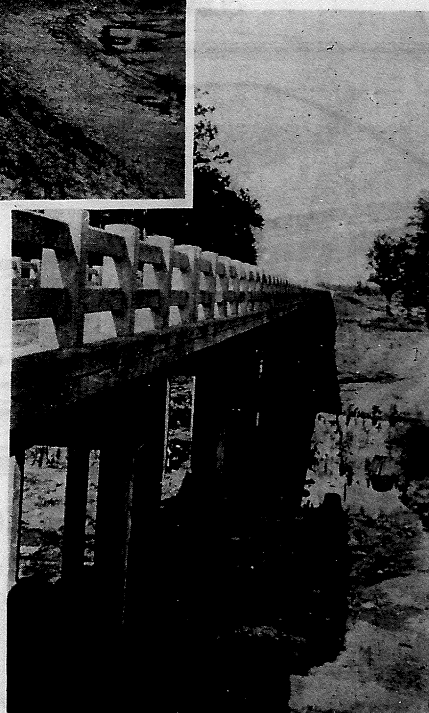
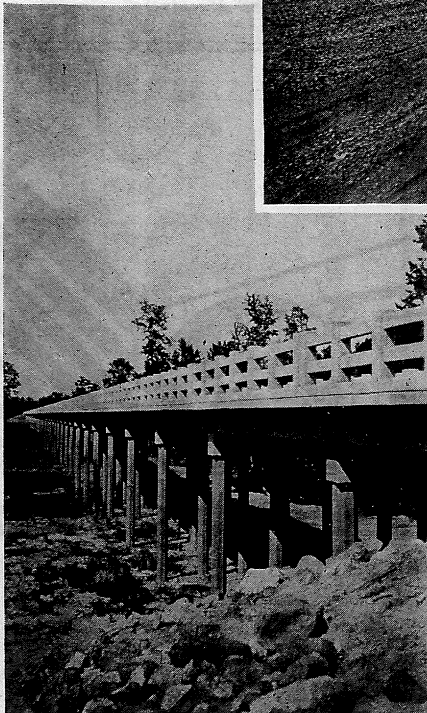


ARKANSAS HIGHWAYS

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



Three views on Route
167, north of the Ouachita River Bridge near
Camden.

A detailed story of the
project appears in this
issue.

Vol. 7

JUNE • 1930

No. 6

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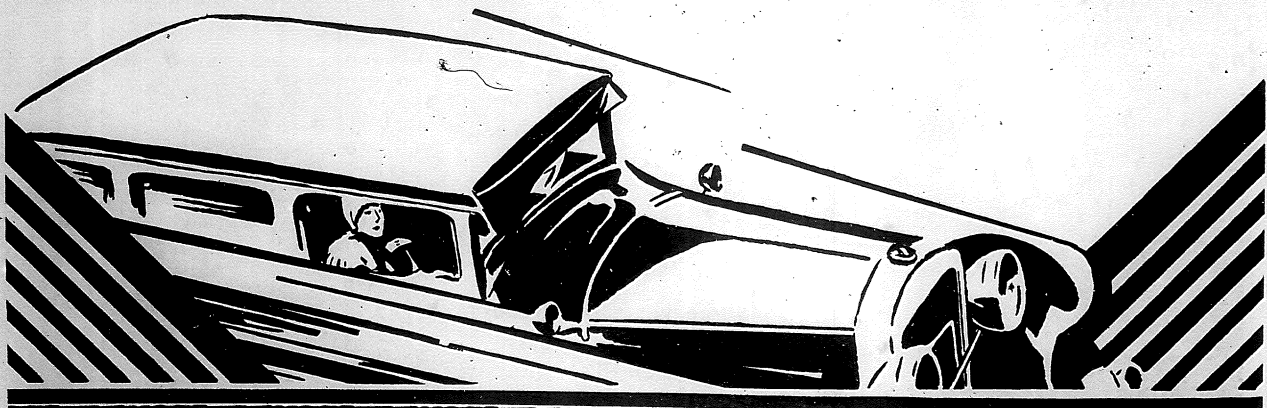
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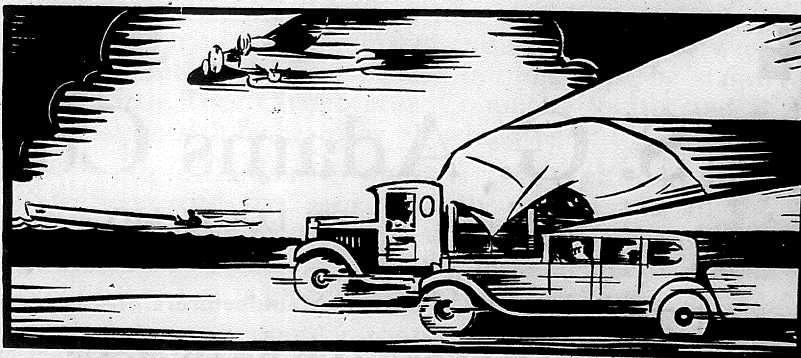
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WRITE FOR CATALOG

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. VII

JUNE, 1930

No. 6

About Three Important Highways

By Dwight H. Blackwood, Highway Commissioner

Among the recent important developments in the highway program is the completion of three projects that will serve a large area and a corresponding great number of travelers. Of these highways is numbered, what is perhaps the most historical road in Arkansas, in point of improved highway ambition, the Dollarway from Little Rock to Pine Bluff, route No. 65.

This road, originally only nine feet wide, but the first concrete highway in the State, has been replaced with a new and modern eighteen-foot structure, and many of the difficult curves of the old road have been eliminated and the distance between the two points reduced some. Suitable celebration of the opening will be staged July 18 by the Pine Bluff and Little Rock Chambers of Commerce jointly and at that time detailed historical narration will be heard by all who attend.

Route No. 22 from Fort Smith to Dardanelle, which has been typified by many who have traveled it as a magnificent road has been officially opened and all the towns on the route participated in the gala-day affair that will be remembered long and pleasantly by those who attended. This road is a very pleasant one to travel, and serves a wonderful section of the State in an adequate manner.

What will constitute one of the most popular routes in the State is No. 71, from Alma to Bentonville, which is, in popular description, the Winslow route from Little Rock to Fayetteville. This road extends through some of the most scenic portions of Arkansas, and will serve a tremendous tourist movement as well as providing easy transportation for immense quantities of agricultural products. At present what remains uncompleted on this project is a short distance only between Mountainburg and West Fork.

Such roads as these are a part of the extensive program that when completed will connect in substantial manner the furthest reaches of the State, and will end for all time to come the complaint that there aren't continuous routes of pavement throughout the commonwealth.

There are many other such valuable units under way.

LETTING OF CONTRACTS

On June 18, the State Highway Commission awarded contracts for the construction of twenty-eight road and bridge projects at a total cost of \$1,373,-470.38.

All bids on the graveling of approximately 25 miles of road between Fort Smith and Hartford, were rejected because of bids were submitted on the basis of pit run gravel, but amended specifications require that material must be crushed and screened.

The largest project called for construction of eleven reinforced concrete bridges, totaling 4,125 feet, on the Brasfield cut-off road, Highway No. 70, east of DeValls Bluff. The contract was awarded to L. H. Lacy Construction Company, Dallas, Texas, for \$257,159.50. Another project on that road calls for construction of a steel and concrete bridge across Cache river at a cost of approximately \$60,836.

Contracts awarded placed under construction all of Highway No. 70 between Lonoke and West Memphis and all of No. 67 between Benton and Texarkana. Both these roads have been graveled several years, but it is planned to lay concrete pavement as rapidly as possible.

Of the total cost of construction on contracts awarded it was estimated the Federal Government will pay approximately \$460,000. Twenty road projects totaled in length approximately 77 miles and eight bridge projects totaled 9,942 feet. The jobs are located in 24 counties.

LIST OF CONTRACTS

Job 11009, St. Francis County, 239 lineal feet of steel and concrete bridges on the Forrest City-East road, Federal aid project, State Highway 70, Crow Creek Gravel and Sand Company, Forrest City, \$27,884.86.

Job 11017, Monroe and St. Francis counties, 551 lineal feet of concrete deck girder bridges on DeValls Bluff-Forrest City road, Federal aid project, State Highway 70, Maxwell Construction Company, Columbus, Kan., \$41,611.96.

Job 11021, Cross County, two miles of grading, drainage structures and gravel surfacing on the Wynne-North road, Federal aid project, State Highways 1 and 16, Newell Contracting Company, Little Rock, \$25,207.59.

Job 11025, Monroe County, 4,125 lineal feet of concrete deck girder bridges on concrete pile bents on Brasfield cut-off road, Federal aid project, State Highway 70, L. H. Lacy Construction Company, Dallas, Tex., \$257,159.50.

Job 3115, Clark County, three miles of concrete pavement on Arkadelphia-Donaldson road, Federal aid project, State Highway 7, J. P. McNulty, Pine Bluff, \$42,347.93.

Job 3125, Nevada and Clark counties, 2,172 lineal feet of steel and concrete bridges over Little Missouri River and bottoms on Gurdon-Prescott road, Federal aid project, State Highway 67, Vincennes Bridge Company, Vincennes, Ind., \$153,415.22.

Job 4137, Franklin County, four miles of concrete pavement on Ozark-West road, Federal aid project reopened, State Highway 64, Shultz Construction Company, Paris, \$79,913.40.

Job 4144, Franklin County, three and a half miles of concrete pavement on Altus-East road, Federal aid project reopened, State Highway 64, Shultz Construction Company, Paris, \$68,992.20.

Job 9100, Boone County, 401 lineal feet of concrete bridge over Crooked Creek and 523 lineal feet of earth embankment approaches thereto, Federal aid project, State Highway 65, Interstate Construction Company, Fort Smith, \$68,500.97.

Job 10147, Randolph County, six and three-fourths miles of concrete pavement on Corning-Pocahontas road, Federal aid project, State Highway 67, Phoenix Construction Company, Fort Smith, \$102,556.73.

Job 1117, Prairie and Monroe counties, 444 lineal feet of steel and concrete bridge over the Cache River at Brasfield on the Brasfield cut-off road, Federal aid project, State Highway 70, Vincennes Bridge Company, Vincennes, Ind., \$60,836.47.

Job 175, Monroe County, clearing right-of-way, 250 feet wide and two and a half miles in length on St. Charles-Turner road, State Highway 1, W. W. Keaton, Clarendon, \$4,125.

Job 304, Lafayette County, three miles of grading and drainage structures on Lewisville-Garland City road, State Highway 2, A. C. Kennedy, Little Rock, \$22,496.79.

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Job 3133, Miller and Lafayette counties, one-fourth mile of grading and drainage structures on Garland City bridge approach road, State Highway 2, Johnson Team and Dray Company, Little Rock, \$6,238.85.

Job 4133, Benton County, five and a half miles of gravel surfacing on the Gateway-Eureka Springs road, State Highway 72, M. O. Weaver, Iowa Falls, Ia., \$8,813.98.

Job 580, White County, four and a half miles of grading, drainage structures and concrete pavement on the El Paso-Beebe road, State Highway 67, Altman-Rogers Company, Oklahoma City, \$81,725.89.

Job 5118, Independence County, six miles of gravel surfacing or crushed stone surfacing on the Stone County-Locust Grove road, State Highway 14, T. L. Throgmartin, \$9,436.54.

Job 5123, White County, eight and a half miles of crushed stone surfacing on the Bald Knob-White-Woodruff County line road, State Highway 16, T. L. Throgmartin, \$12,214.87.

Job 6116, Garland County, three-fourths of a mile of concrete pavement on the Hot Springs Junction No. 6 road, C. L. Besler, Hot Springs, \$19,435.04.

Job 6117, Pulaski County, 202 lineal feet of steel and concrete bridge over Bayou Meto on North Little Rock-Faulkner County line road, B. F. Brooks Construction Company, Dallas, \$17,073.73.

Job 758, Ouachita County, six miles of grading and drainage on the Camden-Rosston road, O. M. New, Conway, \$45,438.33.

Job 784, Bradley County, seven miles of grading and drainage on the Warren-New Edinburg road, State Highway 8, Wimberly Construction Company, Alexandria, La., \$37,768.70.

Job 8100, Pope County, one and a half miles of grading, drainage structures and concrete pavement on Pottsville-Blackwell road, State Highway 64, Phoenix Construction Company, Fort Smith, \$40,362.61.

Job 8124, Johnson County, 12 miles of crushed stone surfacing on Clarksville-Ozone road, State Highway 21, Lybrand & Robertson, Sheridan, \$33,084.32.

Job 943, Marion County, one and a half miles of grading and minor drainage structures and 182 lineal feet of concrete bridge over Georges Creek on Harrison-Yellville road, Yellville Construction Company, Yellville, \$49,067.17.

Job 9114, Newton and Searcy counties, minor drainage structures on the Harrison-Marshall road, State Highway 65, Lile & McWilliams, Mena, \$23,497.57.

Job 10125, Clay County, 630 lineal feet of steel and treated timber bridge over Big Slough and approach to the St. Francis River bridge, State Highway 34, M. K. Orr, \$27,520.76.

Job 10142, Clay County, one-half miles of grading, drainage and gravel surfacing on the Holly Island bridge approach road, State Highway 90, Piggott Gravel Company, Piggott, \$7,243.47.

The firm of Grady Garms, Little Rock contractor, was recently awarded a contract for paving South Main Street of Camden on a bid of \$38,900.55.

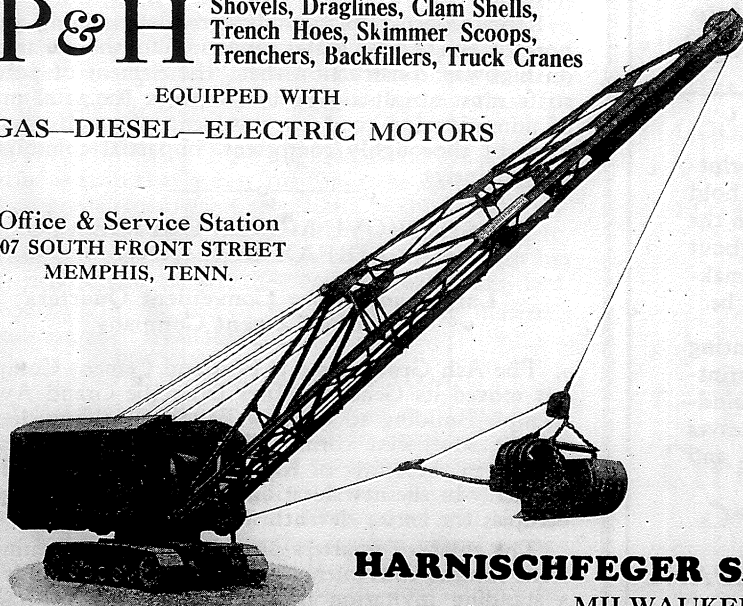
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NEW BRIDGE DEDICATED

Governor Parnell and Other Officials Take Part in Program

Governor Parnell, State Highway Commissioner Dwight H. Blackwood, other members of the commission and large delegations from Little Rock, Pine Bluff and Warren participated in the dedication of the new Saline River bridge on State Highway No. 15 north of Warren on June 12.

The program, sponsored by Herbert B. Martin Post No. 82 of the American Legion at Warren, was held at the bridge site on the Bradley-Cleveland county line. It was in the nature of a homecoming celebration for Bradley County, with Hill Carruth, formerly of Warren and now of Baltimore, Md., as the principal speaker. Governor Parnell, members of the commission and others made brief talks.

Walter E. Winn, resident bridge engineer, gave a history of the Warren-Pine Bluff road through the Saline River bottoms from the time the first road was laid out in 1845 until now. Prior to 1914 a ferry was operated near the site of the new bridge, except in periods of low water when the river could be forded a short distance below the ferry. Heavy rains interrupted traffic frequently throughout the year. The Bradley County court erected a steel bridge across the river in 1914 at a cost of \$16,500. That bridge now is being dismantled by the State.

The new bridge consists of two 160-foot high truss steel spans, 15 35-foot reinforced deck girder spans at the south approach and six such spans at the north

approach. The main bridge and approaches total 1,060 feet in length. Five reinforced concrete relief opening bridges on the earth dump across the bottoms have a combined length of 1,020 feet, making the total length of the bridge across the river and lowlands 2,080 feet.

The bridge was built by the Lakeside Bridge and Steel Company of Milwaukee, Wis., the steel spans being fabricated at the company's Milwaukee plant. Russell Weil of Little Rock, construction superintendent for the company, was in charge of the work. The bridges cost approximately \$160,000, including engineering and overhead expenses. Engineers say it should last indefinitely with proper maintenance.

ARKANSAS HIGHWAY

DEPARTMENT GETS MENTION

The Arkansas State Highway program came in for special mention in a recent address delivered by Dr. Julius Klein, assistant secretary of commerce, over the Columbia network dealing with the road contracts situation throughout the county.

Latest figures from three-fourths of the States, Klein said, show that road contracts awarded during the first quarter amounted to \$114,000,000 against \$51,000,000 for the corresponding period last year.

"There's a real contribution toward business stability," he said. Pointing out that the greatest relative increases in road work this year occurred in Ohio and Idaho, Glen continued:

"But some of our wide-awake southern States also are setting a lively pace. Arkansas is now in the midst of a highway development program in which \$25,000,000 will be expended this year. This will be very significant in the economic development of that whole section of the country."

Klein reported unanimous agreement among governors of thirty-five States reporting to the department on highway construction that "the element of political strife must absolutely be barred from the vital matter of administering road improvement, through appointment of thoroughly competent, impartial commissions and engineers.

ASH GROVE MOVES OFFICES TO FAIRFAX BUILDING

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The Ash Grove Lime & Portland Cement Company has moved its General Offices from the Grand Avenue Temple Building to the new Fairfax Building, located on the southwest corner of Eleventh and Baltimore Streets, in the center of Kansas City's downtown hotel district. In the new location, the Ash Grove Company occupies the entire eleventh floor.

The enlarged quarters provide spacious accommodations for the convenience of customers and friends and a standing invitation is issued to visiting contractors and engineers to utilize Ash Grove's office facilities whenever in Kansas City.



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Many Angles To Maintenance Problem

Reprinted from The Arkansas Farmer

Few realize how closely related are highway construction and highway maintenance.

On the type of a road's surface and the amount of travel depend the cost of maintenance.

Therefore on the wise judgment in the type of a road surface will depend the future cost of maintenance.

The selection of a type of road surface depends on two things; namely, the amount of travel that the road will have to stand up under and the cost of putting surfacing material on the road.

For example, a road that penetrates a section abounding in good road gravel, where such local gravel can be put on the road with a short truck haul from gravel pits and with no freight haul, can be maintained economically as a gravel road with a traffic of six to eight hundred cars a day. But under such material supply conditions where the travel reaches a thousand to twelve hundred cars a day, it will become more economical to surface the gravel road with asphalt, for the interest on the money invested in asphalt surfacing will be more than offset by the saving in gravel that blows off of the road annually due to the heavy traffic.

ROADS VARY WITH CONDITIONS

On another road where all surfacing material has to be shipped a considerable distance at a high freight rate, then hauled from the nearest railroad unloading point a considerable distance, it would be economical to surface a gravel road with asphalt to prevent its blowing away in dry weather from traffic, where the number of cars was not more than three or four hundred daily.

There are various contingencies that are determining factors in the type of a road's surface.

Where road surfacing material is not close at hand and the road has a twelve to fifteen hundred cars daily traffic, it must be concrete or asphalt. If the road is to proper alignment and grade and has a fair gravel or crushed stone surface, then in order to utilize the gravel or crushed stone surface asphalt surface should be laid, using the gravel or crushed stone surface as a base for the asphalt.

On the other hand if the alignment and grade of the old road is such that a new road must be built to avoid railroad grade crossings or to materially shorten the distance, where such road has the heavy gravel referred to, then the old road can be used until the new dump has sufficiently settled to permit a concrete slab being laid.

Economy in the use of various surfacing materials depends on their availability.

MUST USE MATERIALS AT HAND

All coarse aggregate going into road surfacing material is doubled in cost by even a short rail haul, so materials at hand must for sake of economy be used.

So for this reason crushed stone will be used in one section and gravel in another. Clay gravel will be used in one section, while in another washed gravel is used because the material of the roadbed will work up into the gravel and act as a binder. In the coal mining districts of the State burnt shale is sometimes used. The shale that comes from our coal mines has sufficient sul-

phur to ignite and great dumps of this shale burns with intense heat leaving a hard burnt shale, while not as good as the best gravel or crushed trap rock, yet better than soft sand or limestone. Arkansas is fortunate in road building material, much splendid rock and gravel is in many sections of the State. We have one cement plant in the State and many shale and lime rock deposits where others could locate and our oil wells produce enough asphalt annually to pave all of our roads, but despite our cheap surfacing material Arkansas is perhaps the most expensive State in the Union to build roads in.

EXPENSIVE FOR STATE TO BUILD ROADS

First, because we have more navigable rivers than any other State, and small streams are in proportion. Second, in our mountainous sections, hard rock excavation is very heavy. Third, in our swamp or alluvial land sections, all roadbeds have to be built up to a great height to procure drainage and to be above reasonable overflow.

Compare our costs of construction with road building costs over the plains of Texas or Oklahoma or the prairies of Kansas.

Our road traffic, however, is very light compared with any of the heavy population States.

Consequently in view of this members of the Highway Commission say only a small per cent of our State

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BROADWAY AT FIFTH

road mileage should be built of concrete, and in reality light road traffic which of course means also light road revenue, simply will pay for only a limited amount of concrete highways.

ARKANSAS HAS A LARGE STATE SYSTEM

Arkansas has approximately nine thousand miles of roads on her State highway system, which is a very large mileage when you take into consideration either her area, population or number of automobiles.

It costs about ten thousand dollars a mile to grade, drain and bridge an average mile of main trunk line highway. Then if surfaced with concrete, this surfacing will cost an average of about \$22,500 a mile, bringing the total average cost of a concrete road to \$32,500 a mile.

It will be seen that interest on original or one-tenth of our total State highway mileage was surfaced with concrete, it would cost thirty-two and a half million dollars, or 15 per cent of our total mileage (1,350 miles) if surfaced with concrete would cost \$43,875,000.

The engineers of the Highway Department and other experts in that line feel that an asphalt road such as was laid by the Highway Department near Bella Vista last year and such as the Highway Department is now preparing to start laying at three other points in the State, will give equally as good driving surface and for just as long a period as a concrete surface, the difference being that the asphalt surface will require more maintenance than concrete.

This extra cost of maintenance is offset by interest saved on first cost. With a fair gravel base already in as a foundation, this asphalt surface can be laid for an average cost of five thousand dollars a mile, a saving of \$17,500 a mile over the concrete surface. Figuring interest on money at 5 per cent, the annual saving in interest on \$17,500 would amount to \$875 annually. And it is estimated that \$300 per mile per year spent on a carpet coat of asphalt every other year, which will cost \$600 per mile, will maintain the asphalt road in perfect condition almost indefinitely.

ORIGINAL COST MUST BE CONSIDERED

So it will be seen that interest on original cost of construction must be taken into consideration in calculating maintenance costs on other types of surfacing.

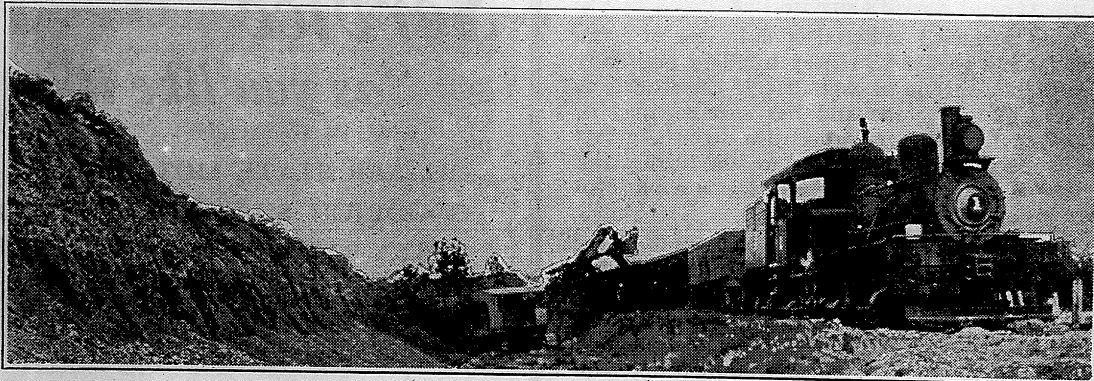
The maintenance division of the Highway Department has had serious problems from the very beginning of the present program.

With the passage of the Martineau Road Law, all road improvement districts of the State ceased to collect taxes. These road improvement districts had been maintaining with their funds about two thousand miles of roads that were on the State highway system, so on the very day the Martineau Road Law went into effect this additional mileage of about 2,000 miles was added to about 1,500 miles that the State Highway Department had previously been maintaining. Or in other words, the mileage to be maintained by the Highway Department was more than doubled.

The Martineau Road Law provided for borrowing money for new construction, it also provided for using

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six and a half million annually of the gas and auto license tax for paying maturing bonds and interest of road districts, and maintenance revenue also was to come from gas and auto license tax which was three million less in 1927 than today.

It was decided that to maintain this increased mileage with but little increase in maintenance revenue could only be accomplished by discharging antiquated road maintenance equipment.

SYSTEM OF DRAGGING WAS COSTLY

Roads were being bladed or dragged by a blade pulled by a truck or caterpillar tractor. These trucks or caterpillar tractors were very expensive to operate in gasoline, tires and repair parts, besides the truck or tractor required one man and the blade always one also and sometimes two.

This equipment was transferred from maintenance to construction department as rapidly as possible. The large tractors and blades were used in grading new roads and the trucks put in service hauling gravel to surface same, and for maintenance or road blading what is called one-man maintenance patrols were purchased. These are a light, fast, wheeled tractor and blade combined in one, with blade in front of operator so that one man and one machine covers 50 per cent more road than the two and three manned outfits previously used.

While various makes of these one man patrols are used by the maintenance department among the two hundred machines now in use, but all are now required to be designed for a standard type blade, while formerly the blades for each make of machine had to be bought through the machine manufacturer. The blade that scrapes the road wears out and has to be renewed very often. Formerly when forced to buy through the machine manufacturer they were costing an average of \$14 per 12-foot blade, now with all machines made to use one standard blade, these blades are bought in carload lots at \$5.23 per blade direct from the rolling mills. This is some saving, for the requirements are twenty to twenty-five carloads of blades a year, or about 10,000 blades.

The State Highway Department since the passage of the Martineau Road Law has built about twenty-five hundred miles of additional gravel roads in addition to concrete and asphalt roads built, so this additional improved mileage means increased maintenance costs.

About 7,500 miles of the nine thousand miles on the State highway system are now surfaced with gravel or better surface.

There are two thousand miles of these gravel roads where traffic is heaviest that is costing from \$800 to \$1,500 per mile a year to maintain; that is, the blading is costing \$250 per mile a year and the remainder of the expense is taken up by gravel or crushed rock that has to be added annually to cover that blown off the road by the great amount of traffic.

This two million annually saved out of maintenance money can then be used to build other much needed roads but if the Highway Department continues to grade and grade more and more roads, then Arkansas can get in the same shape that some other States have gotten into: namely, that the expense of maintaining gravel surfaces on their heavy traffic roads consumes all of their road revenue.

EVERY SECTION OF THE STATE IS DEEPLY INTERESTED

Our road money for construction purposes is pro-rated between all counties 50 per cent on a population basis and 50 per cent on a car license basis, but our road maintenance money is not so pro-rated; in fact, road maintenance money is dished out naturally on a supply and demand basis. If a bridge burns, it must be rebuilt, so if a gravel surface of an important road wears thin, gravel must be added. Consequently if roads are so built to require less maintenance, then there will be more left for construction.

PARIS CELEBRATES

A four-county jubilee held in Paris celebrating the completion of Highway No. 22 was held on June 24. The affair was called "Parks" day in honor of J. S. Parks of Fort Smith, member of the Highway Commission, who was instrumental in getting the highway built.

All towns along the highway which reaches from Dardanelle to Fort Smith participated in the celebration. Governor Parnell, members of the Highway Commission and other State officials attended. A parade consisting of floats from all the towns along the highway and others sponsored by private concerns was held.

Johnnie was never an early bird at the office. One morning his boss exclaimed: "Late again! Have you ever done anything on time?" "Yes, sir," was the meek but prompt reply. "I bought a car."

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a Specialty*

No job is too hard for the Spencer organization to tackle—Especially is it proud of its record on difficult mountain work in the present State program, notably the 17 miles completed on the Hot Springs-Glenwood road, U. S. Route No. 70; the 10½ miles on State Highway No. 6, Royal to the Montgomery County line, and the 13 miles now building on State Road No. 7, Arkadelphia to Hot Springs.

"Helping to write the Martineau Law in indelible characters across the Arkansas landscape."

Iron Fishing on Highway Proves To Be Big Success

Reprinted from Arkansas Gazette

J. A. Francis had an idea: He wanted to go fishing for iron on the highways—and even the by-ways—of Arkansas.

Mr. Francis, being equipment engineer of the State Highway Department, broached the matter to his chief, Commissioner Dwight H. Blackwood.

"Iron fishing!" exclaimed Mr. Blackwood. "Say—"

Mr. Francis hurriedly explained. He could build an electro-magnetic machine, install it on a truck, and pick up all the miscellaneous junk commonly picked up by pneumatic tires—to the great detriment of the tires. He thought it was a small scheme.

Mr. Blackwood wasn't so sure. Maybe so, maybe not. He wasn't enthusiastic about it, to say the least. Especially when Mr. Francis confided that he would need about \$2,500 worth of fishing tackle, exclusive of the truck.

However, he finally said go ahead, but to make the purchases conditional. If the machine worked, well and good. If not, no sale.

Mr. Francis bought the units for his iron-fishing machine, assembled them in the highway shops back of the statehouse, and mounted the device upon a truck. All this took some time, research, and experiment, but at last everything was in readiness.

Then he went forth to see how the nails and spikes were biting. The fishing was fine! Mr. Francis returned jubilant with a fine, rusty catch.

That same day, Commissioner Blackwood returned from an inspection tour over the lesser gravel roads. He was in no good humor. He had had a puncture; he had changed the tires himself. The sun was hot, the road dusty, the delay tedious. Punctured tires were a nuisance, and so were the so-and-so rusty nails.

Mr. Francis seized upon the psychological moment. He guided Mr. Blackwood to the shops and proudly pointed out half a ton of scrap iron and nails.

"All that was snaked out of 19 miles of gravel in one day," he explained. "Your tires wouldn't have been punctured, if—"

But the highway commissioner was sold. He gave orders to buy the machine outright, to adjust it and improve it as needed, and to mop up the highways of Arkansas—make them puncture-proof.

One or two adjustments and improvements were needed. The first truck was not satisfactory, and a device was needed to lift the magnets high enough to clear railroad crossings easily and to permit rapid travel from one job to another.

These things were done, and recently the completed and perfected machine went forth to clean up on a large scale.

It's a clever machine, the iron-fisher. The idea is not new, but it is so simple it is a wonder no one ever thought of trying it before in Arkansas.

The machine consists of three huge electro-magnets, suspended from the sides and the rear of the truck in such a manner that they cover a nine-foot strip of road. A round trip covers 18 feet, the usual driving surface of most gravel roads.

The magnets are operated by a gasoline-powered generator mounted on the truck body. The generator occupies only half the truck space, the other half being used to receive the "fisherman's" catch until it may be disposed of.

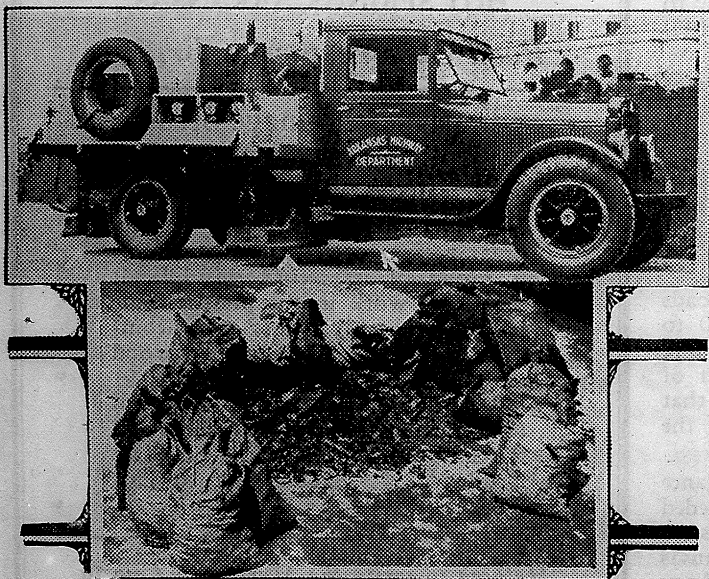
The truck is a Reo speedwagon. Each of the pendant magnets weighs about 800 pounds, and are magnetized by a 110-volt direct current from the one-unit motor and generator. In transit they are suspended close to the bottom of the truck body; for operation they are lowered by means of screws until they are within four inches of the gravel surface.

Strength of the magnets was demonstrated last week by means of a crowbar which a magnet readily picked up from the ground. The weight of a man was supported on the several inches which protruded from the edge of the magnet.

In loose gravel and dust the magnets will pull nails from one to three inches under the surface. Observers have noticed little spurts of dust and gravel as the hidden pieces of junk fly upward from the earth to the magnets.

Articles picked up on the first test run included thousands of rusty nails, headless tacks, phonograph needles and other small, sharp metal articles which easily bury themselves in automobile tires. Larger articles included wrenches, pliers, tire tools, bolts, nuts, railroad spikes, tobacco tins, and every other piece of junk imaginable.

One catch yielded a 1930 Tennessee automobile tag.



In the top picture, arrows point to three magnets, two on the sides and one on the rear, which are the most important features of the "iron-fishing" machine. Below is shown half a ton of scrap iron picked up in a short test run.

On a seven-mile run between Forrest City and Widener, Highway No. 70, 200 pounds of metal were collected. To clean the magnets, the operator spreads a canvas under them, cuts off the power and the metal drops to the canvas.

The machine worked a bit too well on one trial run. One of the magnets, its surface coated with rusty nails, picked up a piece of iron too heavy to hold. The iron dragged a few feet and dislodged some of the nails.

It happened to be one of the side magnets; so a dislodged nail punctured a rear tire of the truck.

The machine uses about eight gallons of gasoline daily, which is the only cost of operation aside from the truck's fuel consumption and the operator's wages. E. J. Smith is the operator of the iron-fishing machine.

Smith reported that several towns had sought to employ him to run the machine over all the city streets. A few influential citizens begged him to "denail" their alleys.

The older roads will be scoured first, for on them is found a greater accumulation of miscellaneous metal. New roads, and those used chiefly by automobiles yield comparatively small amounts of junk. Old roads with heavy wagon traffic are more productive.

After the principal routes have been covered, attention will be given to secondary gravel roads.

Equipment Engineer Francis enthusiastically contends that the machine will pay for itself in savings on the department's fleet of cars and trucks alone.

HUGE SUM REPRESENTED IN ANNUAL SCRAPPING OF MOTOR CARS

According to a statement recently issued by James W. Brooks, director of the American Highway Educational Bureau, Washington, D. C., the value of motor cars going to the scrap heap annually, closely approximates the sum of two billion dollars a year.

"How many of these cars," stated Mr. Brooks, "were worn out ahead of their time by contracting their death ailment on uneven and cracking pavement is a point which even the keenest minded economists are unable to determine. This much is known, however, that there is a close relationship between car depreciation and road decay, and that the latter, to a much larger degree than the public is aware, encourages the first."

"The junking of two billion dollars a year," continues Mr. Brooks, "in motor cars worn out ahead of their time by inadequate pavement is not the whole story of waste. Roads that have been built under the economic and oftimes political delusion that two miles of cheap surface would be more economical to communities than one mile of better pavement at twice the cost, are adding to the already appalling sum of highway transportation waste."

It is hinted that a forthcoming report on gasoline tax revenue for 1929 is going to show an increase of approximately forty per cent over the past year throughout the United States. In view of the fact that this rapidly growing volume of revenue is collected from motor car owners with the express understanding that it is to be used for road improvement, it is the car owner's duty, highway officials assert, to aid in seeing that highway funds are spent for better pavement, even at higher cost, and thus lengthen the life of both car and pavement.

A FEW SIMPLE RULES TO AVOID AUTOMOBILE ACCIDENTS

Following are a few simple rules, the observance of which would avoid many of the accidents which occur in automobile driving under any circumstance:

1. Be sure to start in plenty of time to allow for unusual delays so that hurry will be unnecessary.
2. Always be prepared for the other person doing the wrong thing.
3. Do not get out of line and attempt to pass other cars when approaching a thoroughfare for which traffic must halt.
4. Don't duck in and out of line. Never attempt to pass cars in front of you when there is the slightest doubt of your right or ability to do so. Thousands of accidents are caused by persons who are continually trying to duck in and out of the line of traffic.
5. When there is a tie-up of traffic, keep your place in line.
6. Always indicate clearly to those behind your intention of stopping or turning.
7. Stop at all railroad crossings.
8. Don't take chances when the best you can possibly do in winning is to save a few minutes and to lose is perhaps to lose your life and the lives of others.

If rule number one is observed, there is absolutely no excuse for not observing the others. Summing up the rules in a few words; if you allow plenty of time for your trip so that hurry is unnecessary, and always drive courteously, accidents will be reduced to a minimum.

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JUDGE MARTINEAU SPEAKS AT FORT SMITH

In an address delivered to members of the Kiwanis Club at Fort Smith recently, Federal Judge John E. Martineau, "father of Arkansas' road bill," praised the State Highway Commission and its work and declared that any program that might undo the progress of good highways in Arkansas was undesirable.

"It would cost Arkansas millions of dollars in roads if inexperienced men succeeded to the commission's program," Judge Martineau said.

"You should hesitate a long time before condemning or disapproving what your commission has done."

The former governor, who, in 1927, planned and started the road-building program, later to resign and take the post of federal judge for the Eastern District of Arkansas, sketched the program from its inception and told how the highways were constructed, and are being paid for without additional taxes on the land. He declared that the high type of men needed on the commission caused him to select men who were not necessarily his close friends.

"The proof of the pudding is in the eating," he said.

High praise was given J. S. Parks, commissioner from Fort Smith, for his work in western Arkansas. "My hope and desire is that the people in Arkansas who supported me will see that the road program is carried forward to successful termination," Judge Martineau said.

BRIDGE OPENING CELEBRATED

The 417-foot bridge over Spavinaw Creek, a mile and a half south of Gravette, completed recently, was dedicated June 16. Business firms in Gravette and Decatur declared a half holiday and many from surrounding towns attended.

S. O. Whaley of Sulphur Springs, was master of ceremonies. The address of welcome was made by Connelly Harrington of Siloam Springs, and J. S. Parks of Fort Smith, responded. Addresses were delivered by Justin Matthews of Little Rock, and County Judge David Compton.

Making It Hot

Tillie: "But, mother, I can't marry him. He's an atheist, and doesn't believe there is a hell."

Mother: "Go ahead and marry him dear, and between us we'll convince him he's wrong."

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Birds of a Feather

Two weary strangers met on the road one day. One was a man who had been in business and extended credit to everybody without getting a credit report.

The other was also broke.

—Glendale (Calif.) Merchants Bulletin.

Specialization

Fair Maid: "Oh, sir, what kind of an officer are you?"

Officer: "I'm a naval surgeon."

Fair Maid: "Goodness, how you doctors specialize."

Poor Witness

Lawyer (to flustered witness): "Now, sir, did you or did you not, on the date in question, or at any other time, say to the defendant or anyone else that the statement imputed to you and denied by the plaintiff was a matter of no moment or otherwise?" Answer me, yes or no.

Witness: "Yes or no what?"

Fingers Crossed

He had risked his life to rescue the girl from a watery grave and, of course, her father was grateful.

"Young man," he said, "I can never thank you sufficiently for your heroic act. You incurred an awful risk in saving my only daughter."

"None whatever, sir," replied the amateur life-saver, "I am already married."—Chicago News.

Oh Doctor!

The sweet young thing had broken her glasses. She took the remains back to the optometrist. "Will I have to be examined all over again?" she asked.

"No," he replied, "just your eyes."

Success Recipe

A young man just out of college sought the service of a hard headed and successful business man.

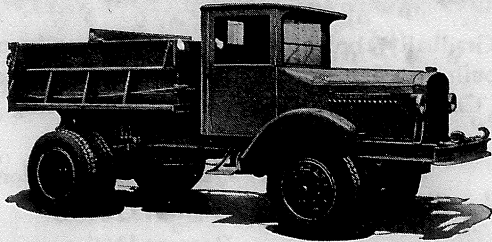
"Tell me, please, how I should go about getting a start in the great game of business?"

"Sell your wrist watch and buy an alarm clock," was the laconic reply.

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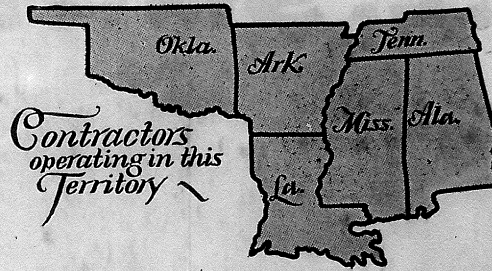
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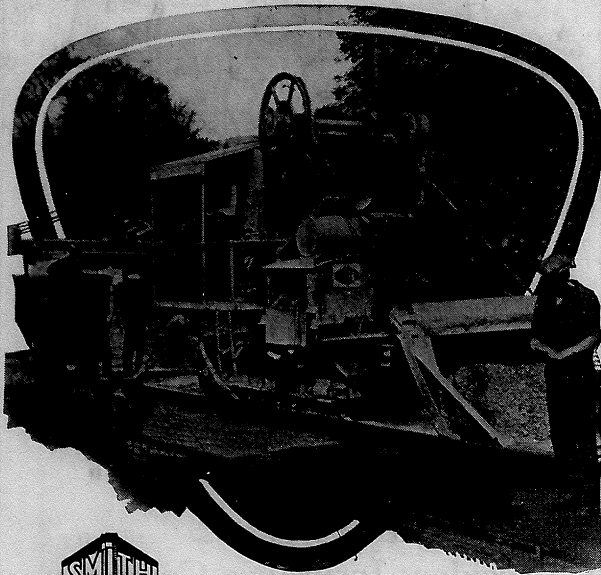
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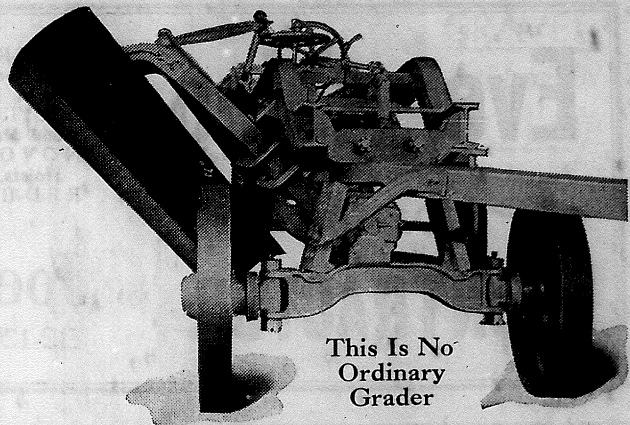
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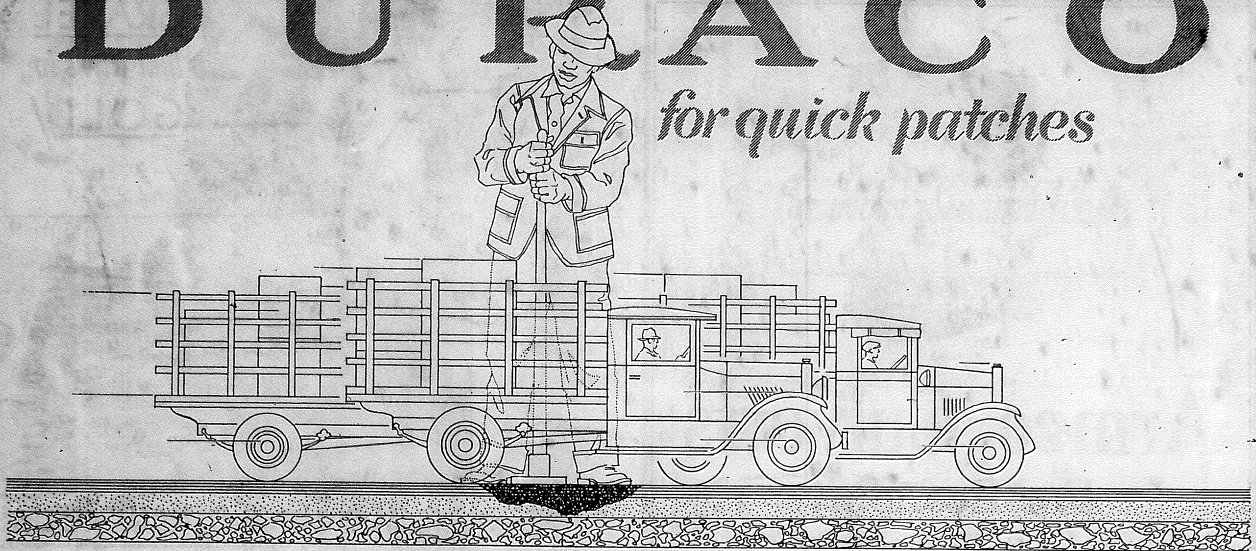
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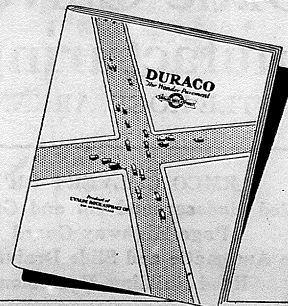
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