

ARKANSAS HIGHWAYS

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

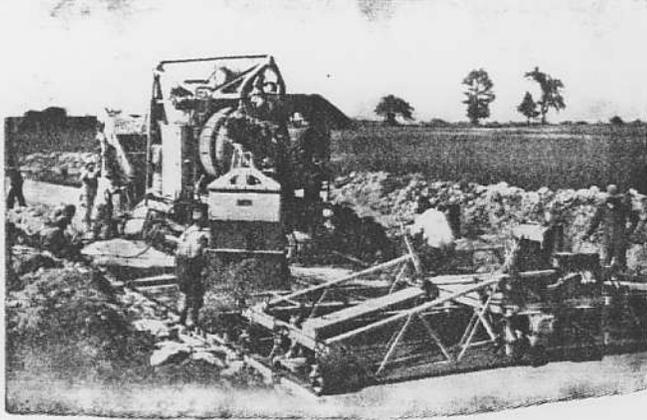


Vol. 5

MAY • 1928

No. 5

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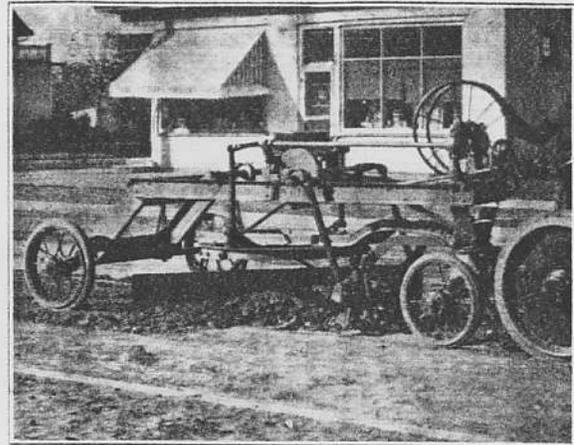


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Magazine*



*State Highway
Department*

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VOL. V

MAY, 1928

No. 5

A SUMMARY

By DWIGHT H. BLACKWOOD, State Highway Commissioner

You may be interested to know something about the progress of our program, and perhaps the details of the accomplishments so far. Presented here are the facts relating to that have been let and the work completed to May 1, 1928.

The total road and bridge mileage placed under contract from January 1, 1927 to May 1, 1928 is 1,525.58 miles. Separated into the major features, we find that Grading and minor Drainage structures represent 1,281.50 miles and Gravel Surfacing totals 616.16 miles, while 65.64 miles of Portland Cement Paving have been contracted for, and Asphaltic Surfacing of 6.12 miles. Referring to bridge contracts, which will be mentioned in lineal feet, to date contracts have been let on Reinforced Concrete and Steel structure in the amount of 28,439 feet, and 15,552 feet of timber bridges.

The foregoing figures represent the awards of 259 contracts, and the total amount of contract awards plus the cost of materials furnished by the State is \$16,025,549.95.

Of the contracts enumerated above, the following table shows the completed portions, as of May 1, 1928.

Total Roads and Bridge Mileage Completed	186.73 miles
Grading and Minor Drainage Structures	70.17 miles
Gravel Surfacing	116.48 miles
Portland Cement Paving	8.23 miles
Asphaltic Paving	0.64 miles
Reinforced Concrete and Steel Bridges	4038 lineal feet
Timber Bridges	3886 lineal feet

The total number of contracts having been completed to date is 52, and the cost amounts to \$1,530,242.00. Thirty-seven counties have been served by the completed work.

Why Proceeds From War Goods Should Be Used For Roads

By Edward E. Browne, Congressman from Wisconsin

Congressman Browne, a former member of the House Committee on Roads, recently introduced a bill in Congress providing that bonds aggregating \$407,341,145 given by the French government to the United States for surplus war material be turned over to the Department of Agriculture for road building purposes. Under the provisions of the bill, 90 per cent of the fund would be distributed among the States as Federal aid and the remaining 10 per cent would be utilized equally for building roads within the national forests and for boulevards within the regional area of Washington, D. C.

Ten years of Federal aid for roads has convinced the most skeptical of the public that the money appropriated by Congress for the improvement of our highways was thoroughly justified. I do not believe that any other appropriation for internal improvements has ever benefited so many of our people or has caused so much happiness as the appropriation for the improvement of our highways.

The question asked is not should the Federal Government continue to assist in building interstate roads, but why does it not give more assistance, and why did it not continue the good work of Federal aid for roads begun by Washington and Jefferson over 100 years ago.

The 23,000,000 owners of automobiles, which means practically every family in the United States, are urging that road building be hastened in order to keep pace with the increased traffic demands.

Automobile vehicles have increased from 1916, when Congress passed the Federal aid road act, from three and one-half millions to over 23,000,000 and are valued today at the stupendous sum of \$14,000,000,000. These auto vehicles are almost 100 per cent perfect and are being operated upon highways which are not 25 per cent efficient.

It is estimated that the increased wear and tear on the 23,000,000 auto vehicles by reason of the imperfect roads over which they are being operated amounts annually to from six to seven hundred million dollars.

The question of whether the Federal Government is contributing its share to the building of interstate roads is also frequently asked. I desire to discuss this question and other questions related to it, and also the source from which we propose to get the money authorized to be appropriated.

February 28, 1919, Congress passed a law directing the Secretary of War to transfer to the Secretary of Agriculture all war material, equipment, and supplies, declared surplus, to be distributed among the States as a highway fund under the Federal aid act. At the close of the war the United States had surplus war supplies and road equipment in France estimated at fully \$2,000,000,000. Before the order for the return of the surplus war material, equipment, and supplies then in France had reached France negotiations had been made by our representatives in France for the sale of the property to France at approximately 20 cents on the dollar. As this surplus war material was sold the Government of France issued its bonds to the United States for the same as follows:

August 1, 1919, \$400,000,000 due August 1, 1929. On May 9, 1920, \$6,566,762.42. July 5, 1920, \$774,382.59, due July 5, 1930. These bonds aggregate \$407,341,145.01 and bear interest at the rate of 5 per cent per annum and are in the treasury of the United States and payable semi-annually. France is paying interest upon these bonds currently.

Congress by its action, February 28, 1919, had given the surplus war material to the Agricultural Department to be distributed among the States for the building of roads. These bonds therefore rightfully belong to the several States to aid them in the construction of their roads.

It is the intention of the Debt Settlement Commission to place these bonds with the indebtedness of France to the United States contracted prior to our going into the war, which aggregate considerably over \$3,000,000,000, and accept obligations extending over a period of 62 years, with no interest until 1930 and then 1 per cent interest until 1940 and 2 per cent from 1940 to 1950 and graduated until the same bears 3½ per cent interest.

I maintain that the indebtedness for war material sold to France for which she gave the United States bonds for \$407,000,000 has an entirely different status from the \$3,000,000,000 indebtedness which was loaned France during the period she was in war. I also maintain that the bonds issued for surplus war supplies rightfully belongs to the highway fund.

It should be remembered that Federal aid is only given for a system of roads embracing 7 per cent of the total road mileage of any State, the remainder, or 93 per cent, of the roads have to be constructed and maintained by the States and the sub-divisions of the State.

In order to obtain Federal aid for roads the States are required to raise a large amount of money, and the States in return have called upon the counties and smaller subdivisions of the State to contribute. In this way the States have raised a much larger amount of money than they have received from the Federal Government, besides being obliged to maintain roads which serve the entire Nation. This heavy tax burden upon the farmer has helped to make farming unprofitable. The farmer is the victim of excessive taxes. The farmer's taxes the last 10 years have increased over 30 per cent more than the taxes of the man living in the city or village. We believe as a matter of justice that the appropriation asked for in this bill should be distributed by the Secretary of Agriculture under the present Federal aid act and the States should not be required to pay to exceed 20 per cent of the cost of the roads built with the moneys received from this fund. This bill provides that the money received shall be expended upon primary or interstate or State trunk highways and shall be durable roads.

The 7 per cent of roads upon which the Federal Government gives aid aggregated 200,353 miles. In the ten years of Federal aid, with the contributions of States and local units only 56,017 miles have been completed, and 144,336 miles remain unimproved. I get that from the Bureau of Roads. At this rate it will take us from 25 to 30 years to complete the system, and in the meantime the increased wear and tear on automobiles because of our incomplete and poorly constructed system

of highways will cost us in the extra wear and tear on automobiles, it is estimated, at the rate of \$600,000,000 a year.

Before the invention of the automobile when traffic moved slowly over our highways in horse-drawn vehicles the improvement of highways might have been considered of only local concern. The invention of the automobile revolutionized transportation over our highways. The situation has changed very greatly since the Federal aid road law was passed in 1916. Besides the 3,000,000 trucks and the 20,000,000 automobiles which are traveling over the highways there are 80,000 buses, 7,284 of which are interstate buses. There are 32,788 buses which are carrying school children. Sixty steam railroads are using buses as feeders for their railroads. Fifteen million four hundred and eighty-nine thousand motorists from all the States of the Union visited the national forests in 1926, a million and one-half more than the preceding year.

The State highway engineer of Wisconsin informed me the other day that an accurate record of the number of cars with out-of-State licenses coming into the State of Wisconsin had been kept, and the number of people these cars brought into the State in a hundred days during the summer season, and that over 4,000,000 people from out of the State had come into Wisconsin by automobile during that time.

In determining what portion of the cost of interstate highway should be paid by the States and the Federal Government, we should consider first, that under the Federal aid road act the burden of maintaining these roads is borne wholly by the States. No road made is so perfect that it does not require constant attention and maintenance. Roads have to be constantly patrolled and in the winter time in the Northern States, snow removal is a heavy burden, in some States amounting to over a million dollars per year. These burdens fall entirely upon the States and local units. The heavy traffic of trucks on interstate business and the millions of automobiles that come into each State from other States all increase the burden of the State in maintaining the highways.

The Federal aid goes to the improvement of only 7 per cent of the roads. The remaining 93 per cent which means over 2,000,000 miles of roads is constructed and maintained without a penny of Federal aid. These roads are used very much more than they were before the automobile came into such general use and the localities are obliged to keep them in much better repair than formerly to avoid accidents by travelers from their own State and other States, which places an additional burden upon the counties and the smaller units under the counties. Take, for example, the county trunk roads many of which are used almost as much as the Federal trunk lines in their locality receive no Federal aid. In Wisconsin in 1927 approximately \$40,000,000 was expended for highway purposes. Of this amount the State paid \$14,711,000, the counties and local units approximately \$24,000,000, while Federal aid only amounted to \$1,870,000. Similar figures could undoubtedly be procured from other States.

When the Federal Government in 1916 appropriated money for Federal aid to roads it found over 95 per cent of the roads upon which Federal money applied laid out and many of them graded. The localities have already performed the major part in building these interstate

trunk lines, and it is only fair that this fund which is now available from the bonds given by the French Government for the sale of surplus road material and war supplies, and which Congress by legislation appropriated to the Department of Agriculture for roads, be now given to the States for improvement of their roads, and that the States be not required to contribute to exceed 20 per cent of the amount they receive.

The Federal Government has appropriated hundreds of millions of dollars for harbors which have helped the localities where the improvements were made. It has also appropriated hundreds of millions of dollars for the improvement of rivers which has helped certain localities. These internal improvements have, of course, indirectly helped all the localities and all the people. Federal aid for roads is the first internal improvement which has directly helped every locality in the United States. Thousands of localities which have never received a penny from the Federal Government, not even a small post-office building, have contributed their share toward the improvement of rivers and harbors. Is it not fair at this time for the Federal Government to appropriate money for a great internal improvement like the building of highways which all of the people of the United States use and help to wear out, and over which 23,000,000 automobile vehicles travel and the interstate trucks constantly use?

The government at an early date recognized the benefits of efficient transportation. July 1, 1862, an act was passed by Congress granting the Central Pacific and the Union Pacific corporations vast tracts of public land, more than enough for their building the roads.



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Later the Northern Pacific by a single act of Congress was granted 47,000,000 acres of land for the building of its road, and the Atlantic & Pacific Railroad was granted 42,000,000 acres.

I am not criticizing these grants of land—both political parties favored it—but I do maintain that there is more justification in the Federal Government appropriating money to build highways over which all the people have an equal right to travel without paying toll or tribute to private corporations.

Our extensive railroad systems helped to build up the localities and greatly hastened the development of the country. With the invention of the locomotive and steamboat the Federal Government directed its attention to assisting the railroads and dredging rivers and harbors to assist navigation. Federal road building ceased. There were no Federal roads constructed or Federal aid to roads given between 1812 and 1916, with the exception of less than \$100,000 in appropriation between 1812 and 1838, a period of over 100 years.

During this 100 years the rural localities have had to shoulder the full burden of building and maintaining millions of miles of road.

The 7 per cent of the roads upon which the Federal Government gives aid aggregates 200,353 miles. In the ten years of Federal aid with the contributions of States and local units of the State only 69,536 miles have been completed and 141,027 miles of the system remains unimproved. At this rate it will take us over 20 years to

complete this system, and in the meantime the increased wear and tear on auto vehicles because of our incomplete system of highways will go on at the rate of over \$600,000,000 a year.

The phenomenal increase of automobiles in the last ten years is amazing. In 1917 there were 4,500,000 automobiles. In 1927 over 20,000,000 automobiles. In 1917 we had 326,000 trucks, and in 1927 we had 2,943,898 trucks.

Roads have not kept pace with rolling stock. Our highways are inadequate to meet the demands of traffic. The scientific building of roads should have been continued by the Federal Government from the time when it began building its roads in Washington and Jefferson's administration. It is a belated movement 100 years overdue. Roads must be built faster. The rolling stock, consisting of over 20,000,000 automobiles and 3,000,000 trucks, are almost 100 per cent perfect, while the roads they move over are not 25 per cent perfect.—*Nations Traffic.*

Highway Case Is Decided

Commission or County Tribunals May Condemn Land for Roads.

Either the State Highway Commission or county courts may condemn land for State roads, operating independently, or they may work together to obtain rights-of-way for roads in the State highway system, the Arkansas Supreme Court held in affirming an order of Lonoke Chancery Court.

The case at bar was brought by Mrs. Nellie E. England to enjoin the Highway Commission from entering upon and appropriating three acres of her land in Lonoke County to widen and straighten a State road. The county court entered an order changing the right-of-way at the request of the Highway Commission.

The plaintiff alleged that the county court was without jurisdiction to make such an order, or to allow a claim against the county for damages. She said the land was worth \$4,000.

The county court's order was based on Section No. 69 of the Harrelson Road Law, passed in 1923. The plaintiff contended that this section was repealed by the Martineau law and by Act No. 116 of 1927. The first act declared it to be the policy of the State to take over and construct State roads, and the latter granted the Highway Commission the right to condemn lands for highway purposes. It was not contended that there was a direct repeal of the Harrelson Act by either of the new acts, but that the repeal was implied.

The Supreme Court held that there is no conflict between the acts, that the Highway Commission may condemn land on its own account and pay for it under authority of Act No. 116, or that county courts may work in harmony with the commission and assist in procuring rights-of-way.

The county courts "do not have exclusive original jurisdiction over State roads and bridges," the court said, but may exercise discretion in complying with requests from the Highway Commission to procure rights-of-way for the commission—the county courts may comply with the request or refuse to do so. In the latter contingency the State Commission may proceed under Act No. 116 to condemn the necessary right-of-way.



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Maintenance of Concrete Pavements

It should be no small part of the task of organizations engaged in the construction of highway systems to give "service" on the roads after they are built. The motorist who learns to depend on service stations operated by the manufacturer of the car he drives has the same right to expect careful and constant maintenance of the road over which he travels. Also the taxpayer who pays for the pavement is entitled to the utmost protection of his investment.

Concrete pavements, like all other types, must be maintained to give maximum service. The fact that concrete pavements require the minimum in labor and expense should be an incentive for regular and systematic maintenance rather than an excuse for letting the repairs to concrete wait while less durable types are taken care of. There is in many quarters a tendency to take it for granted that concrete will stand up without attention; a tendency which is not warranted by the ratio of cost of maintenance to the first cost of construction.

Too much stress can not be laid on the desirability of early maintenance; that is, the careful inspection and necessary repairs during the critical period of the first year after construction. This would include first of all the most obvious need of keeping the joints and cracks filled with bitumen. Less obvious is the necessity of watching for the subgrade failures which are usually the cause of breaks in concrete pavements when they occur. Maintenance of shoulders is essential to prevent settlement of the subgrade along the edges of the pavement. On new pavements careful watch should be kept of points of subgrade weakness such as points of change of grade, approaches to bridges and culverts, points where cut sections change to embankment, sections known to be laid on subgrade of doubtful bearing power and edges of pavement on heavy fills or side hill sections. By prompt discovery of settlement or heaving of slabs or settlement of subgrade at edge of slab, the defect can be remedied at slight cost before a succession of heavily loaded vehicles breaks the pavement slab.

If settlement of the subgrade is found along the edge of the pavement, the subgrade should be excavated to the full extent of the settlement and to a depth of from four to six inches and backfilled with material which will compact readily. The backfill should be placed in small quantities and thoroughly rammed.

Where a slab has settled it should be jacked up and the subgrade built up under it. This can be done by excavating under the low point of the slab an opening big enough to permit a 6x6 or an 8x8 timber under the full width of the slab. With jack screws under the timber raise the slab slowly up to grade. Support the slab in place with upright 6x6 timbers and remove beam and jacks. The excavation can then be backfilled with suitable material, taking care to place it in small quantities and tamp it thoroughly. Before slab is jacked up all joint material should be removed.

Bitumen for filling joints or cracks may be coal tars, asphalt or asphaltic products. These varieties of bitumen may be obtained in the form of standard commercial preparations made especially for the purpose. It is good economy to purchase these well-known brands of commercial tars or asphalts. Before the filler is placed the joint or crack should be cleaned out with a sharp-

pointed metal tool and brushed with a stiff broom. The filler should be applied sparingly. It is joints not cleaned out and poured too generously which cause the motorist to feel the uncomfortable jolts and increase the impact of heavily loaded vehicles upon the end of the slab. Crevices too narrow to be cleaned with tool and broom may be blown out by the exhaust gas from maintenance truck or by air jet from automobile pump. Immediately after filler is placed it should be covered with coarse dry sand.

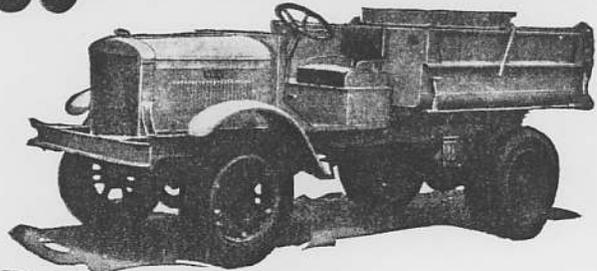
Equipment for this work is simple and inexpensive. The articles needed are a heating kettle mounted on wheels for melting bitumen, one or two pouring pots, a stiff broom, a tool with a curve end of thin, sharpened steel, one or two shovels and a light truck or wagon for transporting sand and towing heating kettle.

By close attention to the details mentioned in the foregoing paragraphs, the necessity for major repairs can to a large extent be avoided. However, when breaks do occur in concrete pavement they should wherever practical be repaired with concrete. Temporary and immediate repairs may be made with bituminous materials but a permanent repair with concrete should be made, if practical, with concrete as soon as possible to protect the adjacent slab.

The first care to be taken in patching a concrete pavement with concrete is the thorough tamping and wetting

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of the subgrade as it is usually a soft spot in the subgrade which caused the break. To protect the patch from impact it should cover as large an area as possible and therefore it is common practice to extend the patch well under the old slab. The edges of the concrete adjacent to the patch should be trimmed vertical for about an inch and then at a slight angle so as to make the patch wedge-shaped. It is also well to make the patch at least two inches thicker than the old pavement. The concrete for the patch should be mixed as dry as possible because excess water will cause the patch to shrink. By increasing the cement content, holding the water to a minimum and increasing the mixing time to from 2½ to 5 minutes, high early strength concrete is developed and the patch may be opened to traffic in three days or sooner. In such case the patch should be kept continuously wet during the entire period. Further early strength can be obtained by the addition of calcium chloride to the mixing water. If calcium chloride is used however, experiments should be made to determine the amount required to give the desired effect with the particular brand of cement to be used.

An expansion joint which is not truly vertical will sometimes give trouble when the slab expands. The end of one slab may ride up on the adjoining slab. The high slab will usually settle back in place after a few days but sometimes it remains high and requires attention to prevent its breaking off or the breaking of the adjacent slab due to impact. In this case the pavement on the high side should be removed for a distance of from eight to ten inches back from the joint and clear across the slab. After the subgrade is carefully prepared, the cut should be refilled with concrete in manner similar to a patch.

Uneven surfaces of concrete pavements due to faulty construction methods should properly be remedied by the contractor before the road is accepted for final payment. However, rough surfaces can be quickly and easily corrected by the maintenance gang by bush-hammering the surface. This work will pay for itself in that it will add to the comfort of the motorist and by lessening impact lengthen the life of the pavement.

It is difficult to leave the subject of maintenance of concrete pavements without consideration of the maintenance which can be built in during construction. With the causes of failure in mind the engineer on the job can do a great deal toward making maintenance unnecessary. How often does the engineer allow concrete to be placed on subgrade when he knows that the results will not be 100 per cent and when the excavation of the soft material and its replacement would entail but slight expense in proportion to the value of the additional safety factor? Slight changes in grade, additional drainage not foreseen when the plans were drawn, additional thickness or reinforcement at changes from cut to fill sections, over culverts and at marked changes in grade, the use of gravel

sub-base—such deviations from the plans left to the discretion of the engineer on construction would materially cut down on future maintenance.

Equally important is the design for additional strength at the ends of slabs either by added thickness or more reinforcement. Hand in hand with that goes the inspection of the concrete at ends of slabs and at edges of pavement. Edges should be carefully spaded to prevent porous spots. Care should be taken that excess water is not screeded to the joint and allowed to run down into the corners as in that case the poorest concrete in the slab occurs at its weakest point. The placing of a new batch close to the joint and the depositing and screeding away from the joint will overcome that danger.

Concrete pavements well designed and properly constructed if closely inspected and maintained after the first winter should require but slight maintenance in the succeeding years.

THE ROAD

A road to me, is a friendly place
As it goes up and down the hills,
As it passes forests, meadows and fields
Over bridges and brooks and rills.

A road to me is a beautiful place
And I like to travel it o'er,
For each time it is traversed I can find
Beauties I've never found before.

A road to me, is a wonderful place
O'er which men of all nations go,
And the way it is built will determine
If their travel be fast or slow.

A road to me is a useful place
Without which a country is bare,
And we send our greetings to the men
Who build roads that "go somewhere."

The road to heaven is a narrow place
And they say 'tis hard to keep,
But we know at least that it is straight
Tho' some of the way is steep.

So if I can live beside a road
Where travelers pass each day,
Perhaps I can point some wayfarer
To the straight and narrow way.

And whether the road be rough or smooth
That we travel on life's highway,
May it lead at last to the city of gold
And to everlasting day.

—By Sidney Bruce Daum.

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Record of Road and Bridge Contracts Awarded from January 1, 1927 to May 17, 1928

NAME AND ADDRESS OF CONTRACTOR	STATE JOB No.	ROAD and SECTION NUMBER	COUNTY	Length in Miles or Ft.	NATURE OF WORK	Total of Contract Award Plus Material Furnished by State
Vincennes Bridge Company, Vincennes, Indiana.....	100	3-S-16	Lee	1,800 Ft.	Steel bridge and substructure.	\$239,348.80
Hall and Williams, Des Arc, Arkansas.....	600	38-S-2	Prairie	1,800 Ft.	Timber bridges and approaches.	16,357.60
Geo. W. Nickels & Son, Box 471, Hot Springs, Ark.....	601	11-S-10				
		6-S-5	Garland	1.417 Mi.	Grading, drainage structures, concrete pavement.	47,722.85
Kow Paving Co., Topeka, Kansas.....	400	22-S-1	Sebastian	0.640 Mi.	Topeka mix pavement.	17,088.74
F. D. Harvey & Co., 688 S. Bellevue, Memphis, Tenn.....	101	1-S-8	Phillips	6.058 Mi.	Grading, drainage structures.	17,687.50
Tarrant & Miles, El Dorado, Ark.....	300	29-S-2	Lafayette	9.594 Mi.	Grading, drainage structures, gravel surfacing.	45,250.21
Miss. Ark. Construction Company, 3613 W. Markham, Little Rock, Ark.....	702	4-S-10	Calhoun	14.788 Mi.	Gravel surfacing.	27,669.25
Lawrence Construction Company, Jackson, Miss.....	703	15-S-4	Bradley	6.306 Mi.	Concrete paving.	146,430.16
Lynch & Hill, Little Rock, Ark.....	705	115-S-3	Calhoun	16.828 Mi.	Grading, drainage structures.	48,964.69
Kochätzky & Prosser, Carbondale, Ill.....	700	167-S-2	Union	10.814 Mi.	Grading, drainage structures, concrete paving.	321,811.15
Miss. Ark. Construction Company, 3613 W. Markham, Little Rock, Ark.....	704	2-S-4	Columbia	3.163 Mi.	Grading, drainage structures.	18,811.59
McGuire & Cavender, Texarkana, Texas.....	701	167-S-2	Union	3.55 Ft.	Reinforced concrete girder, bridges.	40,870.88
McGuire Construction Co., McGehee, Ark.....	200	59-S-1	Chicot	7.810 Mi.	Gravel surfacing.	54,428.30
J. G. Newkirk, Chaudrant, La.....	301	71-S-1	Miller	7.950 Mi.	Grading, drainage structures.	42,776.22
McGuire & Cavender, Texarkana, Texas.....	302	71-S-1	Miller	200 Ft.	Two reinforced concrete girder bridges.	16,236.35
J. W. Covington, Benton, Ark.....	706	4-S-10	Calhoun	98 Ft.	Treated timber bridge.	3,088.59
J. F. Mullins, Pine Bluff, Ark.....	201	4-S-16	Desha	400 Ft.	Two treated timber bridges.	12,211.00
Merchants Transfer Company, Little Rock, Ark.....	1000	25-S-8	Greene	7.765 Mi.	Gravel surfacing and grading, drainage structures.	79,998.24
James & Hopper, Alma, Ark.....	401	71-S-15	Crawford	4.737 Mi.	Grading, drainage structures.	27,057.41
Ellis & Lewis, Muskogee, Oklahoma.....	500	25-S-4	Independence	10.953 Mi.	Gravel surfacing.	40,065.90
R. J. Lynch, Little Rock, Ark.....	716	15-S-3	Bradley	13.503 Mi.	Grading, drainage structures.	32,835.71
Lynch & Hill, Little Rock, Ark.....	707	115-S-3	Calhoun	364 Ft.	Steel and concrete bridges.	42,277.03
Bunnell & Mock, Paragould, Ark.....	1016	1-S-21	Clay	1.470 Mi.	Grading and gravel surfacing.	19,344.23
S. C. Taylor, Birmingham, Ala.....	1017	34-S-5	Clay	9.563 Mi.	Grading, drainage structures.	35,824.06
B. H. Heard, Little Rock, Ark.....	501	16-S-11	Cleburne	3.899 Mi.	Grading, drainage structures.	52,852.66
Peters & DeCamp, Little Rock, Ark.....	802	9-S-8	Conway	93 Ft.	Steel and concrete bridges.	7,454.38
C. B. Gregg, Jonesboro, Ark.....	1015	18-S-4	Craighead	3.038 Mi.	Grading, drainage structures, gravel surfacing.	23,895.90
James & Hopper, Alma, Ark.....	402	64-S-2	Crawford	8.967 Mi.	Burnt shale surfacing.	18,856.27
W. J. Runyan Paving Co., Sheffield, Ala.....	120	1-S-14	Cross	15.181 Mi.	Gravel surfacing.	37,621.37
Fuller Construction Co., Dallas, Texas.....	102	70-S-20	Crittenden	4,200 Ft.	Concrete structures	450,339.34
J. M. Howell, DeQueen, Ark.....	515	18-S-1	Jackson	1,130 Ft.	Untreated timber bridges.	13,759.81
J. G. Newkirk, Doddridge, Ark.....	331	29-S-1	Lafayette	11,000 Mi.	Gravel surfacing	45,216.00
Inten Bridge Co., Little Rock, Ark.....	1101	71-S-12	Logan-Scott	274 Ft.	Concrete bridges	23,807.64
Ellis & Lewis, Muskogee, Oklahoma.....	808	22-S-3	Logan	9.671 Mi.	Grading, drainage structures.	54,772.42
Richardson Ayres, Hope, Ark.....	332	71-S-4	Little River	7.469 Mi.	Gravel surfacing.	21,637.00
S. C. Taylor, Birmingham, Ala.....	900	14-S-3	Marion	8.504 Mi.	Grading, drainage structures.	73,955.76
J. D. & R. P. Sims, Hughes, Ark.....	103	17-S-1	Monroe	10,236 Mi.	Gravel surfacing.	33,888.46
J. G. Newkirk, Doddridge, Ark.....	315	19-S-3	Nevada	7.575 Mi.	Grading, drainage structures.	35,298.66
J. P. McNulty, Pine Bluff, Ark.....	718	24-S-6	Ouachita	1.449 Mi.	Grading, drainage structures.	9,516.92
J. P. McNulty, Pine Bluff, Ark.....	333	26-S-6	Pike	7.600 Mi.	Gravel surfacing.	21,104.60
Williamson & Williams, Batesville, Ark.....	1001	63-S-7	Poinsett	2,000 Ft.	Steel and Concrete bridges, grading.	111,645.41
Harvey Brown Construction Co., Little Rock, Ark.....	615	70-S-10	Saline	20,000 Mi.	Grading and structures. Flood damage.	33,339.08
W. D. McCoy & Son, Fort Smith, Ark.....	404	71-S-14	Sebastian	15,309 Mi.	Grading, drainage structures.	78,110.80
O'Hagan & McVicker Co., Kansas City, Mo.....	405	71-S-14	Sebastian	227 Ft.	Concrete bridges.	31,696.05
Interstate Construction Co, Paris, Texas.....	415	22-S-1	Sebastian	9.954 Mi.	Grading, drainage structures.	40,910.31
O'Hagan & McVickers Co., Kansas City, Mo.....	403	71-S-11	Scott	2,260 Ft.	Concrete bridges and grading.	32,948.26
M. D. L. Cook, Little Rock, Ark.....	715	2-S-5	Union	18,255 Mi.	Concrete surfacing.	457,031.59
A. A. Davis & Co., Kansas City, Mo.....	502	14-S-12	Jackson	8.804 Mi.	Grading, drainage structures and gravel surfacing.	81,991.54
L. T. Campbell, El Dorado, Ark.....	717	4-S-13	Bradley	5.680 Mi.	Grading, drainage structures.	51,323.75
M. E. Gillioz, Monette, Mo.....	804	22-S-5	Yell	8.249 Mi.	Grading, drainage structures.	68,238.84
Thurber Construction Company, Fort Worth, Texas.....	901	14-S-3	Marion	6.856 Mi.	Grading, drainage structures.	58,452.50
M. E. Gillioz, Monette, Mo.....	915	65-S-1	Boone	7.890 Mi.	Grading, drainage structures.	98,031.30
Cook & Ransom, Ottawa, Kansas.....	1103	71-S-12	Logan-Scott	7.645 Mi.	Grading, drainage structures.	38,108.82
Johnson Team & Dray Co., Little Rock, Ark.....	221	35-S-8	Drew	4.662 Mi.	Gravel surfacing.	26,832.65
C. H. Atkinson Paving Co., Chillicothe, Mo.....	224	4-S-15	Drew	154.4 Ft.	Treated timber trestle.	4,735.80
J. P. McNulty, Pine Bluff, Ark.....	227	31-S-1	Jefferson	6.312 Mi.	Gravel surfacing.	31,719.88
Cook & Ransom, Ottawa, Kansas.....	316	70-S-5	Pike	8.810 Mi.	Grading, drainage structures.	62,719.93
Griffin & Harville, Gurdon, Ark.....	317	24-S-5	Nevada	7.912 Mi.	Grading, drainage structures.	24,180.64
P. W. Fletcher, Hannibal, Mo.....	339	19-S-3	Nevada	6.344 Mi.	Gravel surfacing.	28,360.39
Winstead & Gunter, Siloam Springs, Ark.....	416	22-S-1	Sebastian	7.973 Mi.	Grading, drainage structures.	49,587.31
F. L. Scull, Conway, Ark.....	503	25-S-4	Independence	131.8 Ft.	Steel and concrete bridge.	13,168.13
Pioneer Construction Company, Kansas City, Mo.....	504	63-S-2	Sharp	224.11 Ft.	Steel and concrete bridge.	21,727.79
M. E. Gillioz, Monette, Mo.....	616	6-S-6	Hot Spring	12.412 Mi.	Grading, drainage structures.	128,401.76
Jas. Spencer & Son Const. Co., Mulvane, Kansas.....	617	70-S-3	Garland	17.227 Mi.	Grading, drainage structures.	123,326.53
W. L. Davis, Kansas City, Mo.....	618	64-S-8	Faulkner	4.483 Mi.	Grading, drainage structures and gravel surfacing.	29,199.48
R. O. Gwin, Sheridan, Ark.....	621	9-S-4	Hot Spring	16.544 Mi.	Grading, drainage structures.	64,285.00
W. L. Davis, Kansas City, Mo.....	831	64-S-7	Conway	5.100 Mi.	Gravel surfacing.	15,969.75
Earnest Euler, Mansfield, Mo.....	923	5-S-9	Baxter	15.450 Mi.	Grading, drainage structures.	84,910.53
C. M. Graene, Lowell, Ark.....	924	16-S-4	Madison	3.396 Mi.	Grading, drainage structures.	72,075.60
J. F. Mullins, Pine Bluff, Ark.....	1004	39-90-S-1	Greene-Clay	626.67 Ft.	3 treated timber pile bent bridges.	18,587.39
Forcum James Construction Co.,yersburg, Tenn.....	1030	14-S-13	Poinsett	3.122 Mi.	Grading, drainage structures and gravel surfacing.	115,081.45
F. D. Harvey & Co., Jonesboro, La.....	1039	1-S-21	Clay	2.580 Mi.	Grading, drainage structures and gravel surfacing.	35,881.05
Forcum James Construction Co., Dyersburg, Tenn.....	1043	14-S-13	Poinsett	7.769 Mi.	Grading, drainage structures and gravel surfacing.	74,742.85
Kochätzky Bros., England, Ark.....	1102	15-S-8-9	Lonoke and Jefferson	6.382 Mi.	Grading, drainage structures and gravel surfacing.	67,006.68
P. F. Connelly Pav. Co., Little Rock, Ark.....	629	70-S-14-15	Lonoke	5.476 Mi.	Double bituminous surface treatment.	26,144.30

Record of Road and Bridge Contracts Awarded from January 1, 1927 to May 17, 1928

NAME AND ADDRESS OF CONTRACTOR	STATE JOB No.	ROAD and SECTION NUMBER	COUNTY	Length in Miles or Ft.	NATURE OF WORK	Total of Contract Award Plus Material Furnished by State
M. Tansey, Bastrop, La.	719	24-S-6	Ouachita	12.215 Mi.	Grading, drainage structures.	71,544.55
Philpott Construction Company, Pine Bluff, Ark.	720	115-S-1	Union	3.746 Mi.	Grading, drainage structures and concrete pavement.	100,204.61
R. J. Lynch, Little Rock, Ark.	723	35-S-5	Cleveland	4.815 Mi.	Grading, drainage structures and gravel surface.	28,725.78
C. H. Atkinson Paving Co., Chillicothe, Mo.	736	2-S-7	Union	273 Ft.	Treated timber trestle bridges.	8,404.42
Lakeside Br. & Steel Co., No. Milwaukee, Wisconsin	800	7-S-10-11	Pope-Yell	2,045 Ft.	Steel and concrete bridge.	534,137.35
Cook & Ransom, Ottawa, Kansas	805	22-S-3-4	Logan	11,741 Mi.	Grading, drainage structures.	72,734.11
Lahar Bros., Springfield, Mo.	1018	39-S-2	Clay	0.967 Mi.	Grading, drainage structures and gravel surfacing.	6,245.22
Lahar Bros., Springfield, Mo.	1019	39-S-1	Greene	5.344 Mi.	Grading, drainage structures and gravel surfacing.	44,773.72
Lahar Bros., Springfield, Mo.	1023	90-S-1	Clay	6.522 Mi.	Grading, drainage structures and gravel surfacing.	79,847.27
S. C. Taylor, Birmingham, Ala.	1025	67-S-22	Clay	0.318 Mi.	Grading, drainage structures and gravel surfacing.	6,163.14
E. E. Davis & Co., Oklahoma City, Okla.	121	16-S-18	Cross	13.882 Mi.	Grading, drainage structures and gravel surfacing.	102,276.47
Miss.-Ark. Construction Company, Little Rock, Ark.	123	78-S-1	St. Francis	1.178 Mi.	Grading, drainage structures and gravel surfacing.	11,670.23
Joe Selz Construction Co., McGehee, Ark.	217	13-S-7	Jefferson	8.442 Mi.	Grading, drainage structures and gravel surfacing.	58,701.58
Reynolds & Sutton, Tyler, Texas	323	24-S-2	Howard	11.293 Mi.	Grading, drainage structures.	79,030.37
W. P. McGeorge & Co., Pine Bluff, Ark.	324	27-S-5	Pike	7.604 Mi.	Grading, drainage structures.	126,774.49
Richardson Ayres, Hope, Ark.	342	71-S-5	Sevier	345 Ft.	Reinforced concrete deck girder bridge.	28,188.58
C. H. Atkinson Paving Co., Chillicothe, Mo.	347	8-S-5	Clark	7.623 Mi.	Gravel surfacing.	28,004.08
Hinson Bros., Muskogee, Okla.	406	71-S-15	Crawford	8.219 Mi.	Grading, drainage structures.	93,089.29
Williamson & Williams, Batesville, Ark.	505	11-S-17	Sharp	5.000 Mi.	Grading, drainage structures.	41,364.86
W. L. Davis, Kansas City, Mo.	507	R. I. D. 2	Jackson	8.385 Mi.	Gravel surfacing.	33,664.21
A. A. Davis Co., Kansas City, Mo.	508	R. I. D. 2	Jackson	5.946 Mi.	Gravel surfacing.	15,870.93
A. A. Davis Co., Kansas City, Mo.	509	R. I. D. 2	Jackson	3.874 Mi.	Gravel surfacing.	18,003.21
B. H. Heard, Little Rock, Ark.	512	16-S-11	Cleburne	129.5 Ft.	Two concrete bridges.	10,149.84
M. K. Orr, Tschula, Miss.	519	14-S-12	Jackson	1,520.5 Ft.	Bridges.	40,496.82
Bradley & Talbert Construction Co., Sheridan, Ark.	619	35-S-1	Saline	8.201 Mi.	Grading, drainage structures.	54,983.73
Stanley, Fowler & Kennedy Const. Co., Malvern, Ark.	620	67-S-7	Hot Spring	10.687 Mi.	Grading, drainage structures.	53,268.21
Stanley, Fowler & Kennedy Const. Co., Malvern, Ark.	628	6-S-7	Hot Spring	5.703 Mi.	Grading, drainage structures and gravel surfacing.	30,107.81
Browne & Ross, Arkadelphia, Ark.	727	4-S-12	Bradley	12.515 Mi.	Grading, drainage structures and gravel surfacing.	104,219.03
R. J. Lynch, Little Rock, Ark.	731	11-S-1	Cleveland	1.992 Mi.	Grading, drainage structures and gravel surfacing.	18,938.10
J. A. Perdue & Co., Pine Bluff, Ark.	735	15-S-3	Bradley	6.000 Mi.	Gravel surfacing.	33,622.54
J. N. George & Bros., Centerville, Ark.	806	7-S-10	Yell	8.039 Mi.	Grading, drainage structures.	34,805.71
J. N. George & Bros., Centerville, Ark.	807	7-S-10	Yell	6.458 Mi.	Grading, drainage structures.	58,637.44
M. E. Gillioz, Monette, Mo.	903	65-S-1	Boone	11.134 Mi.	Grading, drainage structures.	72,925.70
A. A. Davis & Co., Kansas City, Mo.	1021	67-S-22	Clay	11,553 Mi.	Grading, drainage structures.	37,705.54
United Construction Co., Cincinnati, O.	131	50-S-1	St. Francis	289.7 Ft.	Treated timber bridges.	8,327.00
Sam B. Boyd, Columbia, Mississippi	341	24-S-5	Nevada	11,554 Mi.	Grading, drainage structures.	52,754.14
Richardson Ayres, Hope, Ark.	349	27-S-5	Pike	7,307 Mi.	Grading, drainage structures.	41,878.23
Ware Construction Co., Little Rock, Ark.	506	11-S-14	Independence	9,927 Mi.	Grading, drainage structures.	86,345.76
Hope & Lybrand, Sheridan, Ark.	622	35-S-3	Grant	15,739 Mi.	Grading, drainage structures and gravel surfacing.	85,031.10
S. E. Evans, Clarksville, Ark.	623	67-S-9	Saline	4.028 Mi.	Grading, drainage structures.	25,744.55
Ellis & Lewis, Muskogee, Okla.	725	2-S-4	Columbia	10,358 Mi.	Grading, gravel surfacing.	90,198.61
C. H. Atkinson Paving Co., Chillicothe, Mo.	737	35-S-5	Cleveland	63 Ft.	Concrete girder bridge.	5,916.50
Maxwell Construction Company, Columbus, Kansas	808	22-S-4	Logan	388 Ft.	Concrete girder bridge.	26,074.20
Blackshire & Blackshire, Harrison, Ark.	930	101-S-2	Marion	514.5 Ft.	Steel bridge approach spans.	31,029.53
Davis Construction Co., Booneville, Mo.	1022	67-S-21	Randolph	6.049 Mi.	Grading, drainage structures and gravel surfacing.	95,198.38
Gibson & Robins, Hoxie, Ark.	1024	67-S-18	Lawrence	2.800 Mi.	Grading, drainage structures and gravel surfacing.	18,857.17
W. J. Runyan Paving Co., Sheffield, Ala.	1026	67-S-21	Randolph	8.028 Mi.	Grading, drainage structures and concrete pavement.	202,645.15
Bunnell & Mack, Paragould, Ark.	1070	18-S-4	Craighead	180 Ft.	Concrete bridges.	15,780.13
Geo. W. Nickels & Son, Hot Springs, Ark.	1100	70-S-6-7	Hot Spring-Montgomery	8.839 Mi.	Grading, drainage structures.	63,646.44
Forcum James Construction Co., Dyersburg, Tenn.	132	1-S-8	Phillips	6.058 Mi.	Gravel surfacing.	39,295.08
Forcum James Construction Co., Dyersburg, Tenn.	222	13-S-6	Lincoln	12.414 Mi.	Grading, drainage surfacing and gravel surfacing.	65,033.53
Kochfützky Bros., England, Ark.	246	114-S-1	Lincoln	8.683 Mi.	Grading, drainage structures and gravel surfacing.	75,446.86
Maxwell Construction Co., Columbus, Kansas	319	70-S-5	Pike	135.62 Ft.	Concrete bridge structures.	12,987.19
F. E. Wright, Gurdon, Ark.	329	4-S-4-5	Howard and Hempstead	9,890 Ft.	Grading, drainage structures.	20,561.54
Interstate Construction Co., Paris, Texas	410	10-S-1	Sebastian	13,056 Mi.	Grading, drainage structures.	75,980.36
C. N. Geren & Son, Fort Smith, Ark.	414	22-S-2	Franklin	8,757 Mi.	Grading, drainage structures.	44,345.12
Interstate Construction Company, Paris, Texas	417	8-S-1	Polk	12,698 Mi.	Grading, drainage structures.	120,064.91
Ware Construction Co., Little Rock, Ark.	523	11-S-14	Independence	7,009 Mi.	Grading, drainage structures.	69,661.73
C. Elliott & Co., Leola, Ark.	631	46-S-2	Grant	7,070 Mi.	Grading, drainage structures and gravel surfacing.	44,581.29
H. Atkinson Paving Co., Chillicothe, Mo.	639	6-S-6	Hot Spring	350 Ft.	Four concrete girder bridges.	34,294.52
Atkinson Bros., Pine Bluff, Ark.	722	167-S-2-3	Union and Ouachita	9.575 Mi.	Grading, drainage structures.	69,416.34
Atkinson Bros., Pine Bluff, Ark.	732	115-S-1	Union	4.944 Mi.	Grading, drainage structures.	33,232.59
Rowan & Rickard, Pine Bluff, Ark.	740	3-S-2	Columbia	0.511 Mi.	Grading and concrete pavement.	14,824.55
Cook & Ransom, Ottawa, Kansas	801	22-S-4B	Logan	13.913 Mi.	Grading, drainage structures.	108,763.08
B. F. Brooks Construction Company, Dallas, Texas	810	105-S-1A	Pope	5.833 Mi.	Grading, drainage structures.	46,883.32

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Keliher Contr. Co., Little Rock.....	335	67-S-12	Hempstead and Miller	1206.24 Mi.	Reinforced concrete arch bridge.	\$477,058.58
Rye Bros., Russellville.....	429	64-S-23	Crawford	4,612 Mi.	Grading and drainage structures.	45,506.64
Arthur L. Walker, Memphis.....	643	67-S-7	Hot Spring	249 Ft.	Three reinforced concrete bridges.	20,088.60
D. B. Hill & Co., Little Rock.....	813	65-S-8	Van Buren	8,073 Mi.	Grading and drainage structures.	66,023.29
Altman-Rogers Co., McAlester, Okla.....	824	14-S-5	Perry	8,651 Mi.	Grading and drainage structures.	37,633.71
S. E. Evans, Clarksville, Ark.....	838	64-S-4	Johnson	7,583 Mi.	Grading and drainage structures.	60,085.31
D. B. Hill & Co., Little Rock.....	926	65-S-6	Searcy	10,413 Mi.	Grading and drainage structures.	172,469.55
Hall & Parrigan, Martin, Tenn.....	1094	67-S-22	Clay	180 Ft.	Four reinforced concrete bridges.	27,307.89
W. P. McGeorge & Co., Pine Bluff.....	1107	3-S-12-13	Prairie	255 Ft.	Four treated timber bridges.	7,717.10
Sam B. Boyd.....	344	24-S-5	Nevada	1,078 Ft.	Treated timber pile bent bridges.	27,150.31
C. H. Atkinson Paving Co., Chillicothe, Mo.....	345	4-S-4-5	Howard and Hempstead	349 Ft.	Three treated timber pile bent bridges.	9,513.40
Reed & Cole, Tulsa, Okla.....	409	71-S-17	Washington	3,325 Mi.	Grading and drainage structures.	25,571.21
M. E. Gillioz, Monette, Mo.....	408	71-S-11	Scott	12,033 Mi.	Grading and drainage structures.	69,009.82
E. G. Pike & Co., Tulsa, Okla.....	432	80-S-1	Washington	10,832 Mi.	Grading and drainage structures.	49,248.05
B. C. George & Co., Corinth, Miss.....	510	9-S-12	Izard	11,245 Mi.	Grading and drainage structures.	77,494.14
A. A. Davis & Co., Kansas City, Mo.....	517	66-S-2	Stone	8,890 Mi.	Grading and drainage structures.	58,841.31
Newell Constr. Co., Birmingham, Ala.....	645	51-S-3	Hot Spring	6,530 Mi.	Grading and drainage structure and gravel surfacing.	87,305.59
M. K. Orr, Newport, Ark.....	650	11-S-9	Prairie	610.33 Ft.	One T. T. P. bent bridge.	15,486.20
Prentice & Prentice, Natchez, Miss.....	651	46-S-2	Grant	618.33 Ft.	Seven T. T. P. bent bridges.	13,022.69
M. Tansey, Camden, Ark.....	733	4-S-11-12	Bradley and Calhoun	9,144 Mi.	Grading, drainage & gravel surfacing.	88,410.50
T. T. Sweet Dredging Co., Miami, Fla.....	742	4-S-9	Ouachita	6,670 Mi.	Grading and drainage structures.	68,726.78
Horton Price Constr. Co., Texarkana, Ark.....	743	167-S-4	Ouachita	1,581 Mi.	Grading.	46,852.96
J. C. Newkirk, Doddridge, Ark.....	750	57-S-3	Union	5,154 Mi.	Grading, drainage and gravel structure.	48,921.28
A. C. Kennedy, Poyen, Ark.....	763	15-S-3	Bradley	6,776 Mi.	Gravel surfacing.	12,491.80
Interstate Constr. Co., Fort Smith, Ark.....	811	10-S-2	Logan	6,862 Mi.	Grading and Drainage structures.	42,168.33
Newell Constr. Co., Birmingham, Ala.....	812	65-S-7	Van Buren	8,442 Mi.	Grading and Drainage structures.	52,942.95
M. E. Gillioz, Monette, Mo.....	833	123-S-2	Johnson	10,083 Mi.	Grading and Drainage structures.	47,075.26
B. F. Brooks Constr. Co., Dallas, Tex.....	844	10-S-5	Perry	9,343 Mi.	Grading and Drainage structures.	55,393.82
Luten Bridge Co., Little Rock, Ark.....	848	7-S-9	Yell	500 Ft.	Reinf. concrete D. G. bridge.	13,694.05
M. H. Franks, Leslie, Ark.....	906	65-S-5	Searcy	Minor drainage structures.	16,343.51
North Ark. Constr. Co., Yellville, Ark.....	918	14-S-1-2	Marion and Boone	5,139 Mi.	Grading and drainage structures.	36,370.62
M. K. Orr, Newport, Ark.....	956	103-S-1	Newton	544.33 Ft.	Repair Buffalo River bridge.	9,604.04
Laher Bros., Springfield, Mo.....	1032	34-S-5	Clay	11,356 Mi.	Grading, drainage & gravel surfacing.	95,537.54
S. K. Johns Constr. Co.....	1040	14-S-14	Poinsett	384.55 Ft.	G. B. R., 2 R. C. box culverts.	49,547.26
Schitzky Bros., England, Ark.....	1093	34-S-4	Clay	10,718 Mi.	Grading and drainage structures.	47,295.51
A. Trant Constr. Co., Luxora, Ark.....	1096	1-S-21	Clay	973.33 Ft.	R. P. of steel span over Black River bridge.	22,671.00
Bunnell & Mack, Paragould, Ark.....	1098	1-S-18	Craighead and Greene	492.33 Ft.	Eight bridges.	28,583.90
J. R. Williams & Co., Harrisburg, Ark.....	1099	14-S-14	Poinsett	288 Ft.	Treated timber bridges.	10,780.04
Interstate Constr. Co., Fort Smith, Ark.....	1108	10-S-1-2	Sebastian and Logan	830 Ft.	Six C. R. C. B. girder bridges.	46,658.07
M. K. Orr, Newport, Ark.....	552	14-S-9	Independence	391.67 Ft.	Five T. T. pile bent bridges.	11,114.58
Luten Bridge Co., Little Rock, Ark.....	657	70-S-8	Garland	1302 Ft.	Reinf. concrete bridge.	198,927.00
Sam B. Boyd, Columbia, Miss.....	766	24-S-6	Ouachita	166.33 Ft.	T. T. pile bent bridge.	3,557.26
Brown Dennison Constr. Co., Cushman, Ark.....	204	3-S-9	Jefferson	4 Mi.	Grading, drainage & gravel surfacing.	39,336.41
J. R. Miller, Texarkana, Texas.....	325	29-S-3	Hempstead	11,524 Mi.	Grading and drainage structure.	44,426.88
Ozark Constr. Co., Fryor, Okla.....	407	71-S-15	Crawford	1879.79 Ft.	Three R. C. B. girder bridges.	43,539.50
Maxwell Constr. Co., Columbus, Kan.....	444	22-S-1-2	Sebastian-Franklin	2,700 Ft.	Five R. C. bridges.	78,059.28
Miss.-Ark. Constr. Co., Little Rock, Ark.....	511	5-S-7	Izard	6,249 Mi.	Grading and drainage structures and gravel surface.	64,357.15
Fred Luttjohann.....	541	11-S-14	Independence	4,300 Ft.	R. C. D. G. bridge.	197,032.04
B. F. Brooks Constr. Co., Dallas, Tex.....	542	5-S-6	Stone	4,323 Mi.	Grading, drainage and gravel surfacing.	26,416.35
Kelleher Constr. Co., Little Rock, Ark.....	659	6-S-5	Garland	550 Ft.	Reinf. concrete bridge.	8,266.28
Kelleher Constr. Co., Little Rock, Ark.....	765	115-S-1	Union	1,160 Ft.	Two R. C. D. G. bridges.	23,870.86
Hampton and Kinnard, Jackson, Miss.....	771	167-2-3	Union and Ouachita	687 Ft.	Seven concrete and steel bridges.	77,264.37
Coe Bros. & Deniston, Fayetteville, Ark.....	843	65-S-8	Van Buren	9,801 Mi.	Grading and drainage structures.	59,958.37
Cook & Ransome, Ottawa, Kan.....	845	65-S-7	Van Buren	8,162 Mi.	Grading and drainage structures.	79,023.77
E. G. Fite & Co., Tulsa, Okla.....	849	22-S-5	Yell	2150.17 Ft.	Six R. C. D. G. bridges.	33,524.77
Reed & Cole, Tulsa, Okla.....	936	5-S-8	Baxter	8,582 Mi.	Grading and drainage structures.	67,268.13
Maxwell Constr. Co., Columbus, Kan.....	954	12-S-4	Carroll	105 Ft.	R. C. D. girder bridge.	7,091.66
L. G. Newsom, Marks, Miss.....	1001	1-S-15	Poinsett	1222.9 Ft.	Fourteen T. T. pile bent bridges.	34,816.35
Pittsburg Des Moines Steel Co., Des Moines, Ia.....	1002	34-S-5	Clay	418.67 Ft.	Six T. T. pile bent bridges.	9,561.34
Ellis & Lewis, Muskogee, Okla.....	520	25-S-2	Cleburne	10,496 Mi.	Grading and drainage.	63,218.68
J. A. Perdue & Co., Pine Bluff, Ark.....	203	3-S-8	Jefferson	8,548 Mi.	Grading, drainage and gravel.	68,594.32
Oil City Iron Works, Shreveport, La.....	277	114-S-1	Lincoln	315.67 Ft.	Five T. T. bridges.	9,611.55
J. F. Mullins & Co., Pine Bluff, Ark.....	278	13-S-6	Lincoln	188.67 Ft.	Two T. T. bridges.	6,250.34
Harvey & Jones, Jonesboro, La.....	279	13-S-2	Ashley	701.17 Ft.	T. T. bridge.	13,517.60
McWilliams & Co., Memphis, Tenn.....	314	67-S-1	Miller	1,259 Mi.	Bridge approaches.	33,599.45
W. T. McBride & Co., Little Rock, Ark.....	320	70-S-5	Pike	235 Ft.	Four R. C. D. girder bridges.	28,301.63
Shultz Const. Co., Wichita, Kans.....	438	64-S-2	Crawford	7,591 Mi.	Concrete paving.	173,537.14
Shultz Const. Co., Wichita, Kans.....	441	64-S-2	Crawford	8,906 Mi.	Concrete paving.	185,505.78
Ellis & Lewis, Muskogee, Okla.....	660	31-S-3	Lonoke	682.33 Ft.	Thirteen T. T. bridges.	21,056.09
North Ark. Const. Co., Yellville, Ark.....	942	12-S-9	Marion	155 Ft.	Two R. C. D. girder bridges.	11,125.59
T. L. Throgmorton & Sons, Ft. Scott, Kans.....	1109	71-S-12	Scott	7,645 Mi.	Crushed stone surfacing.	26,757.15
J. W. Covington, Benton, Ark.....	1110	15-S-8	Lonoke	181.67 Ft.	Two T. T. bridges.	6,449.31
Williamson & Williams, Batesville, Ark.....	1111	64-S-7	Conway	357.5 Ft.	Cadron bridge.	52,790.37
S. K. Jones Const. Co., Memphis, Tenn.....	117	504-S-1	Lee	9,276 Mi.	Grading and gravel surfacing.	85,890.09
S. J. Cohen, Blytheville, Ark.....	140	16-S-18	Cross	1,186.33 Ft.	Thirteen T. T. bridges.	37,243.56
J. G. Newkirk, Doddridge, Ark.....	346	53-S-1	Nevada	3,913 Mi.	Grading and drainage.	24,538.31
Winsted & Gunter, Siloam Springs, Ark.....	435	45-S-3	Washington	6,396 Mi.	Grading and drainage.	23,981.94
City Iron Works, Shreveport, La.....	449	71-S-17	Washington	300 Ft.	Girder bridge.	13,240.63
H. Clay & Co., Malvern, Ark.....	516	16-S-13	White	13,103 Mi.	Grading and drainage.	37,556.69
F. D. Harvey & Co., Jonesboro, La.....	518	17-S-6	Jackson	9,647 Mi.	Grading and drainage.	23,611.23
Fred Luttjohann, Topeka, Kans.....	566	11-S-16	Sharp	1,855 Ft.	Four concrete bridges.	76,726.64
Maxwell Const. Co., Columbus, Kans.....	859	105-S-1	Pope	3,295 Ft.	Six concrete bridges.	40,053.57
Carter Const. Co., Little Rock, Ark.....	860	22-S-3	Logan	1,058 Ft.	Two R. C. D. girder bridges.	42,975.01
Cook & Ransome, Ottawa, Kans.....	908	65-S-2	Boone	11,449 Mi.	Grading and drainage.	82,415.90
Pioneer Const. Co., Kansas City, Mo.....	1003	67-S-21	Randolph	1,504 Ft.	Sixteen R. C. D. girder bridges.	172,583.05
Lahar Bros., Piggott, Ark.....	1042	1-S-20	Greene	11,587 Mi.	Grading and gravel surfacing.	90,424.23



A White Elephant Party

A lady, very active in the social circles of a Chicago suburb, had a brand new idea in regard to giving a party which should have "sweet charity" for its ultimate purpose.

Each guest was invited to bring something that she had little use for, but was too good to be thrown away entirely.

The idea was all right, but the party proved a failure. Eleven of the nineteen brought their husbands.

A fourteen-year-old Canadian school boy has been expelled because his teachers claim that he is incapable of telling the truth. If this young man doesn't mend his ways he will likely end up in the Weather Bureau.

The stewed one was vainly trying to find the keyhole; for an hour he had been poking and couldn't find it. A passerby, seeing his predicament, said: "Say, old chap, you can't open the door with that; it's a cigar." The pickled one looked at the object in his hand and stammered, "Hully gee, mushta shmoked my latch-key!"

Lawyer: "Then you say that this man was drunk?"

Witness: "I do not. I simply said that he sat in his car for three hours in front of an excavation waiting for the light to turn green."

Attorney for auto accident victim: Gentlemen of the jury, the driver of the car stated he was going only four miles an hour. Think of the long agony of my poor unfortunate client, the victim, as the car drove over him."

Weakening

Customer: "You sold me a car about two weeks ago."

Salesman: "How do you like it?"

Customer: "I want you to tell me everything you said about the car all over again. I'm getting discouraged."

Law-Abiding Citizen

Not long ago Deacon Miller bought a horse and buggy and took his wife out one Sunday for a drive. They came to our neighboring town of Osseo and saw a sign which read, "Speed limit, fifteen miles per hour."

"Here, ma," said the deacon excitedly, "you take the lines and drive, and I'll use the whip. Maybe we can make it."—*Life*.

Canning the Prattle

A barber was surprised to receive a tip before he had cut his customer's hair.

"Thank you, sir! It isn't many who tip us first," he said.

"That isn't a tip," snapped the man in the chair. "That's hush money."

The doctor had forgotten his patient's name; but, not willing to admit it, said, "Is your name spelled with 'i' or 'e'?"

The astonished patient answered, "Why doctor, my name is Hill."

See America First

"How was the scenery on your trip?"

"It ran largely to tooth paste and smoking tobacco." —*Louisville Courier*.

Teacher: "Norman, give me a sentence using the word 'diadem.'"

Pupil: "People who drive onto the railroad crossings diadem sight quicker than those who stop, look and listen."

A Completed Contract

"How's this?" asked the lawyer of the contractor. "You've named six material dealers in your will to be your pallbearers. Would you not rather choose some of your friends with whom you are on better terms?"

"No, Judge, that's all right. Those fellows have carried me so long that they might as well finish the job."

To Keep Bills Down

He: "You seem disappointed with the parcel post package you received today."

She: "I am. I answered an advertisement for an article to keep down gas bills."

He: "What did they send you?"

She: "A paper weight."

How Pat Got Even

Pat was over in England working with his coat off. There were two Englishmen working on the same railroad, so they decided to have a joke on the Irishman.

They painted a donkey's head on the back of Pat's coat and watched to see him put it on.

Pat, of course, saw the donkey's head on the back of his coat, and turning to the Englishmen, said, "Which of yez wiped yer face on me coat."

American Tourists in America a Great National Developing Power

Many striking statements in regard to the development of tourist travel in America are given in a letter on this subject from H. N. Burhans, president of the American Travel Development Association of Denver. Mr. Burhans points out the importance of having the bankers of the country interested in the development of tourist travel in America.

"The tourist of today," he says, "is the citizen of tomorrow."

That is pre-eminently true in the history of the South, as it has been on the Pacific Coast and in the West. Flagler was a tourist to Florida, but he spent \$75,000,000 to \$100,000,000 of his own money in the development of Florida because of his enthusiasm for that State after visiting it as a tourist. Henry B. Plant was a tourist to Florida, but he did for the West Coast what Flagler had done for the East Coast of Florida.

Innumerable instances might be mentioned of how the tourists have become citizens, investors and developers in every part of the land. No section can, therefore, afford to miss the highest development of the tourist business. It is, moreover, a great factor in solving many of the problems of the country, once divided on sectional lines, but which are now being wiped out largely by the intermingling of business and of tourists from all parts of the land to all other parts of the land.

"The American that visits a foreign country," says Mr. Burhans, "spends American dollars that filter through the channels of industry in the country he visits. Possibly 5 per cent of it goes through American industrial channels, which consists of the part paid for transportation"; but:

"One hundred per cent of the American dollar spent in America by travelers, even to the smooth dime spent in the most distant parts of Alaska, eventually finds its way to Wall Street. They ride in American made trains, eat American grown foods, sleep in American made beds, wear American made clothes, patronize American shopmen, and buy American made products."

That is a striking statement, well worth being driven into the mind of every banker and business man in America. It ought to appeal tremendously to all of these interests, to every railroad official, to every automobile manufacturer and to all others interested in American dollars being expended for the development of American business.

Moreover, this statement is one which pre-eminently illustrates the tremendous importance of good highways—highways covering every section of the country—and in this respect the South ought to be the leader, because it ought to be the tourist center for a large part of America. There are still tens of millions of people in the North and West and in Canada, within easy reach of the South, who have never yet seen this section. It is as though these sections had simply sent out their spies, as the Israelites of old, to investigate the attractions of the Promised Land and to see what reports come back to them as to that country to which the eyes of the Israelites had been turned for many long years. The South is the Promised Land for these millions, but to speed their coming we need good highways everywhere, not because they will all come in automobiles or motorbuses, but because when they do come South they want the opportunity of motoring from one part to another over splendid highways.

The highway is the upbuilder of the country. It opens up the back country, it develops the local people, it brings in the outside people.

We commend to every reader a study of the thought-provoking letter on this question of American tourist travel by Mr. Burhans.—*Manufacturers' Record*.

DOLLARS DON'T CLINK

Somebody has pointed out the silliness of buying a high-priced car, and then grouching over the small tax for keeping up decent roads to operate it over. Smooth permanent roads put dollars in the pockets of the motorist, but they don't clink, and he won't believe it.

A good, smooth road puts the man with the smaller car on a basis of equality with the men who drive Packards, Cadillacs and Lincolns in order that they might ride comfortably. If the gas tax were doubled and the vehicle tax increased in like amount the paved road would still be a good investment, the cheapest item in the operation of a car. Tests have shown that the saving in tires, gas and general upkeep on gravel or paving more than pays the tax. Nobody pays for good roads. They pay for themselves but it's hard to make the average man believe it.

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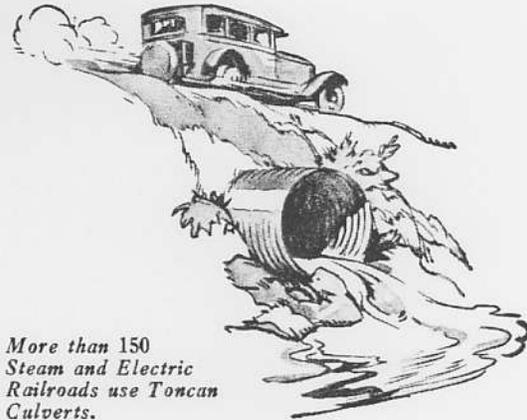
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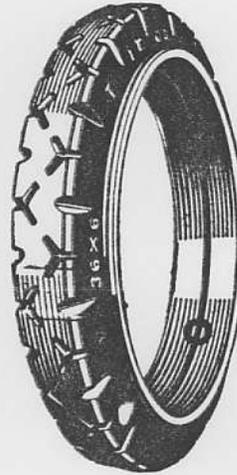
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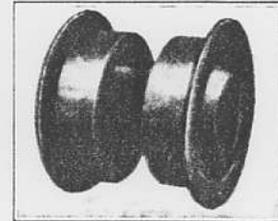
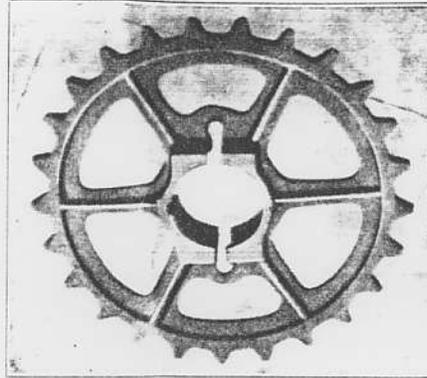
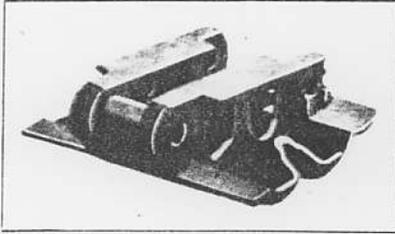
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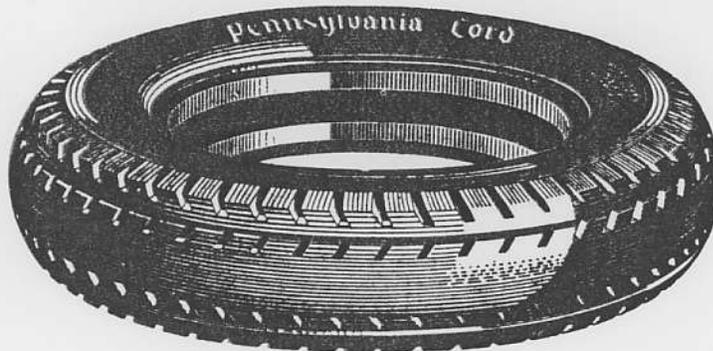
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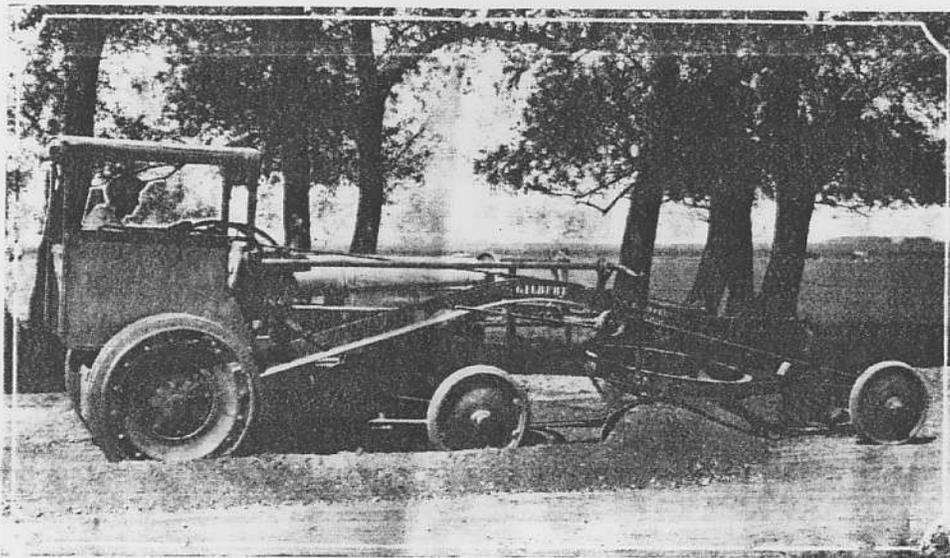
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