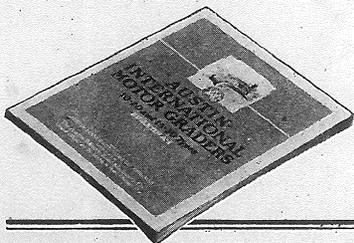


Rear type of scarifier used on Austin Motor Graders. This attachment is exceedingly useful in scarifying roads that are too hard for the grader blade, thus greatly increasing the capacity of the machine.



I would like the Catalog

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## LEVELING OFF THE ROUGH SPOTS

**T**HAT'S the job usually assigned to Austin-International Motor Graders—and that's exactly what they do. If it's a badly rutted gravel road the Austin-International (15-30) will cut right down to the bottoms of the corrugations leaving a smooth, hard surface once more suited for high speed traffic. Not only that but it has sufficient speed and blade length (12 ft.) to do the work quickly and inexpensively.

### Leaning Front Wheels

Besides having the operator stationed at the rear of the machine, which is now generally conceded as the only logical place for him to stand, Austin Motor Graders are also equipped with leaning front wheels which overcome the side draft on the blade and hold the grader to a straight course, besides enabling it to work in ditches and on side slopes where a straight wheeled machine would be useless.

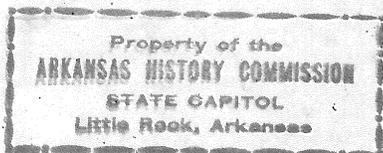
### Special Equipment

Austin Motor Graders are built in three sizes using the International (15-30), International (10-20) and Fordson for their power. All three sizes may be had with plain steel wheels, rubber tired wheels, or crawler tread, and with either center or rear scarifier.

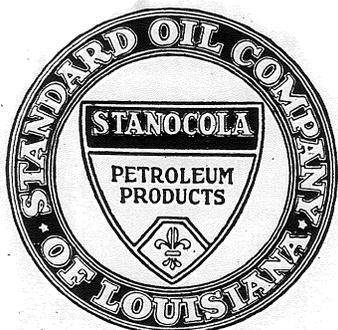
*A new catalog describes Austin Motor Graders in detail. Write for your copy today.*

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THE “STANDARD” MOTOR FUEL

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.

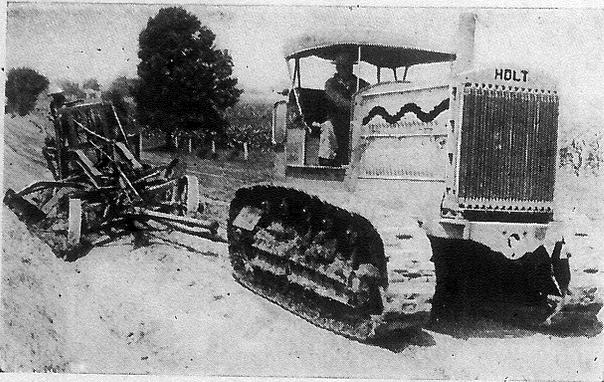
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Asphalt and good roads are synonymous and you will find it used on better Highways from Maine to California and from Canada to the Gulf of Mexico.

## Standard Oil Company of Louisiana

New Orleans, Louisiana



## For Better Roads

More rapidly and smoothly rolls the high-speed motor traffic of America. Truck transportation increases. Bus lines reach out to new territories. Farms are no longer isolated. The automobile industry grows apace. Better roads!

Thank shrewd and far-sighted road officials of town and county and state. Thank those who have wisely invested the public money in sturdy modern road machinery. Thank "Caterpillar" Tractors.

A mighty task has been done! There is a mightier task yet to do! "Caterpillar" Tractors are road builders.



Five models of "Caterpillars" on display at Memphis:  
 "SIXTY" "THIRTY"  
 "10-TON" "2-TON" "5-TON"

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*President.*

R. SNOW WILSON,

*Vice Pres. & Gen. Mgr.*

# ARKANSAS HIGHWAYS



*Official Monthly Bulletin of the State Highway Commission*

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"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 The 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.

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VOL. III.

AUGUST, 1926

NO. 8

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## "Bridging Arkansas"

By O. L. Hemphill, Assistant State Highway Engineer.

WHILE much has been said during the past 18 months regarding the splendid progress that Arkansas has made, under the guidance of the State Highway Department, in the construction of roads forming her state system, little has been published concerning the progress that this same department has made in a task equally as great—that of "bridging Arkansas."

The road program of the state has been so successfully pushed since the enactment of the Harrelson road law as to gain national recognition and to earn for Arkansas a rating of tenth among the states of the Union last year in the matter of hard surface mileage completed. But with this splendid record of construction before the people, little is known of the similar record that has been made in the matter of bridge construction.

Only a comparatively few of Arkansas' own people realize that during the past 18 months the Arkansas State Highway Department has let contracts for, and in many cases completed, 18 large bridges at a total cost of \$697,698, or that the department now has complete plans for three more gigantic structures, which it is estimated will cost approximately \$1,900,000.

Few people realize that the highway department maintains a separate bureau solely for the purpose of preparing plans for and supervising the construction of bridges, and that bridge structures play an equally important part with hard surfaced roads, when the matter of convenience to the traveling public is under consideration.

The bridges which the highway department has

planned, contracted for and completed during the past 18 months, are located in practically every section of the state, and form important links in almost every main state highway.

Probably the most important and costly structure of the 18 which have been contracted for during the past 18 months is the White river bridge at Batesville, for which a contract was awarded at the July meeting of the Highway Commission, and which is now under construction.

The bridge is a gigantic steel and concrete structure, and is being built under a special act of the 1925 legislature, under which one half of the cost is paid by Independence County Bridge District No. 1, and the other half by the highway department from state and federal funds. The contract price for this bridge was \$330,083.78.

This bridge is small, however, when compared with two bridges for which the bridge department of the highway commission is now completing plans. These two structures are the Harahan Viaduct, which will form the Arkansas approach to the Harahan bridge across the Mississippi river at Memphis, and the Dardanelle bridge across the Arkansas river.

The Harahan project, which will extend from the Mississippi river levee in Crittenden county to the Arkansas end of the Harahan bridge, is to cost approximately \$1,000,000, while the Dardanelle project, a steel and concrete bridge, is to cost approximately \$650,000.

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Plans for the Harahan viaduct are now in the process of completion, and preliminary work for the viaduct, such

as clearing the right-of-way and making surveys was begun early this month. Plans for the Dardanelle bridge have been completed, and are now in the hands of the Federal Bureau of Roads for approval. Contract for both bridges probably will be let before the end of the year.

Another bridge on which the department has completed plans, and which probably will be contracted for during the year is the Cody bridge across the St. Francis river in Lee county. This bridge is to be of steel and concrete, and will cost approximately \$250,000.

All three of these immense projects are to be constructed under the supervision of the highway department, and financed jointly by the state and by the counties or improvement districts in which they are located. In each instance the state will pay at least 50 per cent of the cost either from state or federal funds.

The Harahan bridge is an interstate project, both the Arkansas and Tennessee highway departments being interested in its construction, and are contributing to the cost of the project, so that each of the agencies' share of the total will be approximately \$250,000.

The shares of the two highway departments will be paid from federal aid, while the Crittenden county portion will be raised through the collection of tolls on the present wooden viaduct, which the new structure replaces. This plan makes possible the erection of the bridge without direct taxation against the land owners of the viaduct improvement district.

The Dardanelle bridge is being financed jointly by the department and a special bridge district, composed of a large portion of both Pope and Yell counties. The Cody bridge will be financed jointly by the department and Lee county.

In addition to the White river bridge at Batesville, referred to above, bridges which are now under construction, or which have been completed during the past 18 months, are as follows:

Rock Creek bridge near Mena, Polk county. A 60-foot concrete and steel structure. Cost, \$7,537.

La Anguille River bridge, Lee county. A 377-foot steel and timber bridge. Cost, \$28,783.

Fourche River bridge at Boles, Scott county. A 434-foot steel bridge. Cost, \$48,928.

Frog Bayou bridge near Alma, Crawford county. A 335-foot concrete bridge. Cost, \$30,704.

Big Lake bridge, Mississippi county. A 1,516-foot timber bridge. Cost, \$31,973.

Three concrete bridges in Madison county. Total length, 409 feet. Cost, \$28,088.

Steel bridge in Craighead county. Total length, 198 feet. Cost \$6,067.

Concrete over-pass over Missouri Pacific tracks in Lee county. Length, 130 feet. Cost, \$7,051.

Two concrete bridges in Madison county. Total length, 360 feet. Cost, \$16,596.

Spadra Creek bridge near Clarksville, Johnson county. Length, 280 feet. Cost, \$23,631.

Caney Creek bridge, Pike county. A 156-foot concrete bridge. Cost, \$9,783.

Ouachita River bridge, Montgomery county. A 342-foot concrete bridge with 210 feet of treated timber approaches. Cost, \$35,170.

A 1,294-foot treated timber bridge on the Corning-Piggott road, Clay county. Cost, \$26,864.

Point Remove Creek bridge near Morrilton, Conway county. A 270-foot concrete bridge. Cost \$26,160.

St. Francis River bridge, Greene county, a 270-foot treated timber bridge. Cost, \$40,280.

This list does not include an interstate bridge between Arkansas and Missouri in Greene county, which is being constructed one-half by Arkansas and one-half by Missouri; nor does it include a number of fairly large bridges which have been included in road contracts instead of being let under separate proposals.

Another important bridge which the department has authority to build under a special act of the 1925 legislature is the Red River bridge at Fulton, on the line between Hempstead and Miller counties. The validity of this act is now under attack in the courts of the state, however, and for this reason the department has done practically nothing toward its construction.

The act authorizing this bridge is of interest, however, because of the effect that it may have on future bridge construction in Arkansas. Instead of providing for the financing of the structure through the sale of bonds, to be paid by a land tax, the act provides that the bridge site, and the bridge itself shall be mortgaged to secure the cost of construction, and that the mortgage shall be paid through tolls collected on the bridge. When the total cost shall have been paid, the bridge is to become a free bridge.

This plan is something new in so far as Arkansas is concerned, and the validity of such a plan is still a matter of doubt. Regardless of this fact the toll plan is supported by many, and if the Red River bridge act is upheld, it is possible that a general act may be passed by the legislature, authorizing the highway department to construct other needed bridges under the same plan.

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Plant and Street Inspection of Bituminous Pavements, Chemical Analysis, Physical Tests, Specifications, Bitumens, Portland Cement, Paints and Highway Materials.

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## Bridging Departee Creek Bottoms

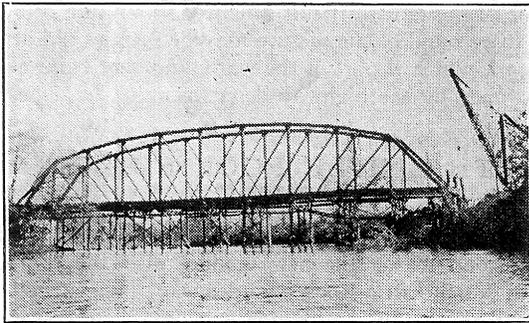
Knotty Road Problem Now Being Solved.

THE present working season will see completion of the difficult section of highway lying between Newport and Bradford, which has included the very troublesome Departee Creek and its adjacent bottoms.

The photograph shown below gives an idea of the central part of the 300-foot hewn-cypress bridge that has

der that the entire roadway may at all times be above flood stage.

The floor of the bridge has an elevation of 31 feet on the White river gauge at Newport. This guarantees its serviceability in all sorts of weather at all times of year.



Departee Creek Bridge.

been completed under direction of E. E. Bonowitz, district engineer, with headquarters at Batesville.

A long dump through the bottoms to the bridge proper is being thrown up more than 13 feet high, in or-

### MEXICAN ROAD BUILDING.

Within five years Phoenix and other American cities will be connected with Mexico City by roads fully as good as those found in the United States, is the assurance given by Joaquin Terrazes, Mexican consul in Phoenix, at a recent meeting of the Phoenix Chapter of the American Association of Engineers. He outlined the road program of the federal government of Mexico, showing where numerous highway construction jobs were now in progress while others were in prospect, all to be completed within five years. The Mexican government, he told the engineers, sets aside 1,000,000 pesos a month for highway construction. Added to this sum is the revenue from gasoline tax and motor vehicle licenses. Apparently there are ample funds available in Mexico for the successful completion of that country's extensive road building program. With continued political stability it would seem that Mexico within five years would, as Mr. Terrazes says, have a first class system of roads, equal to those of the United States.

This Mexican road building, according to the consul's outline, is general throughout that country. The west coast of Mexico, in which Arizona is most particularly interested, is now having its roads improved under federal appropriation. The close trade alliance of Arizona and the west coast is such that Arizona will watch with great interest progress in highway building in the vast productive region.—*Arizona Highways*.

It is of interest in this connection to know that a Little Rock boy, J. Edward Allsopp, son of Fred W. Allsopp, one of the owners of the Arkansas Gazette, is helping work out the Mexican system of highways.

Young Allsopp is 24 years old, a graduate of Purdue University in engineering, and recently connected with the North Carolina Highway Department, by which he was loaned to the Mexican government for the present program of road building.

### "The Impossible Accomplished."

Sunday afternoon we had the pleasure of driving over the first nine miles north on the Clinton-Marshall highway. Recalling our first trip across this mountain some 18 years ago it would almost seem that the impossible has again been accomplished.—*Van Buren County Democrat*.

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*To Do Your Printing*



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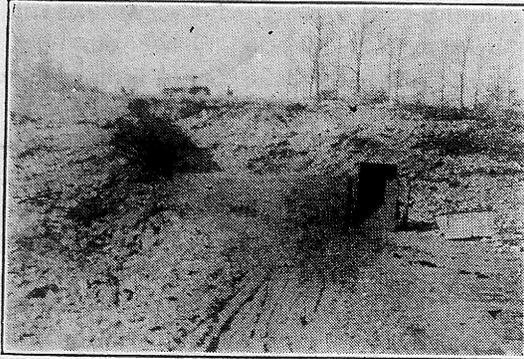
209 Spring Street Little Rock, Arkansas

## A Rock Cut That Saves Two Miles

Important Piece of Work Between Searcy and Heber Springs.

**A** DIFFICULT but important piece of highway construction that is being done by department forces on the State highway between Searcy and Heber Springs is the rock cut shown below.

This work either had to be done, or the road had to be constructed around a rocky ridge of crystallized sandstone, a detour of two miles.



Rock Cut in White County.

Engineer R. C. Limerick and his assistants figured the cost of the detour, both in immediate cost to the State, and in time to the users of the road in the future, and

they were not long in deciding that the rock cut was the cheaper in the long run.

In the work a portable Schram compressor outfit, with a standard Fordson tractor for motor power was used.

The picture shows the cut with construction 28 per cent complete. The work has progressed considerably since the picture was made, and will be completed shortly. It is one of the most difficult attempted in White county. In the foreground of the picture may be seen an old army dump cart, which is part of the war equipment being used to advantage by the highway department.

## NORTH LITTLE ROCK BUILDING VIADUCT.

All preliminary details are out of the way, and the work of constructing the new viaduct over the railroad tracks in North Little Rock is under way. The structure, which will replace the antiquated and unsafe steel viaduct that has been in use, will be of reinforced concrete, similar in design to the Broadway bridge, and will cost approximately \$400,000. The structure is of interest to North Arkansas, since it is used by all tourists coming to Little Rock over the North Heights road through Park Hill, now a part of the State system, with branches running to Jacksonville and El Paso, White county.

## HOPE TO PAVE STREETS.

Hope is planning an ambitious paving program covering the central part of the town, the work to include parts of Hazel street, Laurel street, Shover street, Spruce street, Edgewood avenue, Bonner street, Arch street, East Second and East Third streets.

## Howling.

A dog sat out in the midnight chill  
And howled at the beaming moon;  
His knowledge of music was strictly nil,  
And his voice was out of tune.

He howled and howled as the hours went by,  
While dodging the bricks we threw;  
Til' the moon was low in the western sky,  
And his voice was split in two.

There wasn't a thing at which to howl,  
Or to show why a pup should weep;  
And the course of the dog was wrong and foul,  
For people were wild to sleep.

There are plenty of men like that blamed fool hound  
Who yell when there's nothing wrong,  
Disturbing the country with senseless sound—  
The pessimist's doleful song.

—Louisiana Highway Magazine.

## Warrenite-Bitulithic Pavement

—“A WARRANTed Product”—

*Distinguished Service—Always*

The record of Warren pavements is not one of occasional success—but rather one of Distinguished Service—always.

And in that “always” is your assurance of more than ordinary value when you specify this pavement for a job of any size.

## Warren Brothers Company

A national organization to build good roads.

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

## Roads and Rubes

Minneapolis Daily Star.

**R**ELIABLE estimates indicate that the United States will spend more than \$1,000,000,000 on the building and maintenance of rural roads during the year 1926.

This means the disappearance of the "rube" from American life. You may be able to find him on the stage, in vaudeville, in the movies or between, the pages of alleged humorous magazines, but not on the farms.

The "rube" is a product of isolation, and the spending of one billion dollars for rural roads means an end of isolation. The American farmer from now on lives on a main traveled highway.

When the day's work is done he is only a few miles away from entertainment. If he prefers to sit by his own fireside he may read his daily paper delivered by the rural routes, get his daily market reports over the radio, or listen to the best music and lectures that America can offer anyone.

His children are seldom more than twenty minutes away from an excellent high school. There they are being trained in all the social graces, taught the fundamental principles of culture and living a life as broad and beautiful as that enjoyed by any of the city children. On commencement day it is impossible to distinguish between the youth from the farms and those from the city.

The co-operative marketing associations have taught

him the art of working with other men. The good road makes it possible for him to attend frequent meetings, participate in the discussions and become a part of the busy world of thinking and action.

Rural roads put him in easy touch with distant markets. If his local merchant cannot supply him with the goods he wants a couple of hours' drive will bring him to a city of twenty thousand or more where he can buy anything he wants.

The modern farmer is not easily imposed upon. He is a poor customer for gold-brick merchants. Bankers' figures show that the average city dweller is much the easier victim of the con man.

Improved rural roads mean consolidated schools, less loss in crops, advantageous marketing. The hard surfaced road has done much to give the American farmer his opportunity as a business man.

It is true that the rural church has had hard sledding, but the farmer can reach the village or city church with greater ease over good roads than he could get to the rural church a few years ago through the mud.

Good roads make good citizens. The election booth is seldom more than five minutes away from the kitchen door and the farmer is voting, and rapidly learning his political lessons.

One billion dollars spent for rural roads means that the American farmer is now living as close to the world as the city dweller. He no longer lives alone, astride his plow. He is on a highway where "the race of men go by."

### Personalities Soon Forgotten.

In a few days after this is being written, the political destiny of several candidates for office will be known in Arkansas. After it is over, most of the charges and criticisms of a personal nature will soon be forgotten. That is good, but it would be better if we could adopt a system of campaigning and stump speaking that would omit the harsh personalities indulged. Arkansas needs advertising, but not such advertising as some of our political campaigns furnish.—*Prescott Opinion.*

## Russell Motor Patrol

MADE IN TWO SIZES

**No. 2-Fordson Tractor for Power**

**No. 3-Mc Cormick-Deering 10-20 Tractor 1/2 Power**

Better Built Motorized Patrol Graders. They meet the need for more highly finished maintenance machines. Their popularity is growing daily and the demand is rapidly increasing. Russell Machines are built of oversize parts with the resulting low cost upkeep. They have highly finished machine cut gears, machined bearings, tight joints and rigid construction throughout. Scarifier is adjusted to work independently if desired.

No. 2 Russell Motor Patrol weighs 8500 pounds. The No. 3 Motor Patrol has more speed and is heavier weighing 10250 pounds. Length of blades finished 8-10-12 ft. made of special carbon steel.

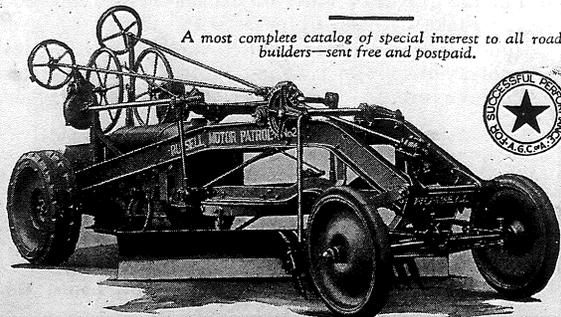
The complete Russell Line for road construction, road maintenance and road repairing includes—

**8 Sizes Road Machines—2 Sizes Elevating Graders—**

**Maintenance Patrol Machines for both Motor and Horse Power, Scarifiers, Road Drags and Wheel Scrapers, Drag Lines, Gravel Screening, Crushing and Loading Equipment, Steel Beam Bridges, etc.**

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

A most complete catalog of special interest to all road builders—sent free and postpaid.



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—Wheelbarrows, Scrapers, Plows, Singletrees, Hoisting Engines, Pumps, Air Compressors, Concrete Mixers, Shovels, Spades, Picks, Structural and Concrete Steel, Bar Cutters and Benders, Hose, Pipe, Roofing and Tools of all kinds.

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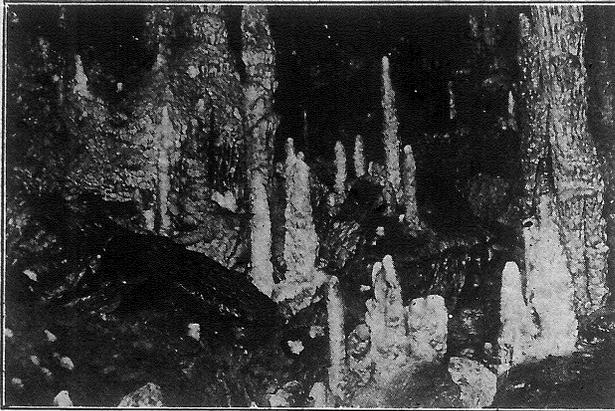
LITTLE ROCK, ARK.

## Diamond Cave Profits From New Highways

Natural Marvel Being Visited by Increasing Tourist Parties.

**D**IAMOND Cave, Newton county's principal claim to the attention of the scientific and wonder-seeking world, this summer is feeling the full benefit of Arkansas' new state-wide system of highways.

Automobile tourists from every State in the Union have been stopping at Jasper hotels, or camping along the river on the edge of town, on their way through the State, while they explore the beauties of this underground



castle which rivals the celebrated Mammoth Cave of Kentucky in depth and mystery.

Many times during the summer parties of from 150 to 200 tourists have been piloted through the cave by the guides on duty. This is three times the former maximum of the summer season when tourists had to make long detours over rough mountain roads to reach the resort city.

State Highway No. 7, sometimes known as the Jefferson Highway, traverses the forest reserve between Harrison and Russellville, and much of the scenery rivals that of the Rocky mountains. In Newton county, especially, around Jasper, the views are as majestic as any to be found in America, and the smooth, new highway, passable in all weather, makes them accessible to the cross-state tourist as never before.

The new bridge at Jasper over the Little Buffalo

river, dedicated last year, eliminated one of the most dangerous and treacherous fords on the highway.

Recently, crews of the State highway department have been working from Sand Gap north to Harrison, widening short curves and improving many of the difficult mountain grades.

A movement is now under way to make Diamond Cave a national park. Vance Prather, Kentucky Park Commissioner, who recently visited Jasper, is assisting in bringing the question to the attention of authorities.

The road runs wide to Folly's Inn  
Through pleasant fields and fair,  
And scores of travelers come that way  
To linger for a year or day,  
Assured of welcome there.

Here, precious things—love, honor, faith—  
Are lost or diced away;  
Here, revel-wearied, eyelids steep  
And close in Passion's popped sleep,  
Till comes the Reckoning Day.

Then we who've lodged at Folly's Inn  
Would hide or steal away.  
In vain! the porter waits for toll,  
His score—each cowering, naked soul  
Must Pay! God, how we pay!

**TUCKER**  
SAND AND GRAVEL CO.  
Benton, Arkansas

WASHED AND SIZED GRAVEL  
CONCRETE SAND AND  
CONCRETE MIX

We furnished Sand and Gravel for  
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Little Rock-Hot Springs Highway.

### For Concrete Roads--- For Gravel Roads

Solvay Flake Calcium Chloride may be used with equal success in the building of concrete roads and the maintaining of gravel roads.

Solvay Flake Calcium Chloride is unexcelled as a curing agent for concrete roads, doing away entirely with the older methods, with a distinct saving of time and money.

# SOLVAY

CALCIUM CHLORIDE

For the gravel or water-bound macadam road, Solvay Flake Calcium Chloride is the ideal dust layer and surface binder; while harmless to horses' hoofs, automobile finishes, etc., it will positively kill weeds and give a perfect, dustless road surface.

*Solvay Flake Calcium Chloride is free from  
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# ARKANSAS

Lock up the desk and load up the car. Come to the Nation's finest playground right here at home. Only a few hours by the nearest highway and every mile a delight. Loaf in the sunshine or play golf over one of the South's finest courses. Ride horseback, stroll through the lovely parks of the Government Reservation. Play tennis if you're strenuous. Splendid orchestras—daily concerts and dancing—pleasant social diversion. The change will do you good. Come along!

**HEALTH-GIVING BATHS** Combine rest with a course of health-giving baths in these

healing thermal waters. Especially beneficial in all forms of neuritis, rheumatism, high blood pressure and allied ailments. Also regularly patronized by many business executives, athletes and sportsmen

as an invaluable aid to physical conditioning.

**SPLENDID HOTELS** The splendid hotels shown below afford the finest of accommodations

and cuisine, including in their service the convenience of completely equipped bath houses, operated in each hotel under Government supervision. Write any one of them for interesting literature and rates. All guests are accorded full privileges of the Hot Springs Golf and Country Club.

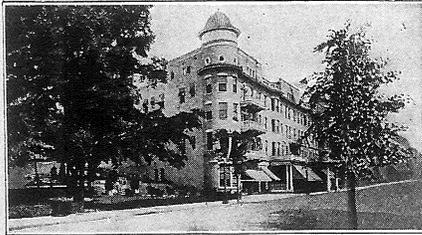
Reduced round trip fares on all railroads



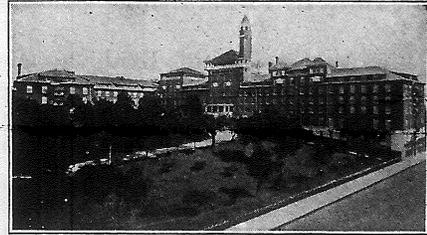
The ARLINGTON HOTEL and BATHS  
European Plan



Hot Springs' Waters are owned and controlled by the U. S. Government



The MAJESTIC HOTEL and BATHS  
American Plan



The EASTMAN HOTEL and BATHS  
European Plan

HOT SPRINGS NATIONAL PARK, ARKANSAS

## MADISON COUNTY BRIDGE.



A typical bit of State highway bridge construction is pictured above as it is under headway in Madison county, over King's River, on State Highway "M5-C3."

This is one of five similar projects under way in Madison county, the others being over War Eagle, Glade Creek, and Holman's Creek.

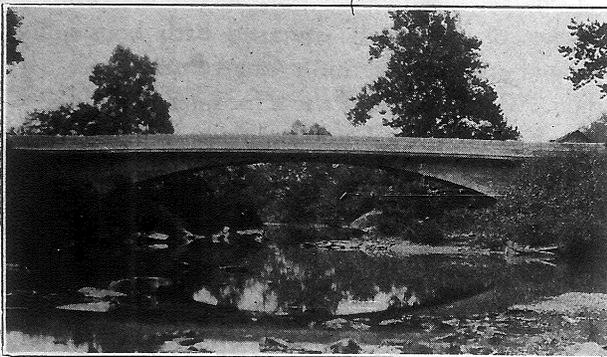
**Hole in One.**

Nurse: Whom are you operating on today?

Orderly: A fellow who had a golf ball knocked down his throat at the links.

Nurse: And who's the man waiting so nervously in the hall? A relative?

Orderly: No, that's the golfer—a Scotch gentleman. He's waiting for his ball.

**Built by Lutén Bridge Company**

When you think of Bridges—think in terms of concrete. They are Economical, Permanent and Artistic.

*Write us for Plans and Estimates.*

**LUTEN BRIDGE COMPANY**

Little Rock, Ark.      Knoxville, Tenn.  
Charlotte, N. C.

*Permanent roads are a good investment—not an expense*

## Don't Let Your Community Make The Same Mistake

Within recent years many communities have made the mistake of paving their highways at what they considered a "bargain price." The taxpayers thought they would save thousands of dollars.

But no one could foresee the astounding increase in motor traffic that was to come. As a result roads not built for permanence were soon badly in need of expensive repair. Annual maintenance costs piled up staggering totals.

In many instances the maintenance has not only wiped out the hoped for saving, but has exceeded original cost. And in many cases also it has been necessary to build entirely new roads—of permanent construction.

There are communities, however, which refuse to be misled by bargain price offerings. Many of these also built roads several years ago. And they built for permanence with concrete.

Those concrete roads, built in accordance with approved standards of highway construction, are in as good condition today as when they were built. And the cost of repairs and maintenance has been merely nominal. In fact, this saving is actually paying for these permanently paved highways. And remember that this saving will continue long after the bonds are paid for.

Which of these communities will yours be? Think it over. Then write us for facts and figures. We can prove to you that the most economical paving in the end is concrete—it has repairs built out and the maintenance built in.

Send today for our free illustrated booklet—  
"Concrete Streets for Your Town"

### PORTLAND CEMENT ASSOCIATION

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*A National Organization to Improve and Extend the Uses of Concrete*

OFFICES IN 31 CITIES

## Public Safety and the "Over-Pass"

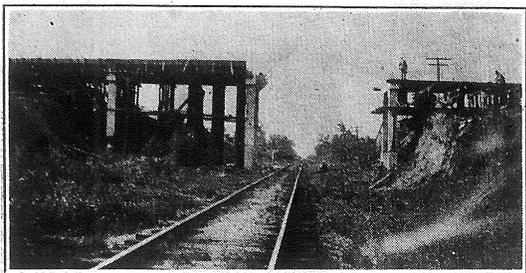
Grade Crossings Rapidly Being Eliminated.

**B**OTH highway authorities and railroad officials breathe a sigh of relief every time a dangerous grade crossing is eliminated from the State highway system.

Auto tourists apparently never will learn the wisdom of the "Stop, Look and Listen" sign, and railroad trains cannot make their schedules and stop at crossings to let automobiles pass. So there is always a danger zone

create over-pass that is being constructed in Lee county on State Highway No. 1, between Marianna and Forrest City.

There were formerly six grade crossings on this road. Highway engineers, in constructing the new State road between these two points, straightened it and eliminated all but one, and this has been handled as shown in the accompanying picture.



Lee County Over-Pass.

on the highway until the grade crossing is substituted by an under or over-pass.

An example of the work which the highway department is doing along these lines, in co-operation with the Missouri Pacific railroad, is to be found in the new con-

The *Owensboro Messenger* is satisfied that if that Chicago taxi company that was thrown into the hands of a receiver will look to the records it will find that the drivers have not been dividing fairly with the stockholders.

The *Lexington Herald* fears that American factories are turning out so many automobiles that it won't be long until there will not be enough population to collect the installment bills.

The clothes of the London girl will weigh less than thirty ounces, it has been estimated. However, the cost will be estimated in pounds.—*Louisville Courier-Journal*.

That strange light in his eyes while you are giving advice means that he has at last discovered how little you know.  
—*Birmingham News*.

## GOOD ROADS GRAVEL COMPANY

dealers in

### ROAD SURFACING AND STREET PAVING GRAVEL

Our gravel and clay mixture, proportion 78 and 22 per cent, weighing 3,000 pounds per cubic yard, is unsurpassed for road and street surfacing purposes.

Our facilities for loading, one No. 60 Marion Steam Shovel, 2.5 yards' capacity; one 60-ton Baldwin Locomotive and other equipment, enables us to handle 75 cars in ten-hour shifts.

In our seven years of operation, in which 900,000 tons have been shipped, we have had no lawsuits or squabbles with any of our customers.

Our prices are quoted f. o. b. the cars at Newark, Ark., per ton basis, with railroad weights to govern. Information on any part of our business will be furnished on application.

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Telephone No. 402, Newport, Ark.

R. J. HUGULEY, L. L. BOWEN, A. M. EDCAR, A. N. PETERS, Co- Partners.

JOHN T. THARP, Manager.

GRAVEL HILL, NEWARK, ARK.

OFFICE, NEWPORT, ARK.

## Three Democratic Primary Winners and the Road Program

Martineau, Blackwood and Parnell Will Determine Policies.

THE three Democratic primary winners who will have most to do with the shaping of future road policies of Arkansas are Chancellor John E. Martineau, who defeated Governor Tom J. Terral for renomination; Dwight H. Blackwood, successful candidate for State Highway Commissioner, and Harvey Parnell, who led the field in

Judge Martineau is pledged to give additional relief to overburdened road districts already formed, at the same time protecting the rights of counties in which roads were not built by the district system.

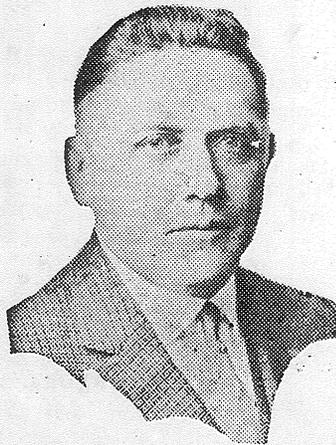
Mr. Blackwood in his campaign promised fair division of road money and road activity among all the counties.



John E. Martineau.

the race for the newly created office of lieutenant-governor.

With the speaker of the House of Representatives, to be elected in January, they will exercise a great influence on the character of highway legislation enacted by the forthcoming General Assembly.



Harvey Parnell.



Dwight H. Blackwood.

Senator Parnell, during his four years in the Senate, was especially active in road matters, having been one of the framers of the so-called Harrelson law.

Independent  
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Greases

LITWOOD MOTRGAIN  
OILS

100% PARAFFIN

LITWOOD OIL AND SUPPLY CO.  
Fort Worth, Texas

A Grade for Your Machine

## Opening New Fields

*Southwest American.*

A LITTLE story appeared in the paper the other day that is truly significant of the changes the passing days are making in Arkansas and Oklahoma. It stated that thousands of acres of good berry land will be made accessible to markets because of the construction of a new highway between Pineville and Pea Ridge, Ark.

That story could be repeated with equal truth about scores of sections of western Arkansas and eastern Oklahoma. Under the administration of W. W. Mitchell, district highway engineer in this district, a road is being driven into the mountain section north of Ozark; another is going east from Winslow; another is being constructed north from Van Buren to tap southern Washington county; others are being built which do not come to mind so readily. Every one of them will make available thousands of acres which have reached markets with difficulty, if at all.

A farmer on one of these roads wrote a letter the other day to Engineer Mitchell, protesting against the construction of a road through his tract of land. He objected vigorously to it. He said he couldn't see how it would help his farm any to have a hard road put through the middle of it, where he couldn't grow anything any more. He said the poor farmers had it hard enough without having roads built through their farms.

That man is getting terribly lonesome. Time was when many people had the same view of road construction. But that time is almost gone. Here and there may be found one who thinks the road is a hardship because it goes through his land. But where one may be found with that type of mind, many thousands may be found who welcome the good road because they know it provides them access to markets with their fruit with the minimum of cost and the minimum of loss through bruising; because they know it affords them and their children opportunities to get out of sight of the old homestead and establish contact with the world; because they know it will unfailingly increase the value of their property.

Every acre that lies beyond the reach of a good high-

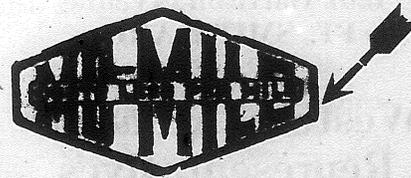
way is a wasted asset. Every road that opens a new tract to cultivation benefits that tract and the whole state.

The bride wore a white satin dress with veil caught up with orange blossoms and carried a bouquet of white hoses.—Social item in a Pittsburgh (N. Y.) paper.

Scientist says we retain the same brain cells we had in infancy. That explains a good deal.—Winston-Salem Journal.

The objection to gardening is that by the time your back gets used to it your enthusiasm is gone.—Baltimore Sun.

"Look for the Mo-Mile Sign"



**More Miles  
Per Gallon**

Others Claim it-  
We Guarantee it!

**E. R. Russell Oil Co.**  
Little Rock, Arkansas

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HEAVY DUTY  
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Good Lumber

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*"We Repair Contractors' Machinery"*

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*Everything for the Motorist  
Under One Roof*

### 555 Tire & Service Co.

3RD AND BROADWAY

LITTLE ROCK

## Good Roads Spirit Stirs Clark County

All Communities of County Active in Program.

VIRTUALLY every community in Clark county is represented in a movement which has as its objective the rapid completion of 75 additional miles of all-weather roads, supplementary to the 100 miles of high class State highways now in use.

The program contemplates the connecting up of every section with the State system, so as to give an outlet for even the most backward communities. The organization of citizens that is being perfected will work with the county judge, the road overseers and the offi-

cial of the State highway department in classifying roads, working out plans for their improvement and financing the work.

Under the general direction of Herbert R. Wilson, State highway commissioner, and R. C. Limerick, State highway engineer, more than 50 miles of standard State highway, of the graded and graveled type, is now being constructed with State and local funds. This will bring the total of standard highways to 150 miles.

Among the more important projects under way are the Arkadelphia-Amity highway; the Gurdon-Whelen-Nevada county road; and the Okolona extension to the Little Missouri bridge on the Prescott highway.

Boss: "Do you know that you have been late three mornings this week?"

Office Boy: "No, sir. I ain't one of these guys who watches the clock."—*American Legion Weekly*.

### Some Snap to This.

I bought my girl some garters  
At Woolworth's five and ten.  
She gave them to her mother—  
That's the last I'll see of them.

—*Iowa Fivrol.*

### DREW GRAVEL COMPANY

ROAD SURFACE GRAVEL  
furnished in any quantity

Pits and shipping point (Ozman  
Bluff) Monticello.

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ARKANSAS

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

## How Fast Does Your Equipment "Run Down"

EVERY time your bookkeeper makes an entry for "repairs," "new parts," "replaced machinery," it means dollars from your pocket which proper lubricants can spare.

*Gay Oils and Greases  
Can Cut this Expense*

REPAIR men and machinery service representatives are authorities for the statement that at least 50 per cent of the wear and tear on contractors' machinery might be eliminated if right oils and greases were used regularly on all moving parts.

GAY oil and greases have for 20 years saved money for road-builders and motorists all over Arkansas. Carefully tested before being offered for sale, they have proved themselves the best lubricants for your every purpose.

THERE'S a Gay product for every motoring need. May we quote large purchase prices to you?

### GAY OIL CO.

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and in Memphis

## To Have Good Roads Requires Lasting- Efficient-Equipment

The  
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Highest Quality  
Prompt Delivery  
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*These Things Tell the Story*

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PICKS, SHOVELS AND ALL ROAD TOOLS**

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**LITTLE ROCK, ARKANSAS**



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specialty  
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Madison, Ark.

Phone 919F2-3

## Southern Material & Construction Co.

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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.

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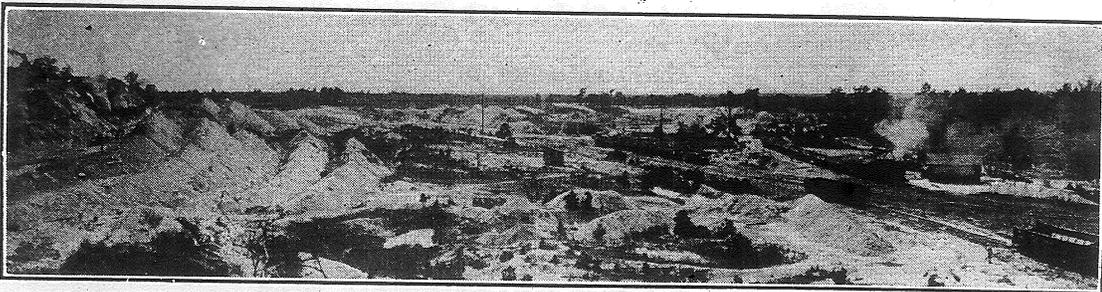
# Ball-Benton Gravel Company

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

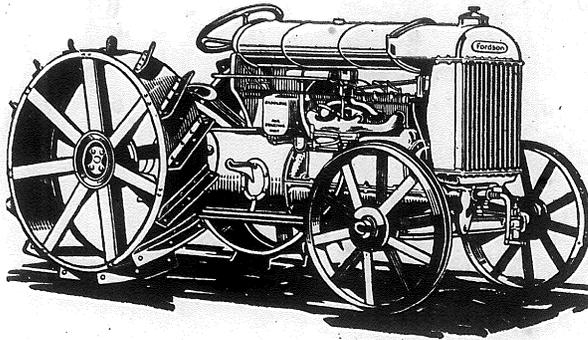
Our road clay gravel, weighing 3,000 pounds per yard, is best by every test for road building purposes. Our capacity is from 50 to 60 cars per day, as a result of our separate road gravel loading organization using Bucyrus "70-C" shovels and Baldwin 50-ton locomotives.

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.

## SHOEMAKER-BALE AUTO COMPANY

601 West Markham Street



Largest and oldest Ford Dealers in the state. Fordson Tractors, together with road equipment of all kinds, including rubber-tired wheels, skid chains, graders, maintenance equipment and Crawler Tracks.

Your Business Solicited

All approved in Highway Work Throughout the Country.

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**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.

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of Service*

**T**HREE-QUARTERS of a century is not a long time as the ages are counted in the history of the Universe, but 75 years represent half the life of the Republic and virtually cover the entire period of the real development of the West and Middle West and great Southwest. And, this 75-year span also represents the life and length of service of what is today the Missouri Pacific Lines.

Born in troublous times and constructed, especially in the years from 1860 to 1870, in spite of the greatest difficulties, the Missouri Pacific Lines have since July 4, 1851, been reaching out into the West and Southwest to serve a section of country that today offers the greatest promise of any area in the world. Necessity was the mother of the Missouri Pacific Lines. Necessity for safer, quicker and cheaper transportation. Necessity of providing a way to transport the products of the Middle West and Southwest to markets that needed and could consume these products.

Abreast of and frequently ahead of the development, the Missouri Pacific Lines have pushed outward and onward and this transportation system probably has been the greatest single factor in the development of the territory between the Mississippi River on the east, the Missouri River on the north, the Rocky Mountains on the west and Mexico and the Gulf of Mexico on the south. Today, the lines of this great railroad system serve every section of that great territory.

The celebration of the 75th anniversary or Diamond Jubilee of the Missouri Pacific is an event in which every citizen of the territory served by these lines is interested. The recent growth and development of this railroad, which includes the acquisition of lines in Texas and Louisiana, makes the Missouri Pacific the dominant railroad of the Southwest, and there is every reason to hope that with continued public favor and support, justified by adequate and dependable service, this railroad will continue to be a dominant factor in the future growth and development of the country.

I solicit your co-operation and suggestions.



President

SINCE 1898

## Concrete Roads Pay for Themselves

More than a nine (9) per cent dividend on the purchase price of 330 miles of concrete highways is being returned yearly to the farmers and other tax payers of Maricopa County, Arizona. A study shows that the county after paying an average of \$666,400.00 per year for its highway system, makes a yearly net profit of \$984,000.00 in reduced motor vehicle operation costs alone.

A similar showing in North Carolina was pointed out by Mr. Frank Page, Chairman of its Highway Commissioners, after that state had launched a program of highway improvement. Here a considerable amount of concrete construction was undertaken.

Not much more than half of the program was completed at the close of 1923 but at that time the saving alone in gasoline, consumed by automobiles, was carefully estimated at \$4,619,500.00—more than enough to pay the interest and the sinking fund on \$65,000,000.00 in bonds, issued for the construction of roads.

In Illinois, a careful estimate shows that 9,000 miles of concrete paved roads to be built soon, and paid for entirely by motor vehicle license fees, will save motorists in that state a net amount of \$66,000,000.00 a year.

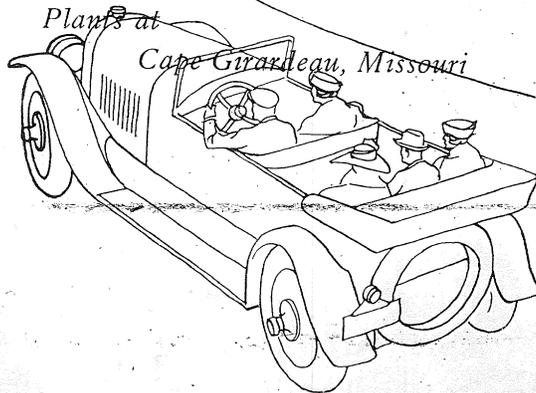
These figures are interesting!

Where profitable road construction is being carried on in various states, Marquette High Test Cement is chosen for its enduring strength, easy workability and pleasing uniform color.

### MARQUETTE CEMENT MANUFACTURING CO.

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