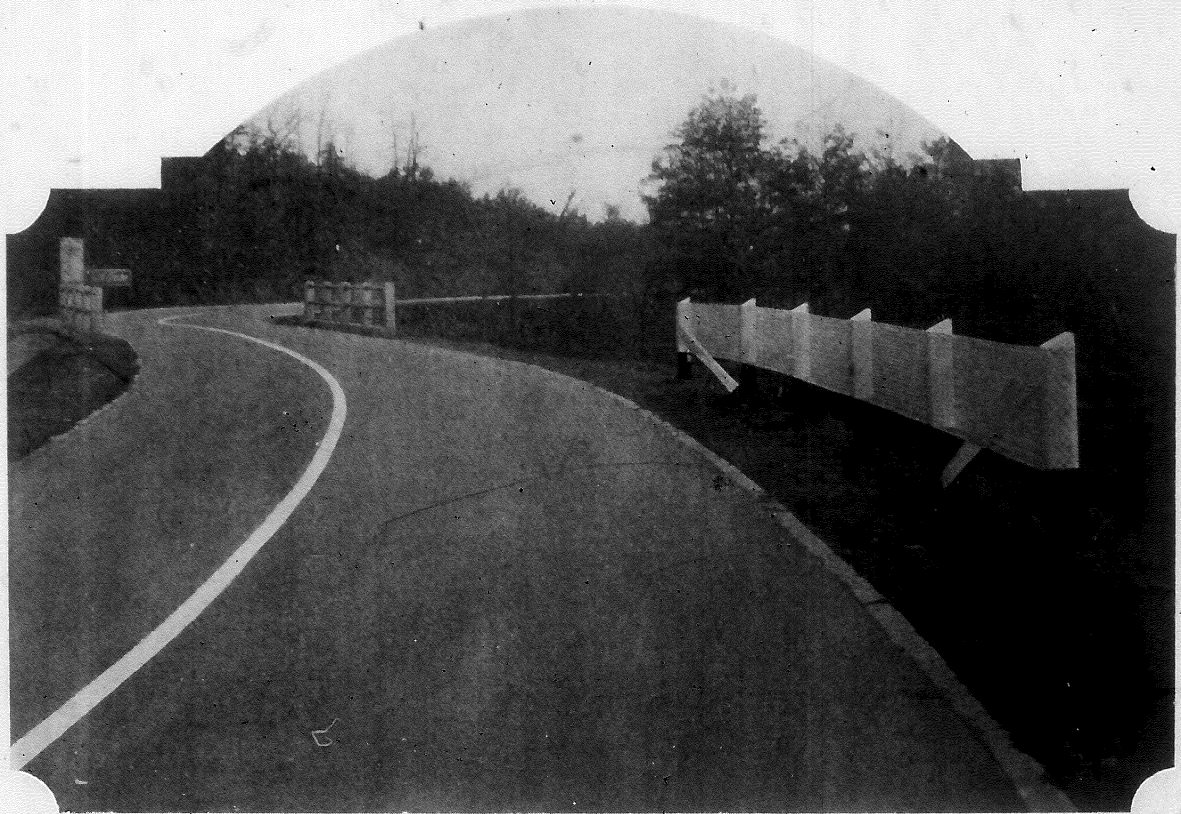
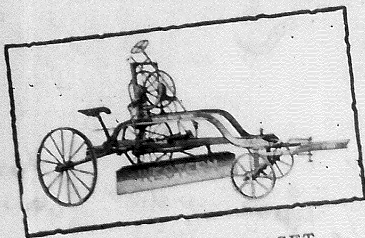


ARKANSAS HIGHWAYS

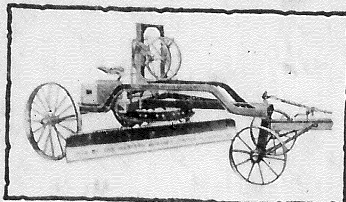


Safeguarding the Curves

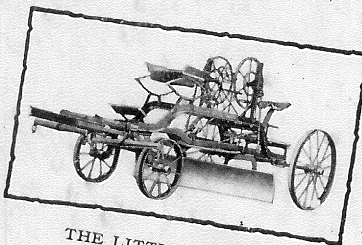
JANUARY
VOL. 2 1925 NO. 1



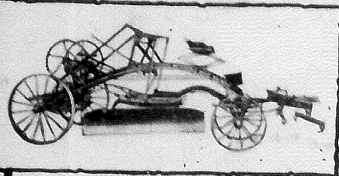
THE WESTERN MIDGET GRADER
Weight: 1000 pounds
Blade Length: 5 or 6 feet



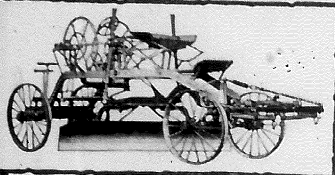
WESTERN PATROL GRADERS
Weight of No. 1—1400 pounds
Blade Length: 8 feet
Weight of No. 2: 1000 pounds
Blade Length: 8 feet



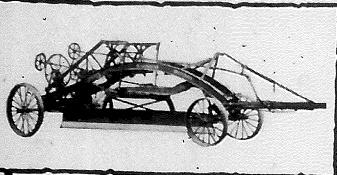
THE LITTLE WESTERN GRADER
Weight: 1450 pounds
Blade Length: 6 feet



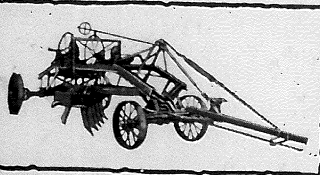
THE AUSTIN STANDARD GRADER
Weight: 2500 pounds
Blade Length: 7 feet



THE AURORA STANDARD AND SPECIAL GRADERS
Weight of Standard: 2925 pounds.
Blade Length: 8 feet
Weight of Special: 3300 pounds.
Blade Length: 7 or 8 feet



THE AUSTIN MAMMOTH JUNIOR AND SENIOR GRADERS
Weight of Junior: 6750 pounds.
Blade Length: 10 feet
Weight of Senior: 7600 pounds.
Blade Length: 12 feet



THE WESTERN No. 14 SCARIFIER
Weight: 11,500 pounds

A-W GRADERS

Below are mentioned, the four things that are the best possible advance guarantee of satisfactory service from any piece of road machinery. Let us see how A-W Graders meet the test.

SCIENTIFIC DESIGN?

The first Austin and Western graders were made over 40 years ago. In design and construction they are not only scientific, but above all things thoroughly practical, because they embody all the worth-while features that these years of experience have developed, and no untried theories that have not stood the test of time.

RUGGEDNESS?

The second Western grader, made and sold in 1879, is still in active service.

QUANTITY PRODUCTION?

Thousands of Austin and Western graders of all sizes are in daily use in practically every country in the world.

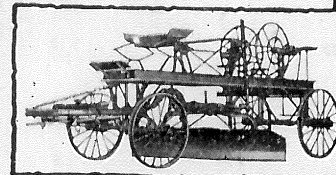
A COMPLETE LINE?

A-W graders range in weight from 1,000 to 11,500 pounds; and in blade length, from 5 feet to 12 feet.

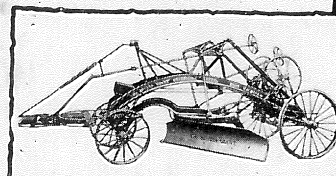
Whether your work be the construction of a new road through the roughest kind of country; the efficient, economical maintenance of an earth or gravel road; or "just grading"; you will find on this page a model as good as made-to-order for you. General Catalog No. 24 tells all about these graders—Write for a copy.

The Austin-Western Road Machinery Co.

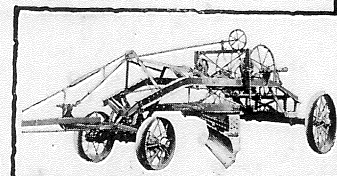
CHICAGO :: ILLINOIS



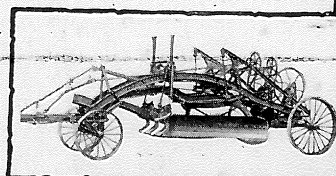
THE WESTERN STANDARD AND SPECIAL GRADERS
Weight of Standard: 2675 pounds.
Blade Length: 7 feet
Weight of Special: 2900 pounds.
Blade Length: 7 feet



THE AUSTIN GIANT GRADER
Weight: 4150 pounds
Blade Length: 8 feet

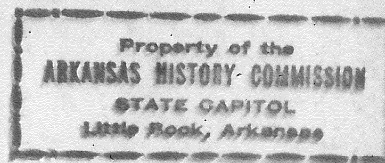


THE WESTERN No. 20 GRADER
Weight: 11,500 pounds
Blade Length: 12 feet



THE AUSTIN JUNIOR AND SENIOR RIP-SNORTERS
Weight of Junior: 5000 pounds.
Blade Length: 8 feet
Weight of Senior: 9300 pounds.
Blade Length: 9 feet

ARKANSAS HIGHWAYS



Official Monthly Bulletin of the State Highway Commission

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VOL. II.

JANUARY, 1925

NO. 1

Steel Fabric Highway Guards On Bad Curves

Conway Road Used for Trial of New Safety Device.

On the Little Rock-Conway section of the Fort Smith highway, State Highway "A-1," the auto tourist may now see a new safety device for curves which it is confidently anticipated will greatly reduce the number of serious accidents on Arkansas highways during the next few years.

The device is a steel highway guard, which the commissioners of District No. 10 in Pulaski county have decided to install on the outer edges of all dangerous curves in the county. Our front cover page this month shows the device as it is installed at a curve and bridge near Amboy on the Fort Smith road.

The guard, a recent contribution of the Paige Fence and Wire Products Association to the progress of the highway safety program, consists of a diamond-shaped mesh of steel wire, two feet wide and anchored securely to heavy wooden posts at a height of 18 inches above the ground, just above the hub of cars which may run into it.

The fabric gives readily when struck by a car, but does not break as do solid wooden guard rails. The top of the fabric is three and a half feet above the ground, making it high enough to prevent hurdling by a car, no matter at what speed it may strike. As an additional safety feature, the fabric is painted white, making it highly luminous as a warning to night drivers that a dangerous curve is being approached.

This safety device is one of the best of recent inventions, and its use by District No. 10 is expected to result in widespread dissemination of its advantages. The policy of the

highway commission in the laying out of new highways is to avoid curves so far as possible, but in many cases on both old and new roads they are inevitable, and the next best measure of safety is the erection of adequate guard rails that serve both as a warning and a protection to tourists.

CHRISTMAS IN THE DEPARTMENT.

An incident of the holiday season just passed that was indicative of the spirit of the highway forces was the presentation of gifts that took place in Commissioner Wilson's office on December 24.

Mr. Wilson had summoned the heads of departments and the workers in the Little Rock offices to his desk to present each with a small token of his appreciation of their loyalty and unselfish service during the year that was closing.

When he had finished the distribution, a real surprise was sprung when Senator Paul Grabel, representing the employes, took the floor to present to Mr. Wilson and R. C. Limerick, state highway engineer, beautiful gold watches, engraved with their monograms, and with suitable inscriptions commemorating the occasion.

Mr. Wilson and Mr. Limerick made brief replies of appreciation, both predicting continued co-operation among all the highway forces, and even greater results on the highways of the state during 1925.

New Business for the Village

Concrete Highway Magazine.

THE well paved highway confers many blessings. One of these—and not the least—is that of new business for the rural village. Trade is always stimulated when people move about. Most people have automobiles and like to travel. Now that they can begin to use those vehicles for trips of more than a few miles, they are enjoying the privilege. Summer tours involving from one to five thousand miles of motor travel are common. The certainty of finding roads that are at least passable is the magnet that draws people to distant states.

America is dotted with villages. Any main highway that you want to name passes through hundreds of them. Motor travelers are going to stop in all of them, every day. Every time a traveler stops, he is pretty sure to spend some money. Sometimes it will be only a few cents for a cold drink or some ice cream; other times he will pay out several dollars for supplies, repairs, lodging—or perhaps he will buy some fine bit of merchandise that has the charm of the unusual.

The first effect of the stimulant, of course, is seen in business directly associated with the motor car. A new garage appears, or an old one is given a new "front" and is enlarged. That means employment for the village contractor, and the lumber yard sells some building material. A gasoline sales station—more likely several of them—is installed.

The travelers have to be fed. If the village supported a restaurant at all, it has had a precarious existence. Now, its cash drawer has to be rung more frequently. If the proprietor can see his opportunity, he makes improvements in the quality of the food and service, in the extent of his accommodations, and in the cleanliness of his place. Travelers appreciate good food and service, and will give a deserving place the "good word" that can't be bought. The increasing business of the restaurant is an outlet for much locally grown produce. The number of chickens a line of hungry motorists can eat is astonishing.

Many of the travelers want lodging. The ancient hotel will get its share of this business—but not until the landlord "cleans up." Most of his guests have decided views as to the type of accommodations they seek. They will not require or expect frills, but will demand cleanliness and comfortable beds. This demand has brought new life to many an old "inn."

Then the village merchants begin to feel the benefits of the never ending caravan passing their doors. The citizens have more money, and what is vastly important, they have more ideas. They see new styles in clothing. Their new ideas are reflected in purchases. The standard of living is advanced. The merchants who can measure up to the new opportunities increase their bank balances. The highway is an important aid to the merchant who wants to better his service. He can secure prompt deliveries from the motor freight line which brings merchandise to his store door. In many cases, the motor freight is railroad-owned and operated. The old "peddler-freight" local trains were run at a loss, and enterprising railways are adopting the economical and flexible motor truck service.

The merchant's new business means better village stores. Good display windows show what he offers—and the motor

travelers stop to buy as well as the residents. Good concrete walks and pavements are put down as a part of the general improvements.

Back of the main highway the village may still be quiet, not with the silence of hopelessness and decay, but with the contentment that reflects good living and prosperity.

HOT SPRINGS HIGHWAY BETTER THIS WINTER.

The newly paved highway from Hot Springs to Little Rock has been opened from Benton to Red Gates where it connects with the pavement which has been laid for several years. This gives a paved roadway from Benton to Little Rock. Work is progressing rapidly on the section from Hot Springs to Benton but it will be several months before this part of the road is opened for traffic. There are some connections to be made and gaps closed before the Hot Springs end of the highway is finished.

With the road paved from Benton to Little Rock, the trip from this city to the capital is a faster and more pleasant one than formerly. The road from Hot Springs to Benton is mostly of hard foundation. County Judge Davis keeps the Garland county portion of the road in splendid condition, new bridges and culverts have been built and, with the exception of a few low places near the Saline river, a few miles west of Benton, the road to the Saline county seat is always dependable and most of the way nearly as good as a pavement.

Winter automobile traffic to and from Hot Springs will be greatly expedited through the completion of the Benton to Little Rock end of the Bankhead highway. The road from Benton to Red Gates was always the worst and with this section paved, the worst features of the Little Rock highway are eliminated. While the new highway out of Hot Springs to the north to Little Rock will not be completed this winter, the old road is in much better shape for travel than formerly and tourists will find the trip an easier and more pleasant one than in the past.

The pavement will be completed all the way in time for next summer's auto tourists. By the early summer or, if weather conditions are favorable, the road may be completed in the spring. Hot Springs welcomes the completion of the new road, but is happy over the prospect of a better road via the old route this winter, now that the Benton to Little Rock end of the highway has been paved. *Hot Springs New-Era.*

LONGEST PAVED ROADS.

The longest completely paved road in the world is the Pacific highway running from Vancouver, B. C., to Mexican border and paralleling the Pacific coast. The total paved length is 1,476 miles and it is mostly of asphalt. The longest asphaltic concrete road (gravel, sand and stone cemented with asphalt) is the Arkansas-Louisiana highway—111 miles. The longest asphaltic macadam road (asphalt spread over macadam base two to three inches thick) is the Harding highway from Galion to Van Wert, O.—110 miles, continuous asphalt.

Little Rock-Memphis Highway Completely Opened

White River Bridge, Finished January 1, Was Last Link.

WITH the completion of the new White river bridge at DeValls Bluff on January 1, the Little Rock-Memphis road (State Highway "A-1") was opened to all-year-round traffic, without a single ferry in its entire length, for the first time in its history. As readers of Dallas Herndon's series of historical articles on Arkansas roads published in this magazine last year may remember, that history began in July, 1827, when the Federal government started to hew a highway out of the wilderness west from Memphis.

The White river bridge was the last link in the highway, the Cache river structure, also replacing a difficult ferry, having been completed some 10 days earlier. These two ferries, always a bug-a-boo to the tourist, both were approached from steep slopes which in wet weather were slippery and dangerous, and their passing will be marked by many sighs of relief from autoists forced to use them in the past.

The bridge over the White river at DeValls Bluff is a toll bridge, having been erected by the White River Bridge Company, of which Harry E. Bovay of Stuttgart is president. The rate, during the lifetime of the franchise, and until the structure reverts to the state, will be \$1 for automobile and driver, with privilege of free return within 24 hours. The Cache river bridge is a free bridge, and as a result the total cost to the tourist of crossing the two streams remains the same, both ferries having formerly charged 50 cents for auto and driver.

The White river structure is of the vertical lift type, built of steel and consisting of three 200-foot spans. The center span or lift, weighs 200 tons, and operates on two 80-foot towers. The draw is operated by gasoline motor and also by hand, and gives a total clearance for river traffic of 55 feet above extreme high water.

White river, at the point spanned by the bridge, is 550 feet wide. Two timber trestle approaches to the bridge proper have a length of 5,000 feet and there is 1,700 feet of earth embankment, making the total length of the bridge and approaches almost a mile and a half.

The work of making the Little Rock-Memphis road an all-year highway, however, has not been entirely a matter of bridges. Formerly there were two bad stretches which became impassable for automobiles in wet weather.

During the past summer, the State highway department, under the direction of Commissioner Herbert R.



Wilson, and R. C. Limerick, state highway engineer, spent approximately \$40,000 in grading and graveling these two stretches, one in Monroe county, and the other in St. Francis county, and making them all-weather roads.

As a result, automobile traffic during the present winter will be able to use the highway throughout its entire length, and the old "detour" by way of the Arkansas-Louisiana highway will become unnecessary for those traveling between Memphis and Little Rock.

Credit for the re-conditioning of the road would not be complete without reference to the work of R. A. Kern, district engineer for the Sixth district, which extends to the Cache river, and of A. W. Buford, of District No. 1, which begins at Cache river and extends to Memphis. Both engineers have worked faithfully toward the objective finally achieved, an all-year road to Memphis, free from the dangers and inconveniences of ferries.

"LET IT ALONE"

Batesville Record.

Any effort on the part of representatives and senators from several counties in the state that have bonded road indebtedness, to change the Harrelson law and divert a large portion of the present revenue received from the automobile and gasoline and motor oil tax to help pay this indebtedness at the coming session of the legislature, will no doubt meet with strong opposition from the remainder of the state and be overwhelmingly defeated. This is as it should be.

The Harrelson bill at the end of the first year gives forth splendid prospects of furnishing Arkansas with a complete network of good roads throughout the commonwealth, provided the law is allowed to remain intact. It is indeed unfortunate that several counties have plunged into road building programs with no thought that both interest and principle of bonds issued must be paid sooner or later. However, that is no reason why money collected from the entire state should be used to pay this indebtedness while the residents of the respective communities enjoy the benefits, and the remainder of the state wallows in mud.

Tell your representatives to let the Harrelson law remain status quo.

Matching Local Money With State Money

An Interesting Discussion of a Northwest Arkansas Project.
From Fort Smith Southwest-Times-Record.

Two excuses have been offered by various people who do not want to contribute to the \$15,000 road fund, which Fort Smith is raising for the Van Buren-Alma and the Winslow road projects.

"We pay gasoline tax and automobile license fees to build roads. Why should we put up money besides?" That is one of them.

"Why should we put up money to build roads in Crawford county?" is another.

There is just one way to build a permanent road in Arkansas under the highway law. That is with money put up by the community affected, matched with state money provided by the gasoline tax and license fees, and federal aid.

The gasoline tax money and license fees go into a state fund, which is expected to be about \$5,000,000 this year. Out of this fund \$3,000,000 is sent back to the counties. Part of this \$3,000,000 is used to pay bonds in counties that have bonds. The remainder of the \$5,000,000 goes for maintenance of state roads, and for state aid to new construction.

The state does not pay the full cost of any permanent road, and should not. If it did, the road building program would degenerate quickly into political trade-outs.

Since the state and federal aid funds pay half and the community half, any community in the state may initiate a road when it pleases. It may put up the money in any way it sees fit—by bond issue, public subscription, the county's part of the gasoline tax money, or appropriation from general county revenues.

In the Van Buren-Alma project, it has been necessary to use all these means. Out of Crawford county's share of the gasoline tax money, County Judge Wilson has set aside \$15,000. Out of the county's general funds, the quorum court has set aside \$7,500. Out of public subscription in Crawford county, \$7,500 is to be provided. Fort Smith has agreed to put up the other \$10,000.

If we put up the money now we will get the road and bridge in a few months. If we don't, it will be years. The state highway department will maintain the road as best it can out of existing maintenance money, but there is no provision in state law, and there never should be, for the state to build a permanent hard-surfaced road and highway bridge out of its own funds exclusively. State funds set aside for new construction are used only in conjunction with local funds in those communities that are interested enough to put up money.

Upon the question of putting Fort Smith money into Crawford county: The Van Buren-Alma project is estimated to cost at least \$80,000. Crawford county is putting up \$30,000 of it, Fort Smith \$10,000 and state and federal aid funds are pledged to finish it whatever the cost. Fort Smith's share of the cost is not more than 12 per cent. Fort Smith paid 24 per cent of the Winslow road original construction, and everybody admits it was an excellent investment.

The Van Buren-Alma project is a double primary road, leading to Little Rock and to northwest Arkansas. No one who has given a thought to the distribution of benefit of highways can doubt that Fort Smith's benefit from such a road will exceed 12 per cent of its cost.

It's the best road bargain ever offered Fort Smith. And it will be taken.

BLINDING HEADLIGHTS.

The danger that lies in glaring headlights is emphasized in Good Roads, the publication of the United States Bureau of Public Roads, by E. W. James, chief of the Division of Design, who has paid a number of visits to Arkansas in connection with public road matters.

Mr. James says that although motor car accident records consistently indicate a relatively low percentage of wrecks that are the result of faulty equipment a conspicuous faulty detail is the presence and use of glaring headlights and spot lights. He makes the drastic suggestion that it might be possible to prohibit by law the manufacture and sale of those types of lamps that are most dangerous.

In Arkansas we have many miles of comparatively narrow roads. We have many miles of roads that are on embankments. These conditions furnish all the more reason for forbidding the use of headlights that may blind an approaching driver and cause a serious or even a fatal accident. Little Rock has wrestled off and on for years with the matter of glaring headlights, but the lenses in use that throw blinding beams of light are numerous enough to constitute a distinct element of danger in night driving.

The blinding headlight is an evil and a danger that both the city and the state of Arkansas should make unremitting efforts to suppress.—*Arkansas Gazette.*

RULES OF THE ROAD IN JAPAN.

(As translated from Japanese traffic regulations by Michigan Roads and Pavements.)

At the rise of the hand of a policeman stop rapidly. Do not pass him by or otherwise disrespect him.

Whenever a passenger of the foot hove in sight tootle the horn trumpet to him melodiously at first. If he still obstacles your passage tootle him with vigor and express by word of the mouth the warning, "Hi, Hi."

Beware of the wandering horse that he shall not take fright as you pass him. Do not explode the exhaust box at him. Go soothingly by, or stop by the roadside till he pass away.

Give big space to the festive dog that make sport in the roadway. Avoid entanglement of dog with your wheel-spokes.

Go soothingly on the grease-mud, as there lurk the skid demon. Press the brake of the foot as you roll around the corners and save the collapse and tieup.

New Year Expected to be Banner Road Year

R. C. Limerick, State Highway Engineer, Estimates Construction at 2,000 Miles.

While 1924 was a great year for Arkansas in highway progress, the year that is just opening is to be a greater, according to estimates and figures prepared for the highway commission by R. C. Limerick, state highway engineer.

Mr. Limerick's figures show that 1,596 miles of improved roads were completed in 1924, but his estimate for 1925 is in excess of 2,000 miles, bringing the state's mileage of such highways from practically nothing prior to 1915, to over 6,000 at the end of the 10-year period.

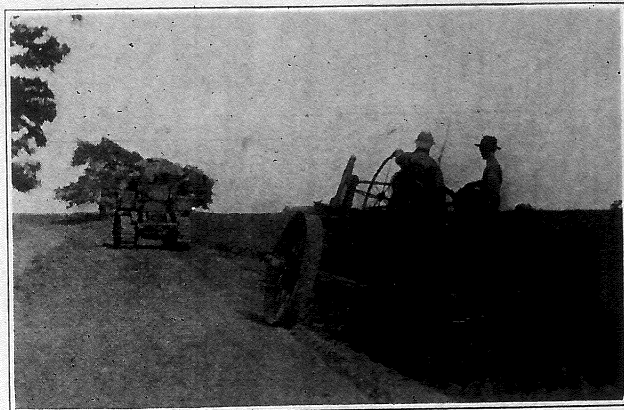
Up to December 1, 1920, there had only been completed in the state a total of 615 miles of all kinds of improved roads. In 1921, the big road-building year, 2,246 miles were built. In 1922 the figure fell off to 954, and in 1923, to 725 miles. With the new state-wide highway law in operation on a half-year's revenue, 1924 showed a jump to 1,596 miles, and 1925, with a full year's revenue, and a citizenship aroused to the possibilities of good roads, will show even greater results.

The state's improved highways include eight types—graded, graveled, macadam, surface treated gravel, surface

treated macadam, asphaltic macadam, asphaltic concrete and concrete. The type with the largest mileage is gravel of which there are 3,071 miles. There are 2,144 miles of graded roads, 246 miles of macadam, 183 miles of asphaltic macadam, 333 of asphaltic concrete and 192 of concrete.

It is estimated that a total of \$8,900,000 has been expended this year on highway work, and that the expenditures for 1925 will be between \$7,000,000 and \$8,000,000. There has been a total of 5,000 men employed during the greater part of this year. This will be reduced in 1925 to between 3,500 and 4,000, the reduction being due to the completion of some of the major projects.

A TYPICAL MAINTENANCE PATROL.



Here may be seen what has become a familiar sight to Arkansas tourists during the past year under the new state-wide highway law—a typical maintenance patrol, consisting of caterpillar tractor and heavy grader, at work building and maintaining "roads that go somewhere."

This particular picture was made on the Pine Bluff-Grady section of State highway "A-3," a primary road from Little Rock to New Orleans. It was made by Elbert Reynolds, engineer of the Second district, in charge of the work.

NO CHANGES DESIRED.

Fort Smith Southwest-American.

Governor McRae has announced that he will oppose any effort to amend the Harrelson highway law in any important particular. The present governor, of course, will not be in office when the next legislature meets. He will be succeeded by Tom J. Terral, governor-elect. But his influence will be powerful.

The new governor has not yet been so specific. During his campaign, he approved the Harrelson law in general, indicating that there might be changes which would be beneficial. That attitude would permit him to either oppose or favor major changes without being inconsistent.

For the good of the state, it is to be hoped the new governor will join with the old in opposing any major change in the law. It has been in effect now just a year—and such a year! Arkansas has gone forward further in highways in that year than in many years before.

The change most likely to be urged is an amendment requiring the state to take over and pay all outstanding road bonds in the state, something like \$65,000,000, out of state highway revenue. Such an amendment would be improper, both theoretically and practically. The present law provides for payment of \$3,000,000 each year back to the counties of the state, to be used as their representatives elected, either for bond and interest payments or for new roads. Thirteen counties have no bonds. Sebastian is one of them. It would be unfair to pay bonds of counties which have them, unless the state paid a proportionate amount to counties that have none, so they might build roads, too. Such a burden would be too heavy for the state funds to bear.

All bonded districts in the state have had their road obligations by the state's payment. The present plan is working beautifully. Untold trouble can be caused by monkeying with the machinery.

BIG ROCK STONE CO.

OFFICE: 111 Center Street,
LITTLE ROCK, ARK.

Capacity 50 Carloads Daily
FAMOUS BLUE TRAP ROCK

All sizes of Crushed Stone, Rip-Rap and Sand—Best material produced in the South for Macadam, Concrete and Reinforced Concrete construction.

Write for prices and full information.

More Than 17,000,000 Cars in America

Arkansas Has Her Share and Is Gaining Fast.

MOTOR vehicle registrations in the United States for the year 1924, not including the final ten days of December when they were comparatively negligible, reached the aggregate of 17,700,179, a gain of 16.28 per cent over the total of 15,222,658 recorded in 1923.

This total, compiled by *Motor* from official figures obtained in every State, means that there is one passenger car or truck for every 6.42 persons, basing the calculation on an estimated present population of 114,000,000.

The number of passenger cars increased from 13,455,073 at the end of 1923 to 15,520,663, a gain of 2,065,590, or 15.35 per cent.

The number of commercial vehicles increased from 1,767,585 at the end of 1923 to 2,179,516, a gain of 23.3 per cent, indicating the rapidity with which the use of trucks and buses is being expanded.

The amount of money invested in these vehicles is conservatively estimated at \$10,620,107,400.

With a total production for the year of about 3,580,000, of which about 300,000 were exported, it would appear that something like 800,000 of the cars and trucks made were used to replace vehicles which were scrapped.

New York still leads in registrations with 1,412,050, of which 1,136,300 are passenger cars, but California is a close second with 1,321,480 and is less than 10,000 behind on passenger cars with 1,126,956. Ohio with 1,237,000, Pennsylvania with 1,221,893, and Illinois with 1,123,000 are the only States in the one million class.

The second five, in order, are: Michigan, 877,453; Texas, 823,074; Massachusetts, 672,315; Indiana, 649,797; Iowa, 614,500. Other States in the 500,000 class are: Missouri, 545,000; Wisconsin, 526,400; Minnesota, 503,115, and New Jersey, 499,000.

When it comes to percentage of gains the South steps to the front, showing the results of two prosperous years. The leader is Florida with a percentage increase of 34.9, jumping from 160,000 to 215,872, but Georgia is running close with a gain of 34.5 per cent, rising from 173,794 to 233,818. New Mexico is third with 32.2. Louisiana with 29.4 and Mississippi with 29.3 are virtually tied for fourth place.

Other States which gained 20 per cent or more, in alphabetical order, were: Alabama, 24.3; Arkansas, 25.8; California, 21.9; Michigan, 20; New Hampshire, 20.9; North Carolina, 21.6; South Carolina, 27.6, and Utah, 20. Connecticut gained 19.9.

Further analysis shows that the grain States of the Middle West and other agricultural areas made poor showings, offering additional evidence that motor vehicles sales depended largely on the general course of business. States which gained less than 10 per cent, in alphabetical order, were: Iowa, 6.6; Kansas, 9.4; Montana, 7.9; Nebraska, 8; North Dakota, 7.1; Oklahoma, 5.8; South Dakota, 8.1, and Wyoming, 9.9.

The largest numerical gain was 221,197 in California, with New York second with 197,408. Ohio came third with 168,300, Pennsylvania fourth with 157,269, and Texas fifth with 134,175.

The only States which failed to gain 10,000 or more were Arizona, Delaware, Idaho, Maryland, Montana, Nevada, Rhode Island, Utah, Vermont and Wyoming, and of these Arizona and Rhode Island fell short by only a few hundred.

The figures in every case were obtained from the office of the Secretary of State or the Motor Vehicle Division.

"A BUG UNDER THE CHIP"

Camden Beacon.

There is going to be a strong fight made at the coming session of the legislature to replace the Harrelson road law with a measure providing for the issuance of over five million dollars in state bonds, and diverting the entire gas and automobile tax into a fund to pay these bonds.

The main object of the advocates of this measure, is to deprive certain sections of the state of their just portion of the gasoline and automobile tax, and apply at least the major portion of this revenue to the relief of property owners in road districts which were heavily bonded for the construction of highways before the Harrelson law was enacted, but who have the privilege under this act of applying their part of the gas and automobile tax to the relief of property owners in said districts.

Under the Harrelson law each county receives its just portion of the automobile and gasoline tax. Some counties apply a large per cent of this fund to the relief of bonded road districts, while other counties with few road bonds apply its portion to the construction of roads.

Why should those counties without good roads, be deprived of their just share of this revenue, and have it applied to paying for roads already constructed in other counties?

There is a bug under the chip in this proposition to authorize the issuance of state road bonds, and we hope a majority of the members of the legislature will not favor such a move.

As we have said before, better let the Harrelson road law stand, for at least five years, before making any material alterations in its main features.

We hear no demand for a change, except from those sections seeking relief from their own burdens, at the expense of other counties of the state.

PEDESTRIANS ON HIGHWAYS.

Using the railroad tracks for a promenade is a dangerous practice and constitutes a trespass. Walking on the paved highways is not a trespass but it's a lot more dangerous. Help to eliminate the accidents from this source by walking on the left-hand side of the road and look out and turn out for the cars, otherwise the driver of a car may attempt to pass you and an approaching car at the same instant with disastrous results to some one. By all means insist that school children observe this safety rule. Regulations which the California state motor vehicle department will present to the next legislature for enactment as law will make it illegal for pedestrians to walk on the right-hand side of the road where there are no sidewalks.—*Utah Highways.*

Tree Planting And Beautification Of Highways

By C. Woolsey, College of Agriculture, University of Arkansas.

Tramping along wooded roads and lanes one thinks of that beautiful poem by Kilmer:

I think that I shall never see
A poem lovely as a tree,

A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast.

A tree that looks at God all day,
And lifts her leafy arms to pray.

A tree that may in summer wear
A nest of robins in her hair.

Upon whose bosom snow has lain
Who intimately lives with rain.

Poems are made by fools like me,
But God alone can make a tree.

Bare roads with unsightly fences, bill-boards, thickets and the like, are generally the handiwork of man. Recent years have ushered in a desire by many people of many states and counties to beautify the roads by planting the peer of all monuments—the tree. What could be of more lasting satisfaction than a road planted on each side with hard maples, bringing to us the beautiful tender green of the growing leaves in spring, the cool and refreshing shade in summer and the gorgeous show of color in the autumn? Many a dreary road now monotonous could be made one of pleasure by tree planting, something to make us think of our Maker and the other fellow, something to make the long, long trail less winding and more pleasant as we journey to the land of our dreams.

PIONEER DAYS GONE.

Our country has now reached a stage where we pioneer no longer. We must arrange our countryside to lasting monuments of beauty; more like the age old lanes of England, where the roads and ways of travel between silent walls of rock, between rows of ancient whispering trees; trees that have seen the young grow old and wither;

trees that have listened to age-old secrets; trees that stand as loving monuments to the younger generations from those that have taken the last trip under their spreading branches and have passed to the Great Beyond.

Many miles of roadsides now bare could be planted to trees that are adapted to each particular section. Native trees grow and thrive in our woods and do equally as well when planted along the roads. Among them are found: Maple, elm, oaks (of various species), ash, gum, pines, sycamore and beech.

ROADS AND RADIO.

A new feature of co-operation between the highway department and the University of Arkansas during the coming year will be the broadcasting of periodical reports on the roads of the state and the work that is in progress as a part of the educational programs sent out over the radio by the university extension division at Fayetteville.

The reports will be prepared by the publicity department from data furnished by the engineering forces, and will be radiocast as a feature of the regular extension programs of the university. In this way, correct information concerning Arkansas highways will be given, not only to thousands of citizens of Arkansas, but to a large number of prospective tourist visitors scattered throughout the country.

Contractors and Road Machinery Supplies

Novo Hoisting Engines - Pumps - Air Compressors
Jaeger Concrete Mixers

Structural and Concrete Steel
Roofing and Tools of All Kinds

CENTRAL SUPPLY CO.

LITTLE ROCK, ARK.

The New Highway Law

IS GIVING US

GOOD ROADS



**PARKE-HARPER
PUBLISHING CO.**

can give you

Good Printing

209 Spring St.

Little Rock, Ark.

Leaves From the Editor's Notebook

BEGINNING A NEW YEAR.

With the present issue *Arkansas Highways* begins its second year of service to the people of the State in furnishing accurate and comprehensive information on the progress of the new highway program.

It is perhaps fitting, at such a time, to take note of the growth of the publication, and the degree in which it has measured up to the plans and hopes of the highway commission when it was established, under the provisions of Act No. 5 of the Extraordinary session of 1923, the popular new road law.

During the twelve-month, the publication has increased both in circulation and advertising to a point where it reaches everyone actively interested in the road work of our State, both at home and abroad, and pays for itself as it goes.

The issue now coming from the press contains more than \$500 worth of advertising, while its publication, including paper, cuts, art work and printing, will cost slightly less than \$450. From no advertising in January, 1924, to more than \$500 worth in January, 1925, is quite a jump for an infant publication, but the highway commission confidently anticipates that even this record will be broken in the next 12 months.

To those not conversant with the history of such publications, it may be well to state that Arkansas is one of some 35 states which issue highway bulletins carrying official information relative to State highway work. These magazines, going to those interested in the State's road work, and to the exchange tables of all other highway departments, public libraries, tourist bureaus and chambers of commerce, do incalculable good in the building up at home of healthy good roads sentiment, based upon intelligent understanding of problems being worked out, and abroad through the broadcasting of facts concerning the progress that has been made.

In its first year, *Arkansas Highways* has gone to every State in the Union, carrying its message, in words and pictures, on the marvelous program that has been under way. In public libraries, in tourist bureaus, in commercial organizations and in other State highway departments it has been read and commented upon favorably.

Into the homes of most of the road workers and boosters of Arkansas it has gone free of cost, keeping them informed, and maintaining the sentiment of co-operation that is so essential to real progress in a democracy. In properly measuring the value of the publication, it is well to remember that at the time it was started last year, a widespread misunderstanding of the Arkansas road situation was current everywhere in Arkansas. This misunderstanding had resulted in a lack of co-operation, and in some sections in a real hostility that was reflected in the legislature, and made constructive activity almost impossible.

Going out monthly to every section of the State, *Arkansas Highways* carried pictures, stories and editorials calculated to bring about a better understanding, and soften the hostility of the people toward the department and its work. Gradually, through the circulation of the magazine itself, and the splendid co-operation given it by the press of the State, sentiment was changed to a point where in August, in spite of vigorous attacks from certain quarters, a tremendous vote of confidence in the department and its program was registered at the polls.

Students of public sentiment have credited the official bulletin, and the press information bureau that has been maintained in connection with it, for a large share in the popular awakening on road questions. Several have gone so far as to say that without these factors, the Harrelson law, at first so widely misunderstood, would never have established itself in public confidence as it has. However that may be, *Arkansas Highways*, during its first year, has justified itself, not only in a financial way, but in the more intangible values that result from more perfect understanding between a great people and a great department, charged with a great responsibility.

During the coming year, it is the plan of the commission not only to increase the volume of advertising carried in the magazine, but to increase the size and volume of reading matter. Economies of operation have limited the size during the past year to 20 pages, but early issues in 1925 are expected to expand to 24 and 30 pages, with an increase in the number of cuts and maps furnished.

Co-operation of the citizens of the various sections of the State in supplying pictures and stories bearing on the State's road progress is earnestly desired, as it is the aim of the department to cover interesting features of the work everywhere in Arkansas.

"Rome was not built in a day," as a very trite observation has it, and a great publication cannot be organized in the course of a few months, but the progress that has been made in 1924 in giving the people of the State a highway magazine for their information and enjoyment, as well as for the creditable advertising of the State abroad, is a matter of pride to the department, and an earnest of still greater accomplishments to come.

"SWAT THE TINKERS."

If, perchance, there are members of the Forty-fifth General Assembly who are still confused or uncertain as to the course to pursue in regard to the State highway question, we would commend to them the words of the last Democratic convention.

That convention was held on September 11, just one month after the Democratic primaries, in which the present highway law and the present highway administration were paramount issues, and as such were subjected to the white-hot light of political discussion before the people. It is hardly necessary in this connection to remind any citizen of Arkansas what the verdict was, or by what decisive vote it was recorded.

Sufficient it is to say that the convention, fresh from the people, and mindful of the people's verdict, made by unanimous vote the following expression on the highway question:

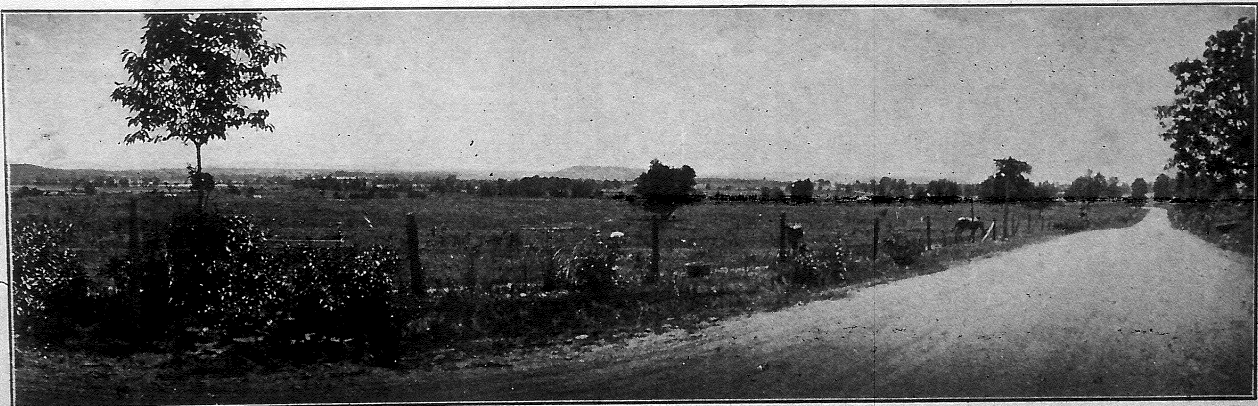
Whereas, the present Arkansas Highway Statute is the outstanding accomplishment of the present State Democratic administration, and marks a notable advance in the progress of our commonwealth, and

Whereas, the present highway law meets all Federal demands and enables Arkansas to participate in Federal highway aid, and

Whereas, the taxing principles of the highway act are sound and equitable and produce in the only feasible way funds sufficient to build and maintain a complete system of State highways,

Now Therefore Be It Resolved, that the present highway statute is approved in principle, and that every effort be put forth by all State executive and legislative officers to keep the principles of the present highway statute intact and encourage and foster the splendid highway program so efficiently being worked out.

So far as the representatives of the dominant party of the State are concerned, it would seem that they have a double mandate of unmistakable clarity and force, a mandate that means, in its shortest and plainest terms, to "Swat the Tinkers."



PHILOSOPHY OF THE HIGHWAY.

The highway is not simply a road. It is not simply a surface.

It is the assurance of the civilizing influence of better communication between sections.

It is a silent, but persistent factor for the reduction of living costs.

It is an humble, but powerful foe of ignorance for the reason that it makes easily accessible our splendid system of public schools to the people in rural services.

It is the safeguard of our food supply. It is a guarantee to the public against the prostrating influence of industrial upheaval and interruption to distribution therefrom.

It is the popular open air theater of enjoyment of the family.

It is the text-book of nature to our people.

It is the connecting link between the home and the factory.

It is the call to open air; the great physician who makes no charge for his service.

The people who are opposed to good roads oppose them for the same reason that some people oppose our great public school system—they are not informed.—*Colorado Highways*.

PULASKI TAXES CUT.

Tax reductions in three of Pulaski county's road districts, the Little Rock-Hot Springs project, District No. 10, and the Spring Lake district this year will total \$102,291.56, the reductions being made possible through funds to be received from the state highway commission as the districts' shares of revenues collected under the Harrelson law.

The Arkansas-Missouri district expects to make a reduction, also.

H. S. Turner, in charge of making up new assessment books for the districts, has completed his work, and new assessments to be established by the districts will be in force on taxes to be collected next year.

Pulaski county taxpayers in the Little Rock-Hot Springs district will benefit to the extent of \$47,126.67. This amount equals one-third of the annual tax collected by the district. Part of the reduction was made possible through state tax money held over from last year, when apportionment of the state auto tax and gasoline funds was not made in time for the commission to change its assessment books.

District No. 10 will reduce its tax collections by \$41,277.94, and the Spring Lake district will make a reduction of \$12,886.95. Tax reductions in District No. 10 and the Spring Lake were 20 per cent.—*Little Rock Democrat*.

PRESS COMMENTS

Road work accomplished during this year on the roads leading from Nashville will many years remain as a monument to the industry and ability of the people of this section and their desire to have a progressive country.

Especially is this true of the people along the Nashville and New Hope and the Nashville and Lockesburg roads, where much permanent work has been accomplished at a very low cost to the county and without obligation of the people living along the roads.—*Nashville (Ark.) News*.

Repairs on roads. You'll have to pay for one or the other. Good roads may seem to be a tremendous expense to the community, but every experienced motorist knows that good highways reduce repair bills.

In the days when automobiles were driven only by the moneyed class, there was much reason for the majority to protest against the expenditure of their money. Why should the many be forced to pay for the benefit of the few, was a reasonable attitude.

But today the vast majority of people either drive or ride in automobiles. Good roads benefit the many and not the few, and so it has now become largely a matter of applying good business sense to the matter of highway development.—*Malvern Times-Journal*.

It was during the Camp Pike days, and L. R. Myers, of Pine Bluff, was showing a young lady friend over the grounds. As they passed the infantry practice there was a volley from the rifles. The young lady threw her arms around the young man's neck.

"Oh, Mr. Myers; I hope you will pardon me; I was so frightened."

"That's all right," returned the young man. "Won't you come with me and watch the heavy artillery practice?"

—*Arkansas Utility News*.

"SAY IT WITH PICTURES"

Designing &
Illustrating
of every kind

Printing Plates
in one or more
colors



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Fourth and Louisiana - Little Rock

Phone **GUNNELS COMPANY**
6116 Tires, Tubes, Accessories
Painting and Upholstering
ROAD SERVICE

LET THE LAW ALONE.*Batesville Record.*

The Little Rock papers are discussing changes in the Harrelson road law at the coming session of the legislature.

So far as heard from, the members of the honorary highway commission, who are in position to know the workings of the bill, are opposed to changing any of the fundamental principles of this act.

There is no question as to the minds of the people in this section on the matter. They do not want this act tampered with, as it is getting results satisfactorily to the people.

It is probable some counties might desire to change the pro rata of their part of the fund raised under provisions of this bill, as regards applying certain percentage to the relief of bonded road districts, or to the pro rata that goes to the county, but this will not necessarily mean changing any of the main features of the bill.

We are sure our representatives will oppose any tampering with this act.

Regarding the honorary highway commission, it is composed of a high class of business men. The terms of two members, W. Y. Foster and J. S. Turner, expire this year. Because of their high ability, and the fact that they understand not only the law, but projects under way and to be soon taken up, they should be prevailed upon to accept reappointment. Keep the present commission intact and don't tamper with the Harrelson act.

STEEL**FOR BRIDGES AND BUILDINGS****REINFORCING BARS**

Over 500 tons in stock for immediate shipment.

"One Piece or a Carload"

Arkansas Foundry Company

1500 E. 6th St.

Little Rock, Ark.

"We Can Repair or Duplicate any Piece of Road Machinery"

PRESS COMMENTS**NO RED TAPE DELAY HERE.**

Not more than ten days ago the highway department of the state notified the realty owners along the road to Reeves schoolhouse that if they would put up \$2,500 in the Farmers State Bank to go toward putting a hard surfaced gravel bed to said road the department would do the rest.

In record time the said property owners called the hand of the department and notified officials that the money was ready.

The department was just as prompt in complying with their part of the contract and, have already completed the survey and work will begin at once.

This was done without calling on Conway to help in the least and when the road is completed there will be no extra taxes to pay. A few people in Conway contributed to the fund but they were persons who owned land in the vicinity of the road.

This perhaps breaks all records of the state in putting so important a road project through.

It usually takes six months to a year to get ready to start while this whole matter was carried through inside of ten days.—*Conway (Ark.) Times.*

CRAWFORD COUNTY REJOICES.

Indication points to the material improvement of Crawford county highways due to the fact that the splendid Harrelson road law enacted by the legislature, the co-operation of the public and our progressive county court makes it possible to construct standard dirt roads at a very nominal cost. Communities now vie with each other in the construction of good roads and if the present spirit of progress in road building continues to prevail a few years longer, Crawford county, once noted for its impassable roads, will have a greater mileage of passable highways than any county in the state with the exception of possibly a half dozen counties.

And this is going to be accomplished without the issuance of a dollar's worth of bonds or other evidence of indebtedness to hang over the heads of our property owners.

—*Van Buren (Ark.) Press-Argus.*

Jonesboro Gravel Company

DEE, ARKANSAS

ROAD SURFACE GRAVEL IN ANY QUANTITY.

It is water-rounded and has the proper amount of clay binder.

Shipping Point, Ridge Station

Missouri Pacific Railroad

J. S. MORRISON, Mgr.

Telephone: DEE

PALARM CREEK BRIDGE OPENED.

There has just been opened to general traffic one of the most important bridges on the entire Little Rock-Fort Smith highway, the massive and beautiful steel and concrete structure across Palarm creek on the Pulaski-Faulkner county line. This bridge is one of the finest of its kind in the state, and was made possible through the co-operation of the State and Federal authorities with the officials of Pulaski County District No. 10.

In connection with the opening of the bridge, R. C. Limerick, state highway engineer, announced that the state forces are planning to do considerable improvement on the Conway-Palarm highway early next summer. At least three miles, he said, would be covered with a new coat of asphalt and the remainder put in first class repair. This road, he said, is holding up remarkably well under the extremely heavy traffic passing over it and he does not anticipate any more than ordinary repairs will be necessary for its maintenance.

It is probable that the hard-surfacing of the north seven miles of the Conway-Damascus road will be deferred until spring. The federal office has approved the plans and the funds are available for this work, but the advent of winter would make the work difficult and would also force many inconvenient and possibly impassable detours while the work was in progress.

First Steno—"The idea of your working steady eight hours a day! I would not think of such a thing!"

Second Steno—"Neither would I. It was the boss that thought of it."

Prompt Shipment on Contractors' and Road Builders' Equipment

Terms to Responsible Contractors

Advance-Rumely Tractors	Hercules Stump Pullers
Fuller & Johnson Engines	Rex Mixers and Pavers
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The Blaw-Knox Lines

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Write or Wire for Catalog and Information

Joe Lyons Machinery Co.

112 N. Louisiana St. (Marion Hotel Bldg.)

LITTLE ROCK, ARK.

A BARGAIN IN ROAD SAFETY

Fort Smith Southwest-American.

For less money than is often expended for a single over-head crossing of a railroad track, the Arkansas state highway department will eliminate four railroad crossings, build a two-way steel bridge and a gravel road from Van Buren to Alma.

The state of New York is working on a program for elimination of railroad grade crossings by construction of overhead and underpass crossings. They cost much money. The highway departments of various states are giving serious thought to relocating roads to avoid railroad crossings, in some instances abandoning good roads to build others so the deadly grade crossing may be eliminated.

The Van Buren-Alma project eliminates four—two over the Frisco tracks and two over the Missouri Pacific. It eliminates them not by overhead or underpass construction but by relocating the road so that it avoids crossing the tracks at all. Furthermore, the relocation shortens the distance, and gives better grades.

It would be worth all its costs and more to get rid of the four menaces to human-life in those railroad crossings. It would be worth more than its cost in faster transportation for the farms and towns immediately served. It would be worth many thousands for cross-state tourist traffic.

Altogether, it's a rare bargain.

Ball-Benton Gravel Company

821 Southern Trust Bldg. Little Rock, Ark.



Plant: Benton, Ark.

REAL GRAVEL—

FOR HIGHWAYS—FOR RAILROAD BALLAST
FOR CONCRETE CONSTRUCTION

Our road clay gravel, weighing 3,000 pounds per yard, is best by every test for road building purposes. Our capacity is from 50 to 60 cars per day, as a result of our separate road gravel loading organization using Bucyrus "70-C" shovels and Baldwin 50-ton locomotives.

Our capacity for washed ballast, washed concrete gravel or washed sand is from 60 to 70 cars per 12-hour shift.

Our service to road districts, railroad projects and large construction jobs is of proven dependability.

Call us over Telephone 4-3788 or Long Distance 133, Little Rock, or Benton 93, for quick action.

J. J. BALL, President
CHAS. M. KING, Secretary

W. D. CAMMACK
Vice President & Treas.

Southern Material and Construction Co.

624-27 Southern Trust Bldg.
Little Rock, Arkansas.

When you employ this firm to build your streets and highways, you get the services of an experienced organization owning more construction equipment than any other Arkansas firm of contractors.

We own and operate the largest sand producing plant in the state, furnishing Arkansas river, washed, channel sand exclusively.

A combination of the material production with the construction business means an ultimate economy to the purchaser.

A. C. BUTTERWORTH,
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CHAS H. MILLER,
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J. A. GREGORY,
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R. S. WILSON,
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ALEMITE Your Car!!

Apply the new style lubrication system to your car—ALEMITE. In this case, pure solidified oil is forced under pressure to all parts of the car needing lubrication. Absolute efficiency!

And how much better than fussing with the old messy grease cups! We can install this equipment on your car at a low cost.

The Motorists' Department Store

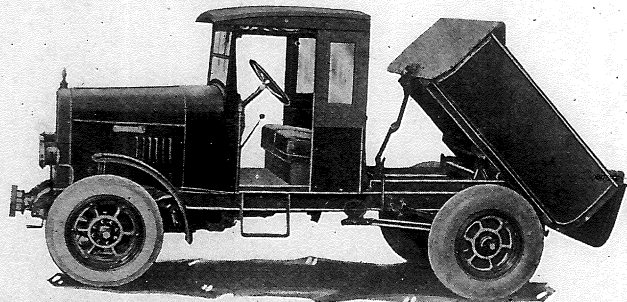
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Tire and Service Co.

Third and Broadway Little Rock

Like the Through Passenger Train This Truck Operates Day After Day on Schedule Time

The ability of this INDIANA ROAD BUILDERS' SPECIAL to operate on high speed schedule, with clock-like precision, eliminates delays at the paver and congestion at the stock pile.

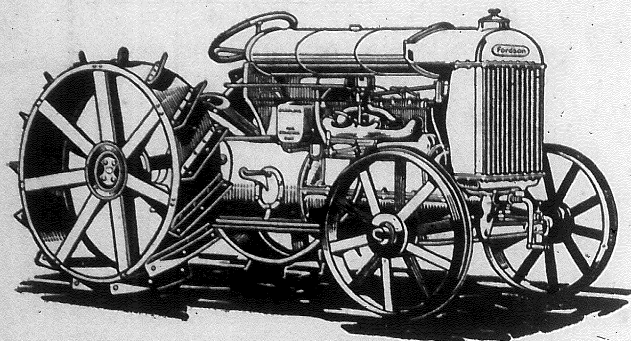


It is so constructed that lost time for repairs are reduced to a minimum and depreciation is strictly in line with that of any other road-building equipment, a thing that heretofore could not be found in any light truck.

It has been proven that this truck can do as much work in one day as the average light truck can do in two and we want you to convince yourself. Visit us at the Chicago Good Roads Show!

INDIANA TRUCK CORPORATION
MARION, INDIANA

**SEE US FOR
TRUCKS AND TRACTORS
FOR ROAD WORK**



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*Oldest and Largest Ford Dealers in This
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Klaxon Horns	South Bend Lathes
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High grade sharp sand, washed and screened

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Hercules "Red Strand" Wire Rope
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Fairbanks-Morse Gasoline Engines
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Steam Engines and Boilers
Worthington Steam Pumps
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and
A Complete Line of Valves, Pipe, Fittings, Hose,
Packing and Belting.

Arkansas' Oldest
Machinery and Supply House

Thos. Cox & Sons Machinery Company

Established 1876

112-120 Commerce St.

Little Rock, Ark.

When they say "Just as Good as ARMCO" ask these questions--

- 1 Does your culvert metal correspond to one of these analyses?
- 2 How much greater is the percentage of impurities in your metal than that of ARMCO Ingot Iron?
- 3 Do these impurities tend to accelerate corrosion?
- 4 How much manganese is in your culvert metal?
- 5 Isn't manganese a serious cause of corrosion?
(The percentage of manganese in ARMCO Ingot Iron is .02 of 1 per cent, as against .12 or 6 times as much in semi-refined irons. There is about 17 times as much in steel.)
- 6 Is your metal as uniform, as certain to give dependable service as ARMCO Ingot Iron?
- 7 Isn't uniformity, next to purity, the most important quality in a culvert metal?
(The average variation in analysis for ARMCO Ingot Iron over a 7-year period is .02 of 1 per cent, a record unapproached by any other commercial iron or steel.)
- 8 Does your metal take a coat of zinc as pure as that on ARMCO Ingot Iron, and does it hold this coat so well?
(W. T. Flanders, authority on Galvanizing and author of "Galvanizing and Tinning," says: "When dealing with pure iron, it is important that you get the very purest. An iron 99.75 pure is not as good as an iron 99.84 per cent pure.")
- 9 What about actual service. Have your culverts been so widely used, and have they given such universal satisfaction, both under railways and highways, as ARMCO Culverts?

LOOK UNDER YOUR ROADS FOR THE PROOF

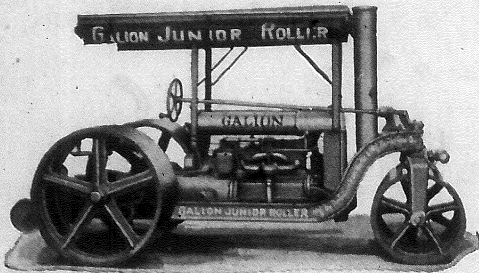
DIXIE CULVERT MANUFACTURING CO.

Armco Ingot Iron Culvert Pipe
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LITTLE ROCK,
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Smith Concrete Mixers and Pavers
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Plows, Wheelers and Fresno

The Most Complete Line of Road Building Equipment on the Market

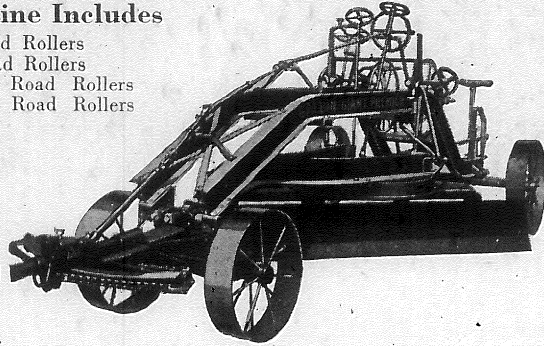


THE GALION JUNIOR ROLLER

The best and most practical road maintaining outfit in the world. Built with the Fordson Tractor Power Unit, which is carried on a full length channel frame. In placing the power unit in the frame, the three-point suspension has been carried out, in order that the greatest possible flexibility may be secured without subjecting the power unit to any unusual strain. Furnished with Planer (between the rolls) or with full width scarifier, or with both planer and scarifier, as desired.

The Galion Line Includes

- Motor Road Rollers
- Steam Road Rollers
- Motor Tandem Road Rollers
- Steam Tandem Road Rollers
- Galion Junior Rollers
- Road Graders
- Road Scarifiers
- Road Planers
- Road Maintainers
- Drag, Fresno and Wheeled Scrapers
- Road Drags
- Grading and Rooter Plows
- Gravel Screening Plants
- Car Unloaders
- Coal Unloaders
- Stone and Gravel Spreaders
- Road Grader Blades
- Cast Iron and Corrugated Culverts



THE GALION GIANT PREMIER GRADER

Only the very best materials are used in the construction of the Galion graders. All parts that are required to carry strains are made of highest grade steel. The arch frames will not buckle and are of a shape and size to insure greatest strength and durability. In fact, all working parts are built stronger than necessary, to meet any emergency that may arise in heaviest road work.

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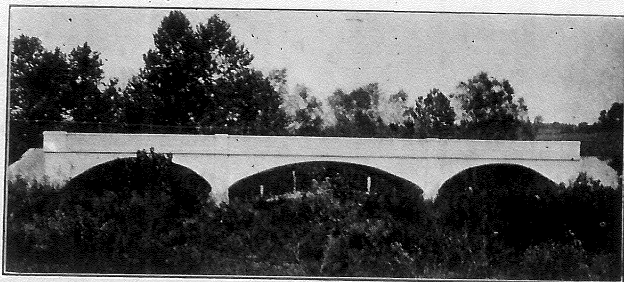
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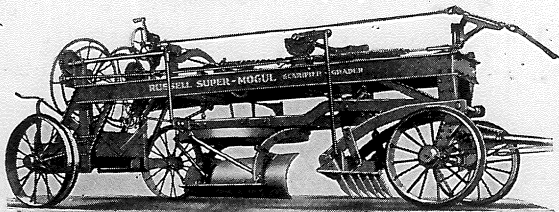
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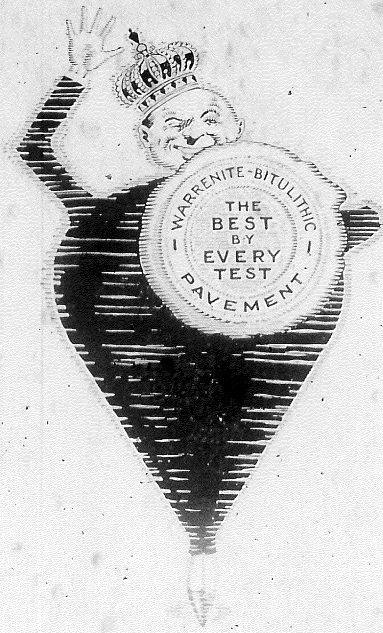
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