

VIEWS AND INTERVIEWS.

Size of
The Tire.

As a means of providing improved roadways it has been made a law in Massachusetts that the tires of wagon wheels shall not be less than three inches in width. It has been found that the narrow tires cut deep into the road and soon render it quite unsafe for travel. Other vehicles come along and get into the same rut and cut further down aggravating the unfavorable conditions already existing. With the wide tire not only is the danger of cutting up the road reduced to a minimum, but the constant passing over of waggons with wide tires has the effect of a roadway roller of pressing down the material of which the road is composed and making it more solid and firm. Massachusetts example could be followed by other municipalities with profit to the roadways of the country, and all who travel over them. Business men of quick intuitions will be ready to make another application of Massachusetts' example in the construction of roadways. A large number of men do not succeed in business. One reason is that their methods are constructed on the principle of the narrow tire vehicle. They have cut down into a rut and in that rut they travel everyday. Such a thing as taking a new course where more progress might be made they never think of, for they are in a rut. The subject can be amplified ad nauseam, but the shrewd dealer will make his own application. The other fellow will remain in the rut and—stick.

Elms and
Poplars.

A writer in the Gentleman's Magazine, a well-known British monthly, has been writing of elms and poplars. He tells us that the famous "Crawley elm" has a circumference of nearly 61 feet—more than double that of the one at Lutry, which visitors at Lausanne will readily remember; while the Wych elm (*Ulmus montana*) has its largest representative in Kenfrewshire, with a circumference of over 18 feet. The largest beech tree is said to grow on the "brash" formation in Cornbury park, Berkshire; while the "chalk" of Sussex is held to give its favorite nourishment to the celebrated beech woods in that county. The sycamore, or greater maple, finds its largest example in Cobham park, with a circumference of 26 feet, only two feet less than that of the sycamore of Troas, near the source of the Rhine. In lime trees, on the other hand, we are easily beaten by the trees of Villars, near Freiburg, and of Prilly, near Lausanne, the latter of which has a circumference of nearly 40 feet. The Lombardy poplar (*Populus dilatata*) is a characteristic tree of many parts of England, as well as of the plain country of France. It has the great advantage as a hedgerow tree of not intercepting too much of the sun's rays from the adjoining crops. Grigor, I think, mentions that a villager at Great Tew, Oxfordshire, lived to see trees which he had himself planted attain a height of 125 feet. But the finest poplar tree of St. Julien, near Troyes, far surpasses these, with a circumference of 41½ feet.

The Labor Problem
Clearly Stated

What is the solution of the labor problem is a question that confronts one wherever one turns. Social economists have, and are, proposing many remedies, but the trouble grows apace. In every land, monarchical, republican, or otherwise, the unemployed embrace a large percentage of the population. What is to be done to relieve the pressure? Mr. Carroll D. Wright, a statistical writer of some eminence, has recently written of conditions in the United States. Relatively, his figures may be made to apply to Canada. His propositions are certainly clean-cut, vigorous and forceful. He estimates that in the States there are over twenty-two millions of persons who are "engaged in gainful occupations." "Subtracting from sixty-five millions," he says, "most of the wives and daughters, all of the decrepit and aged, and all the school children, it will be seen that we are a work-a-day nation in its shirt sleeves. The class of do-nothings because they have too much money, and the other class of do-nothings because they are born loafers, do not count for much either in number or influence." But Mr. Wright adds "that not only is the aggregate of those who do work on the increase, but also the aggregate of those who are willing

to work, but can't get it. There's the rub. That is the reason for the existence of labor organizations, for strikes, and for the unceasing conflict between capital and labor. The remedy? There is but one. Skilled labor is nearly always in demand. A first-class workman is seldom out of a job. It is necessary, therefore, for the new generation to cease dawdling, to give up being jacks of all trades, to give themselves vehemently to some special department, and to become master of that. There never yet was a time when it was not easier to earn \$4 a day because you are worth it than to earn \$1 a day at work which a million others can do as well as you."

Market
Quotations.

A question has been raised as to the position a trade journal should take in reporting current market quotations. The man who would like to use the trade journal to bull or bear the markets to help his own particular schemes is known to the conductors of trade journals whatever branch of trade they may represent. It need hardly be said that the journal that would allow itself to be used by this class would soon lose the confidence of its readers. There is another class, however, who, though not taking so bold a position as the class we have already named, yet think there is less or more market news that should be given publicity very gingerly for the general good of the trade concerned. These people, says the Iron Age, hold that the trade journal "should hide bad news as long as possible and proclaim favorable developments with the utmost alacrity. When an advance has taken place it must be chronicled at once. A decline must be kept back, and quotations must remain stationary while still a stray buyer exists who has not heard of the lowering in prices. The true office of the trade journal, according to these critics, is to constitute the rear guard in retreat and the picket line in advance." All such suggestions are based on the theory that there is something to be gained by withholding part of the truth. Someone, it is true, will probably be a gainer in cases of this kind. It is equally true that someone will be a loser. A trade journal can never successfully perform its mission occupying the position of a mere time-server. As the journal from which we have already quoted further says: "We hold that it is the function of the commercial reporter to seek the truth persistently and diligently, and to present it fairly and candidly. If developments are unfavorable, the sooner their significance is generally understood the better. It will make the weaker sellers quicker to abandon hope and will make buyers more watchful of their opportunity, thus aiding in steadying the markets. The idea that secrecy was the only safeguard of merchants and manufacturers has been long since abandoned in all the markets of the great staples, such antiquated business methods being now regarded as childish. No one attempts the dangerous and unsatisfactory role of being the special guardian of any commodity, protecting it against untoward declines, or blowing it up during the brief days of expansion."

A LOGICAL METHOD OF DRIVING.

THERE is still another method of driving, writes R. J. Abernathy, that, I believe, is being used by some makers of machines, and that is to drive one fast and one slow role with the same belt, using two driving belts, one on each side of the machine as before described. In the judgment of the writer that is the most logical, legitimate and only really mechanical way of driving a machine. It is simplicity itself, does away with all annoyances and complication, gives a steady, regular and uniform motion with an unvarying differential, and I unhesitatingly say to millers that when all other conditions are equal, roller machines so driven should have the preference. I know of no reason why all machines, no matter what or by whom made, cannot be so driven.

A THREE CENT STAMP DOES IT.

ON receipt of a three cent stamp we will mail free to any address a copy of our little hand book entitled "Rules and Regulations for the inspection of pine and hardwood lumber," as adopted by the lumber section and sanctioned by the Council of the Board of Trade, of Toronto, June 16, 1890. Address, CANADA LUMBERMAN, Toronto, Ont.

PERFORATED BELTING.

ONE of the most unreasonable and unscientific facts, says a writer in the Mechanical Journal, is perforated belts. The advantage claimed for them is preventing an from accumulating between the belt and the face of the pulley, thereby decreasing its frictional power. This point is particularly urged in cases where a belt is run over a small pulley at high speed.

This theory is not only nonsensical, but contrary to all the laws which govern belt friction. The power of a belt, under any circumstances, depends entirely upon three conditions, viz., speed, tension, and the amount of surface in contact. Belts running over small pulleys at high speed, under all ordinary conditions, must necessarily work to a certain disadvantage as compared with those running at comparatively slow speed.

In the first place, in order to obtain the best results, a belt should embrace at least one half the circumference of the smaller pulley, but it is most frequently the case where high speed is necessary, the driving pulley is four times or more the diameter of the driven, and unless the conditions are such as to admit of considerable distance between the centres, and the slack side of a belt running towards the top of the driven pulley so as to utilize the sag of the belt, the speed will be such that not more than one-third the circumference of the small pulley is embraced; under such conditions it is highly essential that every atom of the surface of the belt as well as the pulley should be utilized.

It is a fact well known to belt users that the smoother and more perfect the face of a pulley is, the greater will be the friction power of the belt. There is no class of manufacturers who are more fully aware of this fact than the manufacturers of wood pulleys, and one of the greatest secrets of their success is in the careful manner in which their pulleys are finished. Why do the belt manufacturers always recommend running the grain side of a belt next to the pulley and claim an increase in power by that method? Simply because the grain side of leather, especially when new, is smoother than the flesh side, consequently presents a greater amount of frictional surface in contact with the pulley.

Now if the compressed-air theory is correct, and by perforating the belt and thereby depriving it of a part of its frictional surface, adds to its power, why not then, upon the same principle, perforate the face of the pulleys also by drilling holes in the rim?

The fact is plain to a close observer that the reason why fast running belts over small pulleys are more inclined to slip than those running at less speed, is not due to atmospheric influence, but entirely due to centrifugal force. A belt at high speed, passing over the face of a small pulley, is subject to the same laws which govern the pulley itself. The natural tendency of all revolving bodies subjected to speed beyond the tensile strength of the material of which they are composed, is to separate, and the several pieces to fly off at a tangent from the centre. Anyone who will observe the cylinder belts of a planing machine when running at its regular speed, will observe that the top or leading side of the belt, as it approaches the pulley, instead of hugging the pulley at the moment of approach, is thrown upward and outward; in some cases, especially where the belt is slack, it will not come into intimate contact with the pulley until it has passed a considerable distance beyond the top of it. This decrease beyond the arc of contact fully explains why such belts are more liable to slip over the face of the pulley. Wherever this decrease in the arc of contact and consequent decrease in friction becomes such that it is not equal to the resistance offered, the belt will run off, and the perforating of such belts can not possibly have any other effect than to decrease its frictional surface and consequently decrease its frictional power.

Where both edges of the belt are free and nothing prevents the air that may be carried along from escaping at each side of the pulley, how is it possible for sufficient air to accumulate under the belt to force it away from the face of the pulley? For this reason there can be no possible advantage in perforating a belt for either fast or slow speed, and the sooner that theory is abandoned the better. There are other claims for belting that are equally absurd.