

AN AMERICAN VIEW OF COMMERCIAL UNION.

THE Chicago *Timberman* of a recent date says.—Canadian newspapers are stirring up the subject of reciprocity with the United States with considerable persistence, which is not surprising considering that that so many of their readers are in full sympathy with the project and are anxious that it should be carried out as early as possible. The interest which the Canadian lumbermen has in commercial union is frequently pointed out, and the advantage there would be to him in a free market on this side urged as a reason why he should give his influence to securing this result. The argument is made, though perhaps unnecessarily in his case, that besides opening a larger outlet for his mill products, free trade would also give the lumber producer prices considerably higher than he can now get, which is assuming that the unrestricted importation of lumber would not make that commodity any lower, or at least not much lower, here than it is now. Probably this view of the case is measurably correct. At any rate it is not generally thought by lumbermen here that any possible inflow of stock from Canada could prove sufficient to overstock the American markets. This contingency used to be something of a bugbear, and years ago it was common for Michigan and Pennsylvania manufacturers to spend their money and time rather freely in fighting the notion of re-establishing reciprocity between the two countries. But pine timber has so strengthened in value, and is becoming so evidently scarce in proportion to the constantly increasing demand for it, that this possibility has no longer the frightening power it once possessed. Doubtless a good many mill men whose stock of pine is drawing near its end would rather welcome an arrangement that would enable them to stock their mills from the Canadian forests, and so obtain the means of continuing the lumber business that they cannot secure on sufficiently advantageous terms on this side. The number of these is increasing all the time, and it cannot be many years before they will form an eminently respectable proportion of the whole. As they are forced from time to time into new fields, they will be compelled to go south or west or north, and, other things being equal, there is not much question but that a good many would prefer operating in Canadian white pine, under conditions to which they are accustomed, than to striking out wholly afresh where not only the timber, but the conditions of the trade, the markets, and indeed everything pertaining to the business is to them entirely new and unfamiliar."

The *Northwestern Lumberman* says:—"Just why so many people would be pleased to have the *Lumberman* commit itself on the tariff question as relating to lumber is an enigma. It is difficult to understand how such an opinion, whether for or against free lumber from Canada, would affect favorably or otherwise a single individual. Southern operators do not want the duty removed; on the other hand they would like it to be made higher than it now is. They argue that they are but getting fairly established in business, that their markets must be largely in the north, and that competition with free lumber from Canada would work to their detriment. Michigan lumbermen, with the exception of a few who are largely interested in Canadian stumpage are not for free lumber. Many of the Wisconsin and Minnesota operators would be willing the duty should be removed, providing the Canadian laws were so changed that these operators could put lumber free of import duty in Canadian territory. The spruce men of Maine would of course fight tooth and nail any movement to admit spruce from the mills of Canada into the eastern seaboard markets free. The Pacific coast lumbermen, so far as we are informed, have not, as yet, bothered their heads over the question. Very briefly, such is the standing of the American lumbermen on the subject.

"Seeing that it would evidently be some sort of satisfaction to a hundred and one correspondents to know how the *Lumberman* regards the subject, it will repeat, in effect, what has before been said in these columns. Frankly, it does not pretend to know much about it. This free trade question has been handled by politicians mostly, who by one stroke of the pen, or one oratorical flourish, have settled the whole thing. But in the minds of thinking people they have not settled it. There are two sides to nearly every question. The subject of protection is one which covers a good deal of territory, and although the lumber side of it is but a small portion of the whole, without doubt the experiment of free lumber would have to be made before any mortal man could tell what the result would be.

"The *Lumberman* has expressed the opinion that if the duty on Canadian lumber were removed the lumber business of America would not go to eternal smash by any means. There might for a time be an unsettling of values to some extent, but the ultimate result would be an advance in the price of Canadian stumpage. This opinion is given for what it is worth; the *Lumberman* asks nobody to tie to it.

"One correspondent is wrong in his statement that if lumber from Canada were admitted free the lumber trade of the north-

west would languish. If free trade were declared, and as a result the price of Michigan, Wisconsin and Minnesota white pine lumber were to decline in price, the lumber business would go right on as of old. This phase of the subject is to be looked at from a business standpoint. If the American lumberman had to compete with free lumber from Canada he would do it. The merchant who has his warehouse full of goods, and those goods decline in value, he is not going to shut up shop. The business man accepts the inevitable. He likes to obtain good prices, but, if unable to do so, he gets the best prices possible. If free lumber materially affected the price of American pine lumber there would be business failures, but the saw mills would not be shut down permanently by any means."

THE H. S. SMITH LUMBER MACHINE.

A FEW days ago the Canadian Lumber Cutting Machine Company of Toronto (whose offices are at Room 7 No. 49 King street east), made a public test of their new lumber cutting machine at the works of the John Abell Engine and Machine Works in this city. This machine consists of a large steel plate with knife-like edge, accompanied by a compressing roller and ingenious appliances to serve the log and remove the lumber when cut; all operated by steam power. The log is held in a stationary horizontal position, and the knife, which should be operated to make from forty to sixty strokes per minute, strikes the log at an angle of forty-five degrees, passing through the entire length of the log at each stroke, and cutting off a board or veneer of any desired thickness, of perfectly smooth surface and uniform throughout. It is capable of cutting veneers perfectly true and uniform, the hundredth of an inch thick, and it is claimed for them that they are superior in all respects to any made on rotary or other machines.

At the exhibition the cutter was operated on ash and elm logs, the lumber sliced off being perfectly smooth and solid. The power is applied to the knife directly from the cylinder of the machine, the knife being arranged to work between guides, and acts as a cross-head to the piston rod, the motion being steadied and regulated by a suitable balance wheel, and there is neither wheel, belt, crank, or pulley, nor any other contrivance intervening between the steam cylinder and the cutting knife, the simplicity and effectiveness of the arrangement being perfect.

For certain sorts of work, such as making barrel staves, etc., where curved forms are required, a dryer is used in connection with the cutting machine. This dryer consists of a series of suitably shaped hollow castings, so arranged that the lumber can be introduced and subjected to a tremendous pressure, causing it to conform to the shape of the castings. Steam at a high pressure is then introduced into the hollow castings, the effect of which is to season the lumber, which, when removed, retains its shape and is ready to be made into barrels, saving the necessity of steaming, seasoning and firing, the dryer shown accommodating about 300 staves at a time, and the operation consuming about fifteen minutes. The dryer can be enlarged and modified to meet any requirement as to capacity and shape.

Both the lumber cutter and dryer are the invention of Mr. H. S. Smith of Geneva, N.Y., who obtained patents on them only a few months ago. The Canada Lumber Cutting Machine Company have obtained the right to manufacture and operate these machines in Canada, the provincial directors being Messrs. Robert Hay, David Blain, Hon. J. B. Robinson, John Abell and J. W. Hughes. It is proposed that the Company manufacture staves, boxing, veneers and other material; also construct the machines and sell or lease them, subject to royalty.

The process of sawing and planing by the present method of manufacturing lumber, independent of the labor expended, entails a loss of material varying from 37½ per cent. in the production of half inch lumber, to 233⅓ per cent. in lumber one-sixteenth of an inch thick. This percentage of loss, as well as the labor involved in planing, is saved in the use of this cutting machine, as no sawdust or other loss of material results from its operation, and planing is unnecessary, for the boards cut with this machine are perfectly smooth.

In view of the enormous saving of material here alluded to, it is claimed that this lumber cutting machine will quickly supersede the use of saws and planing machines in the manufacture of such lumber as it is best calculated to produce; and as such lumber is estimated to comprise two-thirds of all that is manufactured, it would seem that those who control this machine will soon have a monopoly of this branch of the lumber cutting business.

The magnitude of such a monopoly cannot be overestimated. The manufacture of barrels for containing flour, sugar, oils and other liquids, and for all other purposes; of packing and other boxes, and of veneers for all purposes are a few of the industries which will be largely affected by the introduction of this far reaching invention. Successful competition by means of the present most improved machinery would seem practically hopeless. In the manufacture of barrel staves for instance,

the best machinery now in use can produce only about 2,000 staves of certain dimensions from each 1,000 feet of lumber, while with the Smith machine here alluded to the same quantity of lumber can be made to produce over 4,000 similar staves. Packing and other boxes can be produced by the use of the Smith machine for one-half the cost of similar boxes made in the ordinary way. In almost all other manufactures involved the relative cost of production will be about as here indicated.

A tabular statement has been prepared by which it is shown that the average loss in material by saw kerf in sawing and in planing is as follows, the stuff being dressed on two sides: Half-inch stuff, 37½ per cent.; ¾ inch, 50 per cent.; 1 inch, 77⅔ per cent.; 1½ inch, 116⅓ per cent.; 2 inch, 233⅓ per cent.; all of which is saved in the use of the Smith Lumber cutting machine, and there is also saved the cost of planing which amounts to from \$1.50 to \$2 per thousand feet.

The vast saving in time, labor and material effected by the use of this machine will be more fully appreciated by observing the facts that a single machine adapted to cutting lumber of certain demimensions will cut in a working day of ten hours, 37,500 feet of inch boards or 60,000 feet of half-inch or 80,000 feet of quarter-inch boards.—*Canadian Manufacturer.*

THE DEBT OF THE DOMINION OF CANADA.

The total gross debt of the Dominion of Canada on June 30, 1887, amounted to \$270,200,373.

Against this there were assets, including investments for sinking fund, etc., province accounts and banking accounts, amounting to \$45,173,611, leaving the net debt on that date at \$225,025,762. The statement in detail is as follows:

Funded, payable in England.....	\$171,763,439
Funded, payable in Canada.....	18,675,102
Note circulation.....	14,975,999
Savings banks.....	38,996,751
Trust funds.....	6,948,994
Province accounts.....	17,303,456
Miscellaneous and banking accounts, &c.....	1,496,735

Total gross debt.....\$270,200,373

Assets.

Investment for sinking funds.....	\$10,968,532
Other investments.....	8,761,816
Province accounts.....	7,522,468
Micellaneous and banking accounts.....	9,919,796

Total assets.....\$45,173,611

Net debt.....\$225,026,762

The decrease in the debt during June was \$450,185. The statement of expenditures for the year to the same date was: Public works, railways and canals.....\$3,899,876
Dominion lands.....147,066
Subsidies to railways.....1,364,103

Total.....\$5,411,015

The Dominion of Canada began business for itself in 1867. The bulk of its debt has been incurred in aiding the construction of railways and other public works.

CLASS OR TRADE JOURNALS.

In these days of systematic, distinctive work, says the *Manufacturers' Gazette*, the newspaper has found its proper place. There is the daily newspaper, which gives the current news of the world; the religious newspaper, which is devoted to its own peculiar creed; the scientific journal which treats of the mysteries of nature and art; and so on through the entire list. But as every study or profession requires a text book, so does every part of technical industry require a medium of information that shall bear the same relation to the engineer, the machinist, the cotton or woolen manufacturer, the wood-worker, etc., that the text book bears to the student. The industrial journal has become a necessity; no artisan or mechanic who would improve upon his present knowledge can afford to do without such a medium of information. It is only the best in anything that succeeds in these days, and those who excel in their various callings are those who are always in demand and at the highest rates of pay. The mechanic or artisan who makes up his mind that he "knows it all," and refuses to even consult an industrial newspaper that is devoted to his special calling, will find himself left in the great race for profit or fame. This is an age of tremendous progress and material improvement. New conditions and new demands are as continuous as the revolution of the earth itself. It is also an age of intense competition, and the margin for profits is comparatively slender. The general demand, whether it be for a locomotive engine or a lead pencil, is for the best—and the best must be afforded at a price as low as an inferior article. Hence the necessity for taking advantage, by brain power as well as by mechanical or machine power, of the things which men have to do with. It is now acknowledged that the newspaper devoted to this, that or other department of industry, as the case may be, is as much of a necessity with the mechanic or artisan as is the tools with which he manipulates his work.