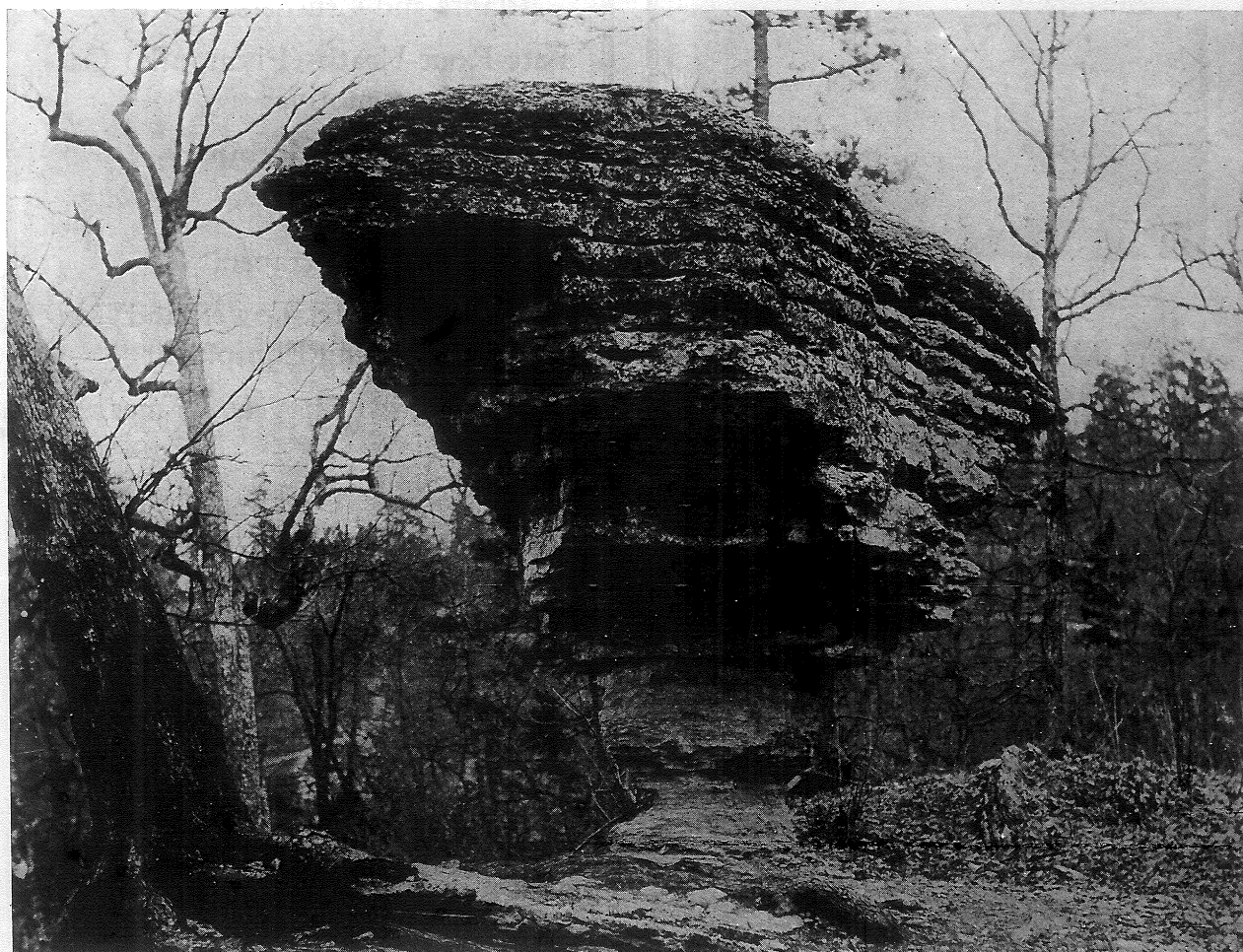


ARKANSAS HIGHWAYS

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



ANOTHER VIEW OF UNUSUAL SCENERY--NORTHWEST ARKANSAS

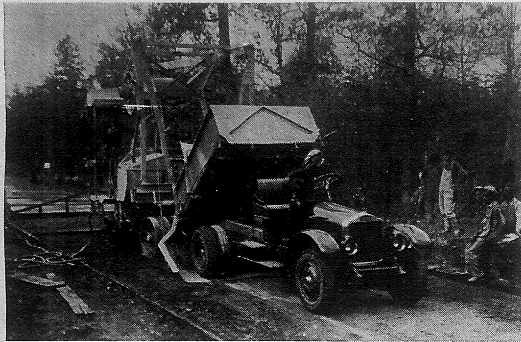
Vol. 4

NOV. 1927

No. 11

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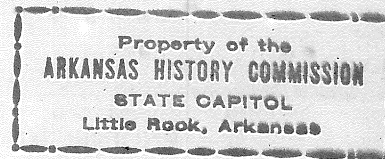
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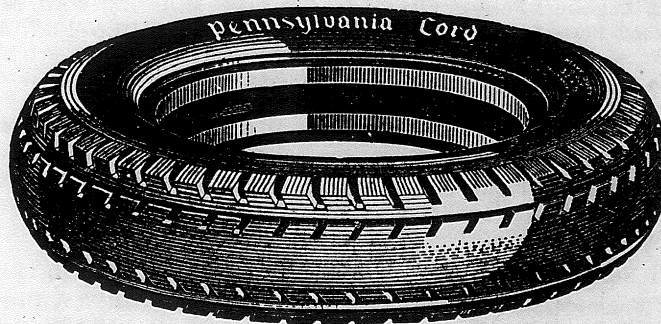


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ARKANSAS HIGHWAYS

*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 Bryan Lancaster, Editor, care Highway Department, Little Rock. The bulletin is sent free to State and County Officials, newspapers of the State and Road Commissioners who apply for it. Permission to reprint any matter contained in "Arkansas Highways," with proper credit, is granted to all newspapers of the State.

VOL. IV.

NOVEMBER, 1927

No. 11

WE ARE MAKING PROGRESS

By DWIGHT H. BLACKWOOD, State Highway Commissioner

On July 22, 1927, I began making trips to the different counties to check up on the work being done in these counties and to explain to the people of other counties what our plans for their road relief constituted. I have been in every county in the State excepting three, and these three have not purposely been passed up, and I will get to them soon.

It remained for me to explain to the people in seventy-two counties of this State that the first four months of my administration that I did not have any money to do a thing in the way of road building with, for them to fully appreciate that some credit was due for what we had done in the way of maintenance. Following the floods in the spring, we bent every effort to give relief where it was needed, making replacements and actually rebuilding some structures, and all of this, mind you, without money in hand to actually do these things with.

My mileage of travel over the roads of Arkansas since July 22 totals 16,000 miles, and as already stated within seventy-two counties. I say that I know the condition of our roads, and I carried a map along with me and coded that map to indicate just the condition of the road, marking each section of it to show what is needed in the way of repairs, and new structures. I wanted to know the conditions and wanted to see them first hand. It helps me very much when receiving committees, to know just what they are talking about, and enables me to administer to the local requirements in the most efficient manner. I have appeared before many people in these travels, having visited several towns in many of the counties.

As you probably imagine, I have certainly heard some complaints and some boosts. Both sentiments have been expressed in a very pronounced manner and I was glad to hear from the people in such a direct way as I did. I went to see them and their problems and to explain to them my plans and the limitations that attended the first few months of my efforts. I am pleased to tell you that the sentiment is fully 80 per cent favorable now. I hope to see an improvement in even that division of sentiment, for it ought to be satisfactory with the people, all of them practically, to see that everything possible is being done.

People from all sections of the State were outspoken in their praise of our efforts during the replacement period above referred to. We did our best, and without money in anything like the sums actually needed for the situation. This work was done with a minimum of inconvenience to the traveling public and this too, has been commented upon in all sections of the State, by people who saw us trying to serve them expediently and conveniently.

For the information of those who have not kept track of the building program as it has progressed, elsewhere in this issue of ARKANSAS HIGHWAYS there appears a summary of the active projects to date. These summaries will appear from time to time as the new contracts are awarded. Taking all things into consideration we feel like progress is now being made.

Help Our Tourists See Arkansas Better

By W. D. Self

As I walked down the street today I could not avoid noticing the large number of automobiles bearing licenses of other States. However, this is really nothing new. Out-of-state cars are here every day. They come from the Atlantic and Pacific Coasts, from New England, from the arid west, from the Great Lakes Region, and from States along the Gulf of Mexico. Every day tourists from all parts of the Nation pass through Arkansas. I wonder if we really appreciate how much this means to our State.

The writer remembers very well that, in 1916, one of the leading business men of Pittsburgh, Pennsylvania, a man who had large investments in this State, said to the "Arkansas on Wheels" party that he thought the reason Arkansas had not progressed in keeping with its resources was because it had been "off the main line of travel." With the building of the Harahan bridge at Memphis, the only great highway bridge south of St. Louis, and the linking up of great trans-continental highways, Arkansas is no longer "off the main line of travel."

This does not mean that tourists must pass through this State. Most of them could reach their destination without entering our borders. On the other hand a very large per cent can just as well travel our way. How many tourists we have depends, and will depend, largely upon what we do, and how we treat these wide-awake Americans who are "out to discover America." The opportunity is ours. Today the men at the filling stations hold enviable positions. They stay at home and meet the world. If you want a cross section of the people of the United States, spend a little time at a filling station on one of our inter-state highways.

The tourists traffic offers tangible values to business interests. Tourists spend money daily and with a sort of an abandon, like children at a picnic. But this does not mean that they should not have value received for their money. They should, and the States that recognize this right are the ones that will get "repeat orders" so to speak. The merchant who respects the rights, feelings and interests of his patrons is the one that has the crowded store, the big sales, the quick turn-over, and finally is the one that has bestowed upon him the title of "The Merchant Prince."

In every going concern good will is an element of value. In some of the larger industrial companies it is capitalized at millions. Business enterprises spend vast sums in advertising in order to create good will. Today Arkansas is taking advantage of her opportunity to increase this intangible asset, by proper appreciation and courteous treatment of tourists who pass through the State. First and of prime importance is the fact that

Arkansas is spending on her highways thirteen and one-half million dollars a year on new construction and at least two and one-half million dollars for maintenance. In this connection the Highway Department and the contractors are to be commended for their announced policy of causing just as little inconvenience as possible while the work is being done.

The people of the State should do more than just try to make the stranger within our gates comfortable. We should put forth a united effort to bring into Arkansas as many tourists as possible, not by careless and exaggerated advertising but through conservative and helpful information about the State.

To many it would be nothing short of a liberal education to see great cotton fields abloom, and irrigated rice farms, and rich corn fields unfurling their tassels to the gentle breezes that play over our mountain tops and dip down into the fertile valleys.

Tell them also what highways lead through the great peach orchards that stretch out over thousands of acres of land. Show them what two counties in the State have more than two and a quarter million apple trees. Point the way to our oil fields, our coal mines, and our zinc and lead district. Tell them where

to go to see the most artistic pottery made in America. Lead them to the bauxite mines where hard clay starts on its journey to the making of most of the aluminum articles of the United States. Show them our great drainage ditches, virtually man-made rivers, and take them over great concrete structures rising high above the turbulent rivers. Give them a routing through our National Forests, our State Park with its natural bridge, our great hardwood forests, and over the scenic Ozarks. In fact send them an invitation to come see our State, and specify what we have to offer. Send the invitation whether they be in Maine or California, Washington or Florida.

When these travelers come they will be surprised, no doubt. They may come skeptics. They will depart believers. Some will return to us, to be forever our neighbors; others will go forth our benefical friends. They will go out into all parts of the United States as messengers, bearing the news of our modern schools, our advanced civilization, and our potent opportunities in truck and fruit growing, in field crops, in timber industries, in mining, and in mountain and lake resorts—lakes because of harnessed mountain streams. They will tell again and again of the scenic grandeur of our mountains. They will tell of our splendid climate, and from this good will, worth untold millions, Arkansas will be one of the most highly respected going concerns—States—in the Union.

With this issue comes a new contributor, Mr. W. D. Self. We are indeed glad to welcome Mr. Self's articles, and hope, as we know our many subscribers will, that he will contribute often. Mr. Self, of all men in the State, can probably speak with more authority on the subject treated with here than any other citizen. He has recently published a booklet on Arkansas that is complete with informative statistics, maps, graphs and halftone illustrations, the result of about two years of intensive research into Arkansas' attractions.

—The Editor.

Twenty-four Projects Authorized By Highway Department At November Fifteenth Meeting

Following the opening of bids at the November 15th meeting, the Highway Department awarded twenty-four road and bridge construction contracts on the 18th of November, the total approximating 175 miles and \$1,336,000.

Two projects will be advertised again, as all bids offered on them were entirely out of line with the Department's estimate of their value. A business meeting followed the letting of contracts, which meeting was attended by Governor Martineau to hear a report of the progress being made in road construction.

No further bids will be received for construction work until the December 15 meeting.

CONTRACTS AWARDED

The projects on which contracts were awarded are as follows:

Job No. 132, State Highway No. 1, Phillips County, approximately six miles of gravel surfacing on Marianna-Barton road, to Forcum-James Construction Company, Dyersburg, Tenn., \$14,475.48.

Job No. 222, State Highway No. 13, Lincoln County, approximately 14.4 miles of grading and drainage structures and gravel surfacing on the Tarry-Star City road, to Forcum-James Construction Company, \$65,033.53.

Job No. 246, State Highway No. 114, Lincoln County, approximately 8.7 miles of grading and drainage structures and gravel surfacing on the Gould-West road, to Kochtitzky Bros., England, \$75,446.86.

Job No. 319, State Highway No. 70, Pike County, approximately 136 lineal feet of reinforced bridges over Mud Creek on the Hot Springs-Glenwood road, to Maxwell Construction Company, Columbus, Kan., \$12,987.19.

Job No. 329, State Highway No. 4, Howard and Hempstead counties, approximately 10 miles of grading and drainage structures on the Nashville-Ozan road, to F. E. Wright, Gurdon, \$20,561.54.

Job No. 410, State Highway No. 10, Sebastian County, approximately 13 miles of grading and drainage structures on Greenwood-Booneville road, to Interstate Construction Company, Paris, Texas, \$75,980.36.

Job No. 412, State Highway No. 45, Washington County, approximately 10 miles of grading and drainage structures on the Fayetteville-Prairie Grove road, all bids rejected, project to be readvertised.

Job No. 414, State Highway No. 22, Franklin County, approximately nine miles of grading and drainage structures on the Charleston-Paris road, to C. N. Green & Son, Fort Smith, \$44,245.12.

Job No. 417, State Highway No. 8, Polk County, approximately 12.7 miles of grading and drainage structures on the Mena-Howard road in the National Forest, to Interstate Construction Company, Paris, Texas, for \$120,064.91.

Job No. 523, State Highway No. 11, Independence County, approximately seven miles of grading and drain-

Summary of Construction Activities To Date

Total Number of Miles Under Contract To November 30th.....884,578

Consisting of:

Grade and Minor Structures.....	492.211 Miles
Gravel	337.174 Miles
Concrete	49.077 Miles
Asphalt	6.116 Miles

Total Number of Bridge Feet Under Contract To November 30th...22,618.54

Consisting of:

Concrete and Steel Bridges.....	16,277.87 Feet
Timber Bridges.....	6,340.67 Feet

TOTAL NUMBER OF CONTRACTS

159

TOTAL AMOUNT OF CONTRACT AWARDS

\$8,425,111.05

NUMBER OF COUNTIES INCLUDED IN FOREGOING

41

age structures on the Batesville-Pleasant Plains road, to Ware Construction Co., Little Rock, \$69,661.73.

Job No. 627, State Highway No. 7, Hot Spring County, approximately 12 miles of grading and drainage structures and gravel surfacing on the Bismarck north and south road, all bids rejected, project to be readvertised.

Job No. 631, State Highway No. 46, Grant County, approximately seven miles of grading and drainage structures and gravel surfacing on the Sheridan-Leola road, to J. C. Elliott & Co., Leola, \$44,581.29.

Job No. 639, State Highway No. 6, Hot Spring County, approximately 350 lineal feet of reinforced concrete bridges on the Hot Springs-Malvern road to C. H. Atkinson Paving Company, Chillicothe, Mo., \$34,294.52.

Job No. 722 State Highway No. 167, Union and Ouachita counties, approximately nine miles of grading and drainage structures on the Smackover-Camden road, to Atkinson Bros., Pine Bluff, \$69,416.34.

Job No. 732, State Highway No. 115, Union County, approximately five miles of grading and drainage structures on the El Dorado-Calion road, to Atkinson Bros., Pine Bluff, \$33,232.59.

Job No. 740, State Highway No. 3, Columbia County, approximately one-half mile grading and concrete pavement on the Magnolia-State School road, to Rowland & Rickard, Pine Bluff, \$14,834.55.

Job No. 801, State Highway No. 22, Logan County, approximately 14 miles of grading and drainage structures on the Fort Smith-Dardanelle road, to Cook & Ransom, Ottawa, Kan., \$108,763.08.

Job No. 810, State Highway No. 105, approximately six miles of grading and drainage structures on the Atkins-Hector road, to B. F. Brooks Construction Company, Dallas Tex., \$46,886.32.

Job No. 831, State Highway No. 64, Conway County, approximately five miles of gravel surfacing on Russellville-Morrilton road, to W. L. Davis, Kansas City, \$17,244.75.

Job No. 923, State Highway No. 5, Baxter County, approximately 15.5 miles of grading and drainage structures on Mountain Home-Missouri State Line road, to Ernest Euler, Mansfield, Mo., \$84,910.53.

Job No. 924, State Highway No. 16, Madison County, approximately 8.4 miles of grading and drain-

age structures on St. Paul-Crosses road, to C. M. Greene, Lowell, \$72,075.60.

Job No. 1004, State Highway Nos. 39 and 90, Greene and Clay counties, approximately 627 lineal feet of treated timber pile bent bridges on the Marmaduke-West road, to J. F. Mullins, Pine Bluff, \$18,587.39.

Job No. 1030, State Highway No. 14, Poinsett County, approximately eight miles of grading and drainage structures and gravel surfacing on the Jackson County line-Harrisburg road, to Forcum-James Construction Company, Dyersburg, Tenn., \$115,081.45.

Job No. 1039, State Highway No. 1, Clay County, approximately 2.6 miles of grading and drainage structures and gravel surfacing on the Corning-Piggott road, to F. D. Harvey & Co., Jonesboro, La., \$35,881.05.

Job No. 1043, State Highway No. 14, Poinsett County, approximately eight miles of grading and drainage structures and gravel surfacing on the Jackson County line-Harrisburg road, to Forcum-James Construction Company, Dyersburg, Tenn., \$74,742.85.

Job No. 1102, State Highway No. 15, Lonoke and Jefferson counties, approximately six miles of drainage and grading structures and gravel surfacing on the Ferda-England road, to Kochtitzky Bros., England, \$67,006.68.

Old Roman Bridges Built to Stand

Some of the bridges built by the early Romans still stand as a monument to the rare ability of the masons of those days. The Pons Milvius, now Ponte Molle, built with timbers, was reconstructed in stone in 109 B. C. and some portions of the old bridge are said to exist in the present structure. The Pons Fabricus, now called Ponte del Quattro Capi, built about 62 B. C., is practically intact and the Pons Castius, built about 46 B. C., retains much of the original masonry. These bridges over the Tiber show that the Roman bridge builders did not expect their structures to go to pieces before the time limit upon which they could draw the last installment had expired. The Romans had a protective system by which it was impossible to palm off shoddy work on the public. The Roman Senate allowed 40 years to elapse between the completion of a public work and the grant of their final approval. Meanwhile the contractors were held responsible in case of a collapse.

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LITTLE ROCK, ARKANSAS

The Engineer and Contracting

Day Labor Work, Low Bids and Irresponsible Bidders Discussed in Paper Presented At Last Annual Convention Pacific Northwest Branch Associated General Contractors of America

By F. G. Elliott, Assistant Engineer, Bureau of Public Roads, Portland, Ore.

The subject "The Engineer and Contracting" can cover a large field, but I will not deal with it in the broad sense nor will I limit my remarks to the highway engineer or highway contracting, although what I say will be from the highway engineer's viewpoint of highway contracting.

In all our improvements, private or public, competitive contracting has been proven an efficient method of accomplishing the work. There are very few municipalities, comparatively speaking, who insist on performing work by the day labor method. District one of the Bureau of Public Roads does very little day labor work. It is committed to the contract method. We have two small day labor organizations which are used in building forest development roads, or a little widening and surfacing of old roads below standard. None of the work performed by them would be desirable to a contractor, and their yearly expenditure is about 2½ per cent of the total district expenditures. The public has come to look askance at day labor work and in a good many instances rightfully so. Open competitive bidding removes all suspicion.

CONTRACTING SHOULD EARN A PROFIT

Since contracting is recognized as constituent part of our construction program, it follows that it should earn a profit on its operations, otherwise it cannot exist. And if it exists free from suspicion, contracts must be awarded to the lowest bidder, unless there is some very apparent reason for not doing so. Some may disagree with this statement. Sometimes it appears necessary for the contract awarding bodies to exercise discretion and refuse to award a contract on a bid that is obviously too low. However, such a procedure in public work is difficult to follow. The low bidder contends his bid is all right, that he can operate cheaper than the others, accuses the awarding officer of favoritism and brings to bear all the influence he can enlist to save the public money by awarding the contract to him. It is, therefore, general policy in public work to award to the lowest bidder unless there is some reason apparent to everyone for not doing so.

Has the contracting business returned the profit it should? If not, why not? What is the remedy? Judging from statements of contractors, articles in the construction press, and personal knowledge, one must conclude that there have been no dividend records established. For the majority a fair return has not been realized, and for several an actual loss has been sustained. Why does such a condition exist? Is it because the engineers have been unfair and unreasonable in their interpretation of the contract and specifications? Is it because adverse conditions and difficulties have been encountered on the work? Personally I do not think these are the causes. I think there is only one answer to the question—low bidding.

WHAT A CHECK OF 32 JOBS SHOWED

Do contractors bid low because engineers estimate work too low and the award will not be made over that estimate? In checking over thirty-two jobs let by the

Bureau last year and representing the majority of the work, it was found that our estimates averaged 99.4 per cent of the average of all the bids received, while the low bids averaged 82.7 per cent and high 118.3 per cent. The low bids averaged 83 per cent of our estimates. Of course the figures quoted are averages. Individual cases will show a much greater variation. Our estimates are based on what we consider the work can be performed for and net the contractor a fair profit. Some of our men preparing the estimates often say, "Well, that job will go for a whole lot less." We tell them that we know it will but that should not influence the estimate. The work is worth so much, but if the contractors do not want that much it is their business, but we are not going to be an accessory to low bidding.

A PROFITABLE JOB BETTER THAN A LOSING ONE

At the close of one of our recent lettings, a contractor said to me, "You ought to feel pretty good," I asked him, "Why?" and he replied, "Well, look at the low bids you received." I told him, "We are the last people that want to see low bids. They spell nothing but trouble for the engineer." So let me emphasize the point that any contractor who underbids a job is not pleasing the engineer in charge. The engineer wants to see the contractor make a profit. Everybody feels better on a profitable job than on a losing one.

There is considerable discussion these days in the contracting profession regarding the irresponsible contractor. Many attempts have been made to define this member of the profession. Some would call a contractor irresponsible whose bid varies more than a fixed per cent from the average of all the bids received; others, if he did not own equipment adequate to perform the work; still others, if he did not perform the work himself; and then others would require him to have cash available up to a certain per cent of the amount of the contract. These are all excellent requirements and desirable qualifications, and unquestionably a contractor who possesses them is much better situated than one who does not. However, although we have had our troubles with the irresponsible contractor so defined, we have been equally worried by the irresponsible bid from the responsible contractor.

THE CONTRACTOR WHO CAN BID CLOSER

Of course all bids are not comparable. Each job can be handled more economically in a particular way and with certain equipment. Therefore, the contractor possessing the organization and equipment best adapted to the work is in a position to bid closer than the one who must use an organization and equipment not entirely suited. We have had several instances where, while a contractor was already at work on a project another section was advertised for bids and in only one case has the contractor on the ground secured the second contract. Now, we cannot draw the conclusion that the contractors invading the territory bid too low, because probably the contractor on the job may have figured his margin over outside contractors too large. It does show, however, that there is something wrong with the bidding.

I could name several contractors who could never be called irresponsible, and yet we have received some mighty ridiculous bids from them. Now you say, "Well, what business is it of the engineers what a contractor bids?" It may be none at the time of opening the bids but wait until the job is under way and the contractor is losing money, then he wants the engineer to make it his business and note that the job is a losing one and requires all the help and assistance he can give it. The contractor is not looking for justice then, he wants rock. So you see, the engineers figure they will have a much easier time if the contractors will bid a job with a profit in it.

THE TIME TO GET THE COST AND PROFIT

It is peculiar how some contractors fill out a bid blank with prices which never can return a profit, and then forget all about it and hold the engineer responsible if the books show a loss. Understand me, I am not blaming contractors for trying to get all they can out of a job. That is only good business and I would do the same if I were a contractor. However, there is a big difference between getting what is legitimate and laying all the responsibility on the engineer's doorstep in an endeavor to pry some more out of the job. The time to get the cost and the profit is when the proposal is submitted. Then once on the job with fair prices, do not wait until the final to present bills or make claims for work of which there is a question.

The time to get the pay is when the work is done. The idea of sitting around the table in the final and threshing out the questions usually results in an argument about the conditions, instructions or amount of work performed and sometimes you get your pay and sometimes you may not. We have tried to impress on our engineers that they must have a thorough understanding with the contractor regarding the method of payment whenever any work is ordered. If these things are settled on the job there will be no arguments over the final estimate.

OVERLOOKED PAYMENTS

There are contractors who have overlooked getting payment for work at the time it was performed. Most of these discrepancies originate in gentlemen's agreements between the contractor's superintendent and the engineer. I am sincere in urging you to see that these things are cleared up on the job because they mean money to you and there is nobody more anxious to see that the contractor gets all he is entitled to than the engineer on the job. Sometimes it may be a little difficult to agree on the

amount due but to date, all our differences have been ironed out without resorting to other authorities.

What is the remedy for this low bidding? Frankly, I must admit that I do not know. We have hoped that each year would see the contracting business on a better basis, but this hope has been dashed to pieces as soon as the spring openings began. The most discouraging thing about the contracting business is that a contractor who knows what work is worth and bids a fair price is consistently underbid. This gets tiresome and soon the contractor with an organization and idle equipment on his hands gets desperate and jumps in on a job at a figure he is not satisfied with, hoping he can probably get by until prices improve.

I have wondered if the engineers are doing all they can. I have also wondered whether or not the engineers are somewhat to blame for these low bids? An engineer is human (although some of us have been accused of being devoid of the milk of human kindness) and he hates to see a contractor lose money, especially one who pushes his work and does a good job. The engineer will give him the benefit of the doubt. Probably he gets out all right, but he thinks it is his own good management that is solely responsible and comes back at the next letting with a lower bid.

THE UNCLASSIFIED BID

Again unclassified bids have been looked to as an aid to the solution of the problem. We have numerous cases of contractors looking over bid tabulations for an idea of how to bid and, thinking certain reputable contractors know their business, prepare a price list that will get under them. Comparisons are good information but they should not be premised on the thought that the low bid was a profitable one. A bidding proposal which greatly segregates the work encourages hit or miss bidding because each competitor can compare prices on former jobs. If an unclassified bid is requested the comparison is lost because there is no information given indicating how it was arrived at; that is, no class is shown and no prices are available.

The tendency on bureau work in District 1 will be more to the unclassified bid. Some may think that is because of the desire to eliminate classification arguments. Naturally that is the advantage to the bureau and it is an advantage because it will permit us to more closely budget our work. However, the bureau does not get all the advantage. Your cost analysis of the job is not shown in your proposal for every other contractor to compare with on future work. Also on a great deal of

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700 Sizes

STEEL PRODUCTS

CENTRAL SUPPLY COMPANY

LITTLE ROCK, ARKANSAS

our work mixed material is encountered because most of the projects are back in the mountains. This mixed material is worth about so much to handle, you say. Now to make a bid on common rock you use the engineer's classification as a basis or make an estimate of your own based on the specifications and break this combined price down. If you get that classification in the final you are all right. You received your price. If, however, you do not get that classification, you lose because you do not get your unclassified price. It therefore appears that this method should work out to the contractor's benefit where it can be applied. In most cases it does, in a few the unclassified bid has been radically out of line but unquestionably class bids would also have been out of line.

Another possible source of relief is the bonding companies. I am not going to criticize them but I think there is considerable room for improvement. Bids have been received which were admittedly too low and the contractor experienced trouble in getting a bond, but eventually he found a company willing to take the risk. In many of these cases the inevitable happened and the bonding company completed the job.

NEED FOR CO-OPERATION

The engineer is primarily concerned in getting the work performed as rapidly and as efficiently as possible. This can be accomplished most successfully only by close co-operation between the contractor and the engineer, but such co-operation cannot be maintained between an engineer on the job and a contractor in a swivel chair a couple of hundred miles away. I refer to the contracting broker who bids in the job and then relets it to a bunch of subs and relies on the engineer to run his work for him. I am not condemning subcontracting as a business. Some work can be expedited much more rapidly under this system but there should be a representative of the contractor on the job to direct the subs and deal with the engineer. A man who bids in a job, relets it for less, figures his profit and trusts the subs will somehow or other manage to finish it, is not a contractor in my opinion. He is clipping contract coupons. We have had this fact brought to our attention very forcibly in many of our jobs, and you gentlemen recognize it, that no matter how good your subs are they always do better when the contractor or his representative is on the job, conferring with them and advising them regarding the best methods to follow in the performance of their work.

SUGGESTIONS FROM THE ENGINEER

Oftentimes an engineer thinks he sees a place where the contractor could improve his methods and increase his output and suggests it to him. If the right relation exists they talk the matter over together, analyze the problem and suggest variations which might be an improvement. If the right relation does not exist, the engineer is cussed for butting in where it is none of his business and the contractor is cussed for his fool organization. I want to mention a case we had last year. The contract covered surfacing a certain road where operating costs were high. It began in 1925 and each month showed a loss. In 1926 we assigned a different engineer to this project. The contractor went along as usual the first month. The engineer went to him and tried to analyze the job and explain the loss. The contractor was receptive and was convinced that the suggestions were good. He reorganized and each succeeding month showed

a profit. This illustration is given to emphasize the fact that the engineer is interested in seeing the work done right, and if the price is correct the results are bound to produce a profit. Of course, every engineer is not qualified to do what this one did, but the desire to assist in any way possible is usually found in all engineers; and also, the contractors as a rule are willing to consider the engineer's suggestions.

I have pointed out that contracting is necessary for the successful accomplishment of our construction program; that the engineer recognizes this fact and is willing to co-operate to the fullest extent; that low bidding is to blame for the present unfavorable status, and although suggestions for improving it have been made, the question, "Where is the remedy?" is left for you to answer.

Driving Along in the Twilight

Driver (to sweet young thing): "I can see that I'm only a pebble in your life."

S. Y. T.: "That's all. But I wish you were a little boulder."

Death! Where is Thy Sting?

It was dusk as she stopped at the roadside filling station.

"I want a quart of red oil," she said to the service man.

The man gasped and hesitated.

"Give me a quart of red oil," she repeated.

"A quart of r-r-red oil?" he stuttered.

"Certainly," she said. "My tail-light has gone out."



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O Man!

As part of the matriculation examinations in English, the entering students were asked to write a brief definition of their conception of a self-made man. One young lady wrote as follows:

"A self-made man is like a self-made cigarette—a lot of Bull wrapped in a transparent cover."

It's Human Nature

"I have a book you ought to read, my dear. Shall I lend it to you?"

"Heavens, no darling, I can't even find time to read all the books I ought not to read."

Objectively Speaking

Minor: "Were you fired with enthusiasm when you tackled your first job after leaving college?"

Ology: "Was I? I never saw a man so glad to get rid of me in my life."

What About Basket Ball?

"Now Herbert," said the teacher, "how many seasons are there?"

"Do you mean in the United States?"

"Yes, certainly."

"Two."

"Only two? Name them."

"Baseball and football."

Financial Notes

A stingy man got a hot shot from his wife when he reproved her for taking a counterfeit bill.

"I don't see how you were dumb enough to let a man pass counterfeit on you," he roared.

"Well, you don't let me see real money often enough to know the difference," she hurled back at him.

The Weaker Sex

There was a young girl from Siam,
Who had a rough lover named Priam—

"I don't want to be kissed,
But if you insist
God knows, you are stronger than I am."

"Do you have to work long hours?"

"No; only the regulation length; sixty minutes."

Traffic Logic

Boss: "Mike, how did the accident happen?"

Mike: "Well, boss, ye se, 'twas like this: "I was drivin' me truck up State Street, when I had to stop suddenly, and a fellow in a big Packard crashed into the rear end of me truck. Shure it didn't hurt his machine very much, but he jumped off and ran up to me, and shakin' his phist, said: 'Hey, you little Harp, why didn't you put out your hand?' 'Put out me hand?' says I: 'Ye dang fool, if ye couldn't see the truck, how the Devil could ye see me hand?'"

He Tried

A mother was crossing a busy street in Minneapolis with her small son. The little fellow became separated from his mother and a truck ran into him, and he was taken to a hospital. When the doctor made his call the next morning, he asked the boy why he hadn't held onto his mother's skirts. The boy replied, "I tried to, but I couldn't reach them."

Talked Too Much

Here lies the body of William Brace;
He sure was one fine fella,
He said in his sleep, "I love you Grace,"
But his wifie's name was Stella.

They Had to Walk

"What's become of the Hiker's Club?"
"Oh, it disbanded. It was getting too hard to persuade passing motorists to pick us up and give us a lift."

Cruel!

"Can you drive with one hand?"

"You bet I can."

"Then have an apple."

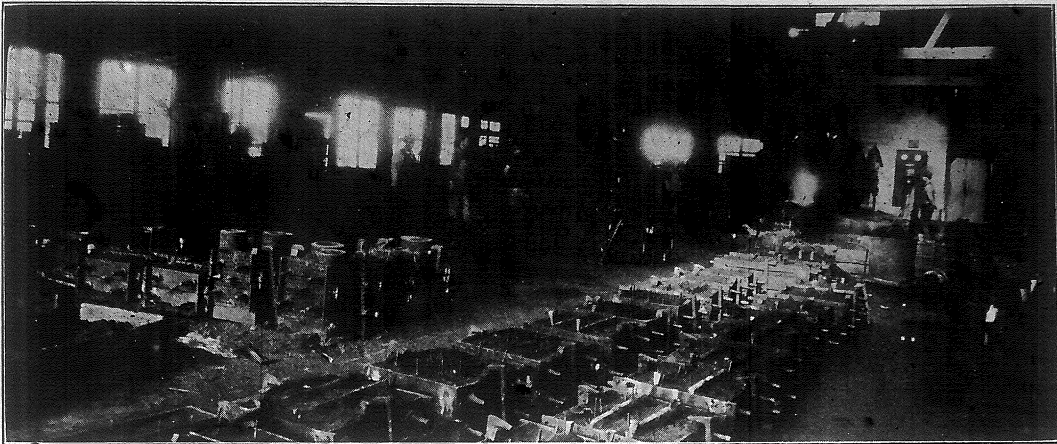
The New Electricity

He (attempting to start car): "This darned self-starter won't work: There is a short circuit somewhere."

She: "Well, why don't you lengthen it, dear?"

Dora—"I want a pair of bloomers to wear around my gymnasium."

Salesman—"Yes, ma'am! And what size is your gymnasium?"



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A Statement to the Public by L. W. Baldwin, President of the

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“Ask a Missouri Pacific Man”

“ASK a Missouri Pacific Man” whatever it may be that you want to know, especially if it is something pertaining to Transportation—and if the individual to whom the question is addressed doesn't know the answer or can't get it quickly, he or she, will direct you to someone in the Missouri Pacific Lines' organization that can and will—gladly—supply the desired information.

This is what has made of the Missouri Pacific Lines a genuine “SERVICE INSTITUTION.” The public has come to realize this and profit as a result of it—and employees of the Missouri Pacific Lines are justly proud and happy as a result. And the Missouri Pacific Lines are justly proud of the army of men and women who have made the System a synonym for Service.

When the most disastrous floods in history swept down the Mississippi Valley and the tributaries of that river, as one writer has said, “the rushing, roaring waters destroyed the roadbed in places, but the morale held fast and never weakened nor wavered.” Incidentally, largely as a result of that same splendid morale, all records were shattered by the speed and completeness with which the physical property was restored and normal service resumed.

The same spirit that prompted Missouri Pacific Lines men and women to heroic achievements throughout the floods is the spirit that has actuated the organization and made the entire System known throughout the country for aggressiveness, dependability, courtesy and refined service.

This is the same spirit behind the various special development departments. It is the spirit that has made the Missouri Pacific a Service Institution with a Soul.

It is with pleasure and pride, therefore, that we call attention to the desire and willingness of all the individuals in the organization to give to the public the utmost in special attention of every description.

And that is the reason we can advise everyone, regardless of what it is that may be desired or what information is sought, to

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We solicit your co-operation and suggestions.



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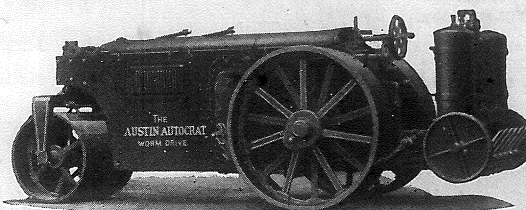
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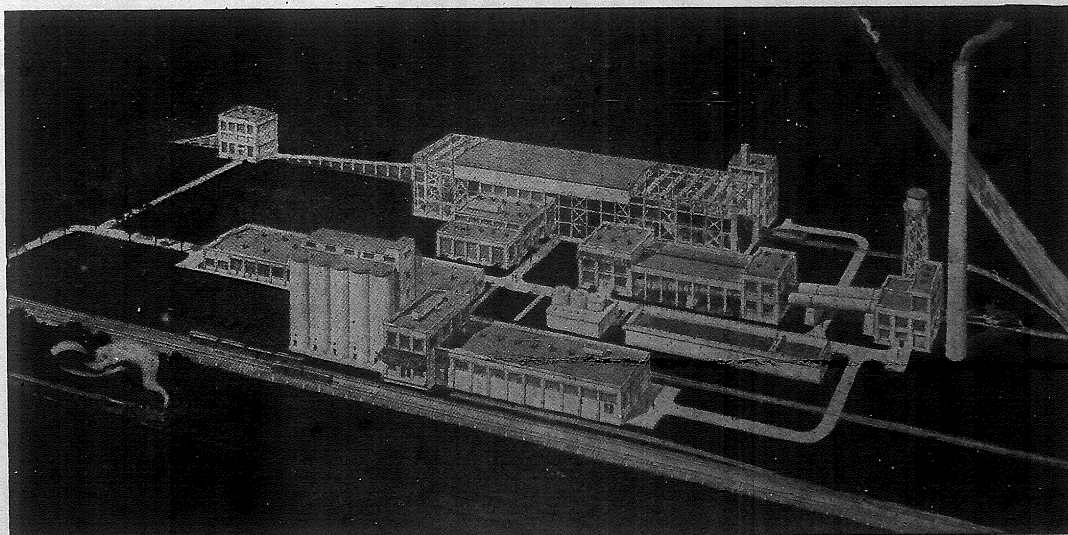
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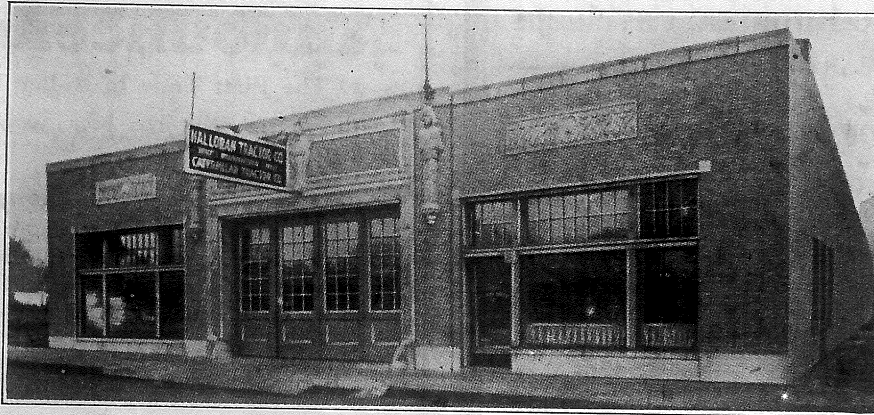
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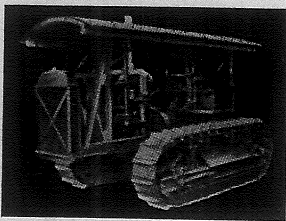
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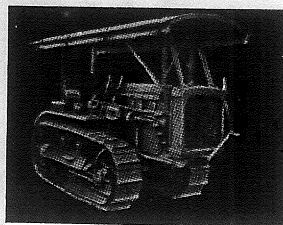
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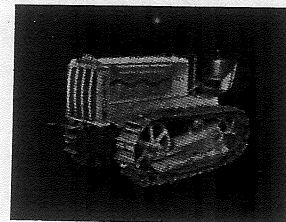
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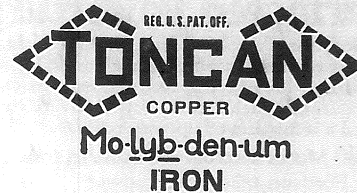
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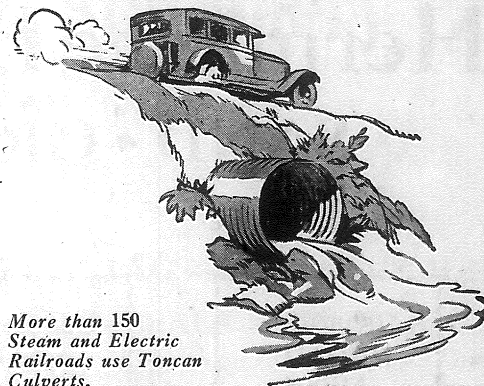
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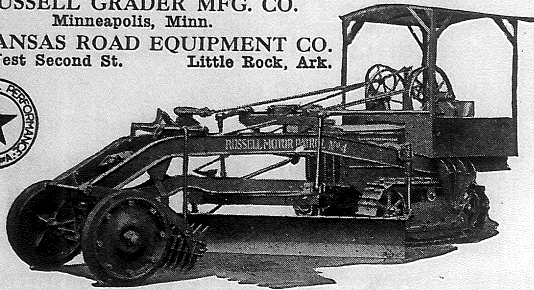
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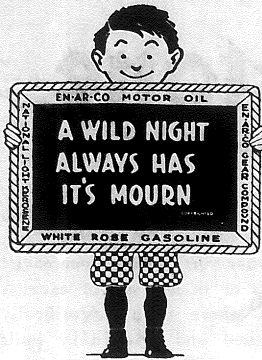
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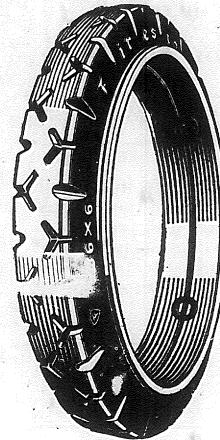
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- 1 **CRACKING:**
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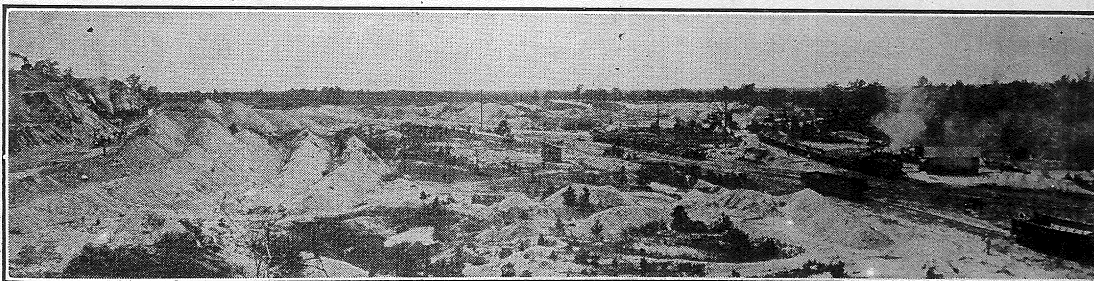
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Ball-Benton Gravel Company

J. J. BALL, President
 CHAS. M. KING, Secretary

821 Home Life Bldg. Little Rock, Ark.

W. D. CAMMACK
 Vice President & Treas.



Plant: Benton, Ark.

REAL GRAVEL—

FOR HIGHWAYS—FOR RAILROAD BALLAST—FOR CONCRETE CONSTRUCTION

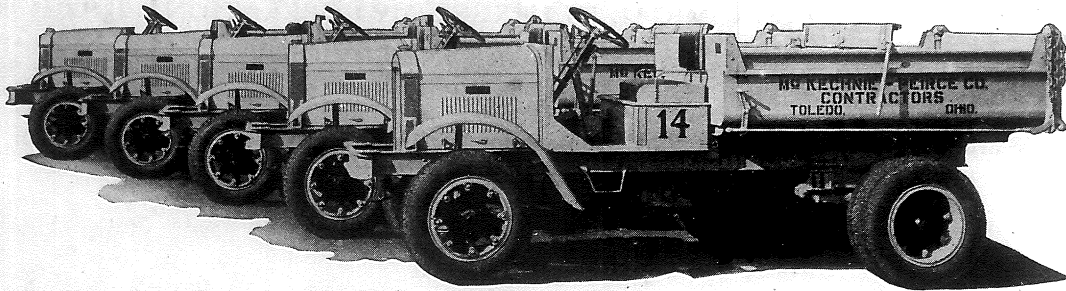
Our road clay gravel, weighing 3,000 pounds per yard, is best by every test for road building purposes. Our capacity is from 50 to 60 cars per day, as a result of our separate road gravel loading organization using Bucyrus "70-C" shovels and Baldwin 50-ton locomotives.

Our capacity for washed ballast, washed concrete gravel or washed sand is from 60 to 70 cars per 12-hour shift. Our service to road districts, railroad projects and large construction jobs is of proven dependability.

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

HUG

The Pioneer Roadbuilder Truck



(Fleet of Model 88 Hug Roadbuilders delivered to McKechnie-Pierce Co., Toledo, Ohio)

SIX YEARS AGO Hug pioneered the first roadbuilder truck and introduced to the roadbuilding field a new method of transporting material. For six years Hug Roadbuilder trucks have demonstrated their superiority on the road job, and have successfully overcome the most hazardous transportation obstacles.

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