

WASTE IN HIGHWAYS

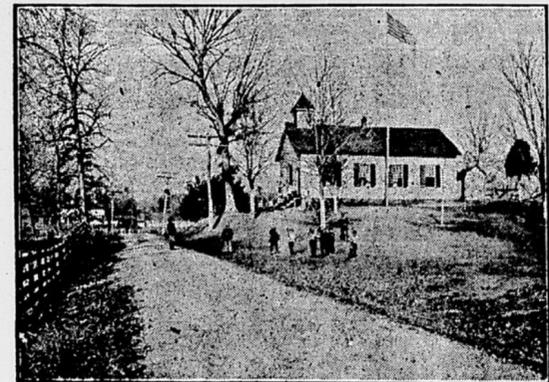
HALF THE MONEY SPENT IN PUBLIC ROADS IS THROWN AWAY.

'GOOD ROADS,' UNIVERSAL CRY

Everybody Wants Something Done, but Nearly Every Community is Grouping in the Dark—Time to Face About and Try for Better Results.

By HOWARD H. GROSS.

No one who is familiar with the way road work has been handled for the last twenty years will dispute that half of the time and money expended upon our public roads by the hit and miss methods employed has been wasted. Most observers will say the waste is even greater. The country over, the outlay approximates \$90,000,000. We have gone on from generation to generation pursuing this absurd plan, or rather lack of plan. It is a most unbusinesslike and reprehensible proceeding. No business enterprise could last a year with such a fearful waste. A calculation made with great care by one of the best authorities in the state, contends the direct waste on Illinois roads by doing

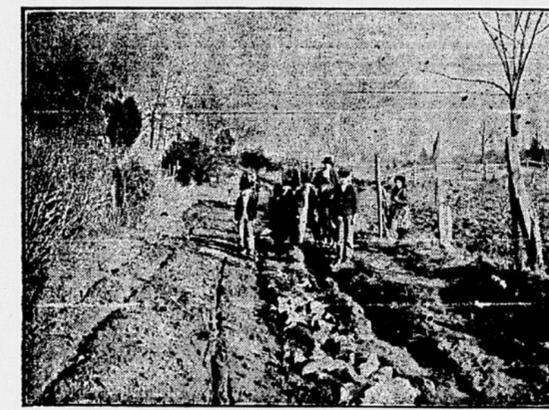


Cedar Grove School House, Near Knoxville, Tenn.

the wrong thing, or if perchance doing the right thing, then doing it at the wrong time, causes a loss of \$10,000 per day!

In no department of administration have we more signally failed than in dealing with the question of the highways. It is time to face about and make an effort to get better results. Is it any wonder people are "sore" when it comes to paying road taxes? They have been at it for generations and with here and there an exception, the roads are no better than they were to begin with.

The question now is what specific things shall be done in order to get better results. The first step in the writer's opinion is to wipe out the labor system of "working out" the tax by the annual picnic or talkfest, that usually takes place in the early fall when everybody turns out to "improve" the road. There is no definite plan; the practice is to plow and scrape, and fill the center of the road with soil, weeds, brush and earth, making what before was a passable road one that is impassable. The lateness of the season prevents a proper settlement before the heavy fall rains and the winter sets in. The weeds, soil and brush are sure to make trouble for a year or more. Many a time the writer has observed a bunch of men and teams do a hundred dollars' worth of damage to work out a fifty-



Country School House on Bad Road, Near Conklin, Tenn.

It would be hard to find a greater contrast than the two pictures in this article show. They are only a few miles apart. In one there is an air of shiftness, while in the other there is evidence of thrift, progress and refinement. Can any one doubt which is the better school or which community gets the most out of life.

dollar road tax. The stories told, the stunts of wrestling, jumping and other athletic diversions, make it a holiday enjoyed by every one.

There is but one thing to do: Collect all the road taxes in cash and pay to have the work done under the best supervision obtainable.

This working out the road tax dates back before the war, when there was very little money in circulation, and it was next to impossible for the people to pay the tax in any other way. It is different now. The labor system has outlived its usefulness and should go.

Road building, even if a dirt road,

performs the farmer does not and is not expected to have. It is no reflection upon him to say he is not a successful road builder—any more than it would be to question his ability in carpentry. To have the best supervision the township or road district is too small a unit. The mileage is too limited to make it practical to have an experienced road builder in charge. Hence the present thought is that the county should be the road district, or perhaps there might be two districts in large counties. The road supervisor should be a capable, experienced engineer employed by the year, or the season. Let him get the necessary tools, men and teams and do the work when it ought to be done. When grading is necessary, the earlier in the spring it is done the better. The surface ought not to be disturbed after the first of July.

The first and most important step is road drainage. No drain, no road. It is exceedingly important to have one in charge who knows his business. As road drainage will be treated at length in another article, the writer will not elaborate upon it at this time. The drains can be laid at any season when the frost is out of the ground. Culverts can be built, the roads dragged, weeds cut, etc. This will give work from early spring until fall.

With the county as a unit, plan a five-year campaign of grading and draining, beginning with the main roads and extending the work in the

order of importance. In a county of ten to fifteen townships, one good engineer with three or four gangs of men with machinery, each having a good foreman, in three or four years will make such a showing, that people will wonder they ever tolerated the old hit and miss methods. If the method suggested was adopted and followed, it would at least double the results for the taxes now paid. By having regular employment, both the men and horses would become proficient and do more in a day than the "greenhorn" would do in two days, and the work will be far better done as well.

The above outline is for the treatment of earth roads. When the time comes, and come it will, when the main roads will have to have a hard, smooth wearing surface of stone, gravel or brick, all of the work previously done as above set forth, will be valuable as a preparation for the permanent road.

The inauguration of such a plan will appeal to the people; they will see they are getting something for the money paid. Their attitude will change from one of hostility to friendly co-operation, and this is of much importance. The writer once saw an enterprising farmer who had a road drag. He took it out in a rain storm and dragged a mile of road, going twice over it until it was in his lan-

guage as smooth as a ribbon. No sooner had he turned in under cover than he saw a neighbor with two teams coming down over the road, undoing all he had done. The comment made would not look well in print. If the party in question had any appreciation of the fitness of things, he would have driven along the side of the road, and left the dragged surface so it would shed water and dry smooth. A five-dollar fine with costs would have been a good lesson. The sentiment is everywhere for better highways. "Good Roads" is the universal cry—everybody wants something done, but nearly every commu-

not knowing just how to accomplish the desired end. In many localities we find that meetings are held, a subscription is started, and volunteers beat up and down the street, asking everyone to subscribe either money or labor. A bank will give \$100, a merchant another \$100, the man next door, who ought to do the same thing, will give \$10. A public entertainment is gotten up, and after a campaign of a number of weeks, perhaps \$2,000 is raised for improving a piece of road. In order to save expense some local projects will undertake the work. He does not know much about road building, and the result is a patch job. The money is spent and a half-mile of road is made, and while it is poorly constructed, it is much better than the previous conditions, that it is hailed with delight. No effort along these lines can amount to much, beyond the creating of an increased desire for better roads. Experience shows beyond any question that the way to do is to build as large a mileage as possible at the same time, and have it done under the supervision of a capable road engineer. If ten or twelve miles are built instead of one the cost of construction will be much less; it will pay to have improved machinery and the best facilities. Then the payment of the road should not be made by passing the hat, where some will do their duty and others will not, but on the contrary the amount should be covered by issuing long time bonds and spreading the burden over all the property of the township. If fortunately the state is operating under the state aid plan, whereby a portion of the expense is contributed from the state treasury, it simplifies the matter very much and lightens the burden.

The writer made a calculation covering the state of Illinois, and that calculation was verified by the late Dr. Frank H. Hall of Aurora, one of the best mathematicians in the country, and he found it correct. It showed that first-class hard roads could be built over all the main highways in the state of Illinois, under the state aid plan, the state paying one-half the expense from a general tax levy, and the balance locally by the township, and the combined expense spread over a period of ten years, would not exceed ten cents per acre per year on farm lands. What is true of Illinois will be found to work out very closely along these lines in nearly all states of the central West.

The amount of money wasted upon the highways of any state between Pittsburg and Denver, and from Minnesota to Florida, would more than pay the interest on the bonds necessary to build and maintain first-class permanent roads. We might state it in another way: That the economies that can be accomplished and the benefits that will accrue from improving the highways, will take off from the burden of the people many times more than the taxes to build the roads will impose. Why not convert this waste into a permanent asset? Why not have better conditions when we can do so so easily?

Why Battleship Was Sent Because of Misinterpreted Cipher Message the Maine Went to Havana.

Probably very few knew that the Maine had been hurried to Havana because of a misinterpreted cipher message. Mr. John R. Caldwell, who had been in charge of the Havana bureau and whom I relieved, told me that several days prior to my arrival he had made requisition upon the office for a revolver. There had come strenuous times in the Cuban capital, riots had been frequent, the lives of foreigners, particularly those of Americans, had been more than once placed in jeopardy, and the time had come when correspondents felt the need of firearms to protect their lives. The revolver sent to Mr. Caldwell was smuggled to him by a passenger on the steamship Olivette, to whom the weapon had been entrusted by an agent of the paper in Tampa. By some oversight no cartridges had been sent with it, and it being impossible to secure any in Havana, the correspondent cabled to New York. "Camera received, but no plates; send by next boat."

Through some strange error on the part of the one who received it, the cryptogram was construed to be a cipher and was translated to read that an attempt had been made on the life of Gen. Fitzhugh Lee, American consul general in Havana. This misinformation went to Washington and reached there after the Havana cable had closed. Early the next day Mr. Caldwell received from the Herald the following cryptogram: "Send story and pictures ordered on food-supplies; we want it for main sheet." By applying the cipher key, the first sentence was readily translated to read: "A United States warship has been ordered to Havana." The second evidently conveyed some hint which was beyond the limitation of the code, but the word "main" gave the clue. Meeting General Lee at breakfast that morning, Mr. Caldwell quietly informed him that the Maine was on her way to Havana. The general was incredulous. No warship, he assured the correspondent, would be sent to Havana unless he requested it.—Walter Scott Meriwether, in Harper's Weekly.

A Wish Gratified. "Jiggs used to tell me that the dream of his life was to live some day in a big house on a hill." "Poor fellow! And now he is in the state penitentiary." "True, but that is a big house and it happens to be on a hill."

THE SPLIT LOG DRAG

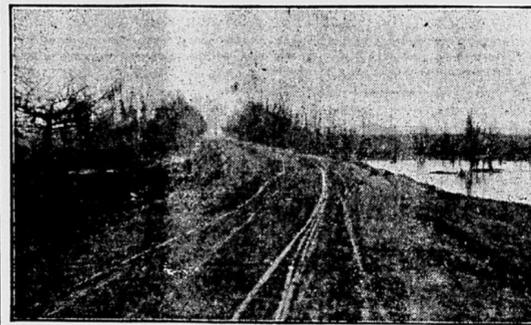
USE AND LIMITATIONS OF THIS DEVICE IN CARING FOR ROADS.

USE FOR CONVICT LABOR

Dragging Should Always Be Done Just After a Rain—Good Road is One That is Good and Usable 365 Days in Year.

By HOWARD H. GROSS.

There is no road implement that will do more to make bad roads better than the split log drag, and none that is so inexpensive. A handy man can usually get up one at a cost of \$3 or \$4. Better ones can be bought of road machinery companies for \$8 to \$15. There is no patent on it, so there is



Road After Being Dragged One Year—Helena, Ark.

The above road for many years was impassable a large part of the time. A few years ago it was graded as shown—not very well done, however. The surface has been dragged at short intervals for a year. This has kept the road comparatively smooth. While it cannot be called a good road, it is a good example of how a very bad road may be made better with grading and dragging. This road is in Arkansas.

no reason why they should not come into general use.

The problem of supplying prisoners with work that shall not compete unfairly with free labor is not yet solved. Here, however, is an article that can be readily made to advantage in the penitentiary and it would be well to have a few thousand turned out. The writer desires in the outset to correct a misconception that seems quite general, and that is, that the split log drag is a solution of the good roads problem. It is nothing of the

kind. It has its uses and its limitations. Unfortunately, the man who made it, and for which the country is under obligations, overshoots the mark in his slogan: "Good Roads Without Money." The drag is doing good work—it is a pity the inventor is not satisfied to put it and leave it where it belongs.

The drag is not only useful for earth roads, but serves an excellent purpose in keeping gravel roads in condition, and it may be used at times on macadam roads to advantage.

Dragging should always be done in or just following a rain. The surface should be quite wet. The drag should

be used along the wheel track and less runs made by the feet of the horses. When in this condition one or two round trips with the drag will fill the ruts and reform the surface and in doing so will remove very little material. The forward movement of the drag should be at an angle so that when the material is pushed forward it is also carried to the center of the road.

The office of public roads will furnish bulletins upon the use of the road drag free upon application. Road officials and others would do well to send for them.

A good road is one that is good and usable 365 days in the year; a road



Result of 30 Minutes' Use of Drag at Columbia, Mo.

Macadam road not consolidated being put in shape with a road drag. Note the drag has filled the ruts and moved the loose material towards the center of the roadway. The drag goes forward at an angle for this purpose. The road drag should be used upon gravel or macadam roads only when the road is wet and when it is desirable to fill up ruts.

carry just enough weight so it will smooth the surface and fill the ruts without clogging the drag with an accumulation of mud before it. It should iron out and smooth the road without disturbing more than surface projections. Its main use is to fill the ruts and keep the center of the road to the proper crown so the water will readily find its way into the ditches.

The attempt to have the farmers voluntarily drag the road by their farms, or by co-operation have all the roads dragged, will never work out satisfactorily. Some will respond and do their duty, but the human hog must be reckoned with—the one who is supremely selfish, and takes pleasure in overturning the good work of another sometimes just to be mean—pure cussedness. The writer was told of an incident that illustrated this perverseness. A coarse grained middle aged man was heard to say: "Tother day I was coming back from town and I seen old man Jones out with a road drag in the rain—you'd a thought he owned the road. Say, you ought to a-seen that road when me and Jake driv over it.

The extravagant claims that have been made for the road drag are really holding back the building of good roads. Many have believed that all that was required to have good roads was to go up and down a streak of mud once or twice, say "Presto!" and behold, a good highway. This is sheer nonsense. The loud acclaim of a "River to River Road," made good in an hour or so is a myth. This famous road was greatly improved by the dragging, but it is not a good road, and never will be until it is thoroughly drained, properly graded and has a hard, durable wearing surface placed upon it.

It is human nature to hunt for some easy, cheap and speedy way to do things, and usually no sooner has one discovered how to make some progress toward a solution, than he announces a complete revolutionary discovery that sets aside all experience and precedent, and gains nothing for nothing. The split log drag is directly in point.

The people may as well make up their minds now, as to find out later, that good roads cost money and lots of it, but they are worth many times their cost and they will pay for themselves over and over again every decade. A well drained and well built macadam road with a good binder may cost anywhere from \$4,000 to \$6,000 per mile, but such a road with moderate repairs will last for generations. Hence the future should bear part of the burden. There is only one sensible, businesslike way to build good roads, and that is, by state aid, where by the state, preferably from a long time low rate bond issue, pays part of the expense, and the township issues bonds, running from 20 to 30 years, for its part. In this way all the roads needed in a township—the main roads—can be improved at once, and the payments spread over the present and the coming generations.

By building all at once from ten to twenty per cent. can be saved in the cost of the work, and the community has the roads to use from the start. Of course interest must be paid on the bonds, but against this goes the use of the roads. If this is not worth more than the interest it is better not to build the roads. The road question is a big one and must be handled in a big way.

ALMOST CAPTURED BIG PRIZE McCurdy Was Within Ten Miles of Havana When the Lubricating Oil Gave Out.

Aboard the Paulding a seaman, having no glasses at all, shouted: "There he is!"

There he was, two streaks of black against the sky. He had come over the slow boats, passed all the destroyers except the Paulding, and was sailing surely toward a waiting Havana, with only one destroyer—a mere ten minutes or so—between. McCurdy's two mechanics aboard the Paulding began to grin. Make it? Of course he would! Everything was evidently working well; and ten minutes—only ten minutes—would see the man landed safely in Havana, with the big prize to his credit. McCurdy was coming strong. Every moment he was growing blacker and bigger against the sky.

The Cuban coast—the smoke of the city was within sight. And then— "My God!" somebody said, "he's fallen."

This was true. The man had fallen. There was no bird-like speck in the sky. The man had fallen. The Paulding was already turning, at 29 knots, to pick him up; and the Terry was steaming straight on for the same purpose. There had been an accident; the lubricating oil had slipped away and the engine was burning to pieces. There was nothing for it but to descend; and this McCurdy did deliberately, waiting patiently, as he stood on the seat of the airship, for rescue. When a boat from the Terry picked him up—the Paulding was only a moment later—he said: "Dashed hard luck! Why, I could see Havana!"

He was only ten miles off. "Dashed hard luck!" he repeated. He hadn't wet his feet.—Norman Duncan, in Harper's Weekly.

Quite Literal.

She (indignantly)—Look at this piece of goods which has just come out of the wash! How could the man who sold it to me tell me the colors were fast?

He—I suppose because he knew how they could run.

pleasure or have a full load without strain upon the horse, vehicle or harness.

To do this the road must have a hard, smooth surface and offer the minimum of resistance. This requires the surface to be "metaled," as the English say, i. e., covered with gravel, broken stone or an equivalent.

An earth road may be an excellent one today and tomorrow a very bad one. It may be a delight in June and a fright in March. Such roads have the virtues of a balky horse—they are liable to fall when most wanted. With a stone or gravel road, leading from the farm, should a heavy rain occur in the busy season, when for a day or so it is too wet to go into the field, the errands to town may be done, several loads of grain or hogs taken to market, and the time well employed. With the average earth roads, when the fields are too wet to work, the roads are too muddy to travel. Hence, the writer holds to the opinion above expressed, that no earth road is entitled to be called a good road, because so much of the time it is positively bad.

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Muscles May Move Themselves. Albert von Haller, a Swiss surgeon of the eighteenth century, was the first to point out that the muscles of our bodies have an automatic action. Before Haller's time it was believed that the muscles could not contract or swell up of themselves, but were drawn up by the nerves of volition. Haller discovered that this is not so, but that a muscle, if irritated, will draw itself together automatically, even when it is quite separated from the nerves, and this has since been proved to be true by a great number of experiments.

So that though it is true our nerves are the cause of our moving, because they excite the muscles and so cause them to contract, yet the real power of contraction is in the muscle itself. The body of a man is full of wonders, not the least of which is this automatic power of contraction in all muscles.

Good for Sickroom. A sandbag is one of the most serviceable articles to use in the sickroom. Get some clean, fine sand, dry it thoroughly in a kettle on the stove, make a bag about eight inches square of flannel, fill it with the dry sand, sew the opening carefully together and cover the bag with cotton or linen cloth. This will prevent the sand from sifting out, and will also enable you to heat the bag quickly by placing it in the oven, or even on the top of the stove. After once using this you will never again attempt to warm the feet or hands of a sick person with a bottle of hot water or a brick. The sand holds the heat a long time and the bag can be tucked up to the back without hurting the invalid. It is a good plan to make two or three of the bags and keep them ready for use.

She Knew How to Reason. A little girl six years old visited her grandfather, who was a minister of the gospel. He is a man who has contributed something to controversial theology, and is well known as a logician. His granddaughter opened on him in this wise: "Grandpa, Uncle Herbert says the moon is made of green cheese!"

"Well, dearie, if you want to convert Uncle Herbert, suppose you look it up in your Bible." "Where'll I look, grandpa?" "Right at the beginning." "The little girl sat down and started in. Before she had finished the second chapter of Genesis, she shouted: "I've found it, and it ain't true, grandpa! It says God made the moon before he made any cows."

Apples in British Markets. The apple is the most important fruit coming to the British market. American apples are very popular, led by such varieties as the Newtown Pippin and the Hood River. The only objection urged is that of size. The most popular sizes are those ranging from 120 to 150 a crate, whereas some of the arrivals from Oregon and California run as large as 70 or 80 a crate. The English retail trade does not want the extra large apple. Fruit is sold by the pound, and the number of a fruit that can be contained in a fixed weight plays a large part in its sale.

The Religions of Japan. To the ranging eye the fruits brought forth by the religions of China appear to be numberless temples dingy and neglected; countless dusty idols portraying hideous deities in violent attitudes expressive of the worst passions; an array of ignorant priests as skeptical as Roman augurs, engaged in divining, exorcising and furnishing funeral ceremonies for gait and a laity superstitious and irreverent, given to perfunctory kotoing and prayer promoted by the most practical motives.—Century Magazine.

The Babies Came, Too. Babies at home receptions are among the novelties in the way of entertaining, having been introduced into London by Lady Pembroke. Mothers, all of whom had titles, came with their babies, the nurses carrying them into the rooms, where they were handed over to the mothers, who were obliged to hold them themselves for a time at least.

Man's Purpose. Not a man but is conscious of occasional hours that are full of promise but his purposes are like these blossoms on the peach tree, of which there seems a strange overplus, since many bloom and few set.—Rev. N. D. Hillis, Congregationalist, Brooklyn.

Seems Out of Proportion. With every exertion, the best of men can do but a moderate amount of good; but it seems in the power of the most contemptible individual to do incalculable mischief.—Irving.

Temptation. If you cannot remove temptation from the boys, then reverse the order and take the boy away from temptation.—Rev. Roby Day, Methodist, Kansas City.

Doing the Best One Can. Probably the best way to manage home affairs is to be straight ahead doing the best we can, regardless of other folks' opinion.

Selfishness. Selfishness is the enemy of the home, religion, and the state.—Rev. Carroll E. Harding, Episcopalian, Baltimore.

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L. C. Smith & Bros. Typewriter for the same reason that decided this shrewd, hard-headed business corporation—superior merit of the machine! And the reason holds good whether you use one typewriter or five.

Guy Runcorn returned Wednesday from an extended visit with relatives in Missouri and Oklahoma.

ann and children, Fred Shore and family, C. B. Wilsey and family, Mrs. Geo. Hall, Mrs. F. Gibbs, Mr. and Mrs. G. Hall, Mrs. W. Harlan, Mrs. C. H.

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