



WHAT IS FREE LUMBER?

TO THE EDITOR OF THE CANADA LUMBERMAN

SIR, I notice from your December issue there are different opinions of the meaning of manufactured lumber. About three weeks ago, Wm. Bennett, M. P. for East Simcoe, called on me and wished to know my opinion of the Wilson Tariff Bill. I answered, it would be worth millions of dollars to Canada if we only secured half of what the pending bill calls for. Mr. Bennett wished to know if I understood that planed, or tongued and grooved, or other work on lumber would be admitted free. I answered, no. Mr. B. said many lumbermen claimed that unmanufactured lumber was as we find it piled at the mills, and manufactured lumber was after it had been planed, tongued and grooved, or other work put on it. I claimed unmanufactured lumber is as it exists before it is manufactured, and that is as you find it in the log; and this enters the United States free. Manufactured lumber is the product of the log after it has been cut up, and the duty on this, as recommended, will be 25c. per M. Lumber planed, tongued and grooved, or other work done on the same, is finished lumber, and the duty on it would probably average about the same as now.

With the United States and Canadian Government the principal thread woven into the tariff fabric is to admit the raw material free, upon which labor by home artisans will be performed. To allow planed or finished lumber to enter the United States free, would be contrary and fatal to the main principle.

Mr. Bennett suggested that I write to the Hon. Wm. L. Wilson, Chairman of Tariff Committee, which I did, and enclose answer received.

Washington, D.C., Dec. 16, 1893.

C. H. CLARK, Esq., Barrie, Ont.
Dear Sir,—I am directed by Hon. Wm. L. Wilson, Chairman of Committee on Ways and Means, to acknowledge receipt of your communication of December 14th, on the subject of rates proposed on lumber in the pending tariff bill. Sawed lumber has been made free and lumber planed or further finished, made dutiable at various rates.—Respectfully yours, HENRY TAYLOR, Clerk Committee of Ways and Means.

This letter, it seems to me, makes clear, a matter concerning which lumbermen have been in doubt.—Yours truly,
Barrie, Ont., Dec. 20, 1893. C. H. CLARK.

EXPORT DUTY ON LOGS.

TO THE EDITOR OF THE CANADA LUMBERMAN

SIR,—I regret having to trouble you so frequently, but as the matter is of great importance I trust that you will pardon me, as it would appear that some of our people are not only willing to sacrifice their country's interests but even their own, if by any means they can make a point against the Government, for as you will observe, no sooner had the Hon. Mr. Foster announced the intention of dealing with the question of the export of sawlogs and pulp wood in a manner that would place our people on an equal footing with strangers who are now dependent on our timber to stock their otherwise worthless mills than they rush forward with the most absurd arguments to try and defeat this object. As a case in point I find the following statements made by Mr. Crannell, of Ottawa, and on account of its importance telegraphed to the Press: "The export duty on logs would mean a great loss to the Ottawa lumbermen, since a dollar per thousand would be added to the duty placed on sawed pine lumber entering the States from Canada. This loss it is estimated would reach about \$250,000 as far as the Ottawa trade is concerned." Any one at all conversant with the conditions, and possessing any business intelligence must know that the re-imposition of the export duty would have exactly the contrary effect. It is of course with the lumber trade as with most other branches of trade, true, and within reasonable bounds supply and demand govern the price obtained for products, and unless the export duty would increase the amount of lumber manufactured, which is absurd, no such effect as pretended can possibly arise from a re-imposition of the export duty. Those directly interested in this trade say just the contrary, for you will see the Saginaw Board of Trade Review states: "The repeal of the export duty on saw logs exacted by the Canadian Government greatly stimulated the rafting of logs across Lake Huron to Michigan mills the past two years. In 1891 no less than 80,000,000 feet were brought to the Saginaw river and in 1892 a much larger quantity

came over as figures below will show - 184,500,000 feet." And for 1893 it is estimated this has been increased to about 250,000,000 feet to mills on the Saginaw river alone, without taking into account large receipts at Cheloygan, Alpena and elsewhere. Certainly, if the repeal of the export duty greatly stimulated the rafting away of the logs its re-imposition should enable the Ottawa lumbermen to get higher prices for their lumber instead of a less price as claimed. And when you consider that nearly every foot of lumber made from these expatriated saw logs comes directly into competition with the product of the Ottawa mills, and that the amount taken over free of export duty greatly exceeds the whole of pine lumber sent from the Ottawa river to the American market, a reduction in the amount of the export of saw logs would naturally add several dollars a thousand to the price of pine lumber at Ottawa, by reducing the supply to less than the requisite demand, so that more than the extra dollar of duty would be readily paid by the Americans in order to get the lumber, until such time as they come to their senses and removed the entire duty from lumber and pulp, to enable them to get the logs and pulpwood free. Even the extra price the logs would cost their manufacturers, having to pay the \$2 export duty, would be at once added to the price they would ask for their lumber made from these logs in Saginaw, so that on this account alone the Ottawa lumber should sell, even with the extra dollar duty, \$1 a thousand higher than under existing conditions. But it surprises me not a little to find any Canadian, or for that matter American, objecting to the proposal indicated by the Hon. Mr. Foster, for he does not even intimate that he purposes exacting more than "equivalent export duty on logs exported to any country which imposes heavy duties on Canadian lumber and pulp." Whereas the American lumberman has always, and do even now insist, that \$2 a thousand feet is but a reasonable measure of protection to the sawmilling industry of the United States, so that we should be entitled to exact this amount in excess of any duty imposed on our lumber without protest on their part. And when we see a pack of these Michigan lumbermen, whose very existence depends on Canadian timber to stock their mills (their own being used up) meet in Toronto and with unseemly impudence unani-mously decide on requesting the active co-operation of all operators to oppose the taking off, or any reduction of the American duty on Canadian lumber it appears to me it is about time to consider our own interests in this matter and ask the Government why it does not take a leaf out of their book and insist on exacting a rate of duty on the exported logs, as much higher than the American import duty on our lumber, as these gentlemen claim is necessary to protect the saw-milling industry of the United States. There is, however, one fortunate circumstance connected with the meeting of these gentlemen in Toronto that may be worth noting, that they at the same time declared their intentions, owing to the depressed condition of trade in the United States, to do little or nothing in their Canadian operations this winter, or we would be regaled later on with statements from them and others that it was owing to the remarks made by the Hon. Mr. Foster they re-stricted their operations.

Permit me also to say that Mr. Crannell is inaccurate in stating that loss to the Ottawa river trade would be \$250,000 even if our people had to pay the extra \$1 duty, which I insist they would not, for this supposes an export of 250,000,000 feet of pine lumber from there to the American market on which duty would be paid, for the whole deals and lumber is barely 450,000,000 this year; and deducting the deals and the lumber required for home consumption, the amount of pine lumber to be exported to the United States from this season's cut cannot much, if at all, exceed 200,000,000 feet, or about 50 per cent. of the amount of lumber to be made in the Saginaw river district alone from the free exported Canadian sawlogs.

Wm. LITTLE.

Montreal, Que., December 22, 1893.

THE LIMITATION OF ENGINE SPEED.

THE practical limitation to high rotative speed in stationary reciprocating steam engines, says writer in Cassier's Magazine, is not found in the danger of heating or of excessive wear. The cause of both these, it is now well understood, is to be looked for in defects of design or construction, commonly of both, as they generally go together, and where these do not exist to a degree which is of practical moment, a bar to the proper employment of higher rotative speed appears long before a tendency to heat or wear is to be observed. Correct designs are now generally followed, in both the fixed and the moving parts of steam engines, and a high degree of truth is readily attained in their construction, so that it has come to be a simple matter to make engines which can be run at a very high speed quite free from either of these difficulties.

Contrary to the general belief, no objection to very rapid rotation is afforded by the development of centrifugal force in

the fly-wheel or band-wheel. The wheel of high-speed engines have generally solid rims, and no case of their bursting has, I believe, ever been known. Disasters from this cause have been confined to engines not designed to be run at high speed, and have sometimes occurred when the speed was only slightly accelerated above the normal rate. In these cases the wheels have been built in segments, with surprising disregard of necessary strength in the flanges and bolts by which the segments were held together.

Again, an objection to very high speed is not found in a tendency to knock on the centers. In a properly designed and constructed engine, in which the valves are correctly set, and which is run by steam, high speed tends to silent running. Noise from bad design or bad work, from insufficient lead given to the valves, and from water in the cylinder, is excluded from consideration. It is admitted, with pride, that the bad consequences of these defects are aggravated by high speed. This revelation of them has wrought an entire change in engine construction, not yet completed, and even makers of slower speed engines have largely profited by it. But it is obvious that there is no excuse for their existence. The only legitimate cause of knock on the centers is loose boxes, and knock from this cause is softened as the speed is increased, and at extremely high speed will disappear entirely, owing to the force of the steam at these points being absorbed in overcoming the inertia of the reciprocating parts.

Vibration is not an objection to very high speed, because it is an easy matter to so design and construct an engine and balance the running parts that it shall be free from vibration at any speed whatever. Again, very high speed is not objectionable, per se. If an engine runs in silence, completely free from vibration, without any tendency to warm, and without wear of any running part, its very speed renders it an object of special admiration, even to those to whom such speed is new. Whenever extremely high speed in a steam engine has caused any other feeling in the beholder than that of admiration, it has always been the case that it has been attended with something annoying, a noise, or a jar, or some uncomfortable action which ought not to have existed.

All this being true, there still remain two considerations of a controlling nature, which require that the rotative speed of engines shall be kept within moderate limits. The first of these is, that engines ought not to be run as fast as they can be. It must, on reflection, be obvious to every one that an engine should be capable of running, and that, too, with entire satisfaction, so far as its motion is concerned, a great deal faster than it is run. This is the solid ground of security and confidence. It means peace and comfort, and helps to make men sleep well o' nights. It means long life to both engine and builder.

The second objection to the employment of extremely high speed is a very serious one indeed. It is the large amount of waste room in the port, which is required for proper steam distribution. It is in the important respect of economy of steam, the high-speed engine has thus far proved a failure. Large gain was looked for from high speed, because the loss by condensation on a given surface would be divided into a greater weight of steam, but this expectation has not been realized. Far from it. The performance of this class of engines shows, instead, a positive, and in some cases a large loss in economy. For this unsatisfactory result we have to lay the blame chiefly on the excessive amount of waste room. It has already been pointed out by Mr. Harris Tabor that the ordinary method of expressing the amount of waste room, in the percentage added by it to the total piston displacement, is a misleading one. It should be expressed as the percentage which it adds to the length of steam admission, and then every one would see what a serious thing it is. For example, if the steam is cut off at one-fifth of the stroke, eight per cent. added by the waste room to the total piston displacement means forty per cent. added to the volume of steam admitted. Under these circumstances it is obviously the duty, and for the interest, of builders of high-speed engines to adopt every expedient for reducing the amount of waste room that can be done consistently with proper admission and discharge of the steam. For this, the first requisite are modern piston speed and longer stroke.

Engines of four, five and six-foot stroke may properly be run at from 700 to 800 feet of piston travel per minute, but for ordinary sizes I would recommend and urge that 600 feet per minute be taken as the limit of piston travel, under all circumstances. This will give from 300 revolutions per minute with twelve inches stroke to 100 revolutions per minute with six inches stroke, with which purchasers ought to be satisfied.

I would ask builders, in their own interest, to resist the temptation to get the utmost out of a given engine, and to set their faces like a flint against the demand for short-stroke engines, which shall occupy but little room, and from which the required power can be got by speeding up beyond the limit here proposed.