

BUILD ROADS TO SUIT THE TRAFFIC

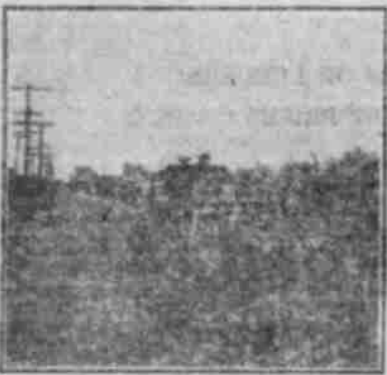
Spend More Money and Use the Right Kind of Material.

WILL BE CHEAPER IN THE END

Chief Engineer Dean of Massachusetts Tells How to Overcome Difficulty of Building a Road to Withstand Both Horse and Motor Drawn Vehicles.

The necessity for building roads to suit the traffic they are to bear was emphasized by Chief Engineer A. W. Dean of the Massachusetts highway commission, formerly state engineer of New Hampshire, in an address made at the New Hampshire good roads congress in Concord, N. H.

A road should be built to sustain the traffic passing over it, according to Mr. Dean, no matter what it costs. If an expenditure of \$12,000 per mile is required to construct a road to carry a certain amount of traffic without undue subsequent outlay for maintenance and if a road costing less will not sustain the traffic without too large maintenance charges then it is economy to expend the larger amount in the original construction.



AN IDEAL BITUMINOUS MACADAM ROAD.

It is also better, he held, for a state or a municipality to build one mile of good road that will remain good without a large maintenance cost than to build two or three miles that will remain in good condition only a short time.

Before building any section of road the kind and amount of traffic that it carries should be ascertained, the future traffic should be estimated and considered as regards both kind and amount and the character of the surface to be built then determined, taking into account also the nature and availability of material. If after having made such determination and estimating the cost of the work it is found that the funds available are not sufficient it is much more economical to build a lower mileage than originally planned than it is to build the whole length and employ an inferior construction.

The ordinary water-bound macadam road or a carefully constructed road of a good quality of gravel will stand a large amount of horse drawn traffic, but will not withstand automobile traffic. On the other hand, an ordinary water bound macadam road with a thicker surface of asphalt or tar will withstand automobile traffic, but not horse drawn traffic. To build a bituminous road that will withstand both kinds of traffic the bitumen must



WATER BOUND MACADAM ROAD IN NEW HAMPSHIRE.

be incorporated with the upper portion of the road either by the mixing method or the penetration method.

In connection with the subject of road surfaces and motor traffic Mr. Dean argued that the new method of transportation of merchandise by motor trucks has not been in use for a sufficiently long time nor in a sufficient amount to permit determination of its exact effect on roads. The number in use is increasing very rapidly, however, and the capacity of the trucks is being increased to an alarming extent, according to Mr. Dean. This, he held, is a matter that should receive the attention of roadmakers and legislators. If the use of these vehicles increases as rapidly during the next five years as it has during the past five, he said, it is impossible to predict what its effect on roads and bridges will be. It is possibly not out of place, he said, to suggest that the solution of the problem lies in the passage of laws limiting the weight that may be carried over the public highways by motor trucks, in order to preserve the roads and bridges.

ROAD IMPROVEMENT.

It is hard to understand why so many country road supervisors, who spend good time and taxpayers' money in grading and shaping country highways, so often fail to put on the finishing touches necessary to make the roads passable. We refer to the practice so often followed of scraping in the center of the road ditches, and weeds and leaving them there in a rough and ready way, when a little work with a disk pulverizer or similar drag would do much toward leveling the road. The writer is well acquainted with the aversion of the average man to hauling any kind of a load over soft and newly made roads, but the condition in which some of the roads are left is taken as sufficient ground for stating why of them even with an empty wagon.

A NEW METHOD.

A Minnesota farmer in a discussion of the problem of quick grass eradication recommends a plan that he has found entirely successful, one in which he did not find it necessary to use a year's use of the land. He began his campaign of eradication the latter part of August following the removal of a crop of small grain. He first used a deep tilling machine, plowing the soil to a depth of sixteen to eighteen inches. He harrowed immediately after and double disked three times at intervals during the fall. In the spring he harrowed thoroughly, seeded to wheat, and on harvesting it not a spear of the quack grass was to be seen. This method is different from those usually recommended, but the results obtained seem to furnish strong argument in its favor.

FARM MACHINERY.

Very satisfactory machines have been perfected for the harvesting of small grains, picking corn and digging and setting potatoes, but as yet no machine has been devised which will pull beet tops. To meet this need the Great Western Sugar company of Denver has offered a prize for a practical sugar beet puller and topper. The motive power for the machine must not exceed four horsepower per beet row. The machine must pull and top all the beets, separate the beets from the tops and leave both convenient for loading. The awarding of the prize by the company does not entitle it to any interest in the invention or machines of the successful contestants.

ABOUT ANGLEWORMS.

The appearance of angleworms in large numbers after a heavy rain is not to be taken as conclusive evidence that they have "rained down." The fact of the matter is that angleworms can't live under water any more than can other land creatures, and show up in large numbers following rains in an effort to get needed air, their pores of retreat being full of water. In proof of this theory the writer well remem-

bers some years ago the appearance of thousands of dead angleworms on a flat that was suddenly flooded with a freshet. The worms succeeded in getting out of the earth, but were not able to escape from the relatively large body of water above.

KILLING THE CORN WORM.

At the Kansas agricultural experiment station they have been conducting some experiments during the time of dusting the silks of sweet corn ears with equal parts of lead arsenate and lime to kill the worms that eat in the ends of the ears. In one plot of corn thus treated worms were found in but 25 per cent of the ears, while in a tract of like size untreated they were found in 75 per cent of the ears. The silks were kept covered with a light dust coat. No harm comes from the poison as it washes off readily.

THE SPARROW PEST.

The writer does not advocate the practice of a boy in his early teens monkeying around with target rifles that use powder and bullet, but believes this same small boy could satisfy his hunting instinct and render a real service if he were provided with one of the latest type of air guns and would start a campaign against the English sparrows that throng the place. The head of the house might encourage the enterprise by offering a bounty of 2 or 3 cents apiece for every sparrow killed.

SAVING FERTILITY.

Virgin soil was never so richly endowed with fertilizing elements that continued plowage in the shape of cropping and making no return in the shape of legumes and fertilizers would not wreck and prostitute it. Many an eastern farmer has learned this fact to his sorrow, but too late to save himself. The owner of the fat farms of the Mississippi and Missouri valleys should heed the warning of the abandoned New England farm before it is too late.

REWARD UNCLAIMED.

The reward is still unclaimed that was put up some time ago for a nesting pair of passenger pigeons, the species that forty years ago in migratory flights of many millions used to shade the sun. Along with the Indian and some other creatures the pigeon could not stand the broods of the white man's civilization perhaps it were better called humanity and is now practically but a fact of natural history.

J. C. Trigg

Don't wait until holiday time for those photo enlargements, or set of album prints.

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The Bulletin has in stock a number of the new Crook county white print maps, showing all roads, rivers, irrigated lands, towns, township and section lines. The maps are bigger and more comprehensive than any other maps and are carefully printed on heavy white paper. They retail at \$1.00 each, postage 10 cents.

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