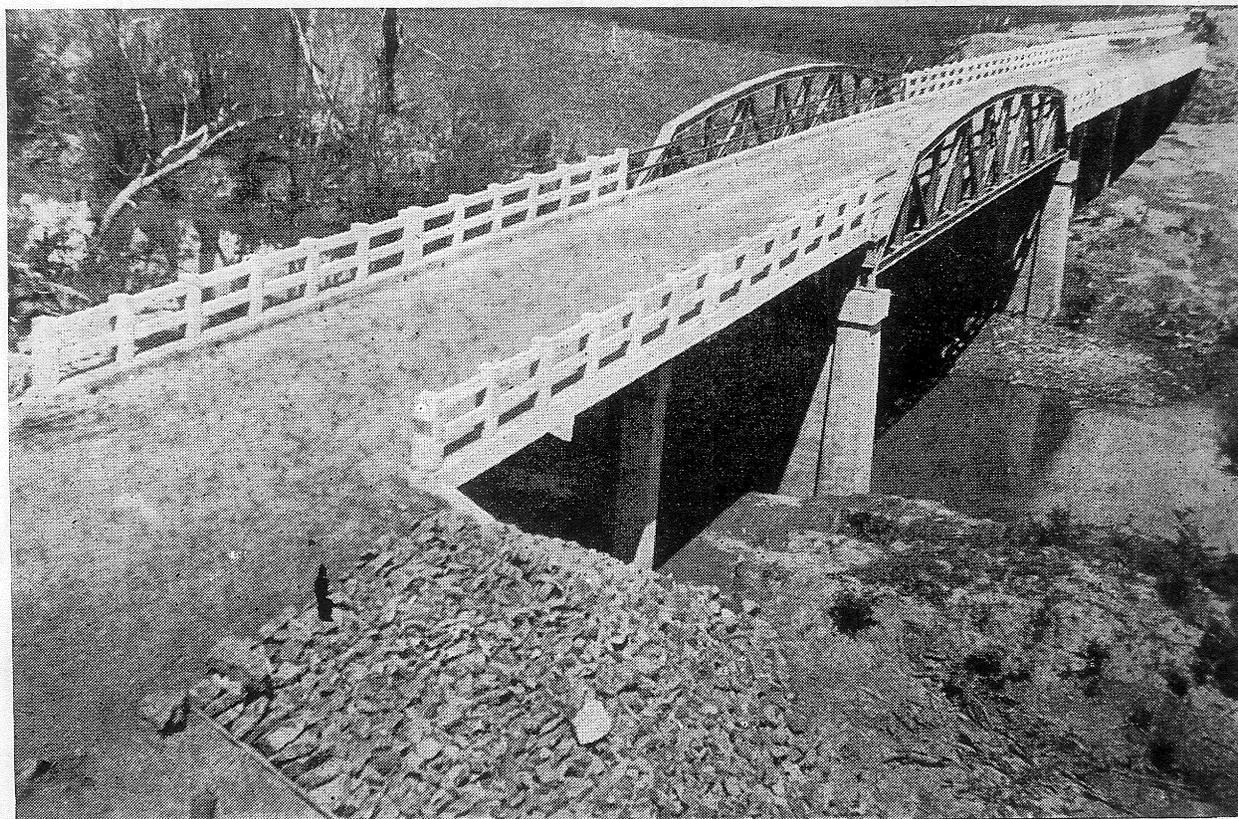


ARKANSAS HIGHWAYS

The Official Magazine of the Arkansas
State Highway Department, Little Rock



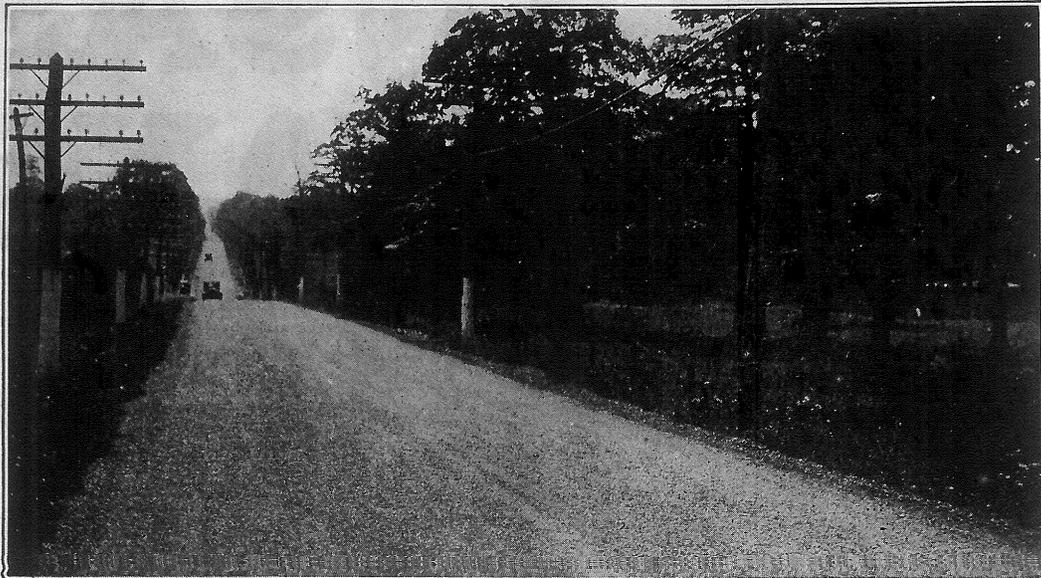
NEW BRIDGE TO BOONEVILLE SANATORIUM

Vol. 6

JUNE • 1929

No. 6

HIGHWAYS AT LOW COST



Lincoln Highway, near Buckstown, Somerset County, Pennsylvania—Surface treated with Tarmac P

There's a Grade of Tarmac for Every Highway Need

Tarmac will transform *any* road with a good foundation, into a durable smooth-riding, skid-proof, high-speed HIGHWAY. Tarmac provides these desirable qualities at low cost.

Tarmac is used for construction, maintenance and repair, on every type of road . . . water-bound macadam, cement-concrete, brick, gravel, top-soil, sand-clay, shell, wood-block and all bituminous surfaces.

We will be glad to give you details of its application . . . for main highways, for county and township roads, and for city and borough streets. Let us submit quotations, no matter how much or how little road tar you require.

Tarmac CP—*for Cold Patching*
Tarmac HP—*for Crack Filling and Hot Patching*
Tarmac A —*for Hot Surface Treating*
Tarmac.T —*for Penetration Pavement Construction*
Tarmac P —*for Cold Surface Treating and Prime Coating*

AMERICAN TAR PRODUCTS COMPANY

General Offices: PITTSBURGH, PA.

New England Division: TAR PRODUCTS CORPORATION, Providence, R. I.

Plants

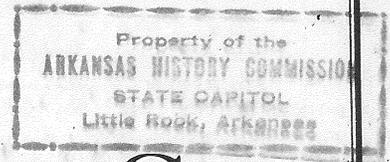
Chicago, Ill.	Utica, N. Y.	Providence, R. I.	Follansbee, W. Va.
Milwaukee, Wis.	Lowell, Mass.	Hartford, Conn.	St. Louis, Mo.
Youngstown, O.	Birmingham, Ala.	Kearny, N. J.	New Haven, Conn.
	Hamilton, O.	St. Paul, Minn.	

Tarmac

MAKES GOOD ROADS

S. G. Adams Stamp and Stationery Co.

ST. LOUIS, MO.



Manufacturers of

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

WRITE FOR CATALOG

Preferred!

Sand, Crushed Stone
Ready-Mix Concrete

by builders of good roads!

Contractors who know their road materials—who know the meaning of using the finest in road construction—prefer to use our products. The answer is highways that endure with complete satisfaction.

R. S. WILSON
President

BEN F. DICKENSON
Secretary and Treasurer

**BIG ROCK STONE
& MATERIAL CO.**

Office, Foot of Ashley Street Phone 4-0757
LITTLE ROCK, ARKANSAS

ARKANSAS HIGHWAY ORGANIZATION

DWIGHT H. BLACKWOOD, Chairman

ARKANSAS STATE HIGHWAY COMMISSION

D. H. BLACKWOOD, Little Rock, Chairman
 JUSTIN MATTHEWS, Little Rock J. L. WILLIAMS, Osceola
 J. S. PARKS, Fort Smith S. J. WILSON, Portland
 M. H. THOMAS, Secretary
 CHAS. S. CHRISTIAN, State Highway Engineer
 Executive Offices, Little Rock, Ark.

GENERAL OFFICE

V. A. KLEIBER, Chief Clerk and Auditor.....Little Rock
 A. V. DENNY, Chief Deputy, Automobile Division.....Little Rock
 E. W. SMITH, Cashier.....Little Rock
 J. Q. BLACKWOOD, Purchasing Agent.....Little Rock
 L. R. WOOD, Traffic Manager.....Little Rock
 CLAUDE DUTY, Assistant Attorney General.....Little Rock
 THOMAS B. GOLDSBY, Claim Agent.....Little Rock

ENGINEERING DEPARTMENT

E. N. JENKINS, Assistant State Highway Engineer
 (Eastern Division).....Little Rock
 W. W. MITCHELL, Assistant State Highway Engineer
 (Western Division).....Little Rock
 W. W. ZASS, Construction Engineer.....Little Rock
 N. B. GARVER, Bridge Engineer.....Little Rock
 C. W. HOLDERBAUM, Maintenance Engineer (Western
 District).....Little Rock
 SAM BRADY, Maintenance Engineer (Eastern District).....Little Rock
 J. A. FRANCIS, Supervisor of Equipment.....Little Rock
 C. E. SEMON, Statistics and Personnel.....Little Rock
 E. H. FLANNERY, Office Engineer, Federal Aid Procedure.....Little Rock
 A. E. HEAGLER, Engineer of State-aid City Paving.....Little Rock
 ROY D. LIKINS, Engineer of Materials and Tests.....Little Rock
 C. B. PENDERGRAFT, Chief Draftsman.....Little Rock
 FORD & MacCREA, Consulting Engineers.....Little Rock

DISTRICT ENGINEERS

(Eastern Division)

District No. 1
 W. G. HUXTABLE, District Engineer, Forrest City
 Crittenden, Cross, Woodruff, St. Francis, Lee, Monroe, Phillips.
 District No. 2
 A. S. MADDING, District Engineer, Pine Bluff
 Arkansas, Jefferson, Lincoln, Desha, Drew, Ashley, Chicot.
 District No. 6
 A. W. BUFORD, District Engineer, Little Rock
 Faulkner, Pulaski, Lonoke, Prairie, Saline, Garland, Hot Spring, Grant.
 District No. 7
 L. R. PLEMMONS, District Engineer, Camden
 Dallas, Cleveland, Ouachita, Calhoun, Bradley, Columbia, Union.
 District No. 10
 SHELLY LEE, District Engineer, Jonesboro.
 Randolph, Clay, Greene, Lawrence, Craighead, Mississippi, Poinsett.

(Western Division)

District No. 3
 R. B. STANFORD, District Engineer, Hope
 Clark, Pike, Howard, Sevier, Little River, Hempstead,
 Nevada, Miller, LaFayette.
 District No. 4
 W. T. BARRY, District Engineer, Fort Smith
 Benton, Washington, Crawford, Franklin, Sebastian, Scott,
 Polk, Montgomery.
 District No. 5
 CONE MURPHY, District Engineer, Batesville
 Fulton, Izard, Sharp, Stone, Independence, Cleburne, Jackson, White.
 District No. 8
 H. C. SELLERS, District Engineer, Russellville
 Johnson, Pope, Logan, Van Buren, Conway, Yell, Perry.
 District No. 9
 FRED E. COKER, District Engineer, Harrison
 Carroll, Boone, Marion, Baxter, Madison, Newton, Searcy.



DOROTHY
WRIGHT

WRIGHT GRAVEL PLANT

Located on Missouri Pacific Railroad

DONIPHAN, MISSOURI

"On the Arkansas Line"

Miss Wright, young Missouri girl, who gives her personal attention to every detail of this rapidly growing business, has THREE COMPLETE PLANTS loading Current River washed flint-rock gravel and sand, meeting all specifications of the Arkansas State Highway Department.

CAPACITY 1,500 CARS PER MONTH

CLYDE PAGE, Little Rock Representative

Telephone 5664

ARCADE BUILDING

LITTLE ROCK, ARKANSAS

ARKANSAS HIGHWAYS

*Official Monthly
Magazine*



*State Highway
Department*

"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.

VOL. VI

JUNE, 1929

No. 6

June Letting Largest Yet Held Under Martineau Law

New Contracts Awarded On Fifty-two Road and Bridge Projects Totaling \$3,400,000—
All Cement Bids Rejected.

In the largest letting ever held in Arkansas, the State Highway Commission at its June meeting awarded contracts for construction of 52 road and bridge projects, the total cost of which will be approximately \$3,400,000.

Approximately 423 miles of road and 4,375 feet of bridge work were covered by the contracts awarded.

Of the road work fourteen miles were asphalt surfacing, twenty-two miles heavy concrete slab, 153 miles of grading and drainage structures and 230 miles of gravel, shale or crushed stone surfacing.

Bids were received from virtually all of the leading cement manufacturers of the country on 1,300,000 barrels of cement, the quantity estimated as necessary for the work of the next two years, but there was very little difference in the bids of any of the manufacturers. With the low price now being bid by contractors for concrete work, probably the lowest ever seen, it was decided to postpone for awhile at least the purchasing of cement by the State. Under ordinary market conditions a number of State Highway Departments, including Illinois, Missouri and Iowa, have been saving money by purchasing direct, but the present conditions are said to have made it possible for contractors to themselves purchase cement very cheaply.

The Highway Commission at this letting continued to adhere very closely to its policy of awarding work to the lowest responsible bidder. Only ten of the jobs failed to go to the firm submitting the lowest bid. In this case the awards were made to the second man because of the failure of the low bidder to satisfy the Commission as to his ability to complete the work satisfactorily, or in view of other work which had been awarded to the contractor and not yet completed.

A complete list of the contracts as awarded at the June letting, including the job number, Highway number, location and character of the improvement, name of the contractor, and price at which the job was bid is as follows:

Job No. 8103, State Highway No. 10, approximately eight miles of gravel surfacing on the Havana-Danville road, Yell County, Schultz Construction Co., Fort Smith, \$5,974.

Job No. 8106, State Highway No. 10, five miles of gravel surfacing on the Magazine-Danville road, Logan County, Armstrong & Donathan, Booneville, \$3,772.

Job No. 902, State Highway No. 14, 240 lineal feet of concrete bridges and 1,010 feet earth embankment approaches thereto on the Yellville-South road, Marion County, North Arkansas Construction Co., Yellville, \$17,169.

Job No. 966, State Highway No. 16, 13.61 miles of crushed stone or gravel surfacing on the St. Paul-Thompson road, Madison County, Ellis & Lewis, Little Rock, \$23,767.

Job No. 555, State Highway No. 32, approximately seventeen and a half miles of grading, drainage structures and gravel surfacing on the Salem-Ash Flat road, Fulton and Sharp counties, W. P. McGeorge & Co., Pine Bluff, \$107,981.

Job No. 5103, State Highway No. 87, approximately twelve and one-half miles of gravel and crushed stone surfacing on the Pleasant Plains-Bradford road, White and Jackson counties, T. L. Throgmorton, \$38,997.

Job No. 5106, State Highway No. 63, approximately five miles of gravel surfacing on the Hardy-Williford road, Sharp County, Ellis & Lewis, Little Rock, \$8,326.

Job No. 646, State Highway No. 10, approximately nine miles of grading and drainage structures on the Perryville-Little Rock road, Pulaski County, Ellis & Lewis, Little Rock, \$59,781.

Job No. 671, State Highway No. 67, approximately ten and a half miles of grading and drainage structures on the Pulaski County line-White County line road in Lonoke County, Newell Construction Company, \$71,170.

Job No. 685, State Highway No. 25, approximately twenty miles of crushed stone surfacing on the Wooster-Cleburne County line road, Faulkner County, M. O. Weaver, Iowa Falls, Ia., \$123,804.

Job No. 686, State Highway No. 6, approximately ten miles of gravel surfacing on the Royal-Montgomery County line road, Garland County, G. C. Smith and E. B. Mooney, Hot Springs, \$20,959.

Job No. 7103, State Highway No. 15, one mile of grading on the Warren-North road, Bradley County, Lakeside Bridge and Steel Co., Little Rock, \$19,556.

Job No. 7104, State Highway No. 15, approximately 1,659 lineal feet of structural steel and concrete bridges over Saline River and bottoms on the Pansy-South road, Bradley and Cleveland counties, Lakeside Bridge and Steel Company, \$124,173.

Job No. 7110, State Highway No. 15, approximately one and a half miles of grading, drainage structures and concrete pavement on the El Dorado-Moro Bay road, Union County, Hartman-Clark Bros. Co., Peoria, Ill., \$41,024.

Job No. 821, State Highway No. 10, five and a half miles of grading, drainage structures and gravel surfacing on the Booneville-Magazine road, Logan County, L. A. Lemon, Booneville, \$36,805.

Job No. 872, State Highway No. 10, approximately eleven miles of grading and drainage structures on the Magazine-Danville road, Yell County, George W. Nickels & Son, Hot Springs, \$69,814.

Job No. 884, State Highway No. 10, four miles of gravel surfacing on the Greenwood-Booneville road, Logan County, Armstrong and Donathan, Booneville, \$23,563.

Job No. 887, State Highway No. 76, seven miles of gravel and drainage structures on the Plainview-East road, Yell County, J. N. George & Bro., Centerville, \$42,669.

Job No. 897, State Highway No. 65, eighteen miles of crushed stone surfacing on the Clinton-Conway road, Van Buren County, Newell Construction Co., Little Rock, \$49,835.

Job No. 898, State Highway No. 28, six miles of gravel or crushed stone surfacing on the Ola-Plainview road, Yell County, Schultz Construction Co., Fort Smith, \$4,471.

Job No. 8101, State Highway No. 10, seven miles of gravel surfacing on the Ola-Perry road, Yell County, Schultz Construction Co., Fort Smith, \$5,684.

Job No. 8102, State Highway No. 9, six miles of crushed stone surfacing on the Perry-Owensville road, Perry County, all bids rejected.

Job No. 115, State Highway No. 61, approximately fourteen miles of asphalt surfacing on the Mississippi County line-Marion road, Crittenden county, Hogan Construction Company, Little Rock, \$269,520.

Job No. 138, State Highway No. 16, approximately two miles of grading and drainage structures on the Bald Knob-Augusta road, Woodruff County, Callahan Walker Construction Co., Omaha, Neb., \$65,680.

Job No. 180 (readvertised), State Highway No. 70, approximately twelve miles of grading and drainage structures, eleven miles of concrete pavement and 769 lineal feet of reinforced concrete deck girder bridges on the Forrest City-West Memphis road, Crittenden County, R. J. Lynch & Co., Little Rock, \$378,520.

Job No. 184, State Highway No. 63, approximately two miles of grading and drainage structures and concrete pavement on the Deckerville-Gilmore road, Crittenden County, Newell Construction Co., Little Rock, \$50,178.

Job No. 214, State Highway No. 65, approximately nine and a half miles of grading and drainage structures on the Pine Bluff-Grady road, Jefferson and Lincoln counties, Ayres & Graves, Hope, \$29,648.

Job No. 250, State Highway No. 65, approximately eleven miles of grading and drainage structures on the Pine Bluff-Grady road, Jefferson County, Ayres & Graves, Hope, \$49,890.

Job No. 292, State Highway No. 3, approximately five miles of grading and drainage structures and concrete pavement on the Airport-Free Bridge road (near Pine Bluff), Jefferson County, J. P. McNulty, Pine Bluff, \$115,945.

Job No. 309, State Highway No. 67, approximately fifteen and one-half miles of grading, drainage structures and concrete pavement on the Texarkana-Fulton road, Miller County, McGuire & Cavender, Texarkana, \$327,740.

Job No. 351, State Highway No. 4, approximately seven miles of gravel surfacing on the Hope-Rosston road, Hempstead County, Britt & De Laughter, Boughton, \$8,421.

Job No. 392, State Highway No. 71, approximately 116 lineal feet of concrete deck girder bridges and 84 feet of embankment ap-

proaches thereto on the Texarkana-Arkansas-Louisiana State lines road, Reynolds & Sutton, Nashville, \$9,835.

Job No. 397, State Highway No. 67, approximately twelve miles of grading and drainage structures on the Fulton-Hope road, Hempstead County, Reynolds & Sutton, Nashville, \$106,092.

Job No. 459, State Highway No. 71, approximately eight and one-half miles of grading and drainage structures on the Benton County line-Rogers road, Benton County, I. L. Cole, Fayetteville, \$41,297.

Job No. 471, State Highway No. 6, approximately nine and a half miles of grading and drainage structures on the Brushy Creek-Ouachita river road, Montgomery County, Interstate Construction Co., Fort Smith, \$74,145.

Job No. 498, State Highway No. 45, approximately 27 miles of shale surfacing on the Fort Smith-Hartford road, Sebastian County, J. W. Gwin, Birmingham, Ala., \$15,880.

Job No. 499, State Highway No. 23, approximately 1,537 lineal feet of concrete bridges over the Arkansas River and Missouri Pacific Railroad tracks on the Ozark-Webb City road, Franklin County, M. E. Gilloiz, Monette, Mo., \$338,352.

Job No. 103, State Highway No. 6, approximately five miles of gravel surfacing on the Ouachita River-Mt. Ida road, Montgomery County, A. C. Kennedy, Little Rock, \$18,942.

Job No. 4104, State Highway No. 16, approximately nine miles of gravel surfacing on the Fayetteville-Elkins roads, Washington County, M. E. Gilloiz, Monette, Mo., \$13,259.

Job No. 983, State Highway No. 12, nine miles of grading, drainage structures and gravel surfacing on the Harrison-Eureka Springs road, Carroll County, Gravelle & Hamblin, Muskogee, Okla., \$113,693.

Job No. 994, State Highway No. 5, 9.925 miles of gravel surfacing on the Mountain Home-Calico Rock road, Baxter County, Ellis & Lewis, Little Rock, \$22,233.

Job No. 1029, State Highway No. 79, three miles of grading and drainage structures on the Pocahontas-North road, Randolph County, E. A. Luck, Perryville, \$25,060.

Job No. 1073, State Highway No. 39, thirteen miles of grading and drainage structures on the Jonesboro-Brinkley road, Craighead County, Bunnell and Mack, \$47,161.

Job No. 1077, State Highway No. 79, approximately eight and a half miles of grading and drainage structures on the Pocahontas-North road, Randolph County, E. A. Luck, Perryville, \$49,970.

Job No. 1086, State Highway No. 34, five and a half miles of gravel surfacing on the Peach Orchard-Knobel road, Clay County, A. C. Kennedy, Little Rock, \$8,864.

Job No. 1087, State Highway No. 34, ten miles of gravel surfacing on the Randolph County-Clay County line road, Robert M. Robinson, Owensboro, Ky., \$16,190.

Job No. 1088, State Highway No. 1, eight miles of gravel surfacing on the Corning-Paragould road, Clay and Greene counties, A. C. Kennedy, Little Rock, \$30,277.

Job No. 1089, State Highways Nos. 34 and 1, eleven miles of gravel surfacing on the Corning-Knobel road, Clay County, Robert M. Robinson, Owensboro, Ky., \$44,285.

Job No. 10109, State Highway No. 39, approximately eleven miles of grading and drainage structures on the Jonesboro-Brinkley road, Poinsett County, Ayres & Graves, Hope, \$40,118.

Job No. 10112, State Highway No. 91, approximately five miles of grading and drainage projects on the Hoxie-Jonesboro road, Craighead, Lawrence and Greene counties, Forcum James Co., Dyersburg, Tenn., \$35,451.

Job No. 10127, State Highway No. 91, approximately five miles of grading, drainage structures and gravel surfacing on the Hoxie-Jonesboro road, Craighead County, Newell Construction Company, \$60,875.

Job No. 1118, State Highway No. 16, approximately nine miles of grading and drainage structures on the Bald Knob-Augusta road, White and Woodruff counties, Horton Price Construction Co., Texarkana, \$173,330.

MANY CITIES AND TOWNS TO PAVE THIS YEAR

Among the cities and towns of Arkansas which are planning extensive paving during the present summer are Bentonville, Berryville, Dermott, Batesville, Conway, Pine Bluff, Magnolia and Sulphur Springs.

PATENTS

PROTECT YOUR IDEA!

Write Freely, sending Data of your Invention for full advice.

Write for "Proof of Invention" folder mailed free.

TRADE-MARKS REGISTERED

We give genuine personal service.

Established—Experienced Twenty-nine Years

E. E. VROOMAN & CO.

129 ATLAS BUILDING

WASHINGTON, D. C.

New Routing For Highway No. 64 Through Conway

Commissioner Blackwood and Engineer Christian Investigate Relocation of Highway.

All those who have had occasion to pass through the city of Conway over State Highway No. 64, the Little Rock-Fort Smith road, have had occasion to deplore the narrow and circuitous route through the town. With the intention of working out another route which would be wider and shorter for through traffic, Dwight H. Blackwood, Chairman of the State Highway Commission, and C. S. Christian, Chief Engineer, recently visited the city to investigate the possibilities of relocation.

They conferred with officials of the Chamber of Commerce and other representative citizens, discussing the various possibilities with a view to working out a solution that would come nearest to meeting the demands of both local and through traffic. While a definite decision was not made, the people of Conway seemed to favor the use of Conway boulevard from the south city limits to College avenue, thence one block west to Center street, and north on Center and Clifton streets to the city limits.

While in Conway Mr. Blackwood and Mr. Christian were guests of the Chamber of Commerce at a luncheon at which many of the problems confronting the State Highway Department were discussed. Mr. Blackwood assured the Faulkner County people that their pro-rata of highway funds under the Martineau Road Law would be spent during the next two years and indicated that paving of two important highways, No. 25 from

Wooster to Quitman and No. 36 from Holmes' Store to Rosebud would be started this year. Faulkner county's pro-rata of the Martineau Road fund will exceed \$900,000.

Mr. Blackwood pointed out that the State Highway Commission is trying to direct most of its activities in the near future to the improvement of important highways, leaving many of the "political roads" for later attention. He said that Arkansas has a number of such "political roads" incorporated into the system under pressure of those who would neglect the real needs of the State at large.

While Arkansas ranks eighth in the United States in number of miles on the State Highway system, at the present it ranks thirty-eighth in the amount of highway revenues. A striking comparison was drawn between Arkansas with 9,600 miles of State roads with only 215,000 motor cars to produce the revenue necessary to support them and North Carolina with 6,000 miles of State roads and 657,000 automobiles to support the program.

Summarizing the progress already made under the Martineau Road Law Mr. Blackwood said that more than 2,800 miles of new road and fourteen miles of bridges have been constructed with a greater part of the program still ahead.

Protect Memorial Highways From Vandals

An Editorial From the Arkansas Gazette

It is a sad commentary on human nature that a beautiful landscape must be protected against despoliation by the public it might delight. But since the first impulse of many people, when they see a flowering tree or mass of shrubbery in bloom, seems to be to tear the pretty thing apart and scatter it to the four winds, the proposal that the road leading from Little Rock to Hot Springs be plainly marked as a memorial highway seems a wise one.

The women's clubs of Little Rock and other com-

munities have given generously of their interest and funds to beautify the borders of this road with landscape plantings. But when the trees and plants so carefully set out come into bloom the people who travel the highway regard the sight as an invitation to help themselves to the flowers. The thought that they are destroying loveliness apparently does not arise to deter them. But frequent reminders that these plantings were made in homage to the memory of Arkansas soldiers who died in the World War may serve to stay their hands.

VAN TRUMP TESTING LABORATORY

PAVING AND TESTING ENGINEERS

LITTLE ROCK: 219 Terminal Warehouse Building.

CHICAGO: 2337 So. Paulina Street.

RESEARCH---INVESTIGATIONS---CONSULTATIONS---SPECIFICATIONS

Asphalts

Portland Cements

Petroleums

Paints

Specialists in Asphalt Paving and Design of Concrete Mixtures

Missouri Girl Competing For Arkansas Gravel Business

Energetic Doniphan Girl Making Serious Bid For Road Work Along Arkansas-Missouri Line.

Ordinarily the doctrine of "Arkansas business for Arkansas people" is accepted as governing the policies of Highway Department officials and contractors in the handling of Arkansas road work.

All rules have their exceptions, however, especially where a pretty girl is involved. This is even likelier to be true when the pretty girl has an unusual amount of energy, perseverance and business sense.

At least this is the philosophy which seems to be guiding Miss Dorothy Wright, aged 25, of Doniphan, Missouri, a little city located on Current River in Ripley County, not far from the Arkansas-Missouri line.

Miss Wright has just closed an advertising contract with "Arkansas Highways" and announced that she is going to give her competitors a run for their money on road work developing in Arkansas within the radius governing the economical transportation of her product.

Miss Wright succeeded to her father's business at his death in 1926. At that time it was largely confined to the lumber trade and the marketing of several large tracts of timber near Doniphan. Her father a few years before his death had started in a small way to develop the deposits of sand and gravel in the Current River. With the development of State Highway activities in Missouri and Arkansas Miss Wright saw the possibili-

ties and since she took the business over has built two new plants and increased the production of sand and gravel to 1,500 cars a month.

Miss Wright is a graduate of Stephens College, Columbia, Missouri, class of 1924, and ever since that time she has been working in one capacity or another in the development of her present gravel business.

Miss Wright's customers include the Arkansas and Missouri Highway Commissions, the Missouri Pacific Railroad and a number of the large contractors doing business in the two States.

OUR COVER PAGE

The bridge which is shown on our cover page this month is interesting both from a local and from a State-wide standpoint, since it is an important link in the highway running from Booneville to the Arkansas Tuberculosis Sanatorium in Logan County.

Not only is it a very important factor in local transportation, since it spans the Petit Jean River, replacing the old steel bridge, but it is used by all the residents of the State who have friends, relatives or business at the State Sanatorium.

The old bridge had been condemned several years ago for heavy traffic, and the big bus used by Superintendent John Stewart in the transportation of passengers and baggage to the sanatorium became dangerous, exceeding the weight limits of safety.

The new bridge was erected under the direction of Ira C. Daniels, resident engineer for the State Highway Department, at a total cost of \$39,147.26. Work was begun on August 20, 1928, and completed on March 26th of this year. The bridge forms a part of the new Booneville-State Sanatorium road, a thoroughly modern highway which has shortened the distance to the sanatorium by more than a mile, taking out many of the dangerous curves in the old road.

USE OF THE GASOLINE TAX

Gasoline taxes now prevailing throughout the United States run from three cents to six cents a gallon, the average last year being three cents.

In thirty-five States the entire proceeds of the tax were used for road problems. In five States, including Arkansas, a part of the tax went for street construction. In these States a part of the tax went to the public schools and in two, small sums were placed in the general revenue fund.

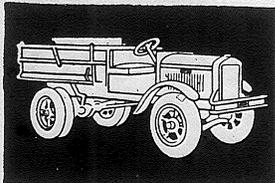
It is generally conceded that automobile owners everywhere are thoroughly "sold" on the justice of the gasoline tax as the source of highway revenues. Whenever any part of this fund, however, is diverted to factors other than the construction or maintenance of roads the tax becomes an unfair bit of class legislation, and it is to be hoped that Arkansas will never join in the movement to make the gasoline tax a source of general revenue. If it does the automobile owners will have just cause for complaining, and the reaction will inevitably hurt the cause of good roads.

HUG

Class Leadership



Distributor:
HUG ARKANSAS TRUCK CO.
421 E. Markham Street
Little Rock, Ark.



Exclusive features of design and efficient coordination of heavy duty units have won class leadership for Hugs—leadership based on sustained performance and operating profits. Write for details on the special Hug models.

THE HUG COMPANY
HIGHLAND, ILLINOIS

"A ROADBUILDER'S OWN DESIGN"

TRUCKS

No "Saturation Point" On Cement

There is much talk about the so-called "saturation point," meaning the point beyond which there can be no further market for any given commodity.

The term was heard quite often in the early stages of the automobile business, when it was freely predicted that there would be a market only for a limited number of automobiles. As the years went on the so-called limit to the production of automobiles was pushed further and further ahead until at the present there are in actual operation on roads of this country several million more cars than the "wise boys" figured would ever be marketed.

The same thing has been true in cement. Those with statistical minds have taken a great deal of pleasure in figuring just how much cement and how many cement mills it would take to cover the country with paved roads. But each time the prophets have been wrong and in the face of the pessimists more and more mills have been built and more and more cement is being used on the continually increasing highway program. Not only are more highways being built than were dreamed of years ago, but most of the highways that are being built are of a width which would have been regarded as highly wasteful and unnecessary in the old stages of highway development.

Not only is this true but the uses of the cement have been widely extended. It is highly significant of one feature of this development that the Lehigh Portland Cement Company, the largest single unit of the industry in the world, this year has appropriated more than \$10,000 for the encouragement of improved designs for the construction of municipal airports. The Lehigh Company is offering cash prizes to architects, engineers and other persons interested in city planning who submit the best designs for modern airports. The contest is national in its scope, closing late in November of the present year.

This is a striking reminder of the fact that the development of air transportation has opened up a field for the use of cement which will eventually be as large or larger than that created by the road-building program. It has been demonstrated that if airports are to

serve air transportation in all kinds of weather they must provide concrete runways for the use of planes in taking off. The airports that are used during all kinds of weather are the only ones now being placed on the modern air map, since there are too many days when mud and rain put the other kind out of commission.

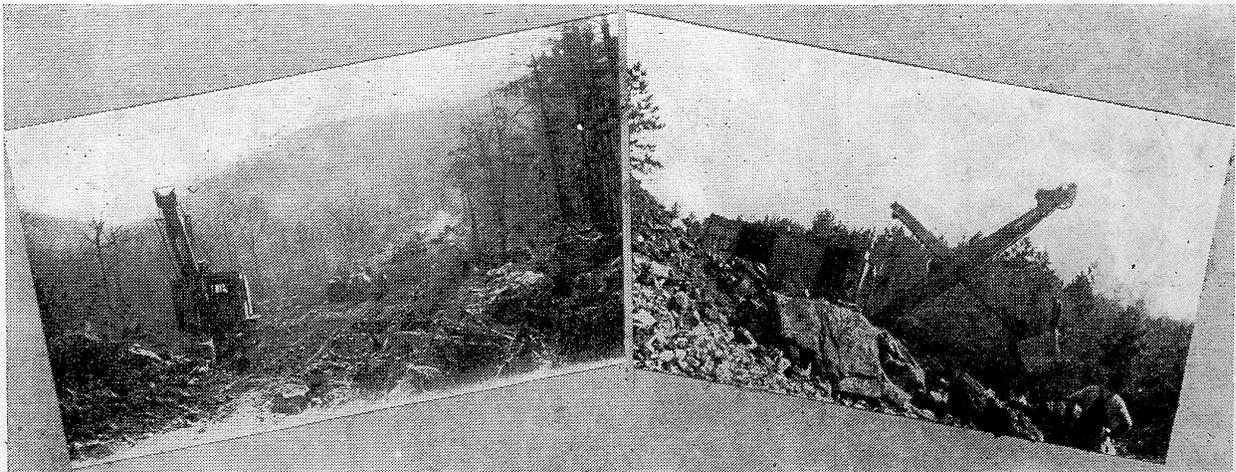
With the present rush on the part of every city, town and hamlet to prepare an airport which will entitle it to a place on the air map it is easy to see that the expenditures of the Lehigh Company on such a contest open to the general public will prove a good investment as a result of the part which it will play in moving further away the "saturation point" in cement.

Road Building Under Difficulties

The photographs shown below give some idea of the difficulties under which James Spencer & Sons, contractors, of Hot Springs, are working in the construction of 10.3 miles of State highway in Garland County on State Route No. 6, Section S-3 running from Royal to the Montgomery County line, locally known as the Mt. Ida road.

The highway runs through one of the most picturesque sections of the State and when completed will be a real scenic drive. In the meantime, however, the entire force of James Spencer & Sons are compelled to extend themselves to the limit in surmounting the many obstacles with which they are meeting. Many acres of difficult clearing and grubbing and several miles of heavy rock are included in the contract.

Considering the bad weather which added to the troubles, the work is progressing satisfactorily and a large part of the grading and drainage work has been completed. The ten miles of road, exclusive of the surfacing, which will be covered by a subsequent contract, has cost approximately \$80,000, which, considering the mountainous country traversed is regarded as a very economical job.



Principles Guiding Solution of Highway Location Problems

A Paper by A. R. Losh, District Engineer, Federal Bureau of Public Roads.

(Continued from May Issue)

One of the most difficult and worrisome problems with which the State Highway Department is constantly confronted is that of highway location and probably no other highway question of interest to virtually all communities of the State is so poorly understood. We are, therefore, privileged to give readers of "Arkansas Highways" this month the balance of a very interesting and comprehensive paper read before the recent meeting of the American Society of Civil Engineers in Dallas, by A. R. Losh, Federal District Engineer, in whose district the State of Arkansas is located.—Editor.

In working out the detail location further economies can be made by taking advantage of topographic conditions, soils, available local material or railroad facilities for importing materials. Approximately 4,000 tons of materials are required per mile of 18 ft. concrete pavement. An increased dead haul of one mile will increase the cost of the road about \$1,000 per mile. In addition to this there will also be the cost of moving on and off the job; also the hauling cost of structure materials. The use of longer radius curves reduces the total length of line and the amount of surface widening. For a change in direction of 90 degrees a curve of 1,000 ft. radius gives a line of 214 ft. shorter than a 500 ft. radius. Including widening the 500 ft. radius curve would require about 938 sq. yds. additional pavement.

Topographical conditions affect the details of location and in some instances are major controlling factors. Soils which are unsuitable for subgrades, shifting blow sands, rock classifications, are all to be avoided if practicable. Overflow sections require high embankments

with costly structures, for this reason valley locations are frequently undesirable. Stream crossings must be selected with the view of reasonable permanency of the banks, suitable foundations, required span length and be within the general location. Grades and curves adjacent to bridges should be reduced to the minimum. It is desirable to have a tangent of at least 150 feet at each end of a major structure and also a light or flat grade. These conditions permit the driver to adjust his machine into the bridge alignment. Grades have probably received ample consideration in the past or probably more than other features. Considering the motor vehicles now in use on our highways some sacrifice of grade can be made to improve alignment. Short grades as high as 8 per cent can be taken readily by modern motor vehicles but continuous grades of more than 6 per cent are objectionable. Tangent profile grades are not particularly advantageous and do not justify increased expense. A rolling profile fitting the topography is less objectionable for night driving due to the headlight glare on tangent grades.

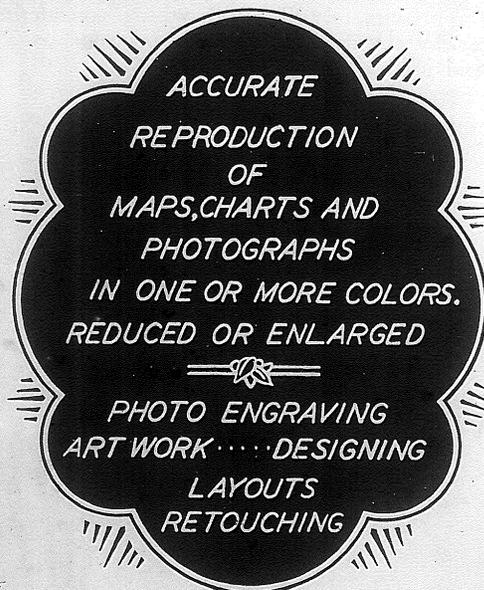
Grade separations at railroad intersections are desirable but not always possible financially. Where grade crossings are adopted the line should be located so that future separation can be developed, and in all cases approach curves and grades should not restrict sight distance.

Restricted areas in and near cities are frequently obstructions to direct highway location. This includes parks, golf courses, institutional reservations, cemeteries, railroad yards and air ports. Generally it is impracticable to pass through these areas and the location must be carried around them. The location should give access to railroads and air ports but be sufficiently removed to permit full operation of all facilities without congestion. A location directly adjacent to the railroad may be congested by tracks loading and unloading at the railroad and also by individual spur tracks being constructed across the highway. Location along the railroad is usually adopted because it is desirable from engineering features and for the further reason that right-of-way is less difficult to secure. It has the further disadvantage of providing for development on only one side of the highway whereas if removed a fourth mile or more from the railroad, property on both sides of the highway would develop.

One of the major problems of the locating engineer is to provide suitable locations into, through and around towns and cities. It is necessary to provide suitable connections into the street system of the city. It is highly desirable to also have a direct through connection even though it may be congested by city traffic in order to take care of through traffic making a temporary stop in the city. A belt line or by-pass location is equally desirable for the through traffic to avoid the city congestion in reaching its destination and to permit the sorting or segregation of traffic for different locations.

The desirable condition for the urban approach would be connections which would permit the distribution of traffic to:

PEERLESS ENGRAVING CO.



- (a) The retail section.
- (b) The wholesale and industrial sections.
- (c) Railroads and air ports.
- (d) Several residential sections, and
- (e) To other highways by direct connections, outside the city proper.

There are many town and city officials who believe that the highway should be considered as a continuation of "Main Street" out into the country and that it should be carried through the principal thoroughfares of the city. This is especially true of cities under 10,000 population and the smaller the municipality the more insistent it is as a rule that the highway pass through the main streets. The larger cities have their local traffic problem and as a rule are glad to secure any relief possible by routing through traffic over outlying streets or through the suburbs. In a great many cities, however, highways are taken directly through retail sections where the streets are congested with trolley cars, motor vehicles and pedestrians. There are numerous street intersections, sharp curves, grade crossings, congestion due to parking and other hazards of city traffic. The through traffic is delayed and local traffic congestion is increased with possibilities of accidents multiplied. Too many towns and cities are placing restrictions on through traffic by means of speed ordinances, stop signs, signals and other regulations. These measures in most cases are necessary for the local traffic but the through traffic can better operate without them and outside the city. The following table gives information on several highways through cities of the southwest:

City and Highway	Miles in City	Sharp Curves		Railways (All Classes)			Street Intersections Control		Legal Speed Miles Per Hour
		No.	Total Degrees	No. Tracks Crossed	Route Used by St. R. R.	Signals	Police	Total No.	
Dallas									
U. S. 80	8.5	12	735	19	12%	15	89	10-20	
U. S. 75	7.6	8	870	26	16%	16	119	10-20	
Fort Worth									
U. S. 80	10.9	6	390	9	51%	12	123	12-18	
U. S. 81	9.25	11	1150	27	77%	7	111	12-18	
Houston									
U. S. 90	8.5	14	780	9	4%	13	110	8-20	
Little Rock									
U. S. 65	4.5	4	525	7	19%	4	40	15-25	
U. S. 67	5.0	6	515	7	15%	4	56	15-35	
U. S. 167	3.3	2	180	7	6%	4	35	15-35	
New Braunfels									
U. S. 81	3.2	9	635	1	0		30	30	
Oklahoma City									
U. S. 77	6.2	6	510	21	9%	6	70	25	
U. S. 66	4.15	3	330	4	40%	4	42	25	
Purcell, Okla.									
U. S. 77	1.2	4	360	4	0	1	13		
San Antonio									
U. S. 81	10.0	14*	1200*	8	28%	13	84	10-20	
U. S. 90	8.6	9	845	23	55%	12	95	10-20	
San Marcos									
U. S. 81	2.2	6	390	0	0		32	20	
Tulsa									
U. S. 66	9.1	8	591	22	4%	7	97	8-25	
Waco									
U. S. 81	4.2	3	360°	25	33%	7	39	15-20	

*Other routes give less curvature but more traffic congestion.

The development of proper approaches to cities with arterial routes for traffic to and from the city and belt lines for traffic distribution requires the co-operation of State, county and municipal authorities. It also requires a careful traffic study and analysis, upon which can be based the present and future plans for improvements. The Plan of Highway Improvement in the Cleveland

Regional Area is an outstanding example of this character of work. As a result of this survey the city of Cleveland and its contiguous territory has developed a plan of major road and street improvements for ten years ahead and may proceed with individual projects, knowing their final position in the broader plan.

Increase in most of the present speed limits appear inevitable. The engineer should anticipate this with provisions in his location to meet the conditions. Greater sight distance on horizontal and vertical curves is desirable. Six hundred feet is not excessive. Where this cannot be obtained extra width of surfacing is desirable. In the level and rolling country of the southwest engineers are providing horizontal curves of 4 degrees and less. This makes extra width unnecessary, very little superelevation is required and as previously stated, line length is reduced. The older practice of placing changes in alignment at the top of hills has been discontinued. It is considered a hazard to traffic. Other conditions being equal, curves should be placed where they may be readily seen by the approaching driver.

To a great extent engineers have allowed right-of-way considerations to influence location. This is especially true in those sections where the section line road system prevails. It is seldom that on rural highways more than 80 feet of width is secured which amounts to approximate nine and one-half acres per mile. Considering the cost of State highways at about \$30,000 per mile there could be a justified expense of \$3,000 per acre for a proportional reduction in length of construc-

Dust Prevention that Cuts Maintenance Costs

Solvay Calcium Chloride keeps roads dustless and frequently saves in gravel and surface replacements more than enough to pay for its use as a dust preventive.

Ordinary labor can apply it without expensive equipment. It is clean, odorless, and harmless to clothing, tires and horses' hoofs.

Get the facts about this method.
Write today for Booklet No. 7256.

SOLVAY SALES CORPORATION

40 Rector Street New York Laclede Gas Building
St. Louis, Mo.

Alkalies and Chemical Products Manufactured
The Solvay Process Company

SOLVAY CALCIUM CHLORIDE



tion. This does not take into consideration any savings in maintenance and operation costs.

The width of right-of-way needed depends upon the future requirements of the road and also the means for its protection from encroachment and exploitation. Few States have adequate laws regarding right-of-way acquisition and roadside protection. A recent Texas statute permits the State to obtain 100 feet for a State highway which ordinarily is ample. There is nothing, however, to prevent the abutting property owners from building garages, service stations, and other roadside establishments on the property line and utilizing a part of the highway for the transaction of their business.

Until such time as adequate legislation is enacted placing roadside development under the supervision of highway authorities the engineer should use such means as are available to protect and preserve the highway for its complete utilization. To this end the writer suggests the following measures: Acquire sufficient right-of-way for future development of the highway. Obtain extra widths at all road intersections and other strategic points where roadside enterprises would likely be established. In making acquisitions it will usually be possible to retain in the right-of-way the narrow strips, gores and other small parcels of land cut off from the original tract. These parcels may be utilized for highway purposes in the future or for roadside planting and beautification. In any event they are not available as sites for billboards and roadside establishments. Through areas of natural beauty either obtain in fee or protect with long term leases several hundred feet extra width each side of the right-of-way. The interest of civic organizations and public-spirited citizens should be encouraged and their aid secured to obtain the desired ends.

It is apparent to everyone that aside from the commercial features of highways there are social and political considerations which cannot and should not be disregarded. Roads are for public usage and must be located, constructed and maintained with that end in view. Whether for business or for pleasure the public travels to definite points of interest and attraction. Schools, churches and courts are the mainstays of the commonwealth. The public must have access to these institutions by highways. Rural mail and express deliveries, transportation of farm products and rural community life while usually served directly by local roads are affected by their connection with the main highways. There are patriotic shrines in every section of the country which should be made accessible from the highways. Our national and State parks and forest preserves are visited annually by thousands of our citizens and with improvements in our roads will be used by many more for recreational purposes.

As a function of the government, every governmental unit should be connected finally with the country at large. The writer has always believed that the larger

unit of government has this obligation to its constituent parts. The Federal to the State, the State to the county and the county to its towns and communities.

These considerations of schools, churches, courts and other conditions vitally affecting the citizenship of the nation cannot be weighed in terms of economics or engineering but must be taken under the "General Welfare" clause of our fundamental law.

Mutual Courtesy Between Road Workers and Public

One of the requirements insisted upon by Dwight H. Blackwood, Chairman of the Arkansas State Highway Commission, on the part of the employees doing work on the State highways, is uniform courtesy to the traveling public.

It is not always possible to control the actions and attitude of workers on contract jobs, where there is no direct responsibility on the part of the worker to the executive head of the department. However, it is requested that any violation of the rules of courtesy be reported to headquarters.

There is another side of the picture, and that is the courtesy which is owed by the traveling public to the workers who are attempting to give us better highways. The public should always consider the safety of highway workers, and should slow down when passing them. A collision between an automobile and maintenance outfit is apt to be serious and causes risk to the man with a team or a light grader, who is more apt to be hurt when the car crashes into him than the driver of the car. In all of the work which is being done under the direction of the State Highway Department it is sought to keep at least one-half of the road open to traffic, but unless drivers are careful serious accidents are inevitable and in such accidents the road workers often get the worst of it.

HIGHWAYS OF THE STATE UNDER POLICE PATROL

General traffic regulations on State highways are to be energetically enforced under the operation of the Purkins Law enacted by the last Legislature, according to announcement made by the Highway Commission at its recent meeting.

Among the regulations which will receive especial attention from the sixteen highway inspectors now clothed with police power will be the proper use of headlights, the enforcement of the law requiring careful supervision of brakes, the regulation of parking on highways, enforcement of the license law and other proper requirements for safety.

A. V. Denny, supervisor of the Tag Division of the Highway Department, who has been in charge of the work of the license inspectors, will serve as chief of the new patrol service. It is not contemplated that the force will be increased in personnel under the new law, but its provisions will make it possible for representatives of the department who find the highway laws being violated, to take offenders into the nearest court or before the nearest justice of the peace.

Blueprint Experts

LITTLE ROCK BLUEPRINT COMPANY
PHONE 4-4223 HOME INSURANCE BUILDING

Highways a Pressing Need

A Northern newspaper which recently conducted a questionnaire throughout its territory to determine what, in the estimation of the public, were the most pressing needs of their home communities determined that better highways were far in the lead and were followed in second place by the "need for community pride."

The answers covering these two needs embraced more than 50 per cent of the total number of answers to the questionnaire. Among the other needs which were mentioned less frequently were recreational facilities, better schools, better sanitation and increased population. It was significant that lower taxes ranked the field, and was last in the estimation of the public replying to the questionnaire.

It was also significant that the two needs most frequently mentioned—better highways and community

pride—in Arkansas, at least, have been very closely related. As pointed out in a recent article in these columns by Mrs. Frank Letzig, Chairman of the Women's Committee in charge of roadside beautification of the Little Rock-Hot Springs Highway, the coming of better roads brings with it the sense of community pride which makes much easier the work of stimulating local interest in civic improvements and beautification along modern highways thrust into the wildest and most ill-kept sections. It is only after their establishment one sees fences relined and painted, lawns planted and beautified, and the general renovation of adjacent territories. There is close kinship between roads and city paving and the development of local pride. In getting better highways communities awaken and inevitably increase the consciousness which leads to civic improvements.

Brute Strength---Long Mileage---
Attractive Appearance---Modern Design
and Low Mileage Cost!



Ask Us About This "2 in 1" Truck and Bus Tire.

Telephone 5510

LITTLE ROCK TIRE COMPANY

317-19-21-23 WEST SEVENTH STREET

LITTLE ROCK, ARKANSAS



"Say, Joe, why do they always put straw on fresh concrete?"

"That's to keep the concrete from blowing away."

"Mamma," said little Elsie, "I never see any pictures of angels with whiskers. Do men go to Heaven?"

"Well," said the mother thoughtfully, "some men do go to Heaven, but they get there by a close shave."

Legitimate Prognostication

"So your father knows the exact moment he will die, does he; the exact year, month and day?"

"Yessuh, he had ought to. The jedge tole him."

Teacher: "Use 'despair' in a sentence."

Grade Five: "If a tire blows out, put on de spare."

"John, did you ever see one of those machines that tells when a man is lying?"

"Did I? Lord, I married one of them!"

Famous Slogans Revised

"When better Chevrolets are built, Pontiac will build them."—*General Motors.*

"What a whale of a difference a few scents make."—*Lifebuoy Soap.*

"If garters were worn around the neck you'd have to have two necks."—*Paris Garters.*

"If you don't know she wears them, have your eyes examined."—*McCallum hosiery.*

"Even for lazy people."—*Wrigley's gum.*

"It slips."—*Ivory soap.*

"When it rains it's empty."—*Morton's salt.*

"It's roasted."—*Lucky Strike advertising copy.*

"Twenty Mule Team obstinacy."—*Borax.*

"Good to the last drop."—*American Parachute Co.*

"Ask the man who owns one—then run."—*Packard Auto.*

"After every meal."—*Bon Ami cleanser.*

"Eventually, why not now?"—*Mortuary Monument Works—The Pathfinder.*

A Heavy Load

Boss: "What are you two doing walking so slowly up those stairs?"

Midnite: "We's workin', boss. We's carryin' dis desk upstairs."

Boss: "I don't see any desk."

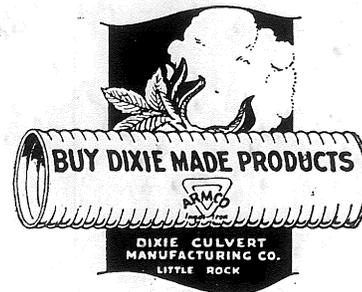
Midnite: "Fo' d' Lord's sake, Carbon, we dun forgit de desk."

There

Kappa—"What kind of a dress did Betty wear to the party last night?"

Cap—"I don't remember. I think it was checked."

Kappa—"That must have been a real party."



Armco Culverts

For Economy

"Look Under Your Roads"

Thirty-three years prove flexibility.

Twenty-three years prove pure iron

Armco Culverts endure in
drainage service

PRE-PROVED DURABILITY

"Twenty-two Years of Service pre-
prove the durability of every culvert
I use." —*By a Highway Official.*

Good roads are dry roads—It is the business
of Culverts to keep roads dry. If roads endure
Culverts must endure.

ARMCO Ingot Iron Culverts have proven
their durability by more than 20 years of service.

No other Culvert can claim the same.

Dixie Culvert Manufacturing Co.

LITTLE ROCK, ARKANSAS

ARMCO CULVERT PIPE
Welded Underground Oil and Gas Tanks
Page Highway Guard
Calco Automatic and Slide Drainage Gates
Road Building Equipment

**"Standard"
Motor Oil**



**"Standard"
Gasoline**

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

ASPHALT

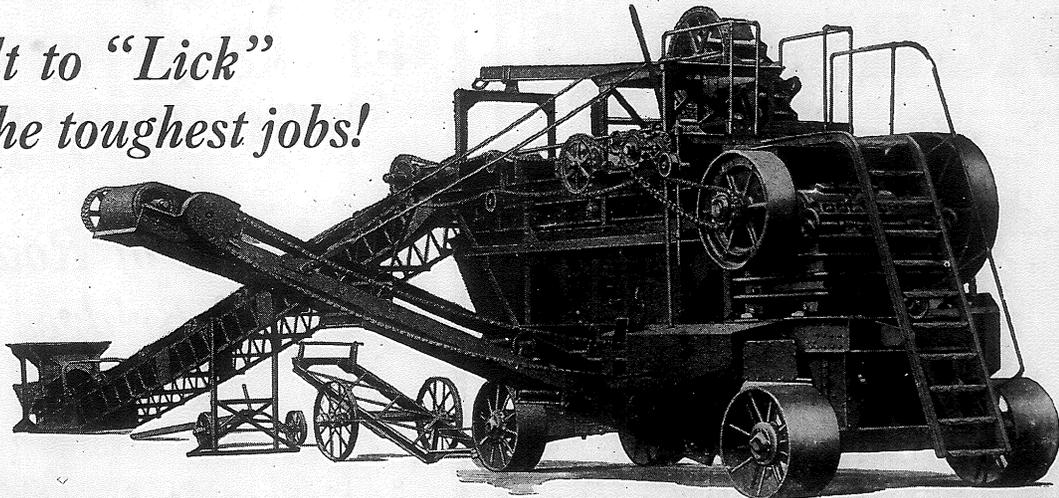
The Standard Oil Company of Louisiana, with its modern Refinery at Baton Rouge, is the largest manufacturer of Asphalt and Asphaltum products in the South.

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

*Built to "Lick"
the toughest jobs!*



PIONEER SCREENING, CRUSHING AND LOADING PLANT No. 20

Crushes, screens and loads in one operation. Capacity, 250 to 350 cubic yards in 10 hours. One man runs entire plant. Powered by 35 H. P. gasoline engine. Designed to be used in places where there is no sand to reject, and only medium capacity of crushed gravel is required. Often two of these plants are purchased instead of one large one, and are put at either end of a County to save time in moving equipment long distances.

ARKANSAS TRACTOR AND EQUIPMENT COMPANY

J. A. RIGGS, *Secretary and Manager*

120 COMMERCE STREET



PHONES: DAY, 2-1591—NIGHT, 3-2812-J

LITTLE ROCK, ARKANSAS

READER GRAVEL CO., Inc.

READER, ARKANSAS

All Grades of Gravel and Sand

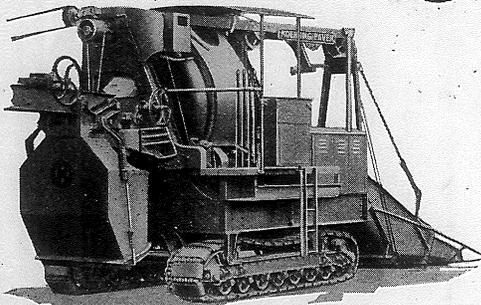
BEST QUALITY MATERIAL IN ARKANSAS



Capacity, 60 Cars Per Day

Will Appreciate Your Inquiries

KOEHRING



GREATER 27E PAVER

The sum of Koehring's long experience in paver building—a Heavy Duty 27E with every modern feature for fast operation and automatic control.

Every gear unit is enclosed and operated in oil. Every bearing in the power transmission line is ball or roller bearing.

Remember, our organization has been built up for service as well as sales. We appreciate that your profits depend on the steady operation of your equipment.

Pavers: 27E, 13E.
Dandie Mixers: 5S, 7S, 10S.
Construction Mixers: 14S, 21S, 28S.



KERN-LIMERICK, INC.
2800 West Fifteenth Street
LITTLE ROCK, ARK.
Telephone 3-0316

ELLIS & LEWIS

GENERAL CONTRACTORS

*Builders of Roads
and Bridges*

SINCE 1916



ALFRED C. ELLIS

307 Pyramid Life Building
LITTLE ROCK, ARK.

Phone 2-1572

CEYLON S. LEWIS

506 Surety Building
MUSKOGEE, OKLA.

Phone 6108

ARKHOLA Sand and Gravel Co.

CONCRETE SAND
ROAD GRAVEL
CONCRETE GRAVEL
Sizes: 1"x1/4"—1 1/2"x1/4"—2 1/4"x1/4"

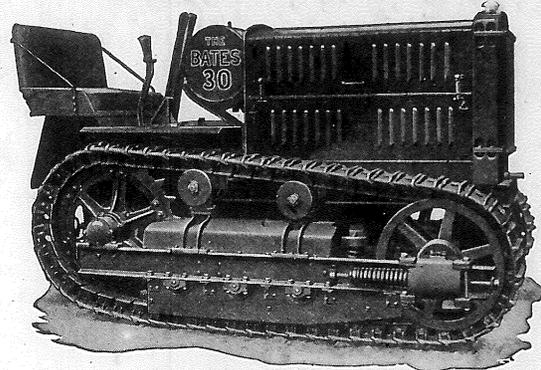


*Daily Capacity
Over One Hundred Cars*



Office: South 7th and B Streets
Fort Smith, Arkansas Phone 5000

Every Inch a Tractor



The new BATES "STEEL MULE" tractor book is full of illustrations and valuable tractor information that you'll want. Write today for your free copy. No obligations of course.



KERN-LIMERICK, INC.
2800 West Fifteenth Street
LITTLE ROCK, ARK.

Tennessee-Arkansas Gravel Company

ARKANSAS CITY, ARK.



WASHED GRAVEL, CLEAN
AND GRADED
WASHED SAND
ROAD DRESSING GRAVEL



Capacity 50 Cars Daily
Phone 9

WARRENITE-BITULITHIC PAVEMENT

"A WARRANted Product"

WARRENted
to deliver perfect service
WARRENted
rugged, honest materials
WARRENted
under expert supervision
WARRENted
for long, uninterrupted service
WARRENted
for low upkeep costs
WARRENted
to be right for YOUR job

WARREN BROTHERS COMPANY

International Highway Engineers and Contractors
Executive Offices: BOSTON, MASS.

DISTRICT OFFICES

Havana, Cuba	Chicago, Ill.	New Orleans, La.
New York, N. Y.	Phoenix, Ariz.	Dallas, Texas
Valencia, Spain	Boise, Idaho	Charlotte, N. C.
Bagota, Columbia	Washington, D. C.	Sydney, Australia
Santiago, Chile	Utica, N. Y.	Buenos Aires, S. A.
Warsaw, Poland	Minneapolis, Minn.	Tokyo, Japan
Portland, Ore.	Oakland, Cal.	Melbourne, Australia
St. Louis, Mo.	Toronto, Ont.	Oklahoma City, Okla.
Harrisburg, Penn.	Memphis, Tenn.	Salt Lake City, Utah
Vancouver, B. C.	Los Angeles, Cal.	Birmingham, Ala.

White Transfer Co.

INCORPORATED

Second and Rector Streets

Telephone 8305

LITTLE ROCK, ARKANSAS



DIRT OR GRAVEL MOVING

HAULING BY THE HOUR,
DAY OR YARD

CONTRACTS SOLICITED

*Ten White Two-Ton Dump Trucks.
Experienced, Efficient Drivers.*

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

STEEL
ROAD
MESH

*Our facilities for supplying
road building materials
are unexcelled*

CAREY'S
ELASTITE
EXPANSION
JOINT

FISCHER LIME & CEMENT CO.

MEMPHIS

Quality Highway Supplies and Equipment

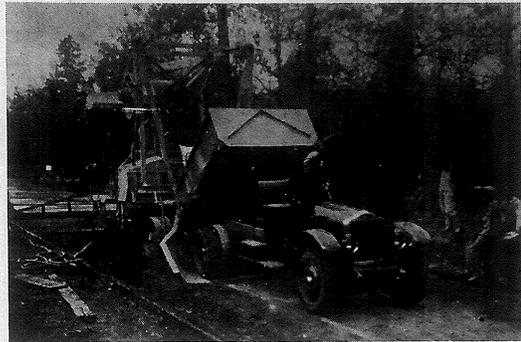


Jaeger Concrete Mixers
 Thew Shovels, Cranes and
 Draglines
 Universal Cranes
 Barnes Pumps
 Clyde Hoists
 Vulcan Pile Hammers
 Lakewood Towers and Paving
 Equipment
 Multi-Foote Pavers
 Gardner-Denver Compressors
 Bar Ties and Tools
 Toledo Torches
 Beach Saw Rigs
 "Hollywood" Concrete
 Culvert Pipe
 "Toncan" Iron
 Culvert Pipe
 Dynamite



Choctaw
Culvert & Machinery Co.
 LITTLE ROCK MEMPHIS

White Trucks



There is a White Truck for Every Need

Permanent and Dependable Service
 by Little Rock Factory Branch

THE WHITE COMPANY
 400-410 West Tenth Street
 Little Rock, Ark.



Our Pride Mark

*The Sign of Absolute
 Quality in Printing*

THE QUALITY of our publication printing, of which the magazine you hold in your hand is a sample, is based on the same principle that carries throughout our entire line of efforts—that of making each job as good as it ought to be.

In addition to publication printing we do commercial printing, book printing, print catalogs, do ruling and binding, make blank books and loose leaves—in all offering a complete service, and

"We Actually Do Better Printing"

CENTRAL PRINTING COMPANY
 Phone 7138 209 Louisiana Little Rock

When there's work to be done!



Tractors and trucks to whose lot falls service in road construction are unaccustomed to travel on roads "smooth as a billiard table."

Their's is the job of the worker, preparing the way for their brothers and it's no easy task!

Of course its hard on the constitution of tractor or truck to grind its way along unbroken paths. To make their work easier, give them the best of lubrication. They'll repay you in longer service and lower cost of maintenance.

En-ar-co Motor Oil and other En-ar-co Lubricants are built for extra duty—for unusual demands. They are the economical lubricants for your equipment.

At the Sign of the Boy and Slate

EN-AR-CO MOTOR OIL
LIGHT—MEDIUM—HEAVY—EXTRA HEAVY

THE NATIONAL REFINING CO.
Memphis, Tenn. Little Rock, Ark.

National Headquarters, National Building
CLEVELAND, OHIO

Whelen Springs Gravel Company

WHELEN SPRINGS, ARKANSAS

BEST ARKANSAS GRAVEL

PRODUCED BY

ALL ARKANSAS LABOR

FOR

ARKANSAS HIGHWAYS

Capacity 35 Cars Per Day

Located on Missouri Pacific Railway
and Highway No. 53

J. M. SCANLAN
215 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS
TELEPHONE 4-5664

WHELEN SPRINGS
TELEPHONE No. 6

C. E. SHOEMAKER

H. BALE

Shoemaker-Bale Auto Company

601-611 West Markham Street
LITTLE ROCK, ARKANSAS

Ford

LINCOLN
GENUINE FORD PARTS

TON AND ONE-HALF TRUCKS
STATION WAGONS
GENUINE FORD PARTS

"The More Roads—The More Fords"

Pearl City Packet Company

NEWPORT, ARK.

FAMOUS WHITE RIVER SAND
AND GRAVEL

GRAVEL FOR SURFACING

MISSOURI PACIFIC CONNECTION

We Handle

*Good Equipment and
Good Supplies for Building
Good Roads*



FONES BROS. HARDWARE CO.
LITTLE ROCK, ARK.

Use

Magnolia ANTI-KNOCK Gasoline

POWERFUL

EVEN BURNING

KNOCKLESS

For high compression motors and motors with excessive carbon

MAGNOLIA GASOLINE INSURES MAXIMUM MILEAGE
MAGNOLENE MOTOR OILS FOR CORRECT LUBRICATION

MAGNOLIA PETROLEUM COMPANY

Reinforcing Bars

Where you want them—How you want them and When you want them

IMMEDIATE SHIPMENT FROM
LITTLE ROCK STOCK

IRON and STEEL

FOR BRIDGES AND BUILDINGS
Plain or Fabricated. Over Two Thousand
Tons in Stock.

Bridge Bolts and Hardware
Manhole Rings and Covers
Catch Basins and Covers
Road Center Strip
Reinforcing Bars
Wire Mesh

"It Pays To Get Our Prices"

Arkansas Foundry Company

1500 East 6th Street

Little Rock, Arkansas

"We Repair Contractors' Machinery"

SEWER PIPE
4-in. to 24-in.

REINFORCED PIPE
15-in. to 72-in.

Shearman Concrete Pipe Company

LITTLE ROCK, ARKANSAS

PHONE 4-0380

MANUFACTURERS OF

REINFORCED CONCRETE CULVERT
PIPE MEETING ARKANSAS STATE
HIGHWAY SPECIFICATIONS

We also manufacture and carry in stock a complete range of sanitary and storm sewer pipe meeting A. S. T. M. Specifications.

Four plants located at strategic points throughout the great Southwest enable us to give the utmost in service to contractors operating in Arkansas, Louisiana, Texas, Oklahoma and Missouri.

Plants Located At

Little Rock, Ark.
Dallas, Texas

Shreveport, La.
Oklahoma City, Okla.

Everything

for the

CONTRACTOR

INGERSOLL-RAND Air Compressors, Paving Breakers, Hose, Steel, Etc.

BUCYRUS-ERIE Shovels, Cranes and Drag Lines.

NOVO and LIDGERWOOD Hoists, Etc.

RED EDGE Shovels, Gravel

Washing and Screening Equipment.

REX Mixers and Pavers.

DUREX Saw Rigs and Pumps.

BATES Bar Ties and Tying Tools.

RED STAR Wheelbarrows and Concrete Cuts.

A Complete Line of Contractors' Equipment

Joe Lyons Machinery Co.

112-120 N. Louisiana

LITTLE ROCK, ARK.

Complete Equipment for Contractors

NOVO HOISTS, SCHRAMM AIR COMPRESSORS, PUMPS
ORR & SEMBOWER CONCRETE MIXERS

In Stock for Immediate Shipment

Also: Derricks, Chain Hoists, Wire and Manila Rope, Bolts, Wheel Barrows, Scrapers, Picks, Shovels, Nails, Washers

CENTRAL SUPPLY CO., Little Rock, Arkansas

Property of the
ARKANSAS HISTORY COMMISSION
STATE CAPITOL
Little Rock, Arkansas

Good Machinery....

makes
work a
pleasure...
profits roll
in...



THE WARCO 10R ROAD HOG

Good machinery turns work into play... makes road building appropriations go farther... piles up profits for the contractor... There is no better investment than the new 1929 WARCO Road Hog Grader with rubber tired wheels—or with the new WARCO Rear Crawlers for extreme conditions. Write for interesting bulletin.

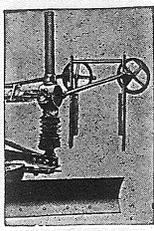
Warco

PRODUCTS

DO THE JOB

Easily.. Quickly.. Efficiently

*"Built Like A
Screw Jack"*



THE WARCO
SCREW LIFT

Spinning the freely turning wheels in the cab, operates the screw through the circle controls, and easily raises and lowers the grader blade. The screw lift mechanism is standard equipment on WARCO Rear Control Graders.



W.A. RIDDELL COMPANY
BUCYRUS · OHIO · U.S.A.

MR. O. E. TAPLEY, Branch Manager, 710 East Washington Avenue, North Little Rock, Ark.



SENTINELS OF SERVICE

HUNDREDS of miles of concrete highways throughout the Mississippi Valley are built stronger, sturdier, more time-resisting with Marquette *High Test* Cement--the cement that has met the most exacting requirements for more than a quarter century.

Whether you build a simple foundation, floors, sidewalks or mighty sky-scrapers, build to last with Marquette *High Test* Cement. You pay no more for *High Test* Cement than for ordinary cement. Identify it by name--*Marquette*.

Marquette Cement Manufacturing Co.

Union Planters National Bank Building, Memphis

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