eat rapidity. Culverts fall to pieces for want to fall to pier ir at the proper time. Drains rated for

> year and only time

ed service in summer the

ad baked by the sun, is kept in shape, is an excellent roadway; r novel system—as if to checkidence-provides otherwise. ach roads dry up showing ng fairly serviceable, it is each pathmaster to turn the month of June, and to of his ability, with the sta-

disposal, plow up the he most irregular m with arth towards the

full will stand out

, making the road and impassable as er such earth is side of the grade it unwritten law that to and will hold water. in the rutted, with an occaion, offering an excus appears to be the polic gers to fill up !

re is a slight de had of gravel large mound. Should thes he traffic to the sides of

that it may be thought cessity to lay rails, logs, crosswise on the sides of

The reaction of the structure is the structure in the structure is the structu



The largest stones in the bottom and the smallest at the surface, free from sand and clay; and thoroughly rolled:

The use of file does away with the deep and dangerous open ditches which may otherwise be necessary. The crown of the road should be such as to give a fall of one inch to the foot from centre to the edge of the ditch. work is considered com-

twists the timber causing a disarrange

tual conditions. The roads are bad. They are the result of a certain sys-tem. That system is therefore insuf-ficient, and better methods are being reasonable limits, according to require-ments and ability to meet the pay-ments. In most of these states the tax is so levied that the towns and cities pay the greater portion of the cost of state road construction; for ex-ample, in the State of New York it is estimated that the scople outside of the towns and cities will pay only 10 per sought. There is no desire on the part of any to increase taxation. The reverse is entirely the case. But where taxation may be increased to a slight extent, it is claimed, and (fully substantiated, that the amount of taxation is many times made up by profit derived from the improved

IN BRIEF

Roads that "break up" are bad roads Make road improvements in such a ay that they will be rermanent. Whether by statute labor or other eans undertake roadwork systematically.

Appoint a supervisor who will have harge of all the roadwork. Make road bears five miles in length.

choose the best men as pathmasters, and keep them in office . Classify the roads according to the

nature and extent of traffic over them. Specify the width of grade, amount of crown, plan of drainage, kind, width and depth of material to be used, and see that these specifications are carried

Purchase gravel by the pit not by the

·Use clean road material. Strip the clay and earth from over the gravel pit, before the time of per-

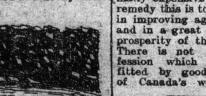
forming statute labor. If screening "or crushing is neces-sary, let this be done before the time of

statute labor. Do not scatter money in making tri-

fling repairs on temporary structures. Roads, culverts and bridges will al-ways be required, and their construc-tion in the most durable manner, suitable to requirements, is most economical

If statute labor is to be made suc essful the work must be systematical-y planned and some definite end kept view.

Have the work properly laid out be fore the day appointed to commence work. Only call out a sufficient number of men and teams to properly carry out the work in hand and notify them



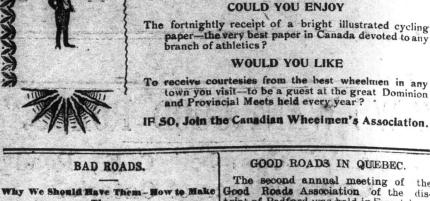
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There is an absurd idea gaining ground here and elsewhere that better led, dissatisfied, endeavoring to overroads. The basis, is one

movement is on a firm basis, is one which is supported by the best econom-ic principles borne out by the experi-ence of other countries.

enable us to receive the greatest advan-tage from the resources aurounding us, there is every need that the portion of the community engaged in farming shall be provided with the best machinery of agriculture. This does not consist merely in the seeders that assist in sewing; the self-binders assist in reap-ing; nor the steam threshers that sep-arate the wheat from the chaff. To ob-tain sale for his produce at the highest price is equally important, for the farmer, with raising his produce cheaply and of the best quality. The former, however, is a matter which the farmers have too long neglected, too long left to the good will of others. The real market of the Canadian farmer is not the railway station or country town where he delivers his produce. The price of the article is fixed at the great distributing centres in accordance with the law of supply and demand. The amount received by the farmer is the price at the distributing centres, less the cost of transportation. To realize increased profits, the farmer must produce more cheaply and transport more cheaply. The first part of the car-riage is entirely in the farmer's hands. The first link in the chain of transport-ation over the country roads is abnor-

mally expensive and inefficient. To remedy this is to assist very materially in improving agricultural conditions. and in a great measure increase the prosperity of the country as a whole. There is not an industry nor pro-fession which would not be bene-fitted by good roads, for the basis of Canada's wealth is agriculture



of them ?

fringed?

The second annual meeting of the Good Roads Association of the dis-trict of Bedford was held in Sweetsburg on the 6th of January last. The on There is an absurd idea gaining ground here and elsewhere that better roads would be advantageous, and that the present methods of building and maintaining them are out of date. In every age and in every country there has been a class of agitators, disgrunt-led, dissatisfied, endeavoring to overroad-making machinery. The presid-

DO YOU WANT Special attention and often reduced rates at good hotels

WOULD YOU PREFER

Improved roads, better streets and more scientific care

DO YOU REQUIRE

Legal protection, should your rights as a cyclist be in-

led, dissatisfied, endeavoring to over-throw existing conditions. In Russia there are Nihilists, who rebel against the tyranny of the Czar; Spain is at present disturbed by Cuban patriots; in Canada there are road reformers. The last mentioned are turbulent, ob-noxious and aim at a state of anarchy. Bad roads are in every way desirable. They kill time. Farmers have too

The possibilities of agriculture in Canada are unsurpassed by those of any country of the world. A compar-atively small proportion of our land av-ailable for farming purposes, is under cultivation; and such lands as are un-der oultivation are rarely productive to the full extent of their ability. To enable us to receive the greatest advan. Bad roads are in every way desirable. They kill time. Farmers have to the time banging on their hands. They don't know what to do with it at all. Time is money. Farmers have so much money, usually, that they can afford, to kill time. They have time to hurn. But they don't burn their money-just time. We have encounted to the fact that in the great, wealthy money-just time. We have enjoyed the benefits of bad roads so long that if they were con-verted into goed roads we wouldn't necessary to commission our friend, Mr. Campbell, to go, not alone to the back settlements, but to prosperous villages, know how to use them. Every farmer would be as uncomfortable as a Fiji Islander wearing a new suit of clothes towns and even cities and preach the and a fur overcoat. How they would perspire! In the meanwhile the horses gospel of better roads to the inhabit-ants, and it would appear that not-Bad roads kill horses and help to withstanding the advanced education Badi roads kill horses and help to keep up the price. Good roads would enclurage fast driving and would thereby encourage cruelty to horses.

thereby, encourtage crueity to horses. Fast driving is very immoral. With good roads every farmer's son would be able to keep it clean long enough to drive into town; and they would want to spend half of their time in town. Bad roads keep them at home. They have to "stick to the farm" becase the farm sticks to them. farm sticks to them. These are a few of the reasons why we want bad roads. But it does not complete the list by, any means. There complete the list by any means. There are many other matters respecting commerce; poolety and civilization, which we have not space to even sug-gest. Of course, if they have been ap-plied in principle, to other matters be-cause of the opposition of the farm-own-

plied, in principle, to other matters be-side roads, we would still be without the printing press and steam railway. We would be without religious and educational institutions. There would be no progress, no civilization. The savages of Central Africa would send missionaries to us. Still it is evident that we want bad roads. In making them, the first point

the gravel road was previously good it will be ruined by this treatment.

Signature.

Address

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If say

d to are members of the O. W. A. two are required ; if they are not then then

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farmers do not possess. I believe that to observe is that water should be kept in the road as much as possible. Dig trenches along each side of the wagon track, but do not provide a fall, or out-

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READY TO RECEIVE THE GRAVEL .- Cross-section

Showing earth shoulders as turned back by the grading mach

stone; Do not leave the gravel or broken stone just as it drops from the wagon. Spread the metal. Crown the road with a rise of one inch to the foot from side to centre as as to shed water from the roadway to

ployed to operate the graders. The work become accustomed to the work give better service.

Do not let ruts remain. They make travelling difficult, and spoil the road by holding water. Make repairs as soon as the defect

prove the drainage of the hills. a the crown of the roadway higher

dake the grown of the roadway higher than on level ground. Change the location of the road if a steep hill can be avoided. Do not use wood for culverts. Use concrets, vitrified pipe or stone. Do not build wooden bridges. Use from, stone or concrete. Build good roads. THE GOOD ROADS MOVEMENT.

THE GOOD HOADS MOVEMENT. The demand for better roads is one which is far reaching and urgent. From Nova Scotia to British Columbia the question is being discussed and as

not usually present in actual prac-tice but practically they are almost in-variably wrong. People must act on conditions as they exist and try to improve them. Exist-ing conditions are invariably bad roads, soft and yielding during the spring and fall, and easily out up by the passage of heavy loaded wagdns over them. Narrow tires out in deep and leave the roads in a horrible condition, while wide tires would pack the mud and gravel firm and smooth, thus im-proving the surface of the roads. Casual observation will clearly dem-omstrate that a wheel cutting down three of four inches in the mud has a great deal of resistance to overcome in front, besides the resistance offered by the adhesion of mud on the portion of the wheel that is being raised from the road by its revolution on the axle. A practical test of this may be illus-trated by pushing a loaded wheelbar-row over a piece of soft garden and then on a plank. The question of good roads has co-cupied a good deal of attention, in the press, the Legislature, and municipal councils during the nead two rears

councils during the past two years, but the tire question ought to be brought more prominently into con-aideration as a means of road improve-ment, and preservation, ' as a matter

of farm economy. To bicyclists especially the use of wide tires would be a great boon as it would prevent the formation of deep ruts, and would act as rollers on the surface of the roads, making them

o advocate the general use of wide ires on all kinds of wagons used for auling heavy loads.—Canadian Wheel-

HIGHWAY DRAINAGE.

HIGH WAY DRAINAGE. There is one fault frequently com-mitted in the use of the read machine; there is an insufficient escape allowed is water. Those who operate these machines object to being bothered by here, or so-called "thank you, marms." So these are not being put in their incess as they should be. If there is a short sag to be filled, it can probably be done from mater-ial at the sides by using drag sorap-or if the soil is a stiff clay or muck, haul on gravel, rock, shale or sandy is there are available. If not, the em-here is a quick drainage. The worst feature in the working atters of the country. The ditch on the upper side of the fields above the road and carries it to the foot of the hill; the ditch on the low our road system is being washed out.

Drainage can and should be provid-ed to get the water ontside of the road limits at short intervals. Water is a poor road material. Keep it from getting on the roads where possible.--Leader, Kenyon, Mich.

Go out into the highways and byway, and preach Good Roads.

WAGON TIRES AND ROADS. The Ingersoil Sun contributes the following very pertinent item on the question of good roads. There is not doubt at all but wide tires must be adopted before permanent roadmaking will be a success. The Sun says: It does not require a profound know-ledge of natural philosophy to prove that wide tires on heavy wagons are preferable to narrow ones, though some

a biologically will contend that a wheel ontiting during the spatial space of the vends.
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They break the monotony, carriages and horse's legs. A road-grader is a good thing with which to make bad roads, although in it may also be employed in making a good read. Care should be taken to choose an operator who doesn't know how to make a good road, and the chances are that he will be successful in producing a bad one. Do not keep one man constantly employed on it, but pass it around for every one and any one to try his hand on. It is just like a plow in this respect. Do not gets any experience. When using it on a gravel road always turn the dirt and and the shoulders of the road, staince, and see that no one gets any experience. When using it on a gravel road always turn the dirt and sod from the shoulders of the road, and the ditches into the centre of the road. If gravel can be covered by this means let the maker of the bad roads wear a blissial smile. He has crowned his efforts with success. If the gravel road was provided and

OUR ROADS.

In summer season rather nice. In winter time one glare of ice. In spring and autumn nothing less Than concentrated cussedness.

Quit patching the road all to pieces. wild it right.

a tendency to keep the anriace smooth Narrow tines cut into the road, and are harder for the horses to pull, but the mas who has the interests of bad roads truly at heart must not hesitate Besides the horses have to do the pull-ing. The driver can sit on top of the load and smoke. What use are good roads, anyway? We must have time to smoke. Muddy crossronds, man in hurry, Slow descent, obituary. A wide tire maketh a smooth road, but a narrow tire rippeth up the high

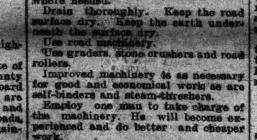
way. No community can cut down its tax-

If these few principles are carefully followed out our reads will remain pretty much as they are at present for a number of years,—Municipal World. A merry old soul The condition of the road is the price tag that tells the value of the farm.

And repaired every road he



ould see.	\$50.00
3015	\$40 00
A. As a constant of the consta	\$35 0 The 1898 Mode to be more jopu the market. Wh when you can b as good. Guaran



The same teams should be always em

Do not cover an old gravel road with sod and earth from the sides of the road. Turn this earth and sod out-ward and raise the centre with new

Adopt every means to secure a hard, smooth, waterproof surface, Do not let stones roll loosely on the road.

inchi to the water from the second fall to as to shed water from the second fall to Give the open drains a good fall to a free outlet. Lay tile underdrains where needed. Drain thoroughly. Keep the road murface dry. Keep the earth under

Use wide fires.

