THE COLUMBIAN AND DEMOCRAT. BLOOMSBURG. COLUMBIA COUNTY, PA.

AN ESTIMATE OF THE COST.

the Expense Involved in Securing Desireble Highways.

An interesting article on country road approvement is published in The Wheel, from the pen of "Viator," which cannot from the pen of "Viator," which cannot fail to interest 'cyclers and farmers who are carrying on a vigorous campaign for better roads. The most salient points of "Viator's" argument are given below: The American mind is nothing if not practical. The subject of road improve-ments has gained so firm a hold on the attention of our neural that it, is simple

ments has gained so firm a hold on the attention of our people that it is simply how a question of time, economic method and financial ability when the roads of the country at large will be macada-mized; in other words, our ordinary dis-traceful, wasteful, dirt roads will have become "foundation roads." To promote "a consummation devoutly to be wished," it is only necessary now to demon-strate the practicability of the reform, and to show that it is within the finandal ability of the average township to have, without delay, first class roads to an extent commensurate with their ne

It has been settled by long, patient, costly and scientific experiment that the motive power of a horse on a "founda-tion" broken stone road is exactly double that of the same animal on an earth road in very good condition. The experiments of Morin in 1858–41 have established that beyond question. The saving in time is very much greater. The writer has him-self recently seen a pair of ordinary horses trotting at the rate of six miles per hour over a macadam road, hauling wagon containing 7,000 pounds (more than three gross tons) of crushed stone on a level grade.

How, then, is it practicable to procure such roads-at least in the majority of our older states?

We will suppose that the area of the average township is equal to three miles square, and that to put in touch with the great country road, and especially with markets and railroad stations, it is necessary to give it two intersecting "foun-dation" roads, making in all twelve square miles of improved road. Of course the existing roads would be utilcourse the existing roads would be util-ized, but on this principle it may be as-sumed that these roads can be completed for \$4,000 per mile, and kept in repair for 5 per cent. annually of their first coat. This would give \$48,000 as the sum needed for which to issue bonds. The yearly charge would then be 5 per cent, interest on \$48,000 - \$28,400; sinking fund, 1 per cent. annually, for thirty years, \$480; total, \$2,880. The repairs are not here included in the annual cost, because they are needed in any event because they are needed in any event, but under the present systems are completely wasted. The outcome of the plan here indicated

would be that as the sinking fund would iquidate the bonds at maturity the township at the end of thirty years would have at least twelve miles of thoroughly good road paid for, and which could be always maintained at a less cost than is now expended on roads that are somenow expended on roads that are some times well nigh impassable. But this is an infinitesimal part of the benefit aris-ing from the improvement. In many cases the only reason why city business men do not reside in some choice localities is that they cannot have the pleasure of driving over good roads. Their settlethe value of property to increase. In-orease of population brings customers to the farmers doors for milk, butter, eggs, fruit and vegetables. It establishes churches, schools, postoffices, libraries, and, finally, villages. So that in the pro forma case of twelve miles under consid-paration the casting would be that he eration the certainty would be that be-fore the maturity of the thirty year bonds at least double the mileage would be de-

at least double the initial of the set of \$4,000 per mile here given is intended to apply to six inch macadam roads based on the experience of building in New Jersey. But this figure is meant for roads that can be constructed by machinery. The demand that they may be so built by bringing together machinery that hitherto has been used separately and not to the greatest advantage. It is now seen that traction engines may be used in conjunction with automatic stone spreading machines and steam rollers in one continuous train, so as to actually build and perfect a mile of macadam road in from three days to a week, according to the distance over which the material has to be hauled. A construction train would consist of first, a seven ton traction engine in the lead as hauler; next, ten to twenty stone spreading wagons, containing twenty to forty tons crushed stone, according to the amount of motive power employed; third, a fifteen ton steam roller, used partly as a pusher, which thoroughly compacts the stone just spread by the machines ahead of it. Col. Pope quotes Professor Jenks as au-thority for the statement that "the Illi-nois roads cost \$15,346,000 in extra hauling, and reduce the value of farms at a distance from railway depots by \$160,-600,000. If Illinois spent \$250,000,000 on good roads, the total interest on this sum would still leave enough of the sum now spent on hauling to build a new state capitol every year. Good roads would save the state its state taxes every year.



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Waking Up to the Situation.

A bill prepared by B. Howard Haman, an able lawyer of the state of Maryland, is to be laid before the state's legislature at an early day. It provides for the ap-pointment of a state road and bridge angineer at a salary of \$3,000 a year and \$2,000 for expenses, who is to make a re-port to the legislature of the condition of the roads and make recommendations as to improvements. He is to have a general supervision of the roads, and the commissioners of the several counties are required to consult with him before mak-ing any repairs or improvements costing over \$100, which shall be made by contract on plans and specifications furnished

by the state engineer. The legislature of Pennsylvania has formed a commission to inquire into the condition of the state's roads and to suggest means for their improvement.

Food Adulteration.

The question of Food Aduiteration is now occupying public attention more than ever before, and organizations are being formed in almost every state to prevent the sale of adulterated food or drink. The following letter voluntarily given, speaks volumes for the purity of Speer's Port Grape Wine; N. Y., June 3, 1884. Mn. ALFRED SPEER, Passaic, N. J.

Dear Sir .-... The result of my investi gation of your Wines convinces me that they are perfectly pure and free from toreign or deleterious substances. The best I have ever tasted, and is all that can be desired in pure Port wine. The Unformented is especially nourishing, and where the action of alcohol is not required it is well adapted for invalids. I speak as a physician. Your Pedro Brandy fills a went long felt in the profession for pure brandy can only be obtained with great difficulty.

A. S. COZNER, M. D. Analytic Chemist of Food and Drink

A Safe Trip Assured.

Passenger-I feel kind of shaky riding along on the cars at this rapid rate

Old Patron-No fear; we're perfectly

"What makes you feel so certain of

engineer's sweetheart - Chicago Times. The