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ROAD IMPROVEMENT.

The importance of the wheel as a factor in civilized life has been well epitomized in the following extract: "Do you know that the wheel is the connecting link between barbarism and civilization, poverty and wealth; that by it the world moves, and upon it all great work depends? Do you know that the horse which staggers with 500 pounds upon his back trots off easily with 2,000 pounds loaded on wheels? Do you know that if you were chained to 500 pounds of iron in the form of a cube you would die if bread was but one-eighth of a mile off?—that in a cask you could roll 2,000 pounds around the earth? Do you know that every time you step you lift your weight (say 100 pounds) one inch, which, added up, makes a lot at the end of a day?—that on a bicycle you can go farther, faster, and easier in the same time? Take the wheel from the locomotive, and one-half the world's industry would die. Remove it from the car, carriage, and factory, and the wealth of the world would dwindle nine-tenths. You would hear of no Goulds, no Astors, no Vanderbilts. Wall Street would go down a tradition to future generations."

Like many other important facts, the above is very well known and is very imperfectly realized. But the wheel without a proper surface to roll upon is badly discounted. The railroad only attains its speed by having a smooth steel bed for its wheels to roll over. On a less perfect surface the speed of the slowest train would be unendurable for the passengers. The locomotive, that seems instinct with self-contained life, becomes the most helpless of organisms when its wheels leave the rails or when snow accumulates little by little on the track.

The road question is now one of the great issues of the day. Of all civilized countries, the United States probably hold the palm for bad roads. The annual messages of governors of States have taken cognizance of the need for better roads; the roads of a district have been made a subject for indictment by a grand jury. In the daily papers we read of a mud blockade, when farmers were confined to their houses because the roads were impassable. Their produce was locked up, money became scarce, the local merchants suffered in their business, so that a local financial crisis was the effect of bad roads. We read that a farmer in Pennsylvania, last spring, while using a six-horse team to haul a single load of hay, had one of his horses fall in the road, and the horse was drowned before he could be got out. The question, "How are the roads?" so frequently put in country places, tells a whole story of the dependence of farmers on roads for their prosperity, comfort, and even for social recreation and enlightenment. Without practicable transit, there can be no support for family gatherings, lectures or lyceums, and the very schooling of the children of the country depends on the same thing—good roads.

Occasionally it is found that people in a given district rise to the importance of this subject. In New Jersey, a group of adjoining counties have positively transformed the face of the country by constructing many miles of macadamized or telfordized roads. In Kentucky, in parts of New York, in the suburbs of Boston, and other places the same movement has progressed. In Parke County, Ind., a road enthusiast, out of his private purse, built one mile of good road. At this time the county in question was said to contain the muddiest road in the State. But the object lesson of the mile of roadbed had its effect, and now the same county is celebrated for its roads.

Without going into statistics as to the number of horses owned by the farmers of this country, it is plain that a condition of affairs which exacts the labor of two horses to do what should be the work of one is disastrous in the business sense. Good roads are the best possible investment for a State that cares for the prosperity of its greatest producing class. They are of the utmost importance to railroads. Good roads would easily double the width of the belt or zone of supply of railroad lines, and would maintain such supply winter and summer. This would avoid the troublesome glut of freight when the mud dried up, and the want of business when the frost, leaving the ground, produces impassable roads.

All this seems clear enough, but is hard to impress upon those most nearly concerned. How far State or federal aid should be devoted to the end of securing good roads is a question for political economists. It seems clear that, without some such aid, the end will never be reached. In Europe, the state is the road maker. The great carts of the French farmer with broad tires roll smoothly over splendid Telford surfaces, a tandem team drawing immense weights without painful effort. A parallel picture is presented in other countries, England and Italy among the rest.

The work of road improvement is being furthered by constant agitation, by publication of manuals on the subject, and by an excellently edited monthly magazine, published in this city. All this work will eventually have its effect. It has been found that roads can be laid under the bond system without overburdening the tax payers, and it seems probable that, fifty years from now, the people will contemplate with amazement the condition of things that permitted a whole region of farming industry to be paralyzed by a "mud blockade."

Naval and Seaboard Weakness of the United States.

The outbreak of war with Chile would have disclosed the weakness of the country. Before an army could have been transported from California to Valparaiso, a fleet of transports would have been required, and owing to the decline of the American commercial marine these would not have been available. No maritime nation can be considered in a proper state of preparation for war, offensive or defensive, unless it has a fleet of fast merchant steamers which can be converted into an auxiliary navy. If hostilities had arisen Chile would have employed the fine vessels of its national line as cruisers and transports, and the United States would have had no merchant vessels on the Pacific seaboard equal to them for war purposes. If there should be a similar emergency on the Atlantic side, there would be no merchant fleet under the American flag available in a war with any European maritime power.

If an army, moreover, had been sent to Chile and the American naval resources had been concentrated in that quarter for active operations and blockade duty, the California coast would have been defenseless, San Francisco exposed to attack from the most formidable Chilean war ships, and the Atlantic ports without adequate means of resisting long-range fire from such battle ships as the Prat. Coast defense would become an issue of paramount importance in any foreign war. It has seemed impracticable during the last decade to arouse public interest in this question or to secure wise and comprehensive action from Congress upon it.

A great nation, with unprotected cities on three seaboards, invites war by its lack of preparation for it. The United States not only ought to place its chief ports in a proper condition of defense, but it ought also to have a fleet of cruisers and battle ships large enough to meet any requirements of foreign warfare, a military system well ordered for sudden emergencies, and an auxiliary navy of requisite speed and tonnage in its merchant marine. With these preparations for national defense, the risks of war would be hardly worthy of serious consideration. Every one of these measures can be advocated in the interests of peace. The barbarism of war, which Americans justly hold in unspeakable abhorrence, cannot be averted by conditions of helplessness and insecurity produced by systematic neglect of comprehensive measures for national defense.—*N. Y. Tribune.*

Finishing Silver Prints.

BY HENRY STURMEY.

The following method of finishing silver prints, when intended to be kept unmounted, may be new to some readers of the Year Book, though I expect it to be an old idea to the majority. Still, as I have never seen it mentioned in print before, and as I chanced on the exact method myself, perhaps it may prove of interest. It is well known that to squeegee the wet print face down upon glass or polished vulcanite, and allow it there to dry, results sometimes in the total loss of the print by its sticking to the glass, and generally in a quickly drying print with a very high surface gloss. This gloss is all very well in its way, but I imagine, to most lovers of the beautiful, it is rather too much of a good thing. Now it struck me that I might obtain good results by squeegeeing the prints on to glass or vulcanite, and removing them while wet. I tried the experiment, and the results so fully answered my expectations that I have since adopted the system in all cases where I am dealing with prints for my unmounted portfolios.

My plan is to remove the print from the vulcanite directly I have pressed it on, and finish the drying under pressure between blotting paper. I find the squeegeeing presses the water out, and that the prints dry in less than half the time they take ordinarily, while they come out when dry with a much smoother and more even surface than can be obtained by ironing, which process is saved; and that while possessing this finer surface, they have not that high and inartistic gloss which is given them if left to dry upon the vulcanite.

Electric Motors Burned.

An accident occurred on the morning of January 19, at the Robinson electric street railway barns in Toledo, by which thirty-five electric motor cars were burned. A coal oil lamp had been left burning in a car which had been brought in but a short time before, and in some manner the lamp became overturned, the oil catching fire and the flames spreading and gaining such headway before being discovered that nothing could be done to save the car. The fire spread through the barns with such rapidity that by the time the fire department reached the spot, the fire was beyond control, resulting in a loss, it is estimated, of $150,000.