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HOW A BOOM IS CONCEIVED.

The remark is now frequently heard, "I do not expect a boom; all the country wants hereafter is a good, steady business condition, with some profit in it." Such a state of things would undoubtedly be for the general good if it could be maintained. But booms do not come as if made to order. In this country they naturally grow out of prosperity. Men are apt to speak of booms as if somebody, or some class, was responsible for them. They are criticised as if blame were inherent in them, and that the blame should be fastened upon some evil disposed persons or combination of persons, who had connived to participate the evil of booms. But a boom in the United States is simply the outgrowth of prosperity, or the accumulated volume and accelerated movement of prosperity. Just as sure as there is now to be another period of revived industry and trade, as certain will there be another boom. There may be a year of moderate, legitimate business to make up for the loss of the past two years but the momentum acquired will after a year or so quicken into a boom, unless, as might happen, there were overlooked for hindering cause running counter to the general prosperity.

It was so in 1880. Business began to improve in 1869; that is, it was observed in that year that the demand for commodities was improving, prices were a little higher, though not much. But in the fall of 1880, even through there was a presidential campaign in full blast, men began to say, "the times are now very good; manufactories are running; the demand for commodities is active, and prices are tending upward, and railroads are being extensively built." The very next year the boom was under full headway, and the speed of things was so high that the cautious began to wag their heads, look wise and concerned, and predict a sudden reaction not far in the future. And they were right; the reaction was felt in 1882, and was pronounced in 1883.

We are now in a condition similar to that of 1879. The lowest point in depression has been reached, we have passed a little beyond, and have begun to ascend. We may next expect to reach a steady place in our industrial and trade progress; in other words, the boom tide is likely to rise next year. It is useless to deprecate the coming wave, or anathematize it, and command it back, like King Canute. It is probable, however, that there are many men who have learned wisdom of past experience, and that there will be more anchors to the windward during the coming business gale, and a closer watch kept of the trade are ripe for such another period of push ahead as this country has never passed through. Money is plenty, and it is as good as the government itself; the ways and means of transportation were never before so ample; the plants and appliances for manufacture were

never before so numerous or perfect; newly discovered mines are awaiting development; recently settled areas are about to be reached by railway extensions; the Atlantic and Pacific seaboard are more closely than before connected by railroads; Mexico has been opened to American trade; there is a new South, and sectional fraternity; the middle classes are wealthier than ever before; there are more homes owned by the industrial classes in city country, and the great cities are growing and improving at an astonishing rate. Verily the times are ripe for great things.—*Northwestern Lumberman.*

HOLLOW SHAFTING.

The strength of a shaft is increased by arranging the material in the form of a hollow tube in stead of leaving the metal in one solid round bar of the same length; but this is no reason that a solid shaft is increased in strength, or better prepared to resist the action of twisting, by boring out a portion of its material along its central line. Frequently a workman entertains the fallacy that the central core of an axle, or the bearing of a shaft, is a hindrance in the way of strength, and is one of the reasons for making them hollow, when it is simply one of the arrangements of the material by which the strength is improved. The boring of a shaft out hollow diminishes its weight as well as its strength, but the material being removed along the central portions of the shaft is taken from where it offers the least resistance in the act of twisting and strengthens the shaft in the transmission of power, and the weight is decreased far greater than the strength. The particles on the outer surface are tested to their utmost when those in the centre and along the central portion barely perceive any action at all, and from this line to the circumference they are gradually being brought into use till those on the circumference are ready to break asunder, when the strength of the shaft reaches its limit. If we were to bore out a 10-inch shaft, such as are used in driving the propeller of a vessel, with a hole four inches in diameter, we would reduce its weight nearly 16 per cent, or as the weight of a four inch shaft compared with one ten inches in diameter; and yet its strength has not been reduced more than 2½ per cent. as shown from careful tests made especially in deciding questions of this character. The success of many of the designs lies in the arrangement of material, and whenever a fracture is likely to take place, increases the line of breakage, so as to bring as many particles to the front as are needed to take the brunt of the battle, or give them the proper leverage to work with the cohesive effect of any material in the path of a break or fracture, at the moment the division takes place, depends on the amount of destruction or destruction of every divided particle as compared with those of a similar nature where

they have reached their limit of extension, and are ready to receive a permanent injury. This together with the advantage in the way of leverage, performs the work or overcomes the load that is to be removed. With this principle in the operation of matter to resist the action of torsion, it would be difficult to increase the strength of a shaft by removing any portion of the material, as every particle is tested in its shearing strength to some extent before any of them are served entirely, though the resistive effect may be slightly noticed.—*Boston Journal of Commerce.*

A CURIOUS LUMBER.

While making a hurried western trip a short time ago, we were shown a piece of lumber made entirely of shavings, various different woods having been used, and the effect was beautiful, indeed. We have treated fine refuse shavings and sawdust with dilute acid under pressure, and when the mass assumed a pulp-like form, placed between a series of hot polished rollers and beautiful appearing wood ensued. Now, if some enterprising operator would make the same experiment, adding pyroligneous acid under 85 pounds pressure for ten hours, then run into molds subjected to hydraulic pressure, the result would be still better, besides which all the liquor could be recovered, the wood would be beyond the power of nature to imitate, and would last in nearly any climate forever, virtually.

We have drawn plans and specifications for three or four establishments for making chemicals and the like from refuse wood, some of which are already in successful operation, and we notice that some parties in New Brunswick are now experimenting with this waste by first grinding it up, and subsequently cooking with steam pressure. This is by far too costly to become profitable, for the acid can be produced very cheaply from the coarser refuse, limbs, knots, etc., that could not be worked into boards, and the liquors used for treating the finer varieties; besides which there would ensue as a by-product other commercial articles that would sell for nearly, if not quite, as much as the refuse pile is originally worth.

The old and tried processes of chemical making from wood-wastes works better to-day than when first introduced; the prices for all the products of course increase in proportion to the demand, which increases very rapidly at the present time. In fact, there is no ordinary incentive for using these products, inasmuch as many of them are now imported from countries where timber is very scarce and dear, and the only advantage they have over us is cheap labor, an argument easily answered by the statement that very little labor, and that of the cheapest kind, is needed in the processes of reduction.

As to the uses of the products they are

becoming more general every year in the matter alcohol alone. The wood spirits have effected a saving of no mean per cent. to paint manufacturers alone. The reasons are perfectly plain: These spirits can be and are made of 90 degrees strength and sold at 90 cents a gallon with profit, while the other or grain spirits, cost three times as much. Then the acetate of potash, costing in Manchester or Newcastle 12 cents per pound, can be made and sold here with profit for one-sixth the amount. The acetate of lime has the same relative price both here and abroad, and with the immense amount of old and scrap leather to be found on every hand, it is really wonderful that any of this refuse wood and trash is allowed to rot or cumber the ground as an unsightly, smouldering, smoking heap.

It should be borne in mind that all the articles enumerated in the foregoing are in addition to those used or consumed in the making of artificial lumber. If all articles present are to be taken out and manufactured for market, there is ample scope for both talent and capital, inasmuch as the half has not yet been told. What, would the reader think that a cord of scrap wood, aye, even a cord of refuse tan-bark, contained not less than sixteen dollars worth of aniline! You would call us theorists, but employ a good chemist to make the extraction and see for yourself before you yield to the temptation of saying, "I know it is not so much as he says."—*Lumber Trades Journal.*

RAINY LAKE LUMBER COMPANY.

It gives us much pleasure to learn that arrangements are being made by this company to resume operations here almost immediately by starting up the mill and getting out logs for future seasons' operations. A change has been made in the Board of Directors whereby Mr. W. Buckingham and Mr. James Corcoran, of Stratford, have taken the seats of Mr. J. D. Edgar, M. P., Toronto, and W. F. Alloway, of Winnipeg. Mr. John Ross, contractor, is now president of the company, in the place of Mr. Hugh Sutherland, M. P., resigned, and Mr. Buckingham, sec. treas., and Mr. Richard Hall, manager, in place of Mr. Thomas H. Sheppard, resigned. The company have an exceedingly valuable property and with the improved and improving state of the lumber market its prospects are good.—*Rail Portage Progress.*

A DISPATCH from Ottawa dated Sept 1st says:—An idea of the extent of the export trade in sawn timber from the port of Ottawa alone to the United States, may be gleaned from the official report of Col. Rebins, ex-Consul, furnished to his Government for the past fiscal year. The total value of the exports was \$2,100,520, of which \$1,947,730 was sawn lumber.