NEW METHOD OF ROAD BUILDING

BY D. WARD KING, IN SATURDAY EVENING POST

There is something startling in the atement that a drag made of a split g and costing only the price of a ocket-knife is the implement that is oing to revolutionize the wagon roads f this country and save many millions f dollars to the rural population of the Jnited States—yet, I make this statenent and put upon it all the emphasis f which I am capable.

"Downright absurd!" do you exlaim? I have had hundreds of farmrs greet with jeers a less sweeping tatement of the case—and then go ome and prove to themselves its abolute correctness. Have you any dea of what it would mean to the peole of the United States to change the ad wagon roads of the country into good roads? Such a revolution in ransportation would climb so high into figures that the sum total would be absolutely startling and almost beyond comprehension. Not very long after I had made the first complete demonstration of the split-log method of roadmaking on my farm in Missouri, Col. G. W. Waters, Secretary of the Missouri Good Roads Association, said to me:

"If the road commissioners of the state of Missouri could stand here and see what I see, the result would be worth a hundred thousand dollars to this Commonwealth!"

It is impossible to express in figures even the most general estimate of the value of such a revolution in road-making as must result from the general use of this new and "absurdly simple" method. However, it is well to keep in mind the fact that in almost all States the mileage of common dirt roads is many times double that of macadamized or other expensive roads intended to be permanent.

In a State so long settled, so progressive and prosperous as Ohio, for example, more than fifty per cent of the roads are of earth, and the interest shown by Massachusetts, Pennsylvania, New York and other Eastern States in the work of the split-log drag indicates that the dirt roads of these Commonwealths still constitute a very important and perplexing element in the problem of transportation by team. Fully ninety-nine per cent of the highways of Missouri and Iowa are earth roads, and a State official of Iowa once said to me that to have fifteen per cent of the main traveled roads of this State macadamized would be to realize the most ambitious dreams of those men of of the State especially interested in improving the condition of its highways.

So much by way of suggesting the size of the problem which the split-log drag has come to solve. What has already been accomplished, so far as the movement is concerned, may be put in few words: It has been backed and pushed by the Missouri Board of Agriculture; one railroad, the Northwestern, has sent out a "Good Roads Special" for the purpose of evangelizing the farmers of its territory; other roads are eager to install the same kind of a broad-gauge, public-spirited campaign; thousands of miles of wagon roads have been permanently reclaimed from bad to good, and hundreds of meetings have been held in the nine States in which this gospel has been disseminated by means of practical demonstration. At these meetings thousands of persons have pledged themselves to make and to use a split-log drag; hundreds of newspapers have taken up this movement, giving it generous space and a square deal; hundreds, if not thousands, of dollars have been raised and offered in prizes for the best miles or half-miles of drag roads, and most important of all, perhaps, the public sentiment of scores of communities has been stirred to self-respecting hopefulness and energy by this new gospel of "good roads without money."

Eight years ago I was devoting almost my entire time to my farm, three miles north from the little town of Maitland, Missouri. My interests demanded frequent travel over the road between my farmhouse and the village, and I always felt a keen resentment when bad roads made it difficult or impossible to drive to town—a state of things that was altogether too frequent.

A little investigation and experience demonstrated to me that this was by no means the result of indifference or inactivity on the part of our road commissioners. Then I reached the conviction that it was the fate of the farmer to spend $1500 to $3000 a mile for macaadmized roads or else travel in the mud in all periods of continued wet weather—which is to say a large portion of the year. This conviction is almost universal among farmers who have really wrestled with the road problem and know from experience its difficulties.

However, this state of doubdt and discouragement did not long continue, and I began to investigate and experiment in an irregular sort of way. Acting under this persistent impulse to experiment, I one day hitched my team to a drag made of a frost-spoiled wooden pump stock and an old oak post, held parallel to each other by three pieces of fence boards about three feet long. Smooth wire served in place of a chain, and a strip of plank laid between the post and the pump stock gave me a rough platform upon which to stand.

The horses were attached at such a point of the wire as to give the drag a slant of about forty-five degrees in the direction required to force the earth that it would gather from the side of the road up into the center. We had had a soaking rain and the earth was in a plastic condition. I had driven this drag but a few rods when I was fully aware that it was serving at least the initial purpose for which it was intended—that of leveling down the wheel rut and pushing the surplus dirt into the center of the road.

At my neighbor's gate, I turned around and took the other side of the road back to my home. The result was simply astonishing. More rain fell upon this road, but it "ran off like water from a duck's back." From this time forward, after every rain or wet spell, I dragged the half-mile of the road covered by my original experiment.

At the end of three months the road was better than when it had been dragged tor three weeks, and at the end of three years it was immensely improved over its condition at the end of the first year's work. I studied the result of each step in my experiment and finally learned that three elements are required to make a perfect earth road and that the lack of any one of them is fatal to the result. To be perfect an earth road must be at one and the same time an oval, hard and smooth. All of these indispensables are acpuired by the use of the split-log drag in any soil that I have ever come in contact with—and I have worked in the various kinds of clay soil, in the gumbo of the swampy lowlands and in the black mud of the prairies.

Observation of my experiment taught me that two weeks of rain would not put this bit of road in bad condition at a time when the highway at either end of it was impassable for a wagon. Of course, it was plain that the reason the road was not bad was that there was no mud in it. But why mud would not collect in it was not clear to me until I was taught my lesson by the very humble means of the hog wallow. One day I chanced to notice that water was standing in one of these wallows long after the ground all about it had become dry. Probably I had many times before observed this fact, but not until now had it occurred to me to inquire into its cause. Examining the edges of the wallow, I was impressed with the fact that it was almost as hard as a piece of earthenware. Clearly this was because the wallowing of the hogs had mixed or "puddled" the earth and the water together, forming a kind of cement which dried into a hard and practically waterproof surface.

The next important lesson in my understanding of the real elements of road-making was taught me by studying what we farmers call a "spouty spot" in the side of a clay hill. All who live in a clay country know the unspeakable stickiness of one of these spouty places, and are familiar with the fact that, after ten days or two weeks of bright, hot sunshine, you can take an axe and break from one of these spots a clod so hard that with it you can almost drive a ten-penny nail into a pine plank. Naturally, it occurred to me that, if this puddled clay soil would stay hard for three months when left in a rough condition, it would surely stay longer if moulded into the form of a smooth roof, so that the water which fell upon it would easily run off.

This original half-mile of road was dragged steadily for four years before I had a single active recruit in my new crusade. At first my neighbors poked good-natured fun at me, probably because the thing was so new and so absurdly simple—and, perhaps, also, because I did the work without pay or any expectation of it. Road-making in the country, it may be well to explain, is not generally followed as a fashionable philanthropy or a popular diversion.

Gradually, however, this little stretch of dragged road began to force itself upon the attention of the community. From one source and another I began to hear of the observations which it provoked—and some of them were quite as amusing as they were agreeable. One day a physician of a neighboring town told me this story:

"I was driving down your way the other night to see a patient. As usual, when I have anything on my mind, my eyes were fixed on the dashboard of the buggy, and I was deep in study over an especially perplexing case. You know how rough all the roads have been, lately—to ride over them is simply to be jolted from one side of the buggy to the other unless you let your horse go at a walk, which a physician cannot always do. Well, I was rattling and threshing along over the clods at a trot, when suddenly I straightened up, aroused by the impression that something had gone wrong with the running-gear of the buggy. But the trouble was with the road! I had simply struck your little stretch of road, and the buggy skimmed over it as smoothly as a sleigh runs over packed snow."

That incident was decidedly agreeable to me, but not more so than the one that came to my ears a little earlier when I chanced to hear the experience of Mr. W. H. Montgomery, a banker of Skidmore, a town four miles north of my place. With his wife he was one night driving down to a little gathering at Maitland. The night was decidedly dark and it was impossible for him to see more than the general outline of the road over which he was driving. Suddenly the lurching of the buggy ceased and the banker startled his wife with the abruptness of his exclamation: "What's happened to this road? There's been something doing here! I'm coming back in the daytime to see what has ben going on" He had struck the half-mile of dragged road, and, being a highway commissioner and interested in the public roads, he had at once sensed the change.

Of those early recognitions none gave me greater pleasure than to receive a letter from Congressman David A. De Armond saying: "I can determine almost to an inch where the drag began." And later in the note he referred to a certain strip of road which had "experienced the magic influence of the drag."

If there is a means of studying human nature more interesting than that of trying to teach a community a new method of road-making, I have yet to find it. As I have said, for four years It dragged a strip of road from my front gate to that of my neighbor. He had always been a good neighbor, having the best interests of the community at heart, but he was not easily enticed out of settled opinions or into new ways of doing things, and, consequently, I refrained from saying anything to him on the subject of road-making, relying entirely upon the evidence of his own senses to awaken his interest in putting the road between his house and the next neighbor on the way toward town in the same condition as the road between his house and mine.

Continued next week

BUSINESS SPECIALS

—Goldenrod Flour, guaranteed.

—Try Goldenrod Flour. You'll like it.

—"Crescent" is the Standard of Excellence for Valley flour.

—Drain tile, sewer pipe and terra cotta flues at Richey & Wells'.

—C. F. Harris is closing out his entire line of furniture at cost.

—I am selling out my entire line of furniture at cost. C. F. Harris.

—Money to loan on farm security. W. H. Hollis, Forest Grove.

—Mohair and wool wanted at J. E. Bailey's store. Cash or produce.

—Mohair and wool wanted at J. E. Bailey's store. Cash or produce.

—All kinds of picnic goods at Dunsmoor's store. Remember the long handle dust pan.

—For Rent—Baldwin's new brick, next to new post-office. Inquire of Geo. H. Baldwin, McMinnville. tf

—Bring me your wool and Mohair, highest market paid, either in cash or trade. J. E. Bailey, Forest Grove.

—Cut prices in millinery at The Paris Millinery Parlor. Next door to Odd Fellows Hall, Forest Grove, Ore.

—Try a can Golden Gate Baking Powder today. A trial will convince. We carry it at the Big Store. John E. Bailey. 3jmo

—Cut prices in millinery at The Paris Millinery Parlor. Next door to Odd Fellows Hall, Forest Grove, Ore.

—Use Golden Gate Baking Powder, guaranteed a fine cream tartar powder. Try it, money back if unsatisfactory. John E. Bailey. 3jmo

Cheap Sunday Rates Between Forest Grove and Portland.

Low round-trip rates have been placed in effect between Portland and Forest Grove, in either direction.

Tickets will be sold Saturday afternoons and Sundays, limited to return on or before the following Monday. Rate of $1.05 round trip. Call on Southern Pacific's agents for particulars.

Lewis and Clark Exposition.

During the Lewis and Clark Exposition, the Southern Pacific Company will sell round trip tickets to Portland, limit thirty days, at one and one third fare for round trip. For parties of ten or more traveling on one ticket, one fare for the round trip. For organized parties of one hundred or more, indivisual tickets, at one fare for the round trip.

Stopover of ten days will be given at Portland on all one way tickets reading through that point during the Exposition. Tickets must be deposited with the Joint Agent at Portland and charge of fifty cents will be made for extension of time.

Draying.

Haynie & Son have two good teams and do all kinds of team work at reasonable rates. Contracts preferred Independent 'phone. They use everybody right.

—As a matter of economy, you should buy your clothing at the Chicago, for here's where you get good goods at low prices.

GALES CREEK

Theo. Boke of Colorado, arrived last week and is visiting his mother, Mrs. John Erickson and family.

Messrs. Tom Taylor and Stanton, their families and two nieces of Portland visited a few days with relatives here and enjoyed the picnic the 4th. They came out from Portland in two hours and a half in their auto.

Mr. and Mrs. Jay King and little daughter of South Dakota visited a few days last week with John Erickson's family. They had spent one rainy winter here and could not imagine our summers could be so delightful as this.

Last Monday night as Everet Parkin of this place was returning from Forest Grove, he met two men in the road who were in their shirt sleeves and it so frightened his horse that the animal reared and plunged backward, injuring himself so that he soon died from his injuries. Everet escaped uninjured.

State Study Club Meeting

The State Study Club, N. D. of O. held its final meeting for this spring at the I. O. O. F. hall Saturday night when a pleasing program was rendered. At the conclusion a banquet was held. The program was as follows: Mrs. Art Caples read a selection from "The Bridge of the Gods;" piano solo by Miss Frances Clapp; selection, "The Wreck of the Vernedale," Mrs. Chas. Hines; violin solo, Miss Emma Staehr; "Father Duncan," Miss Maude Buxton.

—Money to loan on farm security. W. H. Hollis, Forest Grove.

—American made alarm clocks at Abbott & Son's at 65 cents.