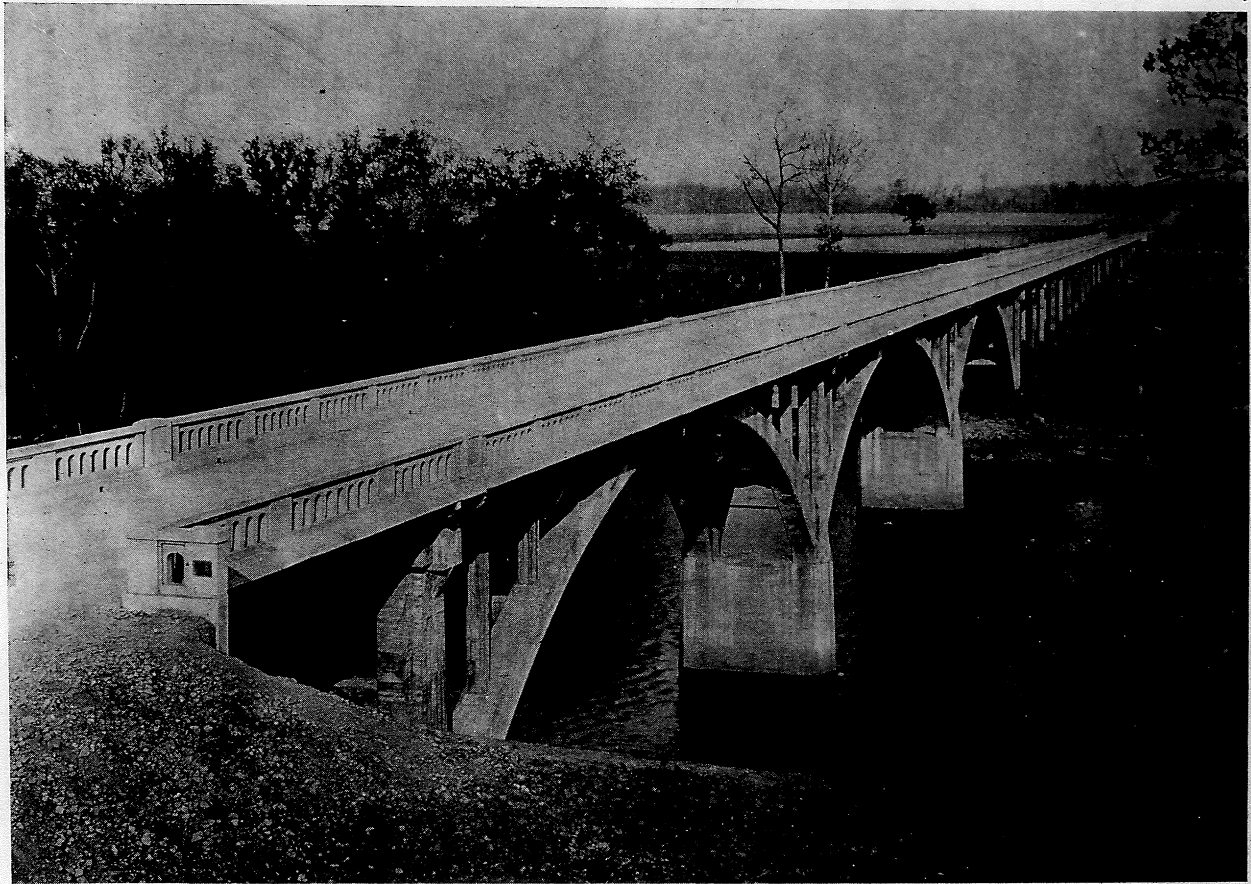


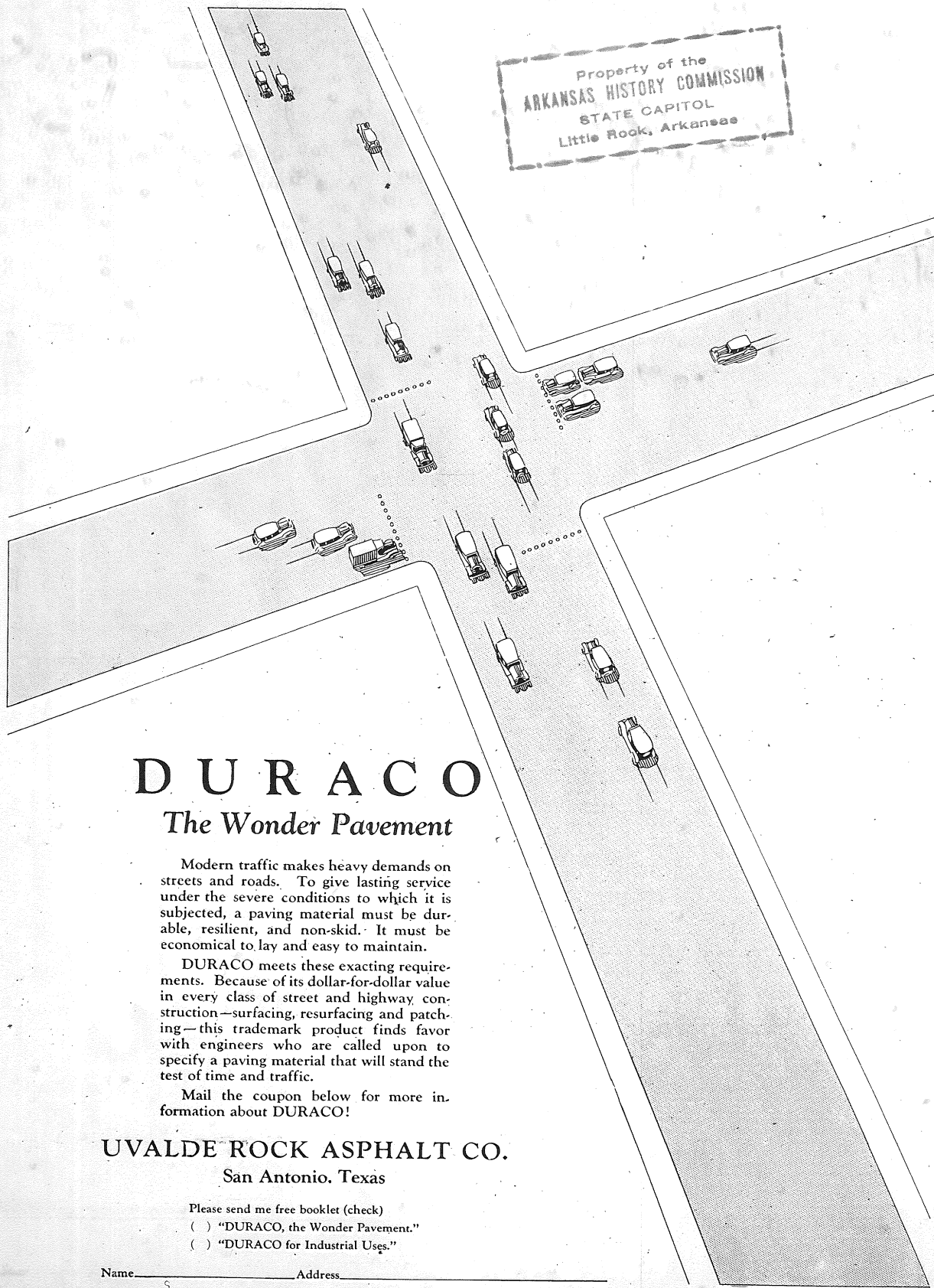
ARKANSAS HIGHWAYS

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



New Concrete Arch Bridge Over The Ouachita River Near Hot Springs

Vol. 7 APRIL • 1930 No. 4



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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

APRIL, 1930

No. 4

Good Bridges For Good Reasons

By DWIGHT H. BLACKWOOD, Chairman of the Arkansas Highway Commission

The program of highway construction progressing as rapidly as it is in Arkansas, including the erection of as many fine bridges as have been completed and the contemplation of the additional number that are in prospect has aroused many expressions of commendation the past few months.

Good bridges have many good reasons for being built. Not the least important of these being that no matter how substantial a road might be, if it leads to a weakened and dangerous bridge a great hazard is constituted, and this especially more pronounced since the beginning of the heavy freight truck lines, and their extended operations. Tourists encountering washouts of bridges usually have much to say and rightfully; ordinary travel is made more unsatisfactory, and loss of life has been caused by the collapse of bridges in more than one locality. To my mind the bridge in highway construction represents the link that is referred to in the incontestable truth that "No chain is stronger than its weakest link."

Arkansas is one of the best watered States and has more miles of navigable rivers than any other State in the Union; more bridges are therefore necessary, and better bridges—such as are being built—should for all time continue to be the order of proceeding. Several important structures are referred to in this issue of ARKANSAS HIGHWAYS, and many more will be described in subsequent issues.

Bridges considered as more than mere masses of steel and concrete, their utility and everyday use of humanity, as they apply to the Nation as a whole have recently been discussed in NATIONS BUSINESS by Gustav Lindenthal, perhaps the country's oldest and greatest bridge builder. His views are well founded and his theories are being applied in the erection of a 75 million dollar bridge over the Hudson River at 179th Street and Riverside Drive, Manhattan.

CONTRACTS AWARDED

On Thursday, April 17, the State Highway Commission awarded contracts for the construction of approximately fifty miles of roads, and 1,851 lineal feet of bridges at a cost of \$584,942. Contracts were awarded to the lowest bidder in each case. Competition among bidders was keen, 89 bids being submitted on eleven projects. In many cases there was a difference of only a few hundred dollars in the three lowest bidders.

Thirteen miles of road work will be concrete paving, seventeen miles will be gravel surfacing and the remainder, grading and drainage structures. Projects are located in Crawford, Franklin, Benton, Carroll, Miller, Lonoke, White, Lincoln, Jefferson, Prairie and Pulaski counties. Federal aid will be paid on seven of the eleven projects on which contracts were awarded.

The Commission has announced that bids on several minor projects will be received May 1st and that a score or more projects will be considered at the mid-monthly meeting in May.

Projects and successful bidders on the contracts awarded April 17th, are as follows:

Job No. 697: Approximately 500 lineal feet of reinforced concrete deck girder bridges and 221 lineal feet of earth embankment approaches thereto on the Little Rock-Perryville road, State Highway No. 10, Interstate Construction Company, Fort Smith, \$45,229.48.

Job No. 670: Approximately six and one-half miles of grading and drainage structures on the Lonoke

County line-Hazen road, Federal Aid project 264-A, Prairie County, J. C. Neal & Co., Hermitage, Bradley County, \$26,381.02.

Job No. 2,141: Approximately nine miles of concrete pavement on the Pine Bluff-Grady road, Federal Aid project 259-A, State Highway No. 65, Jefferson and Lincoln counties, beginning two miles west of Moscow and extending through Grady, Kovachevich & Price, Inc., Little Rock, \$124,867.84.

Job No. 5,117: Approximately 153 lineal feet of reinforced concrete bridge over Overflow Creek on the Bald Knob-Judsonia road, Federal Aid project No. 63, reopened, State Highway No. 67, White County, approximately two and one-half miles south of Bald Knob, J. B. Beaver, Benton, \$15,099.37.

Job No. 673: Approximately 524 lineal feet of reinforced concrete deck girder bridges on the Pulaski County line and Ward road, Federal Aid project 211-B and 133 reopened, State Highway No. 67, Lonoke and White counties. Work consists of eight bridges, one bridge 200 feet north of the Pulaski-Lonoke County line over Glade Branch and one at the Lonoke-White County line over Cypress Bayou, and the others at intervals on the intervening ten and one-half miles of highway, W. P. McGeorge, Pine Bluff, \$36,565.55.

Job No. 684: Approximately thirteen and one-half miles of grading and drainage structures on the Lonoke-East road, Federal Aid project 264-B, State Highway No. 70, Lonoke County. Project begins at the intersection of Highways 70 and 31, one and one-fourth miles south of Lonoke and ends two and one-fourth miles east of Carlisle, Ross & Dalton, Arkadelphia, \$68,840.12.

Job No. 3,135: Approximately 173 lineal feet of treated timber on bent bridge over McKenney Bayou on the Texarkana-Garland City road, State Highway No. 2, Miller County, about 12 miles east of Texarkana, J. B. Beaver, Benton, \$6,762.17.

Job No. 986: Approximately 280 lineal feet of reinforced concrete deck girder bridges on the Green Forest-Alpena Pass road, State Highway No. 12, Carroll County. Work consists of two bridges over the forks of Dry Creek, about one-fourth mile apart, W. R. Cole & Sons, Fayetteville, \$21,004.64.

Job No. 4,134: Approximately seventeen miles of gravel surfacing on the Bentonville-Gravette road, State Highway No. 71, Benton County, beginning at the city limits of Bentonville and extending to the intersection of Highways 71, 102 and 107 in Gravette, M. O. Weaver, Iowa Falls, Ia., \$21,839.86.

Job No. 4,136: Approximately four miles of concrete pavement on the Alma "Y" and Mulberry-East road, Federal Aid project 247-B, 234-B and 30 reopened, State Highway No. 64, Franklin and Crawford counties, Altman-Rodgers Company, Oklahoma City, \$79,718.48.

Job No. 586: Approximately ten miles of grading and drainage structures, gravel surfacing and concrete pavement on the Lonoke County line-Morning Sun road, Federal Aid project 260-A, State Highway No. 67, White County, Altman-Rodgers Company, \$138,633.70.



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THE HARAHAN VIADUCT

By George M. Moreland of the Commercial Appeal

So filled have the columns of the Memphis and Little Rock newspapers been during the past few weeks with news stories about the Harahan viaduct, great engineering project being built by the Arkansas Highway Department as an approach to the Mississippi River bridge at Memphis, that I became interested to know the exact facts about the project. I have seen many and varied statements in the press about the project. I have read with interest—sometimes almost with disgust—about the "toll bridge war" which has been so prominently featured by the press.

When we are confronted with conflicting statements on a subject; when we find that men are of different opinions, the only correct thing to do before forming an opinion of our own is to personally investigate—go and see with our own eyes the object of controversy. It is by that method and that alone that we can gain correct information—information that is unbiased in character because our own eyes never misinform us; should never view with prejudice.

Thus, to thoroughly satisfy myself, I made a journey down to the viaduct. I walked from the western end of the gigantic structure which begins at the government levee two miles east of West Memphis, Ark. I walked out more than midway of the structure and made a personal inspection of the work that has been done, the work that is yet to be done, and the famous "slides" that have received so much publicity in the daily newspapers of Memphis and Arkansas.

Approaching the viaduct from the west, I found a splendid coat of gravel probably 40 feet in width covering the embankment. The road is splendid. It is going to be a spacious and splendid passageway when it is completed.

Next I approached the great concrete bridge probably three-quarters of a mile in length which extends over the Rock Island Railroad tracks. This bridge will forever stand as a magnificent monument to the Fuller Construction Company, the builders who constructed it. It is not only substantial and well built but it is beautiful.

Crossing this bridge I next encountered another stretch of graveled road on the high levee built by a construction company for the Arkansas Highway Department. But this stretch of graveled road suddenly ends out in the swamps and the scene that next confronted me was discouraging. There I saw a stretch of the levee approximately 1,200 feet in length disintegrating—sliding on both sides lowering the center of the proposed roadway to a depth of probably 10 or 12 feet below the level of the graveled road.

A large force of workmen with a big steam shovel and numerous tractor wagons are busily engaged hauling earth to rebuild the disintegrated embankment. These workmen keep busy during the entire 24 hours of each day. In a long circular swing the big noisy wagons ceaselessly pursue their way. Empty wagons go one route and loaded wagons return another route—one endless chain of earth being piled upon the levee.

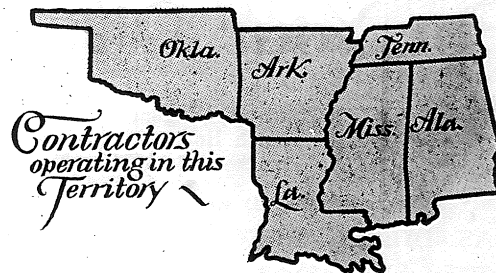
But the caving and disintegration of the embankment continues. The mucky earth beneath the levee is weak

and the weight of the great embankment keeps pushing this muck aside and the embankment spreads out like molasses poured into a plate.

Dwight H. Blackwood made a statement to Memphis reporters during his recent visit to the city that fresh slides large enough to contain a man's body were developing regularly. Probably some readers thought our highway commissioner was exaggerating just to make an excuse for his workmen's inability to cope with the gigantic problem. I saw those same slides—saw other slides that have developed since the visit of Mr. Blackwood to the work. I could easily place the bodies of a dozen men in some of these crevasses. The earth opens and after a few hours, or days, slides slowly into the ditches along the sides of the embankment.

There is much interest among the people of this territory as to when this new viaduct will be completed. While visiting the viaduct I made careful mental notations in order that I may determine in my own judgment when we may expect to journey to Memphis from Arkansas over the new free viaduct.

In addition to this 1,200-foot stretch of embankment where the sliding is greatest there are several other small slides at other parts of the levee—small, it is true, but which will require attention before the project is opened for use by the public. The 1,200-foot stretch that is now under construction is of course yet to be graveled. The entire stretch of a mile and a half of the earth em-



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bankment must be fenced with substantial railing before traffic is admitted.

After carefully noting all that is yet to be done and the degree of success the workmen are coping with the slides, it is my personal opinion that traffic will, if no high water interferes with the work, be using the new free Harahan viaduct about the first of July this year—certainly not earlier.

The Arkansas Highway Department is doing the best it can with the problem. That I, too, believe. The department has many other equally important projects in other parts of the State and there could be no reason for delay on this work, which is no bigger than some other projects, nor any more important.

I am neither for nor against the Arkansas Highway Department except insofar as I am deeply interested in Arkansas' progress and want to see its good roads program, which means so much to the people of Arkansas, completed. When I am persuaded that criticism is in order I have never yet failed to offer honest criticism of the Arkansas Highway Department. Likewise, believing in fair play, I feel that I should also offer a word in defense of the department when I deem it proper to do so.

I do think and say with all unbiased candor that the Arkansas Highway Department is making every effort to complete the Harahan viaduct. I saw the men working. I talked to the engineers who are on the job—capable young men who know their business. The department is confronted by a herculean problem. The people of Arkansas should have patience and not harass the

department and make its problem of completing the Harahan viaduct more difficult. We should give our help and our influence rather than pounce upon the department, harassed as it is with a vexing problem, in order that it may not be afflicted with more problems than are necessary while its engineers are trying so valiantly to conquer an engineering problem that is indeed unusual and most difficult.

This paragraph is written at the suggestion of no person. It is written because I believe in fair play and think the Arkansas Highway Department is entitled to a defender once in a while, along with all too many maligners, while it is coping with a problem that is so difficult.

In the current issue of that splendid little magazine called "Missouri" and published by the Missouri State Chamber of Commerce at Jefferson City, I read a wholesome and indeed a timely article on the important subject of highway beautification which ought to be of interest not only to the people of Missouri but to all the other States because every State is interested, or ought to be, in the beautification of the highways.

The article to which I refer is devoted exclusively to a discussion of the beautification of Missouri's highways and it seems much has already been accomplished in the beautification of the good roads which the Missouri Highway Department has built in all sections of the "Show Me State."

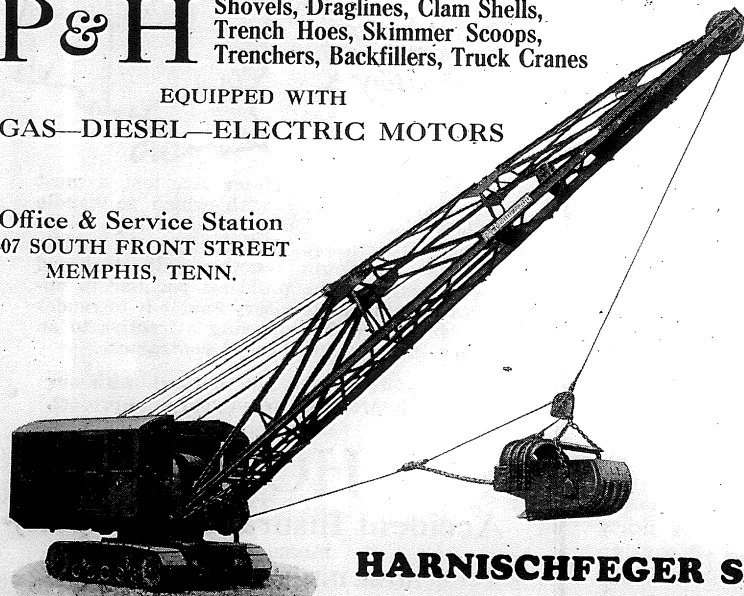
The people of Missouri are very wisely co-operating by communities in the beautification of their highways.

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The civic clubs of many Missouri towns—such organizations as women's clubs, Rotary clubs, and local chambers of commerce—are sponsoring the beautification of roads in their immediate communities. These clubs all co-operate with the Missouri Highway Department which department acts in an advisory capacity to insure uniformity and proper planting of shrubs, flowers, etc., along the highways. The department also co-operates now and then by using its own workmen to remove bits of underbrush, dead trees, and other unsightly things from the vicinity of the highways, thereby many times revealing rare natural beauties where before had existed unsightliness—ugliness.

It is not too early for the people of Arkansas and Tennessee to inaugurate similar highway beautification programs. There has in fact been some efforts launched in that direction. The highway system of Tennessee is rapidly expanding into gigantic proportions. Many of the highways are now completed and opened to traffic. Many of Arkansas' highways are now nearing completion.

Every community should begin right away to beautify the highways that pass its way. This should, as is the case in Missouri, be done after consultation with the highway department. There are certain legal prohibitions which might prohibit the planting of shrubs, for instance, in some vicinities. The highway department is aware of these restrictions. If all the communities of Arkansas would launch movements to beautify such highways as pass their way and if all would co-operate through the medium of the Arkansas Highway Depart-

ment, thus insuring uniformity throughout the State, within a decade Arkansas' beauty would be the topic of conversation throughout these United States.

All admit, even those who do not live in Arkansas and who may sometimes be a bit prejudiced, that the natural beauty of Arkansas is surpassed by few States in the Republic. If we will only add a bit of artistry to the wealth of beauty with which Dame Nature has so generously endowed us we can make Arkansas a wonderland of beauty as well as a wonderland of wealth and natural resources.

SOUTHWEST ROAD SCHOOL AND SHOW

The Southwest Road School and Show which will be held February 24, 25, 26, 27, 1931, in Wichita, Kansas, is expected to assume greater proportions and importance than in former years due to the fact that it has now come to be a duly accredited and well established institution throughout the Central and Southwest at which exhibitors record a great deal of direct and indirect business and from which the public in general and road building authorities in particular are educated in the latest approved methods of road construction and maintenance.

Indications are that the number of exhibits will greatly exceed the number in the 1930 school and more than ordinary interest is being shown over the territory at this early date. Valuable lectures and able discussions of road construction and maintenance will be delivered by some of the foremost talent in the United States.

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Hearing Held On Clarendon Bridge

Plans for the construction of a State-owned highway toll bridge and approaches across the White River at Clarendon were submitted to the War Department at a meeting held in Clarendon on April 22 which was attended by highway officials, railway officials and delegations from Marianna, Stuttgart and Roe. At the meeting parties were given an opportunity to express their views on the suitability of the proposed site and adequacy of the plans as drafted in reference to navigation on the White River. Less than twenty minutes was required for the hearing as there were no objections which required consideration by the War Department.

C. W. Afflick, in charge of the land office of the Chicago Mill and Lumber Company of Blytheville announced that his company would file proceedings in chancery court to enjoin the Department from constructing a bridge on the proposed site. Mr. Afflick said the proposed site would require the lumber company to remove a large concrete smokestack and the bridge would pass directly over a concrete building which formerly contained the boiler room and mill equipment of the company. The company removed all of its equipment from Clarendon, fifteen years ago after a fire had destroyed most of its plant and has not been actively engaged in sawing lumber in Clarendon since that time.

C. S. Christian, chief engineer of the State Highway Department, stated that he hoped the contract on the bridge could be awarded May 14th. He estimated that

the entire structure would not cost more than \$1,300,000.

The Highway Department was represented by C. S. Christian, Ira G. Hedrick, of the Ira G. Hedrick, Inc., of Hot Springs, designer of the proposed bridge; W. G. Huxtable, district engineer of Forrest City; J. L. Hyatt, chief construction engineer of Little Rock; and Engineer Jimmie Lee who has had charge of the survey for the bridge site.

Presiding over the hearing was Major L. D. Warsham of the Memphis district, United States Engineer, in the absence of Col. F. B. Wilby who is in charge of the Memphis office. Col. Wilby was detained in Cape Girardeau, Missouri. Major Wordham was accompanied by P. R. Van Frank, senior engineer of the Memphis office of the War Department.

A preliminary survey of the bridge site was made more than a year ago, but plans were delayed pending negotiation with the St. Louis Southwestern Railway Company concerning a proposal to build a combined railroad and highway bridge. Officials of the company announced several months ago that they did not desire to participate in a joint structure.

The Highway Department then proceeded with separate plans, which call for a 388-foot fixed span, 7,632 feet of concrete trestle and 11,560 feet of earth dump approaches. The fixed span will rest on piers within the banks of the river, the one on the Clarendon side to be in the slope of the bank and that on the opposite side to be about 100 feet from the bank. Width for navigation between pier faces will be 388. The vertical clearance or head room, over the 1927 high water will be 46.5 feet at the piers and will increase to 50 feet for a distance of 125 feet midway between the piers.

The approach on the Clarendon side will lie entirely on the land side of the levee and will end in Ewan street, a short distance from the levee. The western approach across the overflow area will consist of one 72-foot span and eighty-eight 70-foot spans, totaling 6,232 feet. This will be followed by 10,460 feet of earth embankment, which will be followed by twenty 70-foot spans and 1,100 feet of earth embankment to high land.

The structure will form a link in State Highway No. 3 which extends from a junction with No. 70 near West Memphis, southwestward across the State through Marianna, Clarendon, Stuttgart, Pine Bluff, Fordyce, Camden and Stephens to Magnolia where it connects with No. 2 to Texarkana and Nos. 19 and 132 which lead into Louisiana.

Under the present program of the Highway Department, the paving of Highway No. 3 with asphalt is contemplated within the next two years.

BATESVILLE LETS BRIDGE CONTRACT

The commissioners of Bridge District No. 1 of the city of Batesville recently awarded a contract to the Luten Bridge Company of Knoxville, Tenn., for the construction of a new reinforced concrete bridge, forty feet wide, across Polk Bayou in that city on a bid of \$67,092. An issue of \$70,000, six per cent bonds to pay for the construction was sold to the National Securities Company of Little Rock, at \$102.70.

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BROADWAY AT FIFTH

Fulton Bridge Opening Celebrated

The celebration of the construction of the Fulton bridge over the Red River, fourteen miles west of Hope, on May 6, in which citizens and officials of Miller and Hempstead counties and the State of Arkansas will participate, will bring down the curtain on a bridge the history of which is very unique. Beginning in 1918 when the bridge was first emphasized and the movement to obtain it started, and ending with the summer of 1928 when actual construction on it was begun, the bridge has undergone all the various vicissitudes to which a structure could be subjected. Its construction has been contemplated under every phase of bridge building in Arkansas; railroad aid, Federal aid, private toll bridge, an appropriation by a special bridge law, and finally its construction, under the terms of the State general toll bridge act of 1927.

Work on the bridge, designed by Ira G. Hedrick, Inc., was begun in the summer of 1928 by the Kehliher Construction Company at a figure of \$477,000.

Its total length from the east to the west retaining wall is 1,907 feet. The walls are 30 feet thick. There are seven 40-foot spans approaching the bridge proper from the east side, and twelve 40-foot spans from the west. There is also an 80-foot span on each side terminating at the embankment.

From abutment to abutment, massive triangular structures with bases 36 feet long resting upon the sub-river bed shale, a chain of five spans, 185 and 186 feet long, stretch across the river itself. The concrete approaches ascend the center of the bridge on a four per cent grade.

The pier supporting the first east arch has a 20-foot base, supported on shale. The clearance line at 30 feet is 118 feet long, meaning that when the river is bank full, a vessel 30 feet above the water level and more than 100 feet wide can pass through the side arches. This line is 66 feet above the bed of the stream.

The base of the second pier, supporting the central arch, is 30 feet long. The clearance line, at 30 feet, is 132 feet long, while at 40 feet above bank level it is 100 feet long. The margins afforded by these clearance lines has permitted construction of a bridge without draw spans.

The third and fourth piers from the east are 22 and 20 feet long at the base, respectively. Dimensions of the western arches correspond with those of the east, with the same clearance.

The eastern approach of the bridge is 390 feet long, and the western, 590 feet long. Each approach is 40 feet wide, the roadway narrowing immediately to 27 feet between the high concrete railings.

The center of the bridge is about 95 feet above the stream bed. At the present level, it is about 83 feet above the water. The tallest piers measure about 115 feet from the foundation shale to the top. The shale itself runs about 25 feet below the actual bed of the stream, and the piers are sunk at distances of 27 to 35 feet to reach it, depending on the slope of the bed.

The abutments are sunk 58 feet to the shale. The approach piers, which range in height above ground from 22 to 40 feet, depending on the slope of the approach, are not sunk at extra great depths until they approach the bridge. The two piers flanking the abutment on either side are sunk 45 to 60 feet below ground.

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Wanted: Secretary to president of a big corporation with offices in Brooklyn; a young woman (20 to 30 years of age) of culture, refinement and personality. Above all, she must have a thorough command of English and be a grammarian and a good speller. She should have good antecedents and breeding; an education equal to second year college, be well read and well versed in and conversant with generally important matters and capable of meeting people of importance, both commercially and socially. The position is one of trust and confidence and demands dignity, poise and diplomacy. She should be alert, keen, discriminating, discerning, intelligent, discreet, prudent, circumspect, loyal, reliable, prompt, precise, incisive and trustworthy, and she should take an eager and spontaneous interest in her position. The work is in agreeable surroundings; salary \$50. Answer in own handwriting to President, P. O. Box 1012, City Hall, Manhattan, New York City.

—N. Y. Herald Tribune.

Was That Nice?

Mrs. Smiff—"It is being whispered around that you and your husband are not getting on well together."

Mrs. Bjones—"Nonsense. We did have some words and I shot him, but that's as far as it ever went."

VAN TRUMP TESTING LABORATORY

PAVING AND TESTING ENGINEERS

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Paints

Specialists in Asphalt Paving and Design of Concrete Mixtures

Good Highways Promote Friendship

Most of us are inclined to be inquisitive. We want to know. It is an admirable quality, provided we exercise wisdom in gratifying this more or less natural impulse. If given just the "right twist" inquisitiveness results in progress and development.

We venture the statement that there exists in the average citizen an irrepresible urge to go and see for himself how people live elsewhere. During the touring season of 1929 hundreds of thousands of automobiles traveled far from home and ran into neighboring and more distant States.

Where a good impression is made on the travelers by the natural beauty of the countryside, the character of the roads, the hospitality of the people, the climate or other advantages, the benefit to the State has been great. The returning travelers sing praises of the favored land to many people. Hundreds of interested tourists from the North and East have visited Louisiana and commended the splendid highways which make it possible to go from one section of the State to another without getting off of a good graveled or paved thoroughfare. Many of these visited St. Martinville, attracted by the story of Evansville and Gabriel. Good roads lead to St. Martinville and this fact has made it possible to view the very spot made famous by Longfellow's poem.

The magnificent gridiron of highways in the United States, over which millions of motor vehicles travel almost unceasingly, is destined to grow to ten times its present size. Then indeed will the States be unmasked

and the good and the bad in each section will be common knowledge to the people living in other sections, for they will have "gone and seen." We of Louisiana welcome the closest inspection by a discriminating public, feeling assured that our State and highways rank with the best in the Union.

The saying that the dollar follows the highway is as true today as it was in the early days of pioneer settlement. Men will "go and see for themselves" and it behooves the residents of any section to see to it that what they see is pleasing and worth while.

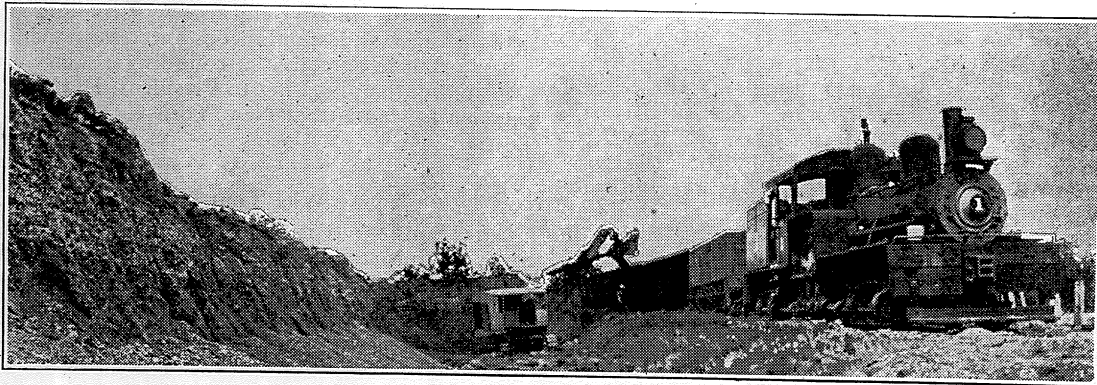
Visitors naturally talk and ask questions. In the great majority of instances they are seeking information and those addressed should be very careful to state facts. Louisiana has many advantages and if the facts are given, gratifying results will follow. Then Louisiana highways make it convenient for the citizens of all sections to visit the citizens of other sections, exchanging friendly visits and discussing matters of mutual interests. Thus imaginary barriers are brushed aside and friendship formed which serve to promote the welfare of the entire State.—*Louisiana Highways.*

Getting Under the Fifth Rib

Customer—"To what do you owe your extraordinary success as a house-to-house salesman?"

Salesman—"To the first five words I utter when a woman opens the door—"Miss, is your mother in?"

—*Tit-Bits.*



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Equipped with the most modern facilities for giving prompt service.

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DISTRICT No. 5

District No. 5 with headquarters at Batesville is one of the steady plugging districts manned by a group of men who believe in getting things done.

If we were called upon to mention the outstanding feature of this district and the main qualities of the splendid chaps who are carrying on, dependability would be the word.

Front row, reading from left to right: G. W. Browning, Chief Bookkeeper; Cone Murphy, District Engineer; B. M. Cox, Maintenance Supervisor.

Top row: John Homesley, District Mechanic; L. A. Roby, Assistant District Engineer; Ed McDonald, Maintenance Supervisor; John Joe Russell, Chief Draftsman; W. O. Scales, Office Engineer.

INCREASE IN FEDERAL AID

During the fiscal year beginning July 1, 1930, Arkansas will receive \$2,155,143 as Federal aid to highway construction. This is by far the largest amount ever vouchsafed, being almost double the amount apportioned the State for the fiscal year ending June 30, 1930. The increased amount was made possible under the terms of the Phipps-Dowell Federal-aid highway bill which increases the amount of Federal aid to States from \$75,000,000 a year to \$125,000,000 for the fiscal years of 1932-33. In addition, the bill contained a supplementary appropriation of \$50,000,000 to be apportioned among the States during the fiscal year ending June 30, 1931. This amount, added to the \$75,000,000, the original appropriation for the fiscal year ending June 30, 1931, makes a total of \$125,000,000 for the three fiscal years 1931-1932-1933 to be used as Federal aid to highway construction. The original apportionment to Arkansas for the next fiscal year, announced last December 1, was \$1,293,086. Under the terms of the new act, Arkansas in common with the other States will receive the increased allotment during the next three fiscal years.

Although the \$2,155,153 apportioned to Arkansas will not be officially available until July 1, the Bureau of Public Roads of the Department of Agriculture is co-operating with the State Highway Commission to speed up the awarding of contracts.

The Government's share of the cost of construction of Federal aid road projects could not exceed fifty per cent,

or a maximum of \$15,000 per mile under the old appropriation. This limit of Federal participation has been increased in the new measure to \$25,000 per mile. This increase in government aid per mile comes at a very opportune time for Arkansas in view of the fact that the State Highway Commission has just recently adopted a program whereby the paving of a large number of major highways is contemplated within the next few years.

AUTOMOBILE ACCIDENTS INCREASING

During the past seven months beginning with September, 1929, records show that automobile accidents were responsible for the death of 200 persons in Arkansas as follows: September, 39; October, 36; November, 50; January, 10; February, 16; March, 17. Of this number more than a score died while using the highways as a foothold. In nearly every instance these persons would not have been killed if they had observed the simple rule of walking on the left or "wrong" side of the road instead of walking with their backs to traffic.

A study of the automobile accident situation in this country as compared with the accident record of all other industries presents a picture which should be a source of public alarm. During the past ten years, through intensive safety work, the American railroads have reduced fatalities on their property, owing to conditions within their control, 61 per cent. All other industries have likewise reduced the number of fatalities due to untiring efforts that have developed a consciousness of safety in the minds of workers.

Contrast this with the automobile accident menace. Last year motor vehicles were responsible for the deaths of 31,500 persons, a new high record. This represents an increase of 13 per cent over the 1928 record while automobile registrations gained but eight per cent. Motor vehicle accidents lead all other causes of accidental death by a wide margin.

There are but two encouraging circumstances. The Arkansas State Chamber of Commerce is conducting an intensive newspaper campaign to educate the people in the simple rules of precaution and accidents to school children are on the decrease due to the fact that a number of schools have incorporated safety education in their curricula.

TIME FOR AN ALIBI

The justice of the peace in a town in Ohio, in pursuance of his duties, had to hear and judge cases that were brought before him, and also perform occasional marriage ceremonies. He found it difficult to dissociate the various functions of his office. Everything had gone smoothly until he had asked one bride: "Do you take this man to be your husband?" The bride nodded emphatically. "And you," said the justice, turning to the bridegroom, "what have you to say in your own defense?"—*Chicago News*.

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STEP FORWARD, GENTLEMEN

Meet the "Bunch" From District No. 10

District No. 10, comprised of Craighead, Mississippi, Clay, Lawrence, Poinsett, Green and Randolph counties reports progress.

At the insistent request of the editor a photograph of those so busily engaged in that section has been received.

Top row—left to right: O. N. Lee, Chief Clerk; J. J. McDonald, Chief Draftsman; W. B. Cunningham, Office Engineer; M. M. Brewer, Maintenance Engineer.

Bottom row—from left to right: H. R. Cook, District Mechanic; R. B. Winfrey, Maintenance Engineer; Shelley H. Lee, District Engineer; W. F. Turner, Construction Engineer.

TO SPEND QUARTER BILLION

By E. E. DUFFY, *Georgia Highways*

One quarter billion dollars is the amount that thirteen Southern States will expend in 1930 in highway construction and maintenance, according to a compilation recently made by the Industrial Index.

Of the total, \$172,000,000 will be devoted to construction and \$50,250,000 will be spent on upkeep.

South Carolina expects to build \$21,000,000 worth of new roads and to spend \$2,500,000 for maintenance. This large expenditure will be permitted by South Carolina's new bond issue for \$65,000,000.

The additional gas tax recently passed by the Georgia State Legislature will enable that State to spend some-

thing like \$16,000,000 of which \$13,000,000 will go into new road building.

In Oklahoma \$12,000,000 will probably be spent by the State Highway Commission while an additional \$12,000,000 will be spent by county and township boards. Through its new bonding power Louisiana will be enabled to devote some \$20,000,000 to roads in 1930 of which \$16,000,000 will be for new construction.

Texas, the most populous of the Southern States, will have her State roads bettered by some \$41,000,000 of which \$30,000,000 will be for new roads.

It is estimated that Alabama will spend \$4,700,000; Arkansas, \$21,000,000; Florida, \$10,800,000; Kentucky, \$11,000,000; Mississippi, \$9,750,000; North Carolina, \$10,500,000; Tennessee, \$15,000,000; and Virginia, \$15,000,000.

Highway authorities point out that this increased highway activity in the South will have a direct bearing on future prosperity, in that better roads reduce the amount of money that must go into upkeep and also reduce the cost of operating the car from as much as one to three cents a mile. Many sections of the South have really suffered from lack of transportation facilities for perishable produce. Further, farmers in many instances have been forced to truck their produce into market while the roads were good and the prices bad. Many are of the opinion that the enlivened 1930 highway construction program will lead to even more extensive highway construction in years following.

THE COST OF POOR ROADS

Those who oppose a bond issue for paving Minnesota roads because a nickel seals their eyes so they can't see a dollar of course overlook the tremendous waste of the impossible effort to maintain graveled roads that are heavily traveled.

But they overlook more than that. They overlook the cost of poor roads to the owner of an automobile, and the saving that paved roads bring him.

Research workers at Iowa State college have just made public the results of a very careful analysis of the cost of operating automobiles on various types of roads.

They find that the owner of a light six saves 2.37 cents on every mile he travels on pavements instead of on low-type roads.

The owner of such cars can drive over the pavement from Duluth to St. Paul and back more than seven dollars cheaper than he could over three hundred miles of indifferent roads.

These analysts, considering all elements of car operation, found that it costs 8.62 cents a mile to drive over low-type roads, 7.38 over intermediate type and 6.25 over pavement. The cost and the saving are both larger with heavier cars, and of course smaller with lighter cars. The cost for a medium is 7.5 cents on low-type roads, 6.42 on intermediate roads and 5.44 on pavement.

If the saving in maintenance by paving is considered, and then the saving in operating costs to the car owner, it will become perfectly clear that Minnesota could well afford to bond itself to pave every mile of highway where traffic has passed the point where the attempt to maintain gravel roads is economically practical.

Indeed, intelligently considered, Minnesota can't afford not to do this.—*Duluth Herald*.

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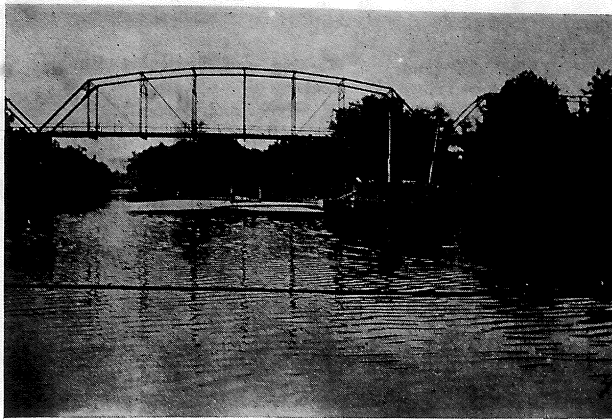
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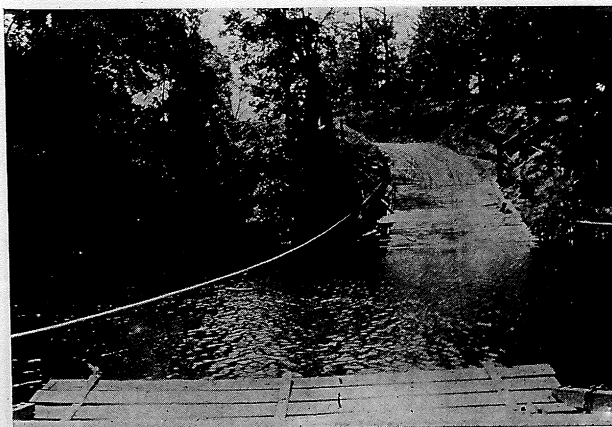
CONCRETE ARCH BRIDGE OVER OUACHITA RIVER

Celebration of the new bridge over the Ouachita River between Donaldson and Arkadelphia on Highway No. 51, picture of which appears on the cover page of this issue, will be held May 7th. The structure which was opened to traffic April 2nd provides increased convenience for traffic from Little Rock, through Malvern, to Arkadelphia.

The bridge marks the completion of the third concrete arch bridge across the Ouachita River in Garland and Hot Spring counties. The small pictures show the old light and narrow steel bridge which was replaced with this new concrete structure, and the entrance to the free ferry which the Highway Department installed and operated for the convenience of the general public throughout the time required to build the bridge.

The new bridge is 1,177 feet long and is composed of three concrete arches over the channel with a span of 120 feet between piers and 23 concrete approach spans each 35 feet long. A clear roadway of 20 feet is provided and the entire bridge is on a one per cent grade extending down from the high bluff on the Arkadelphia side of the river.

The Lutten Bridge Company built this bridge at the cost of a little less than \$100,000.00. This is the third concrete arch bridge constructed by this company over the Ouachita River, the other two being at Hot Springs and Mt. Ida.



Cause and Effect

A daily newspaper in Nice recently contained the following advertisement:

MILLIONAIRE, young, good looking, wishes to meet, with a view to marriage, a girl like the heroine in M.....'s novel.

Within 24 hours the novel in question was sold out.

—“Onlooker” in the *Daily Mail*.

Identity of the young lady is withheld, but the memory of her answer lingers on with the instructor conducting a science course at a local high school. One of the requirements in the written quiz was: “Define a bolt and nut and explain the difference, if any.” The girl wrote:

“A bolt is a thing like a stick of hard metal, such as iron with a square bunch on one end and a lot of scratching wound around the other end. A nut is similar to the bolt only just the opposite, being a hole in a chunk of iron sawed off short, with wrinkles around the inside of the hole.”

The startled professor marked that one with a large “A.”—*De Laval Monthly*.

Patient—“Well, doc, you sure kept your promise when you said you’d have me walking again in a month.”

The Doctor (glowing)—“Well, well, that’s fine.”

Patient—“Yes, I had to sell my car when I got your bill.”—*Wall St. Journal*.

Mrs. Onthego—“They say Mrs. Teawhiffle plays golf just like a man.”

Mrs. Clubber—“Wouldn’t you think she would be ashamed to use such language?”

Supervisor—“Hello! Hello! Do you wish to call a number?”

Colored Man’s Voice—“No, sah, Miss, ah don’ want no numbah.”

Sup.—“Then don’t play with the telephone.”

Man—“Ah ain’ playing wif no fone. The receivah fell in de sugah bowl an’ I’s been lickin the sugah offen de receivah.

Wurra

An old but sturdy Irishman, who had made a reputation as a gang boss, secured a job with a railroad construction company in Port au Prince, Haiti. One day, when the sun was hotter than usual, his gang began to shirk. As the chief engineer rode up on his horse he heard the Irishman shout: “Allez! you sons of guns, allez!” Then turning to the engineer he said, “I curse the day I iver learned their language.”

—*Boston Transcript*.

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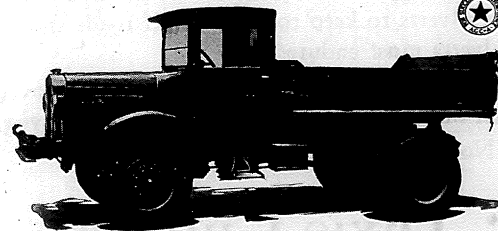
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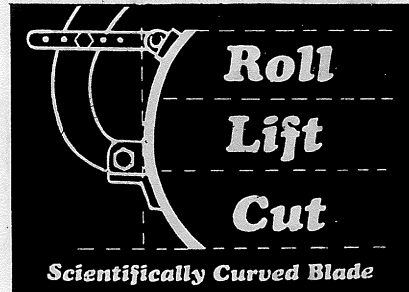


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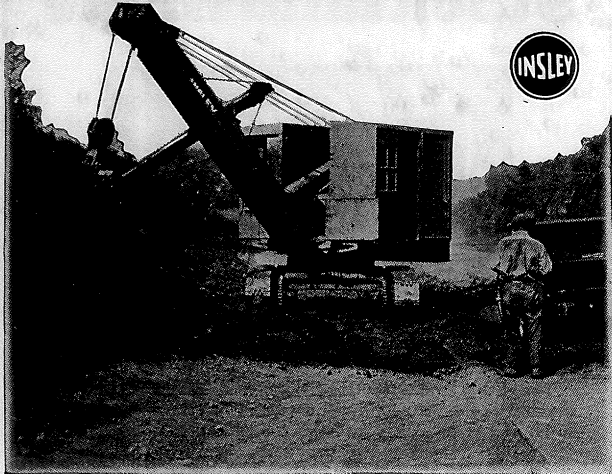
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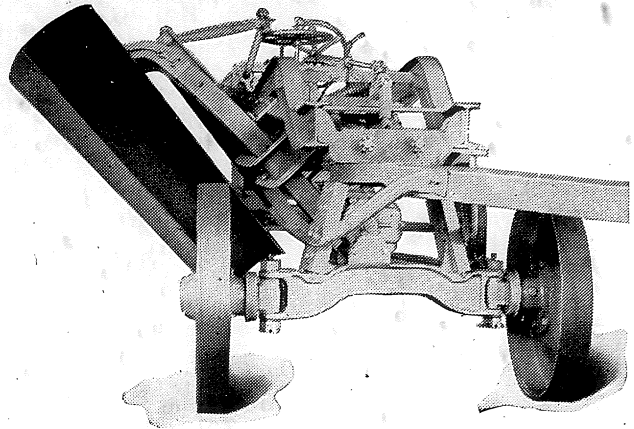
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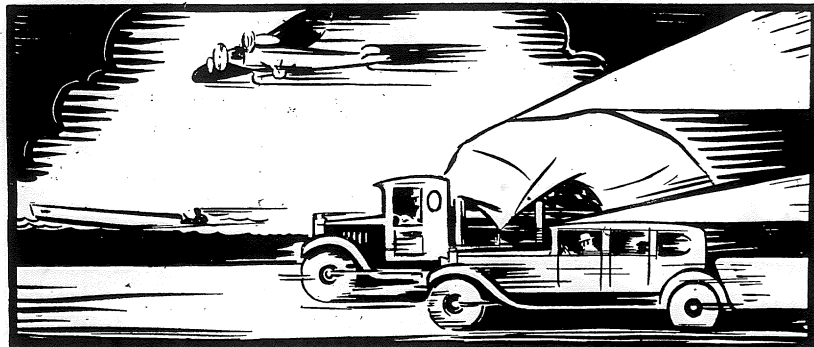
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“Standard” Asphalt is the product of one of the world’s greatest refineries—and is always uniform in quality and purity. Carefully tested before shipping. Write for information and quotations.



“STANDARD” MOTOR OIL

An improved, dependable, powerful fuel for modern motors.

“STANDARD” GASOLINE

This tough, enduring lubricant makes motors run better and last longer.

STANDARD OIL COMPANY of LOUISIANA



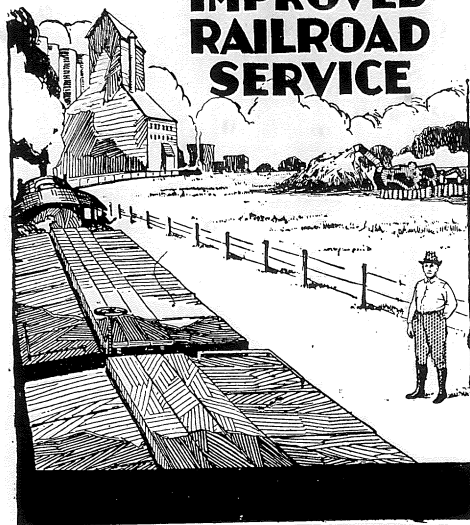
Property of the
ARKANSAS HISTORY COMMISSION
STATE CAPITOL

LITTLE ROCK, ARKANSAS

MILLIONS RELEASED

FOR OTHER INVESTMENT USE

AS RESULT OF IMPROVED RAILROAD SERVICE

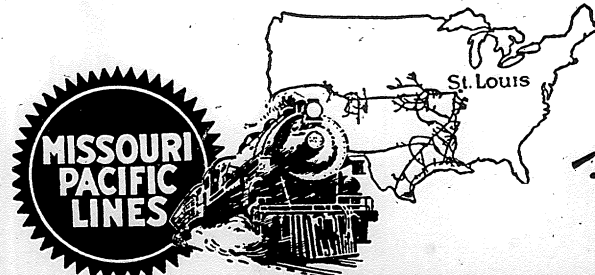


The entire system is dependent on exceptional railroad transportation and the railroads are justly entitled to a share of credit for the benefits that have resulted. That there are real benefits no one denies. And we know now that over any period of time the volume of business transacted is as great or greater under the present system as under old methods.

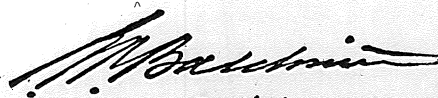
Sometimes it seems that the public is so accustomed to the conveniences of modern railroad service that it seldom, if ever, recognizes the fact that even the most simple purchase contains the romance of industry, commerce and human progress. There is hardly a commodity in daily use that does not reflect the combined services of a great many people and few realize how much of that service is performed by the railroads and what a small portion of the consumer's dollar ever goes to the railroads for their services.

A case in point is the consumer's dollar spent for bread. Some interesting figures have just been compiled showing that the producer gets 28.1 cents of the dollar. Transportation of the wheat represents 2.6 cents. The elevator margin is 2.8 cents. The flour manufacturer gets .6 cents. The transportation of the flour represents 4.4 cents. The bread manufacturer gets 12.3 cents. The selling cost is 16.4 cents, the "overhead" chargeable to manufacturing is 8.5 cents and the profit accruing to those engaged in manufacture of bread is 5.7 cents. The operating cost to the retailer is 15.7 cents and the profit margin to the retailer is 2.9 cents.

Super-service on the part of the railroads is an essential necessity today. The Missouri Pacific Lines appreciate this and will continue to exert their best efforts to this end that the public may have the reliable, dependable railroad transportation that it needs and must have.

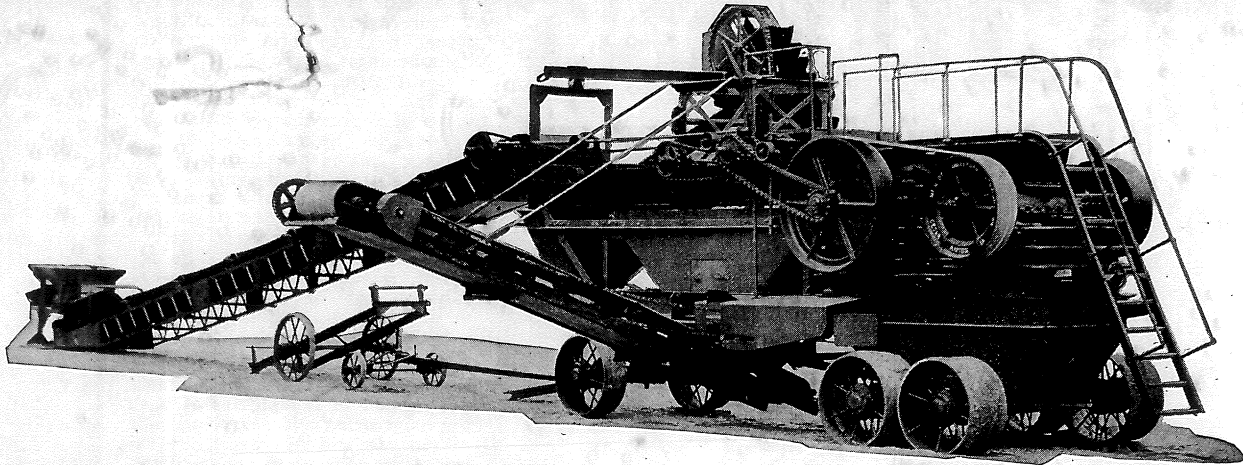


I solicit your co-operation
and suggestions.


President

"Service Institution"

PIONEER GRAVEL EQUIPMENT



Pioneer Duplex Plant with reduction crusher set behind primary breaker so that plant may readily be used as a No. 12 Pioneer Screening, Crushing and Loading Plant without reduction feature. Has sand rejector; one man operated.

The Dual Purpose Duplex Pioneer Plant

Duplex feature insures minimum operating expense.

More screening surface than any other portable plant. Nothing but oversize goes thru crusher.

Material passing thru top screen does not have to be rescreened on account of blank plate with 8" clearance.

Can be equipped with rolls or reduction crusher.

Timken bearing equipped rear trucks or 10 ton Athey wheels with 18" tread.

Shaker screen is equipped with SKF bearings in screen hangers and screen eccentrics.

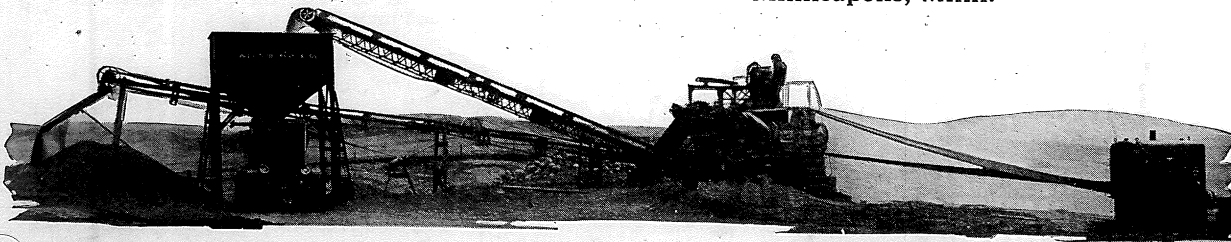
Plant equipped with mechanical feeder.

So built that it will handle big volume crushed gravel capacities from 1½ inch reduction to ½ inch minus. Plant operates with only primary crusher except for ¾ inch minus material, when reduction feature is "hooked up." This insures minimum operating expense. Plant is particularly suited to needs of contractors working on jobs requiring, for instance, 1¼ inch base course and ¾ inch minus for top course.

We manufacture a complete line of 11 different sizes of Crushing and Screening Plants, also Loading Plants, Drag Lines, Storage Bins, Conveyors, Shakers, Revolving Screens, etc.

Positively the largest capacity producer of any portable plant made.

Pioneer Gravel Equipment Mfg. Co.
Minneapolis, Minn.



Pioneer Duplex Screening, Crushing and Loading Plant near Havre, Mont., operated by the Pickus Construction Co. Has 80 H.P. Pioneer Power Unit. Is producing better than 700 cubic yards, 1¼ inch reduction in 10 hours, 300 to 350 cubic yards ¾ inch reduction, rejecting 35% fines. 35 to 40% pit run has to be crushed.

ARKANSAS TRACTOR & EQUIPMENT COMPANY, Distributor
120 COMMERCE STREET Telephone 2-1591 LITTLE ROCK, ARKANSAS