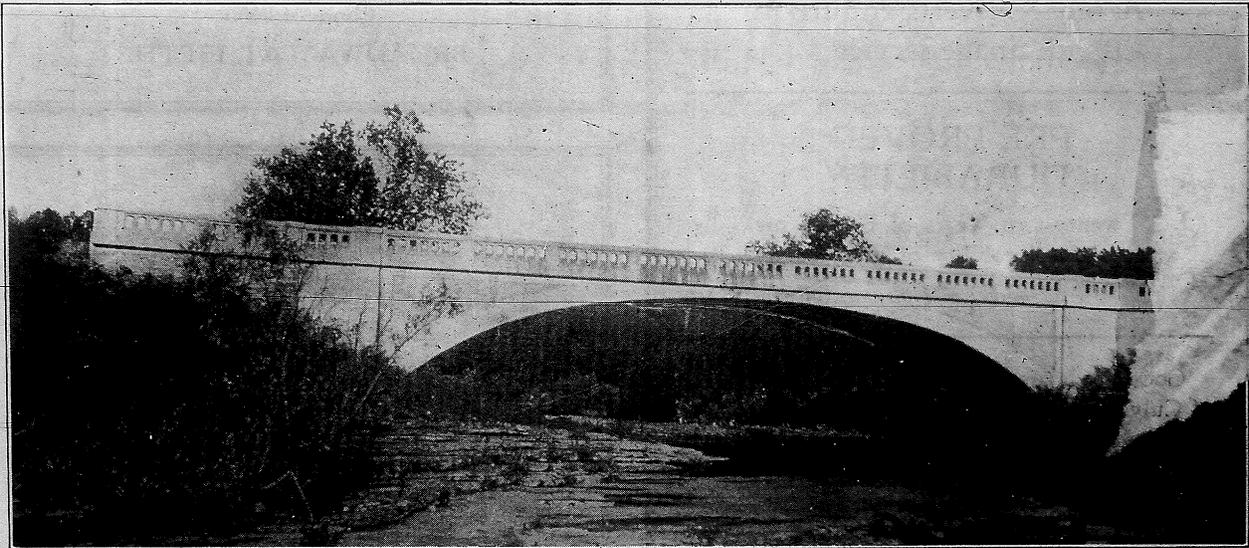


ARKANSAS HIGHWAYS

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



Hog Creek Bridge on Route 65, Near Valley Springs, Boone County

Vol. 7

OCT. 1930

No. 10

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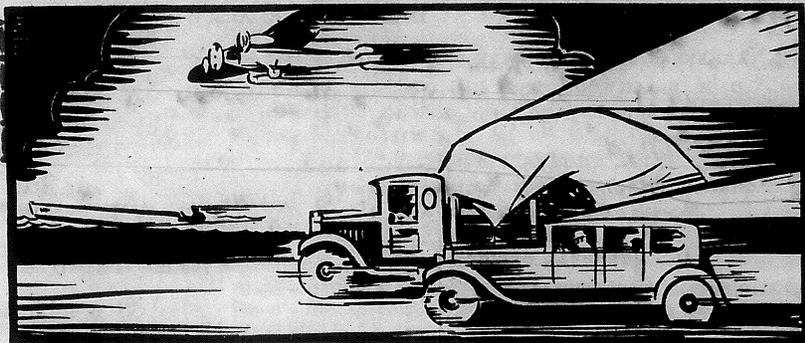
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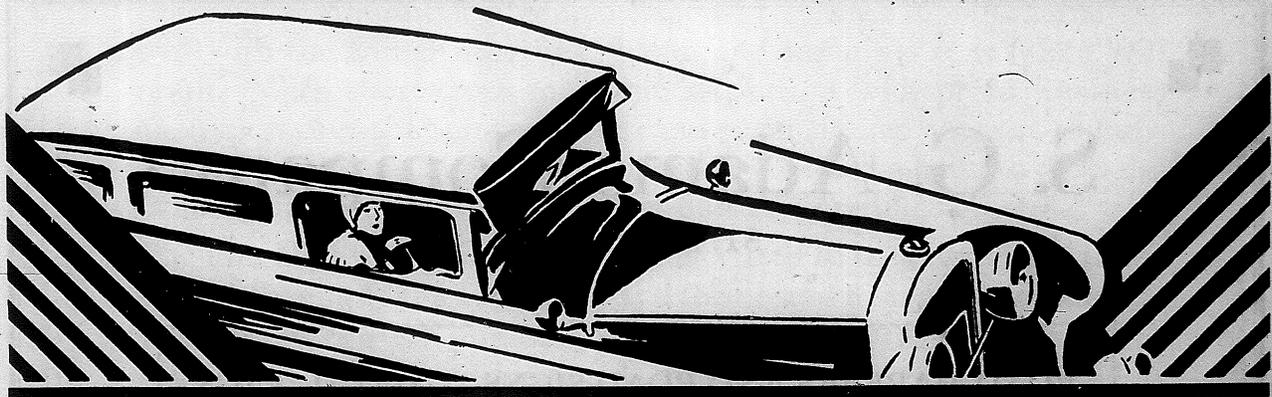
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ARKANSAS HIGHWAYS

*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 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

OCTOBER, 1930

No. 10

Highway Construction Is Aid To Unemployment Situation

By Dwight H. Blackwood, Highway Commissioner

From sources of authentic information comes the startling news that unemployment throughout Arkansas is reaching serious proportions. This condition, it is predicted, will increase in substantial extent with the winter months at hand, and suffering, it is feared will result. With short crops in certain sections, a widespread business depression over the State, and the consequent limited amount of public work going on, highway construction is indeed a boon to those depending on earnings from sources of outside or public nature.

The Highway Commission pledges itself to the favoring of farmers and the employment of them and their teams to as great an extent as possible. Whenever employment can be given to the residents of the districts in which road work is being done, it shall be given. In addition, as much of the work that can be done by State forces instead of by contractors will be handled in that manner thereby making more employment than usual possible.

If funds that will be available from the Government on Federal Aid projects scheduled for the next two years can be obtained in advance of the regular method of allotment, the entire road building program will be enlarged and many roads and bridges needed will get into work immediately.

A Record Is Being Made On Arkansas' Longest Bridge

By F. T. Bryan

When the two miles of bridge and two miles of dirt fill across the White River bottoms at Clarendon are completed Arkansas will possess one of the remarkable engineering feats of history, built in a record time. It will be the major accomplishment of the Arkansas Highway Department built at the greatest expense of a single project and will connect eastern and southern parts of the State as well as furnish a direct route from the east to Louisiana and the southwest for through traffic.

The contract for the bridge was awarded May 30th and now five months after that date 2,000 feet of concrete slabs have been poured, all of the bents are erected except on the comparative short approach for the Clarendon side, and the seven-tons steel beams are placed ready for the concrete not already poured. The "sand-hoggers" are busy in the two pneumatic piers of the four main river piers and the two anchor piers are nearly finished. More than half of the dump has been placed and sodded with bermuda and unless hampered by fall and winter overflows that have been annual affairs in previous years this part of the viaduct will be ready for traffic along with the remainder of the bridge.

The Austin Bridge Company, of Dallas, Texas, that received the contract for the \$1,500,000 job began placing false bridges, wide and narrow gauge railroads and the thousands of other preliminary structures on the site while the spring overflow was receding in June and that company and the other five construction companies that have sub-contracts have not been delayed by over-

flows or rains since. The drouth of the summer that was otherwise disastrous to Arkansas has been a boon to her bridge builders and in most cases will net three to six months collections on the toll bridges that will come from pre-scheduled completion.

Companies with sub-contracts under the Austin Bridge Company are: Raymond Concrete Pile Company of New York, that finished the pile driving in September; Gifford-Hill Construction Company of Dallas, placing the dump; Union Bridge and Construction Company of Kansas City, main river piers; Williamson and Williams of Batesville, the Roc Roe Bayou bridge; Virginia Bridge and Iron Works, that will start the main river bridge as soon as the piers are completed.

The Clarendon Bridge will be well worth the 50c toll to be charged to sight-seers because of its beauty, which however, has never been advanced as the reason for building the bridge. Winding high above the main river from the west after having crossed two prongs of "Old River" a stream as prominent as the former, and over numerous bayous, with the long dirt fill bordered by lakes being formed by the excavations the many bodies of white water will form a natural setting for a bridge so long. The site selected curves through dense virgin and cut-over timber lands that forms the banks of the lakes and rivers. For several months during each year the entire site will be under water, affording a four-mile river drive with only the foliage of trees for a reminder that seasonable dry land lies beneath.

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The equipment for the erection of the Clarendon bridge is the most complete outlay of machinery ever assembled in Arkansas and many parts of the bridge are unique to highway bridge construction. The site, often described as White River swamps, is crowded with expensive derricks, concrete mixers, "dinky" railroad trains, gravel bins, an office building erected on high stilts, tool houses, railroad spurs from the Cotton Belt trestle, etc., and is a scene of hundreds of workmen day and night.

The bridge was designed by Ira G. Hedrick, bridge designer of the Arkansas Highway Department. Borings for the lengthy viaduct were taken under several feet of water last winter. The past several months that the major portion of the bridge has been built has been the longest stretch of time without interference from rain and overflows that has ever been experienced in this section.

In addition to Mr. Hedrick other men for whom the steel and concrete bridge will become an emblazoned monument for centuries to come are Justin Matthews, member of the Arkansas Highway Commission, whose vision of the future Arkansas is responsible for the erection, Dwight H. Blackwood, chairman of the Commission, C. S. Christian, Chief Engineer, W. G. Huxtable, District Engineer, and S. A. Pinson, youthful superintendent of the Austin Bridge Company, who has established a record in building his company's and Arkansas' biggest bridge job. Also local Clarendon people to be remembered in connection with the bridge are J. E. Pinkley, J. T. Bateman, Maude R. Brown, and others.

WILL DEDICATE THE NEW COTTER BRIDGE

The magnificent new 2,000-foot Rainbow Arch bridge across White River at Cotter, costing one-half million dollars, is nearing completion, and preliminary plans have been made to dedicate the same about November 1. Such plans embrace ceremony dedicating the entire highway development of North Arkansas, and it is intended that all parts of the State will participate.

This bridge is the only one of its type in the State or the entire Southwest, and is declared to be one of the most beautiful in the State. It is the intention of the committee in charge to symbolize it is the passing of the old and the creation of the new era of highway improvements.

The celebration will have its queen which will be elected from a town in North Arkansas and will be on a competitive or popularity basis. Every community will be invited to participate and it is expected that all towns from Cairo, Illinois, on the east, into Oklahoma on the west will be represented, not only by their large delegations, but by active participation in the ceremony.

The details of the celebration will be completed as fast as possible and sub-committees will be appointed in each town in North Arkansas.

The Horse Laugh

"The true value of horse sense," says the *Louisville Times*, "is shown by the fact that the horse was afraid of the automobile during the period in which the pedestrian laughed at it."—*Evening Post*.

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A Review of the Principles Governing the Qualification of Bidders

By W. W. Zass, Engineer of Construction

In attempting to formulate policies and procedure relative to the control of competitive bidding on construction projects the thought occurs that we are endeavoring to correct, through superficial measures, basic faults in the method or practice it is desired to perfect. This thought will not be further advanced and is now introduced only with the intent of suggesting that the promulgating of more rigid requirements in relation to competitive bidding will not entirely eliminate the failures or irregularities in the system that are now apparent.

An analysis of the subject indicates that three general conditions or methods of procedure may prevail or govern in the awarding of contracts upon a competitive bidding basis. These conditions may be designated in the logical sequence in which they probably developed as

The practice of allowing bidding without restriction and making the award to the low bidder with no consideration as to qualifications.

The practice of allowing bidding without restriction and making the award to the low bidder only when such bidder is judged to be properly qualified.

The practice of limiting bidding only to those judged to be properly qualified and awarding the work to the low bidder among such group.

In relation to bidders these general conditions or methods of procedure are normally termed, respectively, the practice of Non-Qualification, the practice of Post-Qualification and the practice of Pre-Qualification, and will be so referred to in later remarks.

It might be well to cite at this time that construction activities can generally be primarily subdivided, through reasons of ownership, into two major classifications, namely, the public works group and the non-public works group, the first named, consisting of city, county, State and Federal agencies, being controlled by statute in their procedure relative to the advertisement of work and the award of contracts, and the second, consisting of corporations, companies and individuals, being free of such restrictions. Legislative requirements generally provide that the work shall be advertised and that the contract shall be awarded to the lowest bidder or that the contract shall be awarded to the lowest responsible bidder.

In theory, the comparative advantages or disadvantages of the principles of Non-Qualification, Post-Qualification or Pre-Qualification apply with equal weight throughout the entire field of the construction industry. In practice, the comparative advantages or disadvantages of such principles are minimized or magnified to the extent that they conflict with existing legislative enactments or with local prejudice or disfavor. Any general analysis of the advantages or disadvantages of such principles must be based on theoretical considerations, local conditions wholly affecting the practical application, but in a varying degree, dependent as to whether the activity lies in the public works or non-public works field.

While the line of demarcation separating the apparent advantages or disadvantages of Qualification or Non-Qualification is a somewhat ambiguous one it can be stated in brief.

That the principal of Non-Qualification does not allow the owner any choice in the selection of the constructor and that consequently, the difficulty of the obtaining work of first quality may be increased, that administration may become involved, that the working period may be unduly prolonged, that costs may be unnecessarily increased, that undesirable competition may be stimulated, that surety bonds do not wholly guarantee satisfaction either during the progress of the work or at its completion. Conversely it might be stated that the principle of Non-Qualification provides for competition without restriction or prejudice through administration, that through such stimulated competition a lower construction cost level may be maintained, that initiative is encouraged, that the ability to provide a proposal guarantee and contract bond was sufficient indication of responsibility, and that the percentage of defaults among bonded contractors was confined to a minority as is evidenced by the bond premiums in force.

That the principal of Post-Qualification allows the owner to exercise some judgment and discretion in the selection of the constructor and that consequently the difficulty of obtaining work of the first quality is decreased, that other annoyances, delays and losses incident to the operations of an incompetent contractor are eliminated, that defaulting of contracts will be

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come less prevalent, that undesirable competition is eliminated from bidding through fear of disqualification, that the ability to post a proposal guarantee and execute a surety bond was not a sufficient indication of responsibility and that the responsible contractor was subjected to improper competition through irresponsible bidding. Conversely, it might be stated that the principle of Post-Qualification if improperly administered restricts competition through partiality and favoritism, that if a contractor is allowed to place a proposal it is not equitable to subsequently disregard it, that the ability to post a proposal guarantee execute a surety bond was a sufficient indication of responsibility and that a sufficient number of applicants were not rejected through failure to qualify to justify such a method of procedure.

That the principal of Pre-Qualification provides for all of the advantages of Post-Qualification with few of the disadvantages as well as for providing for equity to the bidder in that no time or expense is lost in placing proposals that will not be considered and that in the non-public works group the practice of Pre-Qualification of bidders, with excellent results, has existed for years in that bidders are allowed to compete only through invitation. Conversely it might be stated that the principal of Pre-Qualification provides for practically all the disadvantages of Post-Qualification, as well as for providing that through limited competition the construction cost level might be raised and that preferred associations or groups of contractors would tend to form in an effort to control bid prices submitted.

In further considering the advantages or disadvantages of the various principles of qualification it becomes necessary to define the term responsible as applied to the ability of a contractor and for the purpose of this discussion the definition will be expressed as an individual or organization possessing the initiative, the experience, the organization, the equipment and the finances necessary, in the full measure of their respective complements, to properly initiate and complete the work in question. It must also be recognized that those engaged in obtaining construction work on a competitive basis are confronted with the alternate of so quoting their price on the work that it will be sufficiently high to insure them a profit, while on the other hand the price quoted must be sufficiently low to enable them to underbid their competitor. In order to meet this medium close figuring or estimating is necessary, and even then the job may go to a competitor who guessed at rather than analyzed his estimated costs. If responsible party bids against responsible party healthy competition is insured in that a legitimate margin of profit is not eliminated through such competition but that lower production costs in the execution of the work are insured through different and more efficient methods or means of operation.

We find, however, that the construction world is not wholly occupied by the responsible individual or organization but that it is plentifully leavened with the unfit, the dishonest, the incompetent and the untried. With these classes the responsible party is placed in competition and from these classes he requests protection. In addition to the other hazards of legitimate bidding he is subjected to the numerous faults, inexperience and

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dishonesty of the unqualified bidder. In endeavoring to place the construction industry upon a higher plane or level the responsible constructor seeks qualification and that he may be qualified on a recognized basis he requests qualification prior to the receipt of proposals. The position the legitimate contractor contends for is not an unreasonable one and is analogous to the recognition of professions and the qualifying of artisans.

Reviewing the questions from the owner's viewpoint it can well be questioned as to whether the qualifications of bidders cannot be as thoroughly analyzed subsequent to the receipt of proposals as prior to such reception. If the same impartial judgment is exercised in weighing the various considerations involved no differences should be expected from the results achieved through either the practice of Pre-Qualification or Post-Qualification. Political influences or influences of other outside agencies would tend to make disqualification difficult under either system practiced, regardless of the method employed in selecting a qualifying board.

In concluding, it might be stated:

That Pre-Qualification of bidders is primarily a protective measure to the legitimate and responsible contractor.

That Pre-Qualification of bidders is not particularly of benefit to the owner who may exercise discretionary powers in selecting other than the low bidder.

That in all equity to the responsible constructor and in furtherance of the construction industry in general the owner would do well to adopt the practice of Pre-Qualification.

And that if the practice of Pre-Qualification is adopted that applicants should be graded or rated, defining the type as well as the extent of the work for which they may so qualify.

OUR COVER PAGE

The illustration carried on the cover page is a picture of the Hog Creek bridge, on Route 65, Job No. 960, south of Valley Springs in Boone County. The structure is 108 feet in length and has one spandrel fill arch 90 feet long. This bridge together with three others between Harrison and Western Grove on Route 65, was built by Maxwell Construction Company of Columbus, Kansas, Paul Semmes, resident engineer, and cost \$11,135. The total cost of the four bridges including engineering cost was approximately \$35,000, for 326 lineal feet.

A Georgia lawyer tells of a darkey charged with theft. His lawyer decided to put him in the box in his own behalf. The magistrate being doubtful if the darkey understood the nature of an oath, undertook to examine him on the point.

"Henry," he said, "you know what will happen to you if you tell a lie?"

"Yes, sah," said Henry, "I'll go to hell and burn a long time."

"Quite right," replied the judge. "And now, what will happen if you tell the truth?"

"Yes, sah," said Henry, "we lose the case."—*Forbes*.

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FORMER CITIZEN TURNS POET

The following poem entitled A BRIDGE, was written by Ben J. Field. In a letter to a personal friend, a bridge builder, he stated that when he wrote the poem he was thinking of the wonderful work the State Highway Department was doing in this connection and a bridge his friend had under construction at the time.



BEN J. FIELD

Mr. Field is a son of one of the old-time and pioneer families of Arkansas, WEAVER-FIELD, who still reside in this city. He was born in Little Rock and removed to New York City in his early twenties and for thirty-five years was engaged as a manufacturer of materials for the building industry.

He is now retired from active business and was recently honored by being elected as President of the

New York State Sportsmen's Association and is therefore the nominal head of all the hunters, fishermen and trapshooters of the Empire State.

He has contributed many articles to newspapers and particularly to The Sportsmen's Review of Cincinnati, Ohio, the leading weekly journal which fathers trapshooting throughout the United States.

Mr. Field also represents his adopted State as a member of the Board of Directors at the annual meeting of the Amateur Trapshooting Association held each year at Dayton, Ohio, as the governing body for that sport, over the entire country.

A BRIDGE

A bridge across the river deep
Where men must pass its shores so steep
To reach that land, where it may lead
Onward, upward to fame through deed.
So thus we feel that Fate is kind
Another has helped the road to find.

A bridge across a chasm bold
Welcomes the traveler with tales untold,
Of men who have passed along that way,
Seeking a place to work and stay.
They must have felt the world is fair,
Since others helped their burdens to bear.

A bridge across a still wide creek,
Makes light the strain good fortune to seek.
And so through life as we journey along,
Let us not forget to sing a song,
In praise of the men who a bridge did build
That carries us safe to our hopes fulfilled.

Ben J. Field.

BRIDGE WILL BE REPLACED

An agreement was reached at a conference between officials of the State Highway Department and the Kansas City Bridge Company, whereby that company will begin work immediately to rebuild the center span of the Garland City bridge across Red River, which was dynamited from its piers a month ago.

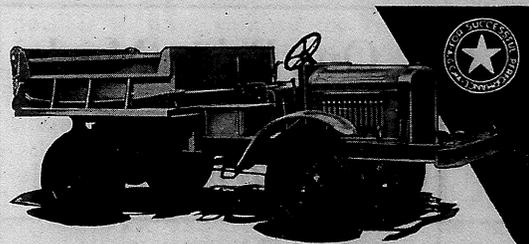
Chairman Dwight H. Blackwood, Justin Matthews and Chief Engineer C. S. Christian represented the Highway Department and S. Treadway, president of the bridge company, and his attorney represented that company.

No agreement was reached as to a basis for settlement of the loss involved, it was said, the Highway Department officials insisting that the bridge should be completed and turned over to the State before they would consider a basis for sharing the loss.

No part of the dynamited span will be used for reconstructing the central span, it was said. The wreckage will have to be removed from the river, but this probably will not be done until after the bridge is completed.

The bridge company will have to ship all its equipment back to the site, which will cause considerable delay in starting the work. Barges, tug boats, derricks and other equipment had been removed several weeks before the bridge was dynamited. Damage has been estimated at from \$150,000 to \$250,000. Several months probably will be required to rebuild the span and get the bridge ready for opening, it was said.

Highway Department officials said the investigation which has been underway since the dynamiting has not fixed the responsibility for the crime, but that developments are expected soon.



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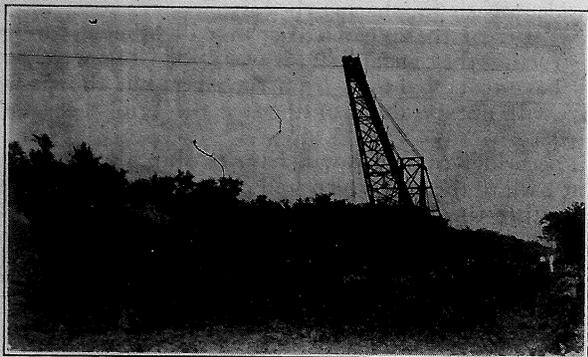
One of the most important cross-State highways is Route No. 2 which runs across the southernmost tier of counties from Texarkana through Lewisville, Magnolia, El Dorado, Hamburg and Lake Village to Leland, across from Greenville, Mississippi.

The last link of this highway is now under construction between Strong, in Union County, and Crossett in Ashley County. In this link are several grading jobs; a toll bridge 2,500 feet in length over the Ouachita River and several smaller concrete bridges.

The largest grading job on this section and one of the largest jobs ever let in Arkansas is Job 7120, four

miles long across the bottoms on the west side of the Ouachita River.

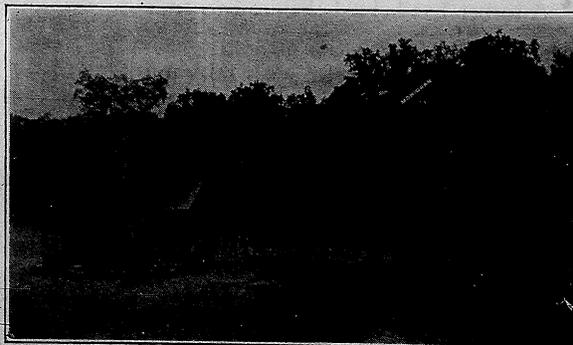
This embankment is 30 feet wide on top, is from 18 to 26 feet high and from 102 to 134 feet wide on the base. The contract calls for 214 acres of clearing and 1,286,371 cubic yards of dirt. Contract time was one year from April 1, 1930. Because the water had not receded from the bottoms, the contractors, Horton-Price Construction Company, were unable to start work until July, however, they now have 60 per cent of the work done. The Monighan Walking Dragline used on this



Front View of Warehouse, Dragline and Dump.
Strong-Crossett Job, Union County



Dragline Dump, Ouachita River Bottoms, Union County



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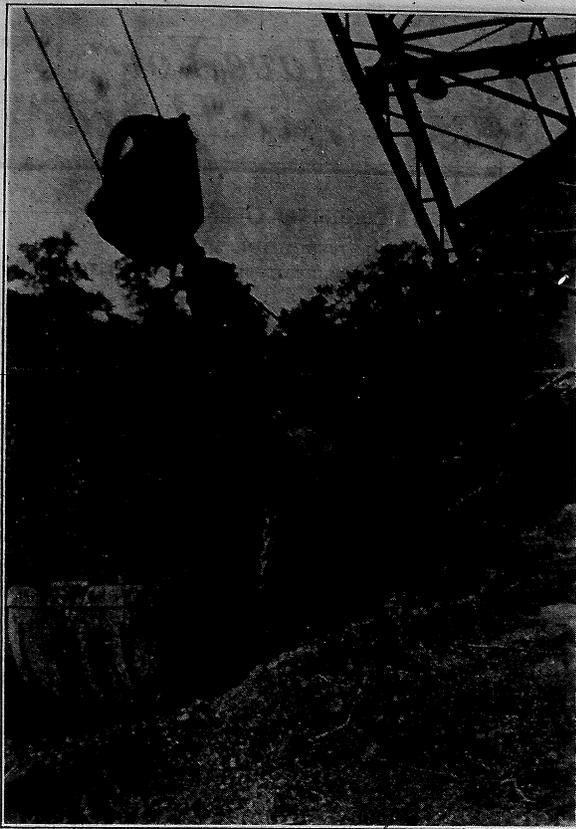
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Dragline Bucket Holding 6½ Cubic Yards of Earth

job is next to the largest machine of this type ever built and for this reason some figures may be interesting. The cab is 30 feet by 45 feet, larger than the average six-room house, and the interior resembles a large power plant and has a completely equipped repair shop in one corner. The machine is controlled entirely by air—starting, stopping and brakes.

The base on which the machine sits while working is 29 feet 6 inches in diameter and the shoes on which it walks are each 5 feet by 36 feet. The boom is 100 feet long and the capacity of the bucket is 6½ yards level full, or 9 yards when heaped up.

Engine—4-cylinder Fairbanks-Morse Diesel, 240 H. P. direct connected to a 100-horsepower generator and belt connected to the main shaft from which the 3-cable drums and walking rollers are driven. The swinging engine is driven by a 100 H. P. motor and a large air compressor is belted to the main drive. There is a 40 H. P. Walkshaw Gas engine with auxiliary air compressor and electric generator and an independent self-contained 2,000-watt generator. The total weight of the machine is 600,000 pounds, capacity 200,000 yards per month, cost \$88,000 f. o. b. plant.

“Say, mon, when is Annie McTavish goin’ to let you marry her?”

“It’s verra uncertain, mon. Some fool gave her a big box of letter paper with her name printed on it. She won’t get married ’till it’s used up, an’ she writes very few letters account of the postage.”—*Skelly News.*

\$91,704 PAID BY GOVERNMENT ON HIGHWAY DAMAGE

State Treasurer Ralph Koonce yesterday received from Comptroller General J. R. McCarl of Washington, a check for \$91,704.29, representing a payment on the government’s share of the cost of rebuilding and repairing roads damaged by the 1927 flood. This payment made a total refund of \$96,582.19 received at the treasurer’s office since special representatives from the comptroller general’s office made a personal inspection six weeks ago of claims and old Highway Department vouchers, on which claims for reimbursement are based.

SEPTEMBER’S GAS TAX REVENUE TOTALS \$620,000

Gasoline tax collections in September for products consumed in August totaled \$620,000, or approximately \$23,000 more than the amount collected for the corresponding period a year ago, it was announced yesterday by David A. Gates, State Revenue Commissioner.

Collections of tax on cigars and cigarettes in July and August totaled \$209,872.27. Mr. Gates said receipts from this tax will average \$100,000 a month for the year, which he said is nearly double the amount collected before the law was amended in 1929 and the method of handling collections changed. The tax rate was not increased.

TEACH THEM SAFETY

Rural teachers should realize that since each year sees more and more autos on the highways that it becomes more necessary to warn school children against them. City and town teachers are commencing to make safety lessons a part of their daily routine. They find that it is impossible to warn children too frequently. They must be constantly reminded to be careful, and that the auto is a dangerous machine. But a few moments daily are required to install into them the safety lessons that will safeguard them while they are on their way to and from school, or using the highway at any other time for walking purposes. There is no special text-book on the subject, for none is needed. Common sense is the best text-book, and every teacher has a full measure of that, else he or she would not be teaching. Use common sense in your safety lessons—but use it often. Even then there will be some children killed or injured. But the number will be constantly reduced.

—*Albany Enterprise.*

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ASPHALT OF ALL KINDS	CRESOTED LUMBER

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AD VERSE

Testimonials, some folks say,
 Surely now have had their day.
 But sometime I hope to read
 Advertisements which thus plead:
 Chaucer led his Pilgrims' Tours;
 Cooks will do as well with yours.
 Joseph's coat was gaily dyed
 With bright Rit, or Jacob lied.
 Atalanta in the race
 Found Absorbine helped her pace.
 Brunhild rushed for Unguentine
 At the end of each fire scene.
 Cleo, girls, for Antony
 Nonspi used religiously.
 Pegasus drank Ovaltine
 At the Fountain Hippocrene.
 Ponce de Leon himself
 Much preferred Hire's on the shelf.
 Adam dropped the apple red
 When Eve bought Sunkist instead.
 Helen, when she launched a ship,
 Gave the Clicquot Club a flip.
 Cerberus and Fenris bold
 Found Spratt's Biscuits good as gold.
 Ganymede and Hebe young
 Roger's Silver's praises sung.
 Jantzen suits were in the swim
 Neptune's mermaids all told him.
 Jehu used to Simonize
 All the chariots for his rides.
 Three-in-One Oil is the best;
 Porthos found it so by test.
 Eaton, Crane and Pike supplied
 All the paper Horace tried.
 Dr. Eliot's Five Foot Shelf
 Scheherazade read herself.
 For a Camel miles he'd walk
 Said Mohammed in one talk.
 Bluebeard now can tell us why
 Four of five wives had to die:
 Pyorrhoea was the cause,
 For they had no other flaws.

—Miriam S. Lewis.



Universal Goat

Caller—"Who's the responsible man here?"
 Office Boy—"If you mean the fellow that always
 gets the blame, it's me." —*Journal of Education.*

He groaned and turned pale as he picked up the ticker
 tape.

"Ruined?" asked a friend solicitously.
 "Yes," he sobbed, "I've just remembered that I was
 to get some ribbon for my wife this noon."
 —*Wall Street Journal.*

Elmer—"Is your daughter Dorothy popular with the
 boys?"

Roy—"Is she? Why, I can't park my car within
 three blocks of my house."

She—"And that scar, Major. Did you get it during
 an engagement?"

He (absently)—"No; the first week of our honey-
 moon!"

Some Cook

Plumber: "I've come to fix that old tub in the
 kitchen."

Youngster: "Mamma, here's the doctor to see the
 cook."

No Trimmings

Choleric Business Man: "I don't know what the
 modern youngsters are coming to. My wretched office
 boys persistently whistle while they work."

Second Ditto: "You're fortunate. Mine just whis-
 tle." —*Gaiety.*

The Warden's Mistake

"Well, what do you want to work at?" asked the
 warden of the new convict.

"Do you mean to say I can work at my old trade?"

"Most assuredly, if you are good at it. What is it?"

"Traveling salesman!" —*G. A. T., Kans.*

"Where is that beautiful canary bird of yours that
 used to sing so clearly and sweetly?" asked Mrs.
 Weatherbee.

"I had to sell him," Mrs. Butlam said tearfully. "My
 son left the cage on the radio set and he learned static."

—*Hardware Age.*

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MUSKOGEE, OKLA.

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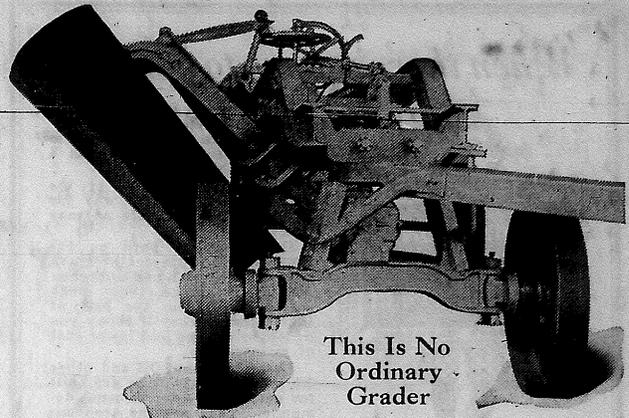
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Their's is the job of the worker, preparing the way for their brothers and it's no easy task!

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

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A Complete Line of Contractors' Equipment

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Pioneer Plants are portable. They are readily moved. Here is No. 40 Pioneer Plant working near Ponoka, Alberta, Can.

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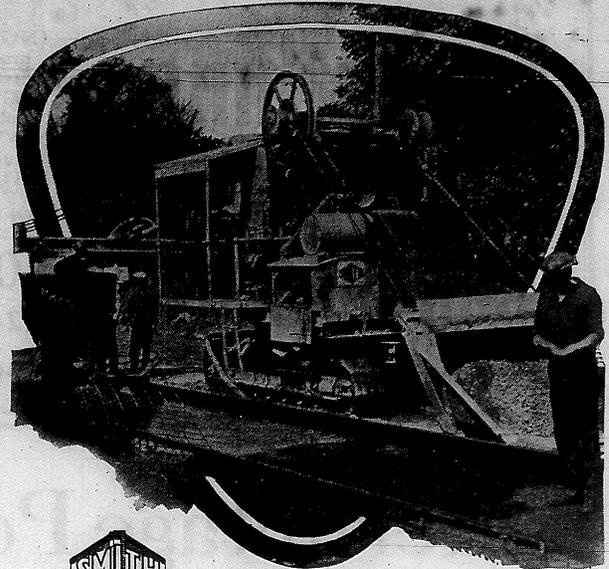
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SOMETHING MUST BE DONE ABOUT TAXES

THE United States has made great, forward strides in the last 40 years in national wealth, in population, in industrial development and in business generally, including imports and exports. Railway investment, earnings, expenses and traffic also have grown rapidly in that period, but railway taxes have grown faster than any of the other factors. The tax bill of the American railroads in 1890 was \$31,000,000. In 1929 it was \$396,682,634, an increase of 1180 per cent.

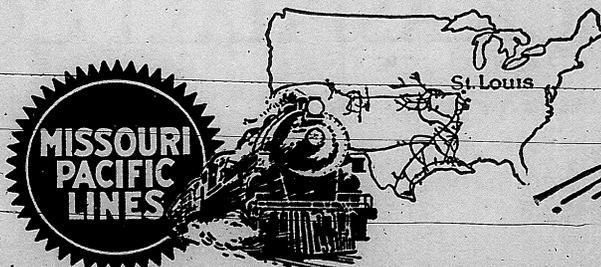
Q This means that nearly one-fourth of the net operating revenues of the American railroads was paid to various federal, state and local governments. In other words it means that *nearly one-fourth of the total effort of railways now is devoted to producing net operating revenue sufficient to pay the taxes on railway property as a whole.*

Q Every industry has felt the increasing burden of taxation and every industry is devoting attention to its own tax troubles. The public as a whole recognizes the grave problem that has resulted from the fact that taxes are rising steadily and growing progressively more burdensome, but *something must be done about it.*

Q In considering the tax problems of this country, however, it should be remembered that while railroad tax, period 1890 to 1929, increased 1180 per cent, taxes other than those paid by the railways increased only 952 per cent. The railway tax growth was one-fourth greater than that of the tax bill of other industries and individuals combined.

Q At the end of 1929 railway taxes had mounted to a larger annual total than ever before. Railway taxes were greater last year than in any corresponding period in history and they absorbed 6.32 cents of each gross dollar received by the railways.

Q The rise in railway taxes in the last 40 years therefore is 13 times the growth in population and three times the gain in national wealth in this country; and this is a problem which demands and deserves the most careful consideration of every citizen.



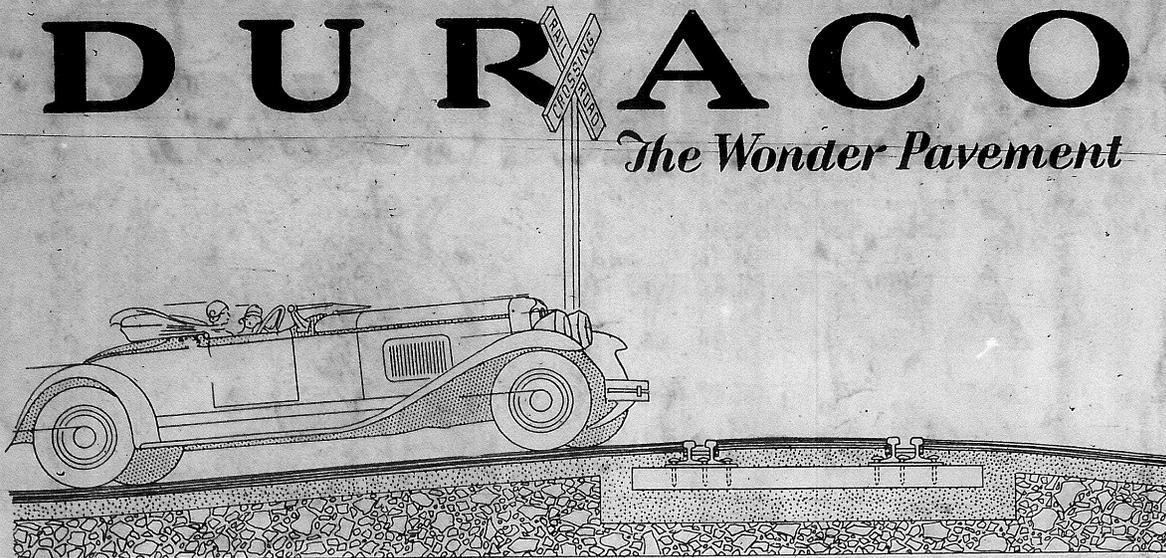
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