft of the driver—the disk—is, of course, at right angles to that of the driven pulley; these relative positions must be maintained. But it does not matter, in practice, whether the disk is on a horizontal or a vertical shaft, so long as the driven is so arranged as to be permitted to be placed in contact with the disk at any point from centre to circumference.

This device, with some modifications, has already been employed in the machine driving of potters' wheels and in the foot of driving of sewing machines. But it is capable of a wider adaptation, especially in the machine shop, where sudden changes or quick variations of speed are frequently necessary. The large disk may be of cast iron turned and finished, and the driven wheel of iron, leather faced, or of wood. The progress of the driven wheel from shaft to circumference of the disk—from low speed to high speed—could be controlled by lever, worked by hand or by foot treadle. It is a much closer and more sensitive device than the present system of absolute changes of speeds on our lathes and drilling machines.

**CHANGES UNDERGONE BY WOOD IN CARRIAGE MAKING.**

In an address delivered by Mr. H. G. Shepard, of New Haven, Conn., relative to the use of wood in carriage making, he said that after a piece of wood is bent its characteristics undergo a considerable change. The wood is heavier, and its fibres have become interlaced; it will sustain more pressure and strain than straight wood in the same directions, either across or with the grain. He said: "A piece of timber that has been steamed whether it was bent or not has its stiffness increased. It is more brittle than it was before, and for some uses it will do as well, and yet there is a quality that the steaming process and the kiln drying process effect in much the same way; they both cook the gum in the timber and make it brittle and stiff. There is a kind of hickory that never becomes stiff by a natural process of drying, and one of the desirable qualities of a spoke, rim, or whiffletree, is stiffness as well as strength; you take hickory—and it is the very best we have—and steam it, and it is better fitted for these purposes than it was before. It is difficult to tear apart a piece of bent wood; the fibres are interwoven, one with another. We do not perceive the change on the outside, but when we come to split the stick open we find that its character is entirely changed.

**Old Butternuts.**

Antiquarian discoveries are in order. Mr. E. Wicks, of the township of Chatham, was digging a well last week, and six feet below the surface came across a decayed trunk of a butternut tree, and alongside of it found a number of butternuts, one of which has been handed us, an interesting relic of the sweet long ago. The date of the fall of the tree in question must belong to a remote period, as it was found under a solid bed of blue clay. Mr. Wicks thinks it must be over a thousand years old. Speculation on that point properly belongs to the geologist, who is now at liberty to express an opinion. The nut in our possession is in a good state of preservation, and as hard as, and when cut resembling in substance, a bone. The facts, as stated, can be verified by any person wishing to investigate.—*Chatham Planet.*

**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 200 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.