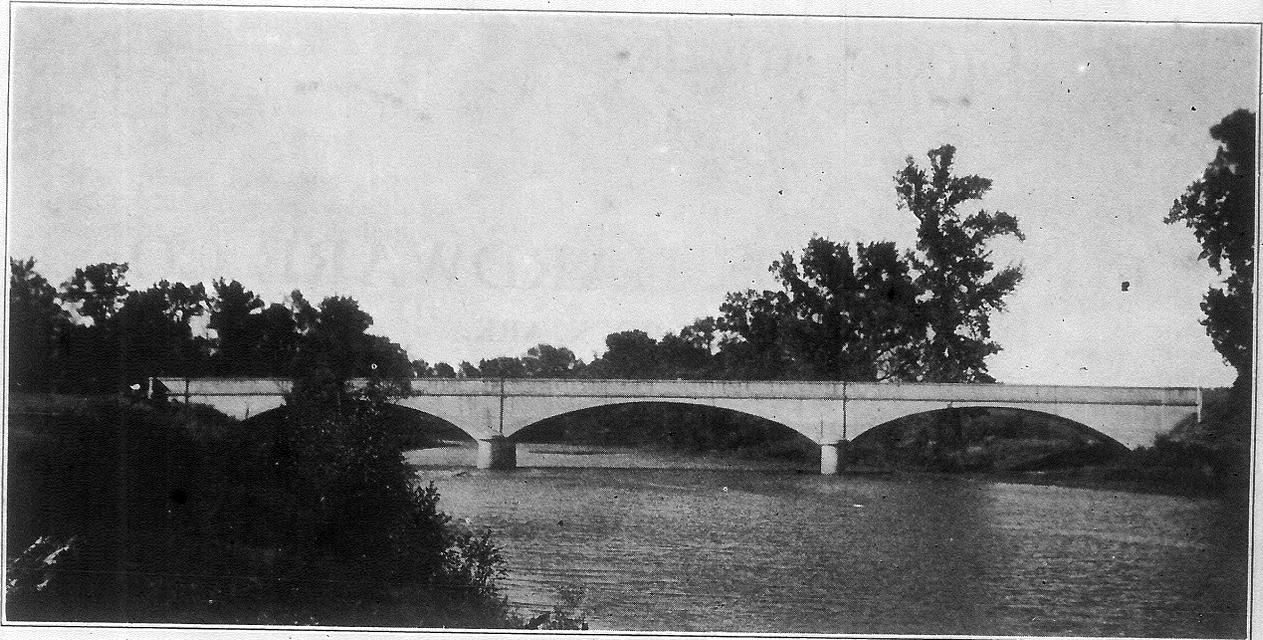


ARKANSAS HIGHWAYS



A BEAUTIFUL CONCRETE ARCH BRIDGE
Frog Bayou Bridge on the Fort Smith-Little Rock Road—Crawford
County—Federal Aid Project 216-B.

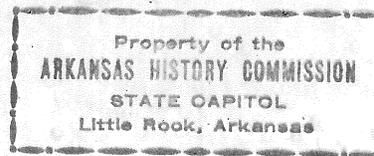
FEBRUARY

VOL. 4

1927

NO. 2

We Handle



*Good Equipment and
Good Supplies for Building
Good Roads*

FONES BROS. HARDWARE CO.

LITTLE ROCK, ARK.

Phones 6138—6139—6130

West Capitol Ave. At Arch Street

Ford

CARS, TRUCKS AND TRACTORS

PARTS ACCESSORIES SERVICE

FORDSON TRACTORS

Contractors' and Road Builders' Equipment

FREEMAN  FREEMAN

LITTLE ROCK, ARK.

ROAD
CHIEF

TWIN CITY

"The Royalty of the Road"

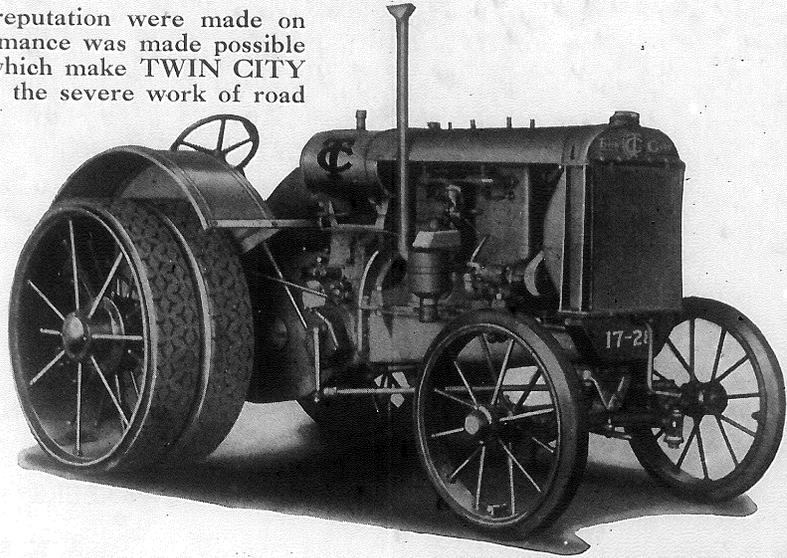
ROAD
KING

TWIN CITY Success and reputation were made on "Performance." Excellent performance was made possible by the development of a design which make TWIN CITY road tractors especially suited for the severe work of road building.

TWIN CITY design, high quality materials, and careful workmanship, mean low cost of operation, and therefore more miles of good roads on a fixed road fund.

Built in two Sizes—
17-28 27-44

Steel wheels furnished in 18" and 28" widths respectively. Lug equipment furnished as desired.



Write for Descriptive Literature

WIEMAN & COMPANY, *Distributors*

Stuttgart, Arkansas

The "Caterpillar" Is Called "The Nation's Road Builder"

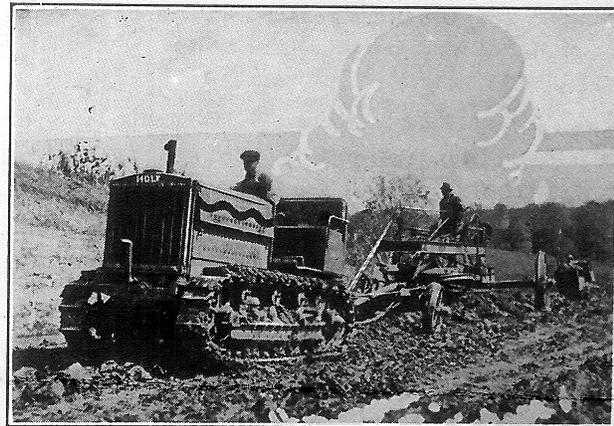
HITCH a Grader Blade behind the "Caterpillar" and go over the old road—bumps vanish, ruts are filled in, a crown built up to drain the water. Traffic speeds up—the smooth comfort of travel invites more travel—the community grows and prospers.

"Caterpillar" Tractors have brought the boon of good roads to many communities—they blaze new roads and maintain old ones, pulling scarifier, blade grade, elevating grader, hauling wagons and doing the dozens of odd tasks that require plentiful power.

Four Models of "Caterpillars" on display at
Memphis:

"SIXTY"
"5-TON"

"THIRTY"
"2-TON"



HALLORAN TRACTOR COMPANY

Memphis, Tennessee

CATERPILLAR
REG. U.S. PAT. OFF.

ARKANSAS HIGHWAY ORGANIZATION

DWIGHT H. BLACKWOOD, Chairman

STATE HIGHWAY COMMISSION

DWIGHT H. BLACKWOOD, Chairman..... Little Rock
 J. L. WILLIAMS, Member..... Osceola
 SAM J. WILSON, Member..... Portland
 JUSTIN MATTHEWS, Member..... Little Rock
 J. S. PARKS, Member..... Fort Smith
 E. C. D'LETTER, Secretary..... Little Rock

GENERAL OFFICE

O. L. HEMPHILL, State Highway Engineer..... Little Rock
 G. HUNTER SYKES, Assistant State Highway Engineer..... Little Rock
 N. G. TAYMAN, Engineer Plans and Surveys..... Little Rock
 C. W. HOLDERBAUM, Maintenance Engineer..... Little Rock
 W. W. ZASS, Construction Engineer..... Little Rock
 N. B. GARVER, Bridge Engineer..... Little Rock
 F. A. GERIG, Engineer Materials and Tests..... Little Rock
 J. A. FRANCIS, Supervisor of Equipment..... North Little Rock
 V. A. KLEIBER, Auditor..... Little Rock
 JIM Q. BLACKWOOD, Purchasing Agent..... Little Rock
 W. A. ROSS, Traffic Manager..... Little Rock

DISTRICT ENGINEERS

DISTRICT No. 1

W. G. HUXTABLE, District Engineer, Forrest City
 C. L. BOND, Assistant, Forrest City
 Crittenden Woodruff Lee Phillips
 Cross St. Francis Monroe

DISTRICT No. 2

E. N. JENKINS, District Engineer, Pine Bluff
 JAS. B. LEIGH, Assistant, Pine Bluff
 Arkansas Lincoln Drew Chicot
 Jefferson Desha Ashley

DISTRICT No. 3

M. H. BREWER, District Engineer, Hope
 JACK DODD, Assistant, Hope
 Clark Sevier Hempstead Miller
 Pike Little River Nevada LaFayette
 Howard

DISTRICT No. 4

W. W. MITCHELL, District Engineer, Fort Smith
 F. L. KIRK, Assistant, Fort Smith
 Benton Crawford Sebastian Polk
 Washington Franklin Scott

DISTRICT No. 5

CONE MURPHY, District Engineer, Batesville
 W. J. BARRY, Assistant, Batesville
 Fulton Sharp Independence Jackson
 Izard Stone Cleburne White

DISTRICT No. 6

A. W. BUFORD, District Engineer, Little Rock
 E. H. FLANNERY, Assistant, Little Rock
 Faulkner Lonoke Saline Hot Spring
 Montgomery Prairie Garland Grant
 Pulaski

DISTRICT No. 7

L. R. PLEMMONS, District Engineer, Camden
 E. WALES, Assistant, Camden
 Dallas Ouachita Bradley Union
 Cleveland Calhoun Columbia

DISTRICT No. 8

H. C. SELLERS, District Engineer, Russellville
 CARL BURKETT, Assistant, Russellville
 Johnson Logan Conway Perry
 Pope Van Buren Yell

DISTRICT No. 9

F. E. COKER, District Engineer, Harrison
 C. L. CUTLER, Assistant, Harrison
 Carroll Marion Madison Searcy
 Boone Baxter Newton

DISTRICT No. 10

SHELLY LEE, District Engineer, Jonesboro
 WEBSTER TURNER, Assistant, Jonesboro
 Randolph Greene Craighead Poinsett
 Clay Lawrence Mississippi

Accounting Division

V. A. KLEIBER..... Auditor
 E. W. SMITH..... Cashier
 J. Q. BLACKWOOD..... Purchasing Agent
 B. F. WILLIAMS..... Assistant Purchasing Agent

Land Department

JOE FERGUSON..... Supervisor
 BELVA MARTIN..... Deputy Land Commissioner

Auto Division

A. V. DENNY..... Chief Deputy
 C. S. DRIVER..... Deputy
 W. A. MOORE..... Deputy
 WALTER NEEDHAM..... Auditor

Equipment

J. A. FRANCIS..... Supervisor of Equipment
 LLOYD LYNN..... Superintendent of Shops

ARKANSAS HIGHWAYS



Official Monthly Bulletin of the State Highway Commission

"Arkansas Highways" is edited in the offices of the Highway Department at Little Rock. Communications relative to advertising or articles and photographs submitted for publication should be sent to Bryan Lancaster, Editor, care Highway Department, Little Rock. The bulletin is sent free to State and County Officials, newspapers of the State and Road Commissioners who apply for it. Permission to reprint any matter contained in "Arkansas Highways," with proper credit, is granted to all newspapers of the State.

VOL. IV.

FEBRUARY, 1927

No. 2

Martineau Highway Law Begins To Function

Commission Holds First Meeting and Discusses Plans

Following closely upon the confirmation by the Senate of the personnel of the new membership of the State Highway Commission, an organization meeting was held in Commissioner Dwight H. Blackwood's office on February 18, at which the Martineau Highway Law was discussed in detail, with a view to the formulation of plans for the immediate prosecution of the great road-building program which it authorizes for the next four years in Arkansas.

Members of the commission meeting with Commissioner Blackwood were J. S. Parks, publisher of the Fort Smith Southwest Times-Record; J. L. Williams, banker, Osceola; Justin Matthews, realtor, Little Rock; and Sam J. Wilson, planter, Portland. Complete harmony prevailed, each member of the commission being entirely in accord on the program, and alive to the responsibility of proceeding under the new law with the rapid completion of the permanently-surfaced State highway system, connecting every county seat in the State.

Under the new law, which is hailed as the greatest piece of road legislation ever placed upon our statute books, the entire annual burden of the bonded districts of the State will be lifted from adjacent lands, and cared for out of the proceeds of highway notes secured by the annual gasoline and license tax. In other words, the annual maturities of the bonded districts will be financed out of the gasoline and license tax, instead of being paid by the landowners in the various districts.

In addition to this an immediate program of highway construction in the unbonded counties will be started, designed to bring the State highways of these counties up to an equality or parity with those of the bonded counties which are now being relieved.

As a first step in this construction program, plans and surveys of the more important links in the State highway system in these unbonded counties will immediately be started by the engineering forces of the department. With this work under way, the department will be ready for the actual advertising and letting of contracts for the various units to be completed in 1927, as soon as the plans, designs and other detail work is completed. When the sale of the highway notes, authorized under the Martineau Law, has been consummated together

with the revenue from the auto license, the gasoline and oil tax, there will be available each year for new construction, the sum of \$13,000,000; for the retirement of bonds in the various bonded counties the sum of \$6,500,000. This law provides approximately twice the amount provided for the retirement of bonds in the bonded counties, to be used for new construction in the unbonded counties. The amount which goes to new construction, however, will be supplemented by several million dollars in Federal aid which is or will be available to the State when it meets the Federal requirements.

Entirely unbonded counties of Arkansas, which will see the first new construction activities under the Martineau Law are Bradley, Calhoun, Clay, Cleburne, Crawford, Hot Spring, Marion, Ouachita, Pike, Scott, Sebastian and Union.

Other counties having but small amounts of bonds outstanding, and in which but few of the roads embraced in the State highway system have been constructed under the old district system include Baxter, Boone, Greene, Logan, Montgomery, Nevada, Perry, Sharp and Stone. These will be among the next to get the benefit of new construction under the Martineau Law, which requires the commission to "continue construction work in such counties until the completed roads in each county have been brought to a parity."

All new construction work will be done by contract, under the engineering and construction supervision of the Highway Department.

The new law, in addition to providing for the meeting of bonded district maturities this year, and hence relieving immediately the burden upon farm lands, provides for the allotting to each county, for use on subsidiary roads not on the State system, the same amount of State aid that was received last year. This provision satisfied the needs of the various county judges for funds to assist in the work on the county highways.

Appropriations provided under the Martineau Law include the following:

	1927	1928
Departmental Expenses.....	\$ 275,000.00	\$ 280,000.00
Interest on Highway Notes.....	585,000.00	1,125,000.00
Maintenance and Repair.....	2,500,000.00	2,750,000.00
District Bond Relief.....	6,500,000.00	6,500,000.00
New Construction	13,000,000.00	13,000,000.00
Aid to County Road Work.....	1,288,854.75	1,468,236.65

Various bills covering disposition of local district funds which will not now be needed to meet bond maturities are now in the General Assembly, but it is impossible to predict the exact nature of the regulatory legislation that will be enacted on this point.

It is believed, however, that some way of providing for the use of part of these funds for the completion or maintenance of those parts of the districts not on the State system will be found.

The news that this year's land taxes would not be collected in the bonded districts has been received by overburdened landowners and farmers with great joy, and has dissipated much of the misunderstanding that originally prevailed relative to the Martineau road program. Many who had been incited to opposition have written Governor Martineau and Commissioner Blackwood declaring they are heartily behind the program, and see in it the greatest forward step since the enactment of the Harrelson Act in 1923. Whereas that measure gave partial relief to landowners, the present law goes all the way, and gives complete relief. It also hastens the work of new construction much more rapidly than it would have been possible under the Harrelson Act.

Copies of the new road law have been printed, and are available in limited quantities. They will be sent by Commissioner Blackwood to those who request them, so long as the supply remains.

AUTOMOBILEITIS

There are so many automobiles in the United States that everybody in the country could get in and take a ride, if there wasn't something the matter with the ignition or something. On the average every family in the United States owns an automobile. At least the wife and kids do; Dad is not sure whether he owns an automobile or not. The automobile has brought about a lot of new problems, most of them in arithmetic. Automobiles are bought on faith, paid for on time and parked on other people's driveways. A few years ago you hardly met a car; now you can hardly meet the payments.

You can buy a flivver now for five dollars a week, and get a chattel mortgage that will outlast four sets of tires. Some people like Henry Ford and some don't, but there is no denying we owe a lot to Henry Ford. Mr. Ford has taken us out into the wide open spaces, which is a good deal better for us than hanging around in a wide open town.

There are really only two great questions before the American people today; how to pay and where to park. It is almost impossible for anybody to land in the gutter any more, not because of prohibition but because some other fellow has already landed there. What this country needs isn't more freedom, but more free parking space.

The men who laid out our towns certainly didn't provide for the automobile. They should have made four curbs on every street; and why all the houses? Nobody stays home any more, or any more than we can help. Home is just a place to go to get money for gas. Home is just a place to go to start from.

If all the automobiles in the United States were put end to end—and on Sunday they are. A line of auto-

mobiles is as hard to pass as good legislation. About the only road that isn't jammed on Sunday is the road to church. There is plenty of room to park in the pews, but nobody ever thinks of that.

But everybody ought to own an automobile, or at least have one. Or else hire a taxi. We spend more for taxis now than our fathers did for taxes, and nobody complains that the taxes aren't high enough. But it is hard to see how our forefathers got around—perhaps that is the reason they got across.

—Santa Fe New Mexican.

AUTO GAS TAX BRINGS \$85,000,000 in SIX MONTHS

Taxes on gasoline used in motor vehicles amounted to \$84,939,373 in the first six months of 1926, according to the Bureau of Public Roads of the United States Department of Agriculture. This amount was made available as follows: \$54,981,677 to State Highway Departments, \$19,338,976 for county and local roads, \$6,329,413 for State and county road bonds, and \$4,140,998 miscellaneous.

A total of 3,560,987,586 gallons of gasoline were taxed and it is estimated that an additional 856,450,000 gallons were consumed in the four States in which taxes are not collected. All of the States except Illinois, Massachusetts, New Jersey and New York imposed a gasoline tax, the rate ranging from one to five cents with an average of 2.39 cents per gallon. Since 19,697,832 motor vehicles were registered in the six months period, the gasoline consumption per vehicle averaged 225 gallons.

Gasoline taxes were first imposed in 1919 when four States adopted the tax and derived a revenue of a little more than one million dollars. The practice is now general and the large revenue derived is one of the most important sources of highway income.

The revenue derived from the gasoline tax in the first six months of 1926 by States was as follows:

Alabama	\$1,175,152	Nevada	173,719
Arizona	456,334	New Hampshire	263,944
Arkansas	1,861,280	New Jersey	-----
California	7,413,624	New Mexico	332,536
Colorado	921,426	New York	-----
Connecticut	1,140,433	No. Carolina	3,598,412
Delaware	173,214	North Dakota	339,507
Florida	6,197,421	Ohio	5,968,232
Georgia	2,559,217	Oklahoma	2,775,015
Idaho	477,123	Oregon	1,466,204
Illinois	-----	Pennsylvania	5,252,410
Indiana	4,022,264	Rhode Island	224,693
Iowa	2,193,634	So. Carolina	2,454,033
Kansas	1,839,712	So. Dakota	848,663
Kentucky	2,448,809	Tennessee	1,700,601
Louisiana	1,253,859	Texas	2,355,792
Maine	561,791	Utah	568,724
Maryland	1,019,388	Vermont	179,468
Massachusetts	-----	Virginia	2,446,643
Michigan	4,373,598	Washington	1,595,302
Minnesota	2,148,340	W. Virginia	1,194,022
Mississippi	1,722,707	Wisconsin	2,189,579
Missouri	2,561,611	Wyoming	220,833
Montana	388,946	District of	-----
Nebraska	1,402,941	Columbia	478,217
		Total	\$84,939,373



JOHN E. MARTINEAU

John E. Martineau of Little Rock, Arkansas' new chief executive, was inaugurated Governor on the 14th day of January, 1927.

Mr. Martineau was born in Clay County, Missouri, on the 2d day of December, 1873, and is the son of Gregory and Sarah H. (Lamb) Martineau, both of whom are deceased. Mr. Gregory Martineau, father of John E., was born in Canada, and, as the name indicates, traces his ancestry back to the staunch old French stock. As a young man he immigrated from his native land to Clay County, Missouri, whence, in 1873 he removed with his family to Lonoke County, Arkansas, where he located on a farm seven miles from the village

of Lonoke. There Governor Martineau was reared to the sturdy discipline of the home farm, early assisting his father in his agricultural pursuits. He received his early educational training in the public schools of Lonoke County. Thereafter he entered the University of Arkansas at Fayetteville, in which institution he was duly graduated as a member of the class of 1896, with the well earned degree of Bachelor of Arts. In 1897 he initiated his independent career as principal of the Argenta Schools and he served most efficiently in this capacity for a period of three years. In the meantime he diligently applied himself to the study of law and so rapidly and effective was his progress that he was ad-

mitted to the bar at Little Rock, after having graduated from the Law Department of the State University, and here he began his practice as an energetic young lawyer in 1900.

In 1903, as a token of his well recognized ability and personal popularity, he was elected to the lower house of the State Legislature to represent Pulaski County. In 1905 he was re-elected to this office and during his incumbency he served most efficiently as a member of the judiciary and other committees and as chairman of the penitentiary committee. In October, 1907, he was appointed by Governor Pindall to the position of Chancellor of the First Chancery District, which comprised the three counties of Pulaski, Lonoke and White. In the election of 1910 Judge Martineau was regularly elected to this office which he held until his recent elevation to the high office of Governor. In 1924 he made the race for Governor and was defeated. He again made the race in the last election and was successful.

Governor Martineau's platform was renowned for clarity and simplicity, and his administration promises to be of like character. Trained in the paths of equity for twenty years, it is difficult to conceive of his rendering to the people of Arkansas any but an honest and just administration.

He is a loyal and public-spirited citizen, giving unwavering support to all measures and enterprises tending to further the good of the community and of the State. He is a member of the Methodist Episcopal Church, and in a fraternal way he is affiliated with the Benevolent and Protective Order of Elks, and the Knights of Pythias. On May 1, 1919, he was married to Mabel Erwin Thomas. They reside at 1856 Battery.

To the new Executive, the Highway Department pledges its co-operation, with the full confidence that under his guidance, and that of the new Highway Commissioner, a constructive road program will be accomplished.

FLOODS CAUSE HUGE DAMAGE TO HIGHWAYS OF THE STATE

The recent floods over the State have exacted a big toll of damage to roads and bridges according to reports reaching the Highway Department.

District Engineer A. W. Buford of the Sixth District has just completed a tour of inspection of damage around Des Arc, Prairie County, where he found that practically all of the bridges had washed out on State Highway Nos. 11 and 38.

An example of the promptness of the State Highway Department in handling such work will be found in the fact that a survey has been started of the entire section and a contract will be let for new State standard bridges, totalling approximately 1,200 feet in length. All this destruction was caused by the overflow of White River, near Des Arc. Mr. Buford made the inspection in a motor boat.

State Highway No. 70, the Bankhead Highway, between Little Rock and Memphis, is also under water between Brasfield and Dagmar, but effort is being made to save this road with all its bridges. In other sections of the Sixth District, says Mr. Buford, the flood damage was considerable but not to the extent of the White River overflow.



JOE H. SCHNEIDER

One of the first appointments to be made by Governor Martineau (and one that has met with universal approval over the entire State) was that of Joe H. Schneider of Little Rock as Secretary.

Mr. Schneider was born 36 years ago, and has spent practically all of his life in Little Rock and North Little Rock. He attended the common schools of these cities and later the University of Arkansas where he graduated from the Law School. At the outbreak of the World War Mr. Schneider enlisted in the service and was commissioned first lieutenant. He served as aid to Colonel John R. Fordyce in the construction of Camp Pike and also the Quartermaster Depot at St. Louis. After returning from service he was elected city attorney of North Little Rock but resigned after several months' service to accept the Secretaryship of the State Highway Department. He later resigned from this service to enter the private practice of law, which he was engaged in at the time he became active in the campaign of Governor Martineau.

Mr. Schneider is one of the State's most promising young attorneys. He has been eminently successful in every undertaking and his friends throughout the State predict that he will acquit himself in the service of the commonwealth with great credit.

What About Toll Bridges?—A Question of Interest

By O. L. Hemphill, State Highway Engineer

Because of the large mileage of rivers in the State, the people of Arkansas should be very much interested in the toll bridge question, a question of importance to any State which has a considerable mileage of large rivers without bridges at all highway crossings.

Until a bridge is provided where a highway crosses one of these streams, traffic must cross the stream by means of a ferry, a method always more or less unsatisfactory, always dangerous to a certain degree, and a method which always must be considered as a temporary means of handling traffic. A ferry, because of its more or less undesirable features, present to some degree at every ferry, is considered with disfavor by the traveling public. This disfavor is growing all the time, and has reached the point where public opinion demands that bridges replace ferries wherever there is any considerable volume of traffic. The traveling public, of course, always favors a free bridge over a toll bridge, but, with a realization that it is not always possible to construct free bridges, this same public is willing, and generally urges, that toll bridges be constructed in those cases where free bridges are not possible.

It should not be understood that this article attempts to say that the public in general favors toll bridges, but there is no use denying the fact that public opinion prefers a toll bridge to a ferry. What public opinion wants it usually gets, provided the opinion is strong enough, so we might as well admit that we are faced with the alternative of providing free bridges, or of having toll bridges constructed where the traffic is heavy enough to insure an adequate return on the investment.

The statements in the preceding paragraph are general in their nature. Let us now consider specific conditions in the State of Arkansas, and see how we are situated regarding bridges. \$12,000,000 is a conservative estimate of the amount necessary to construct adequate highway bridges at those places where navigable streams are crossed by the roads of the State Highway System, and where no bridges now exist. This estimate does not include anything for the construction of bridges over the Mississippi river.

The construction of a bridge means the expenditure of a large amount of money on a short section of highway. This statement means more with an illustration of comparative costs. Many of the bridges required in Arkansas would cost \$350,000 or more. This sum would build ten miles of concrete road, or from thirty to forty miles of gravel road. These figures include the cost of ordinary grading and small drainage structures. With the limited amount of State funds available, as compared to the large mileage of State roads needing improvement, it is plain that no very considerable amount of State funds can be used in the construction of bridges, where a large expenditure adds but little to the completed mileage of the State Highway System.

Conditions being as they are, we may be assured that toll bridges are going to be built at a number of places in Arkansas, unless funds for the construction of free bridges are provided by local improvement districts, and this will happen in only a few cases. Since we can be sure that there are going to be some toll bridges in Arkansas, in addition to those now in operation, we should be interested in the question of how these toll bridges

are to be built and operated. Will they become free bridges after their cost has been paid by the tolls of those who use them, or will they continue to take a tax from every traveler who passes over them, ten, fifteen or twenty years after they have paid for themselves?

There is much that might be said against the latter condition. It is a fact that such bridge, for private gain, places a toll barrier across a highway that has been paid for by the public; and that construction, by the State or county, of the roads leading to a toll bridge, really accrues to the benefit of the individual or corporation owning the toll bridge franchise, for the bridge would pay but small return without passable roads leading to it.

A remedy which has been suggested for this condition is a provision in the franchise for turning the bridge over to the State or county after it has earned enough in tolls to pay for itself and pay a certain return on the investment, but it is doubtful if many bridges will be built under such a plan. The individual or corporation that secures a franchise and constructs a toll bridge, hazards the investment against the probable returns from tolls. Under this kind of franchise there is no guarantee that six per cent will be earned on the investment, but there is a provision against earning more than that amount. There is little incentive, therefore, to hazard an investment in this kind of bridge, for while the investor chances a loss, the maximum return is but little more than can be secured from absolutely safe investments.

Several of the States of the Union are vitally interested in the toll bridge question, and the fact that many States have no large streams is the only reason why this question is not more of a national one than it is. With the steady increase in long distance automobile travel, however, so that more and more people drive over the roads of other States, hundreds of miles away from their own locality, this question is forcing itself on the attention of a large percentage of the national population, and the people of many States, heretofore not interested in the question, are now voicing their sentiments in tones loud enough to be heard everywhere.

A great many thinking people now are advocating the opinion that all highway bridges should be built by the State or by political subdivisions of the State. Realizing the fact that the money is not available for constructing all the necessary bridges as free bridges, and that some toll bridges must be built, they are advocating that the State or its political subdivisions should build and operate such toll bridges as are necessary, collecting tolls for only such a length of time as will allow the bridges to be paid for with the tolls collected.

A bill was introduced at the last session of the Arkansas Legislature, authorizing the State Highway Department to build bridges over the larger streams of the State, financing the cost of construction by bond issues and retiring these bonds with tolls collected, but this bill did not become a law. The same legislature, however, did pass a bill providing for the construction of a toll bridge over Red river, at Fulton, to be constructed and operated by the State Highway Department under the same plan proposed by the proposed general act. This bridge will become a free bridge after the bonds are retired. The county judges of Miller and Hemp-

stead counties issued a franchise to a corporation, granting authority to construct and operate a toll bridge at this place, and this corporation, claiming that the authority of the county judges in this matter is superior to the authority of the legislature, has taken court action to prevent the construction of this bridge by the Highway Department.

Before a bridge can be built over a navigable stream that extends into two States, a bill authorizing its construction must be passed by the Congress of the United States. Most acts of Congress giving authority for corporations to construct and operate toll bridges; also confer the same right of eminent domain that is exercised by other public utilities, consequently, in those States where State authorization is not required, an act of Congress can allow a toll barrier, in the form of a toll bridge, to block a State highway without the assent of any State agency. Sometimes, in fact, this action is against the desire and wishes of the State, and this, of course, brings on a discussion as to the invasion of the rights of the State.

In Arkansas, by reason of Constitutional authority given to county judges, a franchise for a toll bridge must be secured from the county judge of the county in which the bridge is to be located. In the event that the bridge spans a river forming a boundary between two counties, the franchise must be issued by the county judges of both counties. Here we have the fact that a county, by reason of the action of its county judge, may allow the placing of a toll bridge across a road of State-wide importance, perhaps of national importance; a bridge which will require every traveler on this important road to pay a tax for a period which may vary from twenty-five to fifty years. The road on which the toll bridge is to be located may have been improved for many miles on either side of the bridge with funds provided by the entire State, or, in some cases, with funds provided by the entire Nation as Federal aid. Because of the demand of the public, however, for bridges of some kind, this condition will not only continue to exist, but will become more common, until some provisions are made whereby toll bridges can be built and made free bridges as soon as paid for by tolls collected.

A recent decision of the Comptroller General of the United States, relative to the provisions of the Federal Aid Highway Act regarding payment of Federal aid on roads leading to toll bridges or ferries further complicates the toll bridge question so far as Federal aid is concerned. According to this decision, Federal aid cannot be used on a road which exclusively serves any kind of

toll service, whether this toll service be a ferry, a bridge owned and operated by an individual or corporation, or a bridge owned and operated by the State or a political subdivision of the State. In other words, on a road leading up to any kind of toll service, no Federal aid can be used beyond the point at which some road leads off, by which a detour of the toll service can be made. It makes no difference if the toll bridge is operated by the State or a political subdivision, with the expressed intention of making it a free bridge when paid for by the tolls collected. According to a Comptroller General's decision it is a toll service, and Federal aid cannot be used on a road which serves it exclusively.

Toll bridges will be built in Arkansas, and this cannot be denied. The question which should be considered seriously by every citizen of the State is: How and under what conditions are these toll bridges to be constructed and operated?

'Twas Ever Thus

When the plumber makes a mistake he charges twice for it.

When a lawyer makes a mistake it is just what he wanted, because he has a chance to try the case all over again.

When a carpenter makes a mistake it's just what he expected.

When a doctor makes a mistake he buries it.

When a judge makes a mistake it becomes the law of the land.

When a preacher makes a mistake nobody knows the difference.

But when an editor makes a mistake—Good night!
—*Keystone Topics.*

Drew Gravel Company

ROAD SURFACE GRAVEL
Furnished in Any Quantity

Pits, Ballast Junction and Ozman Bluff
Shipping Point, Monticello

OFFICES

MONTICELLO AND McGEHEE
ARKANSAS

M. E. SHERLAND, Sec.-Treas.
McGEHEE, ARKANSAS

1500 Tons

700 Sizes

STEEL PRODUCTS

CENTRAL SUPPLY COMPANY

LITTLE ROCK, ARKANSAS

Highway Expenditures Must Be Doubled To Meet Increasing Transportation Needs Of The Country

By Howard L. Clarke, in *Manufacturer's Record*

Before we can make money in business we must spend money for plant facilities. When these plant facilities become inadequate to meet the increasing demands upon them we must pay more money for improvements and additions, in order that continued operation may show a profit and greater savings be obtained. Therefore, we have the paradox of spending money in order to save money. Industry and transportation are meeting this situation.

In railroad transportation alone it is estimated that \$1,000,000,000 a year for the next ten years will be necessary to supply facilities to take care of the growing demands of traffic. Likewise in our waterways systems, which recent discussions have shown are now beginning to earn a substantial dividend and savings to the American people on the \$1,250,000,000 expended for their improvement, the National Government is spending for river and harbor improvements over \$60,000,000 a year and millions more will be needed before we are to secure the greatest advantage of our water routes.

The same situation today faces the highways of the country, only in a more pronounced form. In proportion as the railroads of the country are more numerous and reach more people than waterway facilities, so the country's highways are in greater numbers and offer a more universal service to the public than any other form of transportation. Our country in the rate of progress it is making and that it may not be hampered in its normal growth, must utilize every effort to see that transportation facilities, whether rail, highways, waterways or airways, are keeping pace with the country's transportation requirements. Highways are vital factors as feeders to railroads and inland waterway carriers and, with the fuller use of the motor bus and motor truck, are themselves becoming a great artery through which the life-blood of the nation's commerce is carried.

Government figures show that there are 3,001,825 miles of roads in the United States. Of this total mileage 275,658 miles, or less than 10 per cent, have been improved to the degree of grading and drainage, and under bad weather conditions many of these roads prove a delusion and a snare to the motorist; 521,915 miles, or less than 18 per cent of all roads, are surfaced, and but 75,388 miles, or 14 per cent of surfaced roads, or 2.5 per cent of all the roads in the country, are bituminous, asphalt, concrete or brick. Over \$1,288,000,000 was spent in 1925 on all roads of the country, and the amount will be even greater for 1926. In 1914 the United States expended or invested \$240,264,000 for highways. The United States is now investing annually about four and a half times similar expenditures of eleven years ago. During this period the number of motor vehicles have increased from 2,000,000 to 20,000,000, or ten times. Preliminary figures compiled by the National Automobile Chamber of Commerce indicate that there are now 22,000,000 motor vehicles in the United States. We are now making in one year more than double the motor vehicles in the country in 1914. In fact, highway expenditures in the Southern States, amounting to approximately \$400,000,000 annually, are now \$150,000,000 in excess of what the

country spent in 1914, while the motor vehicles registered in this section alone in 1925, numbering 5,153,000, are over 3,000,000 more than were in the United States in 1914.

No one can say that there is no need for more highways or improvements in widening existing roads. Such an assertion would mean a belief that the United States has reached its ultimate development. In the more thickly populated sections of the country the roads built only a few years ago are found to be inadequate to handle the present-day motor traffic. Instead of one narrow road it will not be many years before there will be constructed roads double the width of those at present, which are hampering the free movement of traffic, and probably in the more congested areas a separate truck-line highway for slow, heavy truck traffic and another paralleling it for fast motor bus and automobile passenger traffic. Then, too, the expenditures for road repairs and upkeep, if we expect to maintain what has been invested, must be greatly increased in order that our highways may continue to give the most profitable transportation service. In practically every State highway expenditures could be doubled and still be far behind actual needs to insure adequate facilities for motor traffic in the next few years.

In the beginning much of the mileage was a one-track road, and in isolated sections in thinly populated States this condition still exists; a little later roads of 14 feet and then 16 to 18 feet wide were exceptional,

TOTAL ROAD MILEAGE AND HIGHWAYS IMPROVED AT END OF 1925

(Includes Existing Roads in County, Local Rural Roads and State Highway Systems)

STATES	Grand Total Mileage All Roads U. S.	Mileage Improved Roads		
		Earth to Established Grade and Drained	All Sand, Clay, Gravel and Hard-Surfaced Types	Bituminous Asphalt, Concrete and Brick
Alabama	61,541	7,585	13,560	345
ARKANSAS	74,865	1,901	6,499	804
Florida	30,263	3,144	9,844	2,470
Georgia	97,892	24,144	18,710	1,254
Kentucky	68,704	761	17,231	521
Louisiana	39,803	-----	5,183	73
Maryland	14,868	1,579	4,689	1,111
Mississippi	56,108	1,264	9,910	470
Missouri	110,500	12,264	10,658	1,428
North Carolina	68,148	15,021	20,017	2,456
Oklahoma	134,262	3,605	1,686	571
South Carolina	64,634	6,582	10,061	346
Tennessee	65,322	9,791	13,325	1,146
Texas	167,685	2,985	20,115	1,440
Virginia	59,080	4,434	9,782	1,007
West Virginia	35,243	1,159	1,628	1,094
Total South	1,148,918	96,219	172,898	16,536
South's Percentage	38.2	34.9	33.1	21.9
United States	3,011,825	275,658	521,914	75,388

Some of the Influences of Right-of-way on Locations

By Frank P. Kirk, Assistant District Engineer, District No. 4

The Alexander Law did not make sufficient provision for change in alignment and in the majority of cases the roads built under the Alexander Law followed very closely the old road, some of which apparently were trails made by the first settlers of Arkansas.

Highway location has gradually improved and where Federal aid is involved most locations are very carefully made. The representatives of the State and the representative of the Bureau of Public Roads do not always agree, but the location is usually made with three important points in mind; low cost of construction, low cost of maintenance, and comfort and safety for the traveling public.

Some of the locations where Federal aid is not involved have not been made so carefully, and right-of-way troubles have influenced it to too great an extent. Where Federal aid is involved the public can be appeased to a certain extent by notifying them that unless the location is approved by the Bureau of Public Roads, Federal aid cannot be obtained. On non-Federal aid jobs the public is harder to satisfy and a farmer who owns a Ford car and pays his \$17.00 license, and gas and oil tax every time he goes to town, feels that the State Highway should come by his place, but thinks it should be located to suit his convenience. All kinds of schemes have been used to get right-of-way on the proper location. In some cases several lines were run and the location put on the one where right-of-way could be secured free. Some county judges co-operated splendidly, others would not co-operate at all, so much right-of-way had to be begged. Were county judges perfectly willing to co-operate, the District Engineer hated to see him have to pay excessive prices for right-of-way, when the property owner who is paid a big price for right-of-way also benefits as much or more from the highway than any property owner on or off the highway.

There was a case in one county where in 1925 the county judge paid \$1,000 for right-of-way across a farm, and it is a conservative estimate that the farm was increased in value 20 per cent by the highway being located through it. It will be a long time before a State Highway can be built by all the farms, and as long as the work is done with motor tax the right-of-way should not have to be paid for out of this revenue, nor out of the general county fund. Probably a county

judge is right in not wanting to pay for right-of-way—he knows where he condemns the land he may have to pay an unreasonable price. Nor should the locating engineer have to spend his time begging right-of-way either.

Some method should be worked out if possible, so that the property most benefiting from the State road built with gas and oil tax should be compelled to furnish the right-of-way without having it paid out of the general county fund. Of course the property that is actually damaged should be paid for, but the benefiting property should pay the bill.

The locating engineer should know that when he makes the proper location for a highway the right-of-way will be secured, whether it is donated or not, and all damages will be properly adjusted. When this is done all the highway locations, whether Federal aid projects or not, will be made more carefully and will be much better for the State as a whole.

Progressive Pinching

A woman gave her young son half a dollar to buy a pound of plums, saying: "Be sure, Tommy, to pinch one or two of them to see if they are ripe."

In a few moments Tommy returned with both the fruit and the half dollar.

"I pinched one, as you told me," he explained, "and then when the man wasn't looking I pinched the whole bag full."—*Progressive Grocer.*

TUCKER SAND AND GRAVEL CO. BENTON, ARKANSAS

WASHED AND SIZED GRAVEL
CONCRETE SAND AND
CONCRETE MIX

We furnished Sand and Gravel for the construction of 26 miles of the Little Rock-Hot Springs Highway.

PEERLESS ENGRAVING COMPANY

ARTISTS — DESIGNERS — ENGRAVERS

Fourth and Louisiana

Little Rock

Florida Has Tremendous Road Program Under Way

New Contracts Bring Work Under Way Over Twenty Million

Arkansas has made such splendid progress during the past several years, and has so many larger plans for the immediate future in road-building that we are sometimes led to overlook the rapid strides along the same lines which other Southern States are making or have in contemplation.

An example of this is to be found in the State of Florida, where the widely advertised collapse of the "boom" has led many people to think development of every kind had come to a standstill there. Quite to the contrary, Florida right now is pressing forward the largest program of highway construction in the entire South, more than \$20,000,000 being involved in projects now under way.

The Florida system embraces 5,654 miles, of which 2,479 miles are known as Preferential Trunk Lines, and are being permanently surfaced throughout the mileage before attention is given to less important thoroughfares. Already six main roads into and through the State, East, West, North and South have been completely surfaced, and half a dozen more will be finished during the year.

Annual revenues of the Highway Department of Florida are approximately \$15,000,000, the money coming from a one-mill ad valorem tax, a four-cent gasoline tax, and one-eighth cent oil tax, the automobile license tax, county donations and Federal aid.

The State has also recently adopted a model title registration law which, in addition to giving the Highway

Department augmented revenue from automobiles, makes their theft in Florida a practical impossibility, and reduces anti-theft insurance rates approximately 20 per cent.

The early completion of trunk line highways in Florida has made the State more than ever attractive to tourists, and business there is reaping the harvest that comes from tourist trade during the winter months, when highways of other States are out of commission.

As an extra inducement to the motorist, speed laws are sanely and conservatively administered, on many open stretches of State highway the speed limit being raised to 45 miles.

Backing up the road program, many thousands of dollars are being spent by the State in publicity, newspaper advertising, attractive booklets and other advertising matter, which calls attention to the advantages of the climate, resources and laws to be found there.

Ouch!

They had been having a little quarrel and she turned to him with tears in her eyes.

"Well, John, even though I have been extravagant, I got a bargain today."

"Yes, I'll bet it was a bargain! You have no idea of the value of money. I suppose you got something for nothing."

"Well, I got a birthday present for you."—*The Continent.*



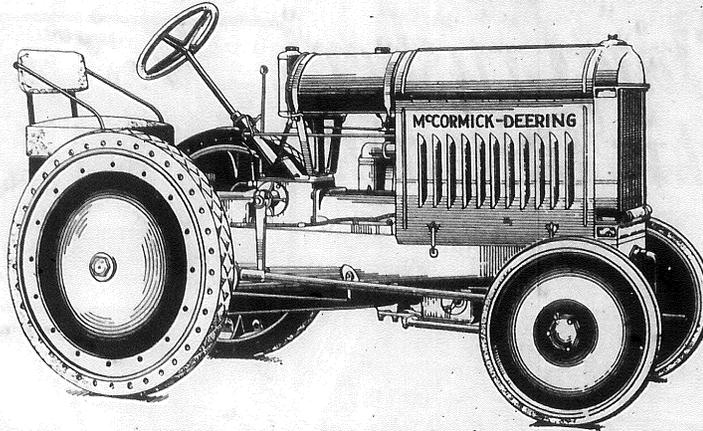
*"In Quality
Above All"*

PIERCE PENNANT GASOLINE IS FULL OF "PEP AND GO"
PIERCE PENNANT AUTOMOBILE OILS AND GREASES
ARE LASTING

Pierce Petroleum Corporation

When Turning Byways Into Highways Remember---We Have a Full Line of Equipment

Tractors
Ditchers
Graders
Plows
Scrapers
Stone Crushers
Compressors
Etc., Etc.



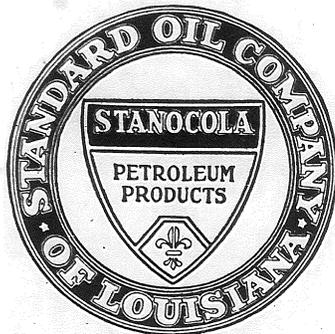
Crowners
Rollers
Rooters
Scarifiers
Loaders
Stump Pullers
Trailers
Etc., Etc.

We Call Particular Attention to Our Complete Line of Motor Trucks Ranging from $\frac{3}{4}$ -Ton to 5-Ton Capacity.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA

300 FERRY STREET

LITTLE ROCK, ARKANSAS



*"Better Stick
to the
Standard"*

"Standard" Motor Oil

(FORMERLY STANOCOLA POLARINE)

and

"Standard" Gasoline

(FORMERLY STANOCOLA)

are the two Motor necessities so essential to the efficient operation of your Automobile or Motor Truck—Look for the dealer displaying Stanocola signs and call for Stanocola Polarine or Stanocola Gasoline by name.

ASPHALT---The Standard Oil Company of Louisiana, with its modern Refinery at Baton Rouge, is the largest manufacturer of Asphalt and Asphaltum products in the South.

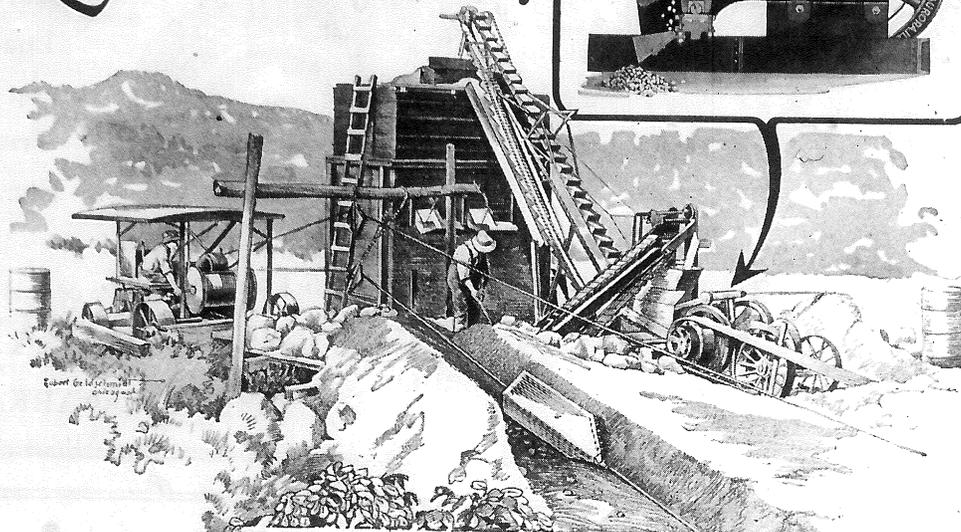
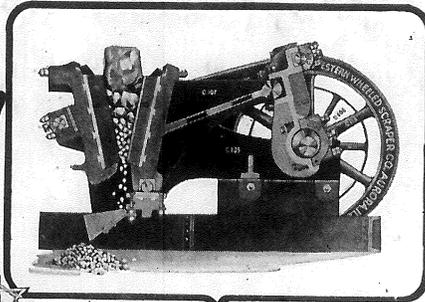
Asphalt and good roads are synonymous and you will find it used on better Highways from Maine to California and from Canada to the Gulf of Mexico.

Standard Oil Company of Louisiana

NEW ORLEANS, LOUISIANA

WESTERN-AURORA

*The Jaw Crusher
that is Different!*



INSTEAD of following the design of the old original Blake type machine as do all other jaw crushers, the Western-Aurora provides a continuous double stroke movement whereby some part of the jaws is crushing at all times. While the top is opening to receive new stone, the bottom closes to crush; and then when the top closes, the bottom opens to discharge the finished product. There is also a slight vertical movement which prevents a dead center. This two-blow stroke has the threefold effect of increasing capacity, lessening vibration, and economizing on power.

A cross-sectional view of the Western-Aurora Crusher appears in the above insert. Notice the absence of all springs and toggles that are so frequently the cause of annoying and expensive breakdowns.

Not only are Western-Aurora Crushers of a unique and superior design, but the very best of workmanship and material is also used in their construction. The main frame and all other castings are made of the best quality steel, and the remainder of the plant is built according to the same high standard.

A special catalog describes in detail the complete line of Western-Aurora Crushers.

Write for your copy today!



THE AUSTIN-WESTERN ROAD MACHINERY CO.

400 North Michigan Avenue, Chicago, Illinois, U. S. A.

Warrenite-Bitulithic Pavement

—“A WARREnted Product”—

A dusty pebble-strewn road may inspire a poem—but

“Ask the Man who travels one”

We recommend for the “man who travels roads”—black-top, time defining, time-saving, modern roads—such as we can build with Warrenite-Bitulithic.

“Ask the man who travels one”

Warren Brothers Company

International Highway Engineers and Contractors

EXECUTIVE OFFICES:

Boston, Mass.

DISTRICT OFFICES:

New York, N. Y.	Washington, D. C.	Dallas, Texas
Portland, Ore.	Utica, N. Y.	Charlotte, N. C.
St. Louis, Mo.	Minneapolis, Minn.	Sidney, Australia
Birmingham, Ala.	Oakland, Cal.	Buenos Aires, B. A.
Harrisburg, Penn.	Toronto, Ont.	Tokyo, Japan
Vancouver, B. C.	Memphis, Tenn.	Melbourne, Australia
Chicago, Ill.	Los Angeles, Cal.	Oklahoma City, Okla.
Phoenix, Ariz.	New Orleans, La.	Salt Lake City, Utah

*To Have Good Roads
Requires Lasting and
Efficient Equipment*



The Joe Lyons Machinery Company

The Contractor's Supply House

Has everything that conforms to quality, good roads and highway specifications.

Let Us Prove It

120 N. Louisiana St.

Marion Hotel Bldg.

LITTLE ROCK, ARKANSAS

DIXIE CULVERT MANUFACTURING CO.

ARMCO CULVERTS

Look Under Your Roads for the Proof

there can be --- there is ONLY ONE
“PURE IRON” for Culverts

In almost every State and in Canada there are many ARMCO Culverts that have been in use from 10 to 18 years. Can other culverts claim as much?

There can be *only one* purest and most uniform iron made for culverts. The chemist, the metallurgist, the microscope ALL say this is genuine ARMCO Ingot Iron and NO OTHER. In every other culvert metal impurities are either purposely left in or purposely added.

In ARMCO Ingot Iron the Microscope shows a *uniform* ferrite grain structure—a solid, unbroken wall against corrosion.

If you want corrugated culverts exactly like those which have definitely established the economy of this construction during the past 18 years you will look for the Blue Triangle Trademark. They can be found under NO OTHER BRAND.

“ALWAYS AT HOME”

DIXIE CULVERT MANUFACTURING CO.

Armco Ingot Iron Culvert Pipe
Calco Automatic Drainage Gates
Armco Ingot Iron Tanks
Welded Gas and Oil Tanks

LITTLE ROCK
ARKANSAS

Smith Concrete Mixers and Pavers
Great Western Slips
Plows, Wheelers and Fresnos
Page Hy-Way Guard

RUSSELL MOTOR PATROL No. 4

**CATERPILLAR TWO-TON
TRACTOR FOR POWER**

**FOR HIGHEST EFFICIENCY and LOWEST WORK-
COST THE No. 4 IS AN ADDED ACHIEVEMENT**

**Heavier
Stronger**

Not only a machine of more power and heavier construction—it is re-designed from the ground up using the proven principles—which were worked out successfully in the two previous models—both going strong and each in its class a great producer.

No. 3—Russell Motor Patrol (McCormick-Deering 10-20 Tractor)
No. 2—Russell Motor Patrol (Fordson Tractor for Power)

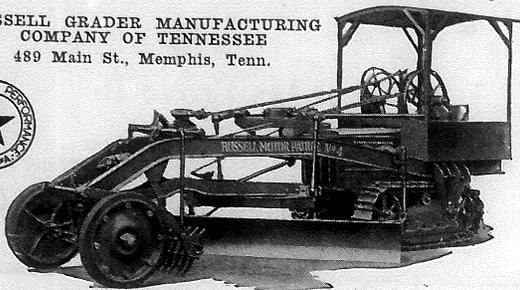
Does with ease the heavier maintenance work on gravel or dirt roads—particularly efficient on loose or sandy soil where wheel-type tractors balk or slip.

The design is rangey, yet power is compact and easy under operators control from his station at rear of machine; with unobstructed view of the road ahead as well as the blade and its turn-over.

Each of the three models—No. 4—No. 3—No. 2—is equipped with scarifier. This may be worked with blade or separately.

Our catalog of special interest to all road builders—sent free and postpaid

RUSSELL GRADER MANUFACTURING
COMPANY OF TENNESSEE
489 Main St., Memphis, Tenn.



Printers to Arkansas!

Gradually through the years there has been built up a State-wide appreciation of what the "Calvert-McBride" mark means on printing.

Quantity Production
Highest Quality
Prompt Delivery
Lowest Price

*These Things Tell
The Story*



Calvert-McBride Printing Company
FORT SMITH, ARKANSAS

Hermitage Portland Cement

SAND • GRAVEL • STONE

TRUSCON
STEEL
ROAD
MESH

*Our facilities for supplying
road building materials
are unexcelled*

CAREY'S
ELASTITE
EXPANSION
JOINT

FISCHER LIME & CEMENT CO.

MEMPHIS

Meyer & Greenwald Construction Company

General Contractors



Monroe, Louisiana
and
Meridian, Mississippi

STEEL FOR BRIDGES AND BUILDINGS

Reinforcing Bars

FABRICATED STRUCTURAL WORK

WROUGHT IRON RAILINGS, PIPE RAILINGS,
WIRE GUARDS, GRILLES, FIRE ESCAPES,
WINDOW GUARDS.

Bars	Sheets	Nuts
Beams	Plates	Bolts
Angles	Shafting	Rivets
Channels	Tool Steel	Babbitt

Bridge Bolts and Hardware

Always Get Our Prices

Arkansas Foundry Company

1500 East 6th Street

Little Rock, Arkansas

"We Repair Contractors' Machinery"

S. G. Adams Stamp & Stationery Co.

ST. LOUIS, MO.

Manufacturers of

ROAD MARKERS AND ROAD SIGNS—METAL TAGS—EMPLOYEES' IDENTIFICATION BADGES—RUBBER STAMPS—SEALS—STENCILS—
AUTO LICENSE PLATES, ETC.

Write for Catalog

A. G. LORENZ, *Selling Agent*

2419 Battery Street

LITTLE ROCK, ARK.

Phone 4-6558

Is Your Work Completed On Time?

IF your machinery is not properly lubricated, it cannot stand up under the strain of road building. If your machinery breaks down your work cannot be finished on schedule. Gay oils and greases will assure you this proper lubrication and will save you repair bills and loss of time.

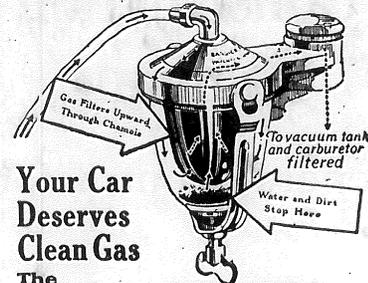
GAY lubricants have been used for 20 years by road contractors and have proved themselves satisfactory and dependable under the most exacting tests.

There's A Gay Product For Every Motoring Need

Gay Oil Company

STATIONS ALL OVER ARKANSAS
AND IN MEMPHIS

30 Days FREE Proof That This Ends Carburetor Troubles



Your Car
Deserves
Clean Gas

The
ALEMITE
Gas-co-lator

(FOR ALL CARS)

Removes all dirt and water from your gasoline as you drive. Get one today from your dealer or write to—

ALEMITE LUBRICATOR CO.
OF ARKANSAS

555 Building

Little Rock, Ark.

Big Rock Stone and Material Company

CRUSHED STONE, SAND AND
BUILDING MATERIALS

Especial Attention Given to Road Materials—Ready Mixed
Concrete—Highest Grade Stone—Blue Trap Rock

OFFICE 111 CENTER STREET—LITTLE ROCK, ARKANSAS

W. W. DICKINSON,
President.

R. SNOW WILSON,
Vice-Pres. & Gen. Mgr.

The Voss-Hutton Company

WHOLESALE DISTRIBUTORS

LITTLE ROCK, ARKANSAS

Klaxon Horns

South Bend Lathes

Black Hawk Wrenches

Wright Hoists

Raybestos

Black & Decker Drills

Pedrich Rings

Timken

Weaver Equipment

Hyatt

Welding Equipment

New Departure Bearings

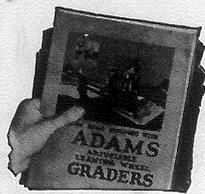
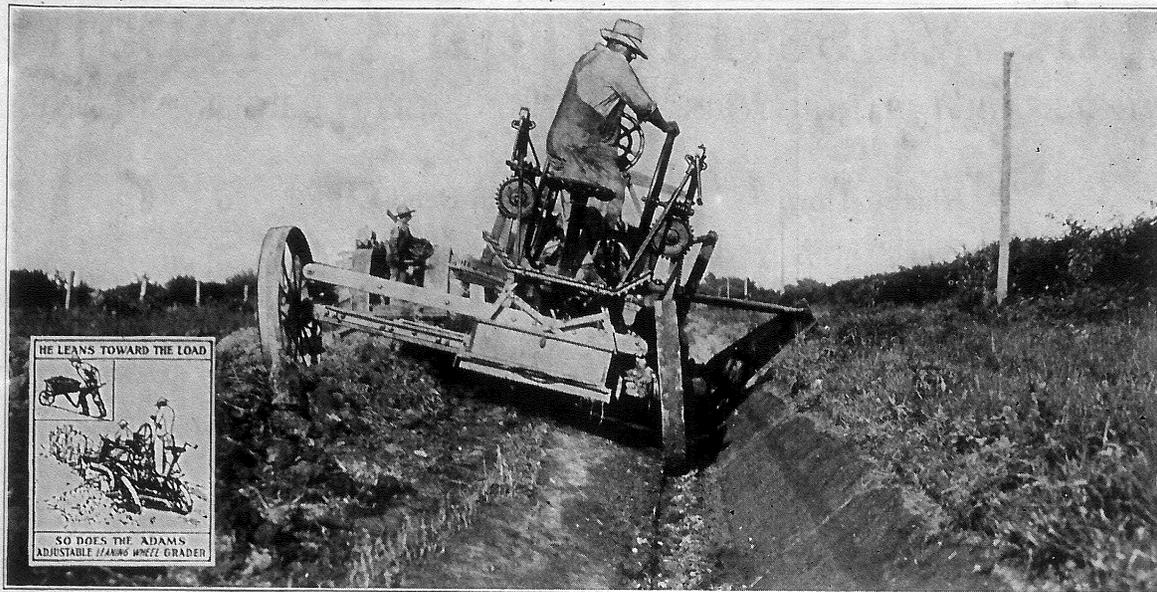
**Automobile Accessories
Garage Equipment**

214-16-18-20 W. Fourth St.

Long Distance Phone

4-0433, 4-0434

*“A Friend of
Good Highways”*



SEND FOR THE
ADAMS CATALOG

It gives you complete information on the entire Adams line, which includes Adams Graders in 6½, 7, 8, 10 and 12-ft. blade lengths, Scarifier-Graders, One-Man Road Maintainers, Road Patrols, Wheeled Scrapers, Fresno, Road Plows, Rooters, and Grader Blades for any make of blade.

Simple In Operation

The more simple are the operating controls on your grader, the more apt is your operator to adjust his machine properly for all conditions and get the greatest output or efficiency from the grader.

No other graders approach Adams for simplicity and convenience of operation. Every operating control is made up of as few parts as possible to eliminate trouble and lost motion. Take for instance the Adams Patented "One-Piece" Rear Axle which has less than half the Leaning Wheel and side shifting mechanism involved in the more complicated axles used on other graders to avoid Adams' patents.

Adams have specialized on Leaning Wheel Graders for 42 years. It is quite natural that Adams Graders have been developed to a degree of simplicity, ease of operation and freedom from trouble, not to be found in recent imitations.

J. D. ADAMS & COMPANY

20 ADAMS AVENUE

MEMPHIS, TENN.

COMPLETE STOCK CARRIED FOR IMMEDIATE SHIPMENT

Adams ADJUSTABLE LEANING WHEEL Graders

"The Original - A Proved Success Since 1885"

*"Easy To Buy When New"**"Easy To Sell When Old"**Ford***CARS • TRUCKS • TRACTORS • PARTS**

LOWEST INITIAL COST

MOST ECONOMICAL IN UPKEEP AND OPERATION

MOST SATISFACTORY IN SERVICE

We are the oldest and largest Ford Dealers in Arkansas, and solicit your business on
our record of satisfactory service and responsibility
to our patrons.

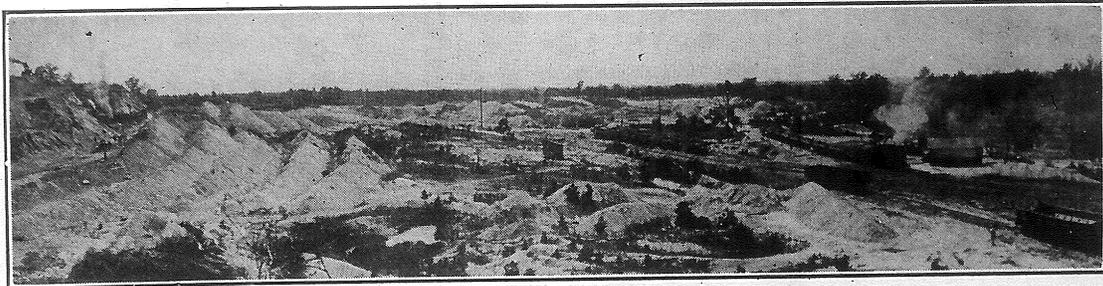
SHOEMAKER-BALE AUTO COMPANY*Friends of Good Roads*

Markham and Arch Streets

Little Rock, Arkansas

Ball-Benton Gravel CompanyJ. J. BALL, President
CHAS. M. KING, Secretary

821 Home Life Bldg. Little Rock, Ark.

W. D. CAMMACK
Vice President & Treas.

Plant: Benton, Ark.

REAL GRAVEL—**FOR HIGHWAYS—FOR RAILROAD BALLAST—FOR CONCRETE CONSTRUCTION**

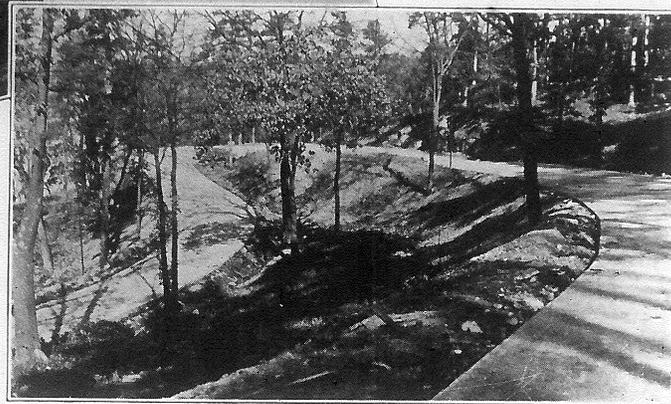
Our road clay gravel, weighing 3,000 pounds per yard, is best by every test for road building purposes. Our capacity is from 50 to 60 cars per day, as a result of our separate road gravel loading organization using Bucyrus "70-C" shovels and Baldwin 50-ton locomotives.

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 Phone 4-3788 or Long Distance 133, Little Rock, or Benton 93, for quick action.



In Hot Springs National Park, views showing but a part of the roadways built with Marquette High Test Cement.



Hot Springs National Park owned and controlled by the United States Government.

At the
Nation's
FINEST PLAYGROUND

where health-giving baths and recreational sports attract thousands yearly, one finds every convenience and comfort. Here a large measure of the satisfaction, afforded to visitors is dependent on the picturesque *concrete roads* that penetrate the park and make it easily accessible to motorists.

These roads were built with—



28-Day Strength Concrete in 60 hours using Marquette High Test Cement—Write for information.

Marquette Cement Manufacturing Co.

Southern Office—Union & Planters Bank Bldg., Memphis

Plants at La Salle, Ill. and Cape Girardeau, Mo.