APPENDICES

CASES CITED

Supreme Court of the United States

OCTOBER TERM, 1937

No. 161

SOUTH CAROLINA STATE HIGHWAY DEPARTMENT, SOUTH CAROLINA PUBLIC SERVICE COMMISSION ET AL., APPELLANTS,

versus

BARNWELL BROTHERS, INC., POOLE TRANSPORTATION, INC., HORTON MOTOR LINES, INC., ET AL., APPELLEES.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF SOUTH CAROLINA

REPLY BRIEF OF THE STATE OF SOUTH CAROLINA AND ITS OFFICIALS, ORIGINAL DEFENDANTS, APPELLANTS

REASONS FOR FILING REPLY BRIEF

There is no purpose here to re-argue any of the points of our original brief, or to state any new points. The reasons for filing this reply brief are these: (1) Appellees' brief contains several erroneous statements as to the Record on important points, which we undertake to point out. (2) Appellees have really argued only one (Part IV) of the principal points made by appellants; otherwise they have in the main apparently misapprehended appellants' positions and then directed their argument to such erroneously assumed

issues. A prompt understanding of the real issues may be promoted by calling the Court's attention to this. (3) At numerous places the meaning of decisions of this Court are erroneously stated, according to our understanding of such decisions.

From page 10 to page 54 appellees purport to outline the history of highway transportation, including as a part of such history the enactment of the Federal Highway Act (Sections 1 to 56, Title 23 U. S. C.), and the Motor Carrier Act, 1935 (Sections 301 to 327, Title 49 U. S. C.). Appellees infer, from this history and from the enactment of these statutes, that some new limitation upon state police power over public highways has been created, although appellees admit that the Federal Acts do not actually supersede state power.

On the contrary, however, we submit that in the light of this history, if any effect may be attributed to the two Federal Acts, it is more definitely to confirm this police power in the states, and to show plainly the intention of Congress not to interfere with such power.

It should be noted that the 90 inches width limitation is the only width limit which has ever been prescribed by the law of South Carolina. It has been in effect since 1920. Act No. 602, South Carolina Acts of 1920, 31 Stats., at pages 1072, 1075, Section 9, set out as Appendix I hereof. In 1933 the weight limitation in question was enacted in the law and before that comparable weight limitation laws had been enacted in other states, including Texas, Kentucky and Tennessee. Although by Section 19 of the Federal Highway Act (Section 19, Title 23 U. S. C.), the Secretary of Agriculture is authorized to make such recommendations to the State Highway Department "as he may deem necessary for preserving and protecting the highways and insuring the safety of traffic thereon," the

record does not show that any specific recommendation pertaining to the size or weight of motor vehicles which should be authorized to operate on South Carolina highways has ever been made to the South Carolina highway department by the Secretary of Agriculture or any of his subordinates. Appellees refer to the maximum limitations recommended by the American Association of State Highway Officials, but obviously these limitations were adopted as recommended standards for future construction of highways. Highway engineers engaged in the construction of public roads are necessarily concerned with the design (including thickness) of the concrete roads they are expected to build. Due to the obvious relationship between the roads themselves and the loads they are expected to support, it was essential that some weight limitation be recommended so that the design engineer might have some maximum beyond which he need make no provision. The only witness for the United States Bureau of Public Roads, L. W. Teller, conceded that he knew nothing of South Carolina highways, their surfacing or capacity, other than the concrete roads to which he referred. Clearly, limitations for the protection of roads, as contrasted with the design of roads, would not be made without study or knowledge of the roads which such limitations were intended to protect.

Further, the record shows that the Secretary of Agriculture, through the Bureau of Public Roads, has never withheld any Federal aid funds from South Carolina or other states in which comparable weight limitations exist (R. 252-253); he has on the contrary approved the expenditure of Federal aid funds in South Carolina for the improvement of 1805.5 miles of highways with types of surface as to which the District Court itself found the 20,000 pounds weight limitation reasonable. Such mileage comprises almost two-thirds of the total mileage of 2797.8 in the state improved with Federal aid (R. 253).

Appellees cite the Motor Carrier Act, 1935, as the basis for contending that Congress intended to include interstate commerce by motor truck as part of the commerce intended to be promoted by the Federal Highway Act and such Motor Carrier Act. Attention is respectfully called to the fact that if interstate commerce by motor truck was intended to be promoted by the Congress through such Motor Carrier Act, there was no intent to promote truck commerce by the use of vehicles of any specific size or weight. Such Act was passed in August, 1935. It did not attempt to fix or authorize the Interstate Commerce Commission to fix the sizes or weights of motor vehicles. The only mention of the subject is at paragraph 225 (Section 325, Title 49 U. S. C.), in which

> "* * * the Commission is hereby authorized to investigate and report on the need for Federal regulation of the sizes and weights of motor vehicles and combinations of motor vehicles."

Furthermore, Thomas H. MacDonald, Chief, U. S. Bureau of Public Roads, in direct charge of the administration of Federal action pursuant to such Federal Highway Act, explains the intent and purpose of Federal aid highways to be something entirely different from that contended for by appellees and inferred by lengthy history of highway transportation set forth in appellees' brief. On April 28, 1936, at the 24th Annual Meeting of the Chamber of Commerce of the United States, in a public address by him, he said:

> "The real primary function of the highways, to me, is a local one. We have never held that highways ought to attempt to compete in the long distance shipment or travel, except in the recreational way, or with the air lines or with shipping. We feel that the highway is in a major way a local facility and as such fits into that category primarily."

If, as appellees urge, vehicles weighing more than 20,000 pounds are essential for the conduct of long distance interstate transportation by motor truck and if concrete paving is essential to accommodate vehicles of such greater weight, as the record clearly shows, the fact that Federal funds have been freely used in the construction of pavement surfaced with materials other than concrete indicates that the commerce intended to be promoted by the Congress was not long distance traffic by trucks heavier than 20,000 lbs. The above statement by the Chief of the U. S. Bureau of Public Roads corroborates this reasonable deduction.

Furthermore, it is submitted that if the history of highway transportation demonstrated (a) the actual obstruction thereto, (b) and the abhorrence for such obstruction on the part of the public and the Federal Government, which appellees would have us believe, then action would have been taken to correct the situation. *Sproles v. Binford,* 286 U. S., 374, was decided on May 23, 1932, and the Act in question has been in effect since 1933, yet no action has ever been taken by Congress to repeal the effect of that decision or to curtail the power of the State of South Carolina. On the contrary, Federal funds are still being used to construct highways surfaced with pavement other than concrete.

At page 54, and following, and elsewhere, appellees refer to the "disastrous burden" which the South Carolina Act will impose upon interstate commerce. At page 137, appellees say:

> "The decisions of the Court in *Morris v. Duby, supra,* and *Sproles v. Binford, supra,* reveal that in neither of these cases was there, **first,** a finding that the State regulations had exceeded the reasonable necessities of the State, and, **second,** that the burden imposed upon interstate commerce was substantial and amounted to a practical prohibition."

We submit that in the instant case there is no proper finding that the regulations in question exceed the reasonable necessities of the State of South Carolina. But passing, for the moment, the **first** subdivision of the above, we direct attention to the **second**. We pointed out in our first brief (So. Car. pp. 38-39) that an examination of the record on file here in the *Sproles case* shows that the Texas statute fixing a 7,000 pounds net load limitation interfered with interstate commerce by motor truck to at least as great a degree as the South Carolina Act. The District Court made extensive findings of fact showing such interference, but held the same immaterial as a matter of law. This Court in reviewing the District Court's findings in the Sproles case said (286 U. S., at 383-384):

> "The District Court made comprehensive findings. These set forth the various interests of the complainant and interveners (common carriers and contract carriers, in intrastate and interstate commerce, and manufacturers and distributors of commodities), their large investments, the extent of their operations in highway transportation, the character and uses of their equipment, and the losses to which they would be subjected by requirements of the statute."

The effect of the Texas Act is in the District Court opinions briefly detailed in 52 Fed. (2nd), 730, and 56 Fed. (2nd), 189. We submit that there is no basis for the continued insistence by appellees that the instant case is unique as to the showing of interference with interstate commerce. *Sproles v. Binford* showed at least as much burden upon or interference with interstate commerce of the identical kind and character present in the instant case.

On page 55 appellees refer to the facts stated on page 120 of our main brief, that of the 30,497 trucks registered in South Carolina in 1936 only 328 (or about 1 per cent.) were licensed to carry more than three tons of net weight, and of this 328 only 19 (about .06 per cent.) were licensed

to carry more than four tons of net weight. (This shows a further striking similarity between the instant case and *Sproles v. Binford,* see 286 U. S. at 384.) The trucks licensed to carry not more than three tons will not weigh, with load, 20,000 pounds (R. 114; and see footnote at 286 U. S., 389).

Our point is that if there were a demand for heavy duty trucks it would be reflected in truck registration. Appellees make two answers to this. The first seems to be that "these registered figures do not reflect the true capacity of interstate vehicles." This may be intended to mean that the true carrying capacity of interstate vehicles is not actually registered. It is to be noted that the District Court made no finding as to the **number** of vehicles used in interstate commerce; nor did appellees' bill make any allegations along that line. Hence the Record is silent as to the **number** of vehicles referred to in the 85 to 90 per cent. described in Finding of Fact No. 7.

Appellees' second answer is that—

> "Appellants' use of these registration figures ignores the fact, as shown throughout the evidence, that by far the greater number of vehicles using the interstate highways into, from and across the State of South Carolina would be registered not in that State but in North Carolina and other States where their owners are resident."

In the first place, we are unable to find any evidence to support that statement and appellees fail to cite any Record reference to that effect. In the second place, a non-resident operating motor trucks for hire on the South Carolina highways in interstate commerce is required by South Carolina law to register his vehicles in South Carolina. Indeed, the appellees, in their complaint, cite the statute that requires such registration, and allege that such statute is applicable to them, although six of the seven appellees who are carriers

for hire (R. 12 to 14) are not residents of South Carolina (R. 2 to 3), all of which we will point out. The Act * referred to is the Act regulating motor carriers for hire, and is incorporated in the Code of Laws of South Carolina of 1932 as Sections 8507 to 8530, both inclusive. The appellees, in their complaint, Paragraph 2, cite this Act as affecting them (R. 4); again, they refer to said Act in Paragraph 9, without specifically designating it, although that reference could not refer to any other Act, and allege that the South Carolina Public Service Commission † had refused to issue licenses to them under said Act, and that they are required by said Act to obtain operating licenses for each unit of equipment operated on the highways by them (R. 12); and Section 8525 of the Code of Laws of South Carolina of 1932, requires all vehicles licensed as carriers for hire by the Public Service Commission to pay to the State Highway Department the same license fees as are required of residents of the State. See Sections 8525 and 5894, South Carolina Code of 1932, Appendix II hereto.

Although the registration data referred to were submitted at the trial appellees made no attempt to show that such figures did not include the vehicles operated by appellees. There is no showing that **registration** statutes were suspended by injunction. Registration is required for the dual purpose of identifying the vehicles registered and exacting compensation for the privilege of highway use. Although under injunctive protection interstate motor carriers might have used vehicles of any size or weight they saw fit, it seems clear that these figures show that only 19 vehicles weighing more than 20,000 pounds or less than .06 per cent.

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* In *Hicklin v. Coney*, 290 U. S., 169, this Court held that Act not to be an unreasonable burden upon interstate commerce, and approved its construction by the State Court, affirming 168 S. C., 440.

† The Public Service Commission of South Carolina was, until February 11, 1935, named "Railroad Commission", and by the latter name such Commission is designated in the Code of 1932. The name of the Commission was changed by Act No. 18 of 1935 (Acts of 1935, page 25).

of the trucks using South Carolina roads were even authorized to operate. It is reasonable to assume that not all of these were operating in South Carolina at the same time.

Thus, it may be seen that the commerce which appellees claim is interfered with, that which would be "practically prohibited" has been grossly exaggerated both in the proceedings in the lower Court and by appellees' brief.

Appellees refer at pp. 61-62 to an Act of the General Assembly of South Carolina passed in May, 1937, but vetoed by the Governor. To make clear what happened we set out here the Governor's veto message.

Journal of House of Representatives
May 18, 1937 No. 74, P. 7
Governor's veto message

Executive Chamber,
Columbia, S. C.,
May 17, 1937.

Mr. Speaker and Gentlemen of the House of Representatives:

I herewith return without my signature House Bill No. 341, Senate Bill No. 888, Act No. 567, entitled:

"To regulate and limit the use of highways: To provide for safe operation of vehicles on highways and to require safety equipment, devices and measures; and to provide for the enforcement of this Act and to prescribe penalties for the violation thereof."

I have given the measure my most serious thought and am convinced after weighing its good and bad features that the ultimate effect will be to impair rather than promote safety upon the highways of South Carolina.

It is another of those highway omnibus measures. It permits veritable trains upon the roads of South Carolina,

and requires the ordinary citizen, the driver of the model "T", to carry five tires in meeting and dodging these large trains on our highways.

Respectfully submitted,

(s) OLIN D. JOHNSTON,
Governor.

This veto was sustained by the vote of the House of Representatives, 83 voting to sustain it and 27 voting to override it. Journal, May 19, 1937, No. 75, pp. 51-52.

We see no valid purpose for showing, in this proceeding, subsequent action by a portion of the legislature which, in its final result, was not conclusive. It is only natural that such body would attempt to take some kind of action to protect the roads. The effect of the injunction in this proceeding and the long series of judicial proceedings immediately preceding it was to virtually paralyze the legislative action. So far as the law is concerned vehicles of any size or weight must be permitted to proceed at will. The fact that a portion of the legislature thought it wise or expedient to lay down some kind of limitation thought to be valid, even though radically different than the statute in question, is no proof that the character of South Carolina roads has changed or that even the opinion of the legislature has changed and certainly does not prove that the statute in question is unreasonable.

In pages 63 to 100, appellees argue that the 20,000 pounds gross weight limitation is not a valid weight limitation because highway stresses are ruled by wheel and axle loads.

(a) The first observation to be made on this argument is that it was completely disposed of in *Sproles v. Binford, supra* (286 U. S., 374). As we pointed out in pages 38-39 of our brief, the printed record shows that the evidence pre-

sented by complainants in that case was of the same character on this point as the evidence in the instant case, except that it was better organized and stronger. The testimony of Thomas H. MacDonald, Chief of the United States Bureau of Public Roads, before the Interstate Commerce Commission, Docket No. 23400, referred to at page 39, appellees' brief, was a part of that record. With respect to all this the Court said (286 U. S. at 388):

> "Appellants urge that this provision repeals the former law which was properly designed to protect the highways and that the drastic requirement of the amendment is opposed to sound engineering opinion; that when gross weight is restricted by the 600 pounds per inch of tire spread upon the highway there is left sufficient margin to carry greater cargoes than 7,000 pounds without causing damage; and that damage from overweight can be prevented only by regulations which fix a maximum gross load and provide for its proper distribution through axles and wheels to the highway surface."

Then follows that part of the opinion recited on page 39 of our first brief.

(b) However, assuming this were a case of first impression, the evidence amply supports the statute. We have covered this in pages 46 to 108 of our first brief.

At page 65 appellees state that our defense of the 20,000 pounds gross weight limitation is based upon "maneuverability" and facility of compliance. These are only two observations occupying respectively one-half page (67) and less than two pages (71-72) of our brief. Our principal arguments supporting the 20,000 pounds gross weight limitation appellees do not answer.

(a) As pointed out in our first brief (pp. 50-52), it is evident that the District Court held the 20,000 pounds gross weight limitation invalid only because it found that the concrete paved **portions** of the four per cent. of the highways to

which the decree extends can carry safely 8,000 to 9,000 pounds wheel loads and 16,000 to 18,000 pounds axle loads. The District Court was not justified in making this finding, however, because in any view there was a substantial conflict of the evidence on it; however, we submit that the plain weight of the evidence was to the contrary (pp. 50-63).

(b) The 20,000 pounds gross weight limitation for its own sake is amply justified under the evidence. It remains undisputed that 1,080 to 1,200 miles of the concrete pavement has no center joint, and that as to such pavement the 20,000 pounds gross weight limitation is generous. Subgrade conditions turn numerous short pieces of concrete pavement into virtual bridges, absolutely necessitating the statutory limitation. Appellees make no mention of *Werner Transportation Co. v. Hughes,* 19 Fed. Supp., 425, in which a Three-Judge-Court opinion (our first brief, pp. 78-79), substantiates at length our evidence on this point (pp. 63-83).

(c) There does not in fact exist the well-connected system of concrete highways which the District Court assumed, not only without any evidence to support its assumption but directly in the face of all of the evidence on the point, which is entirely to the contrary (pp. 86-94).

(d) The statute is necessary to protect **all** of the bridges and highways of the State (pp. 95-108).

Facility of compliance with the statute was cited by us as one of the practical considerations in the mind of the Legislature commending the statute as contrasted with the wheel and axle weight theory urged by appellees as the only proper kind of limitation.

"Maneuverability" was merely cited by us as one of the objectives of truck operators in placing a greater portion of the truck load on the rear axle so the truck may be easily streered by its front wheels. The customary lighter weight on the front axle is merely one of the elements to

be considered in showing that a gross weight limitation automatically includes the elements of wheel and axle weight limitation.

Appellees place great reliance on their claims: (a) That heavier loads than the statute permits have been going over the concrete highways; (b) that no damage to them has appeared, and (c) this proves that the highways can bear safely these heavy loads (p. 84 and elsewhere).

The first fallacy in appellees' argument on this point is their assumption that because statutory weight limits were enjoined as to some carriers since December, 1934, loads heavier than those permitted by the laws in question actually moved over the highways. If this point is pertinent to the issues, appellees had the burden of proving it. They failed to do so. If any assumptions are to be indulged in we must assume that the law was obeyed particularly after it was found in the *Nutt case* that the law is valid and after *certiorari* had been denied by this Court.

On the proposition that no damage to the highways has appeared as a result of heavy traffic, whatever it may have been, the evidence is to the contrary and for this further reason the whole proposition falls.

The only witness for appellees who made any examination of the roads at all was Harry Tucker. As appellees admit (p. 84), "he made no detailed study of the highways." In fact his only "study" was the automobile trip over the route shown on Appendix VII, page 161 of our first brief. There is no evidence that there was no damage to the concrete roads. To the contrary J. S. Williamson, Chief Engineer of the South Carolina Highway Department, testified that there have been serious failures in the concrete pavements (R. 176, 187), that the concrete pavement will stand excessive loads for a time but will break down sooner than if it had a lighter load (R. 195). Clifford Older testified that concrete pavement may be overstressed for sev-

eral years without showing visible signs of distress, but that overstressed roads will break down finally as the direct result of overloading them, due to the accumulation of fatigue in the concrete (R. 235). None of this testimony is contradicted.

So, even if we assume that some concrete roads have been carrying excessive loads such assumption does not establish that such loads have not caused or are not causing failure that has destroyed or will destroy the road, nor that such roads can bear safely such heavy loads.

Appellees by their scant reference at pages 86-87 do not answer the argument and the material from "Public Roads" and from the opinion in *Werner Transportation v. Hughes, supra* (19 Fed. Supp., 425), set out in pages 72-81 of our brief. If they had an answer the same talent which deailed the history of highway transportation in pages 7 to 54 of their brief would surely have devoted more space to this important point.

They refer to these excerpts as being "lifted bodily from their contexts." If this were a just criticism, they could have easily demonstrated it. We think that the quoted excerpts are substantial summaries of the entire articles. To demonstrate this, we here set out the summarizing paragraph of the article from "Public Roads" referred to on page 73 of our first brief. This paragraph is from page 62, No. 3, Vol. 10, May, 1929. The italics are supplied.

> "According to the preceding discussion, the selection of type and the design of pavements are not arbitrary matters. Each and every particular pavement variable—stability, "beam" strength, pavement thickness, steel reinforcement, grooves and joints, shoulders, subbases, subgrade treatments, subgrade preparation and artificial drainage, has a particular function to perform with regard to the conditions of support furnished by the subgrade. *Therefore, subgrade data fur-*

nish the only possible basis for rational pavement design.''

At page 87, appellees state: ''The evidence discloses that the subgrade conditions in South Carolina were 'most excellent'.'' This happens to be the general statement without any supporting details, of Harry Tucker, who, as appellees admit (p. 84), ''made no detailed study of the highways,'' and whose ''study'' was confined to the automobile trip shown on Appendix VII, page 161, of our first brief. It is contradicted by the specific evidence of Chief Highway Engineer Williamson (R. 160, 179), and ''Public Roads'' (see pp. 75-76 of our first brief). Mr. Teller stated that he knew nothing about the roads of South Carolina (R. 134), hence he obviously would not have ''had these factors in mind'' when testifying.

These excerpts from ''Public Roads'', particularly the one set out just above, in addition to the application made in our original brief, demonstrate the additional fact that there can be no such thing as a standard concrete pavement of equal bearing power throughout all the states.

Appellees concede (pp. 89-91):

''that if the extraordinary estimates of Appellants' witness, Mr. Clifford Older (R. 231-250) be accepted, the finding of the District Court was not correct.''

This concession should end the case, despite appellees' attacks on the witness. In the first place, a considerable part of his testimony was substantially the same as that of Chief Highway Engineer Williamson. And a large part of his testimony that is not similar to Williamson's is not contradicted, plainly can not be contradicted, and is conclusive of the issues; we refer to his testimony relative to the 1080 to 1200 miles of the concrete pavement which has no center joint (See our first brief, pp. 67-69). The correctness of his testimony that such pavement should not be subjected to wheel loads in excess of 4,000 to 4,200 pounds was not

questioned by anyone at the trial, and is not attacked in appellees' brief. If there has been an answer to it appellees surely would have put their witnesses Tucker and Teller on the stand to furnish it.

And Mr. Older's testimony as to the weakness of pavement without center joint (p. 68 our first brief) is corroborated by the best authorities. Thus H. M. Westergaard (referred to in Mr. Tucker's testimony, R. 126), Professor of Theoretical Science, University of Illinois, stated in an article entitled "Mechanics of Progressive Cracking in Concrete Pavements," in Vol. 10, No. 4, p. 69, May, 1929, of "Public Roads":

> "If a longitudinal crack occurs in an unreinforced pavement, it is likely to open up widely, since the slabs may creep transversely. In view of this relative significance of the longitudinal cracks, it appears especially desirable to anticipate the tendency for the cracks to form by introducing properly designed longitudinal joints."

In "Public Roads," Vol. 11, No. 8, p. 152, October, 1930, the following is stated in an article on cement pavements, at p. 155:

> "Longitudinal joints in pavements have met much favor, as they eliminate irregular longitudinal cracking."

As a conclusion the same article states (p. 155):

> "11. *Longitudinal and transverse joints are commonly used and must be designed to meet traffic, subgrade, and climatic conditions.*" (Italics supplied.)

There is a detailed study of the subject of longitudinal joints in the September and October, 1936, issues of "Public Roads," Vol. 17, No. 7, p. 143, and No. 8, p. 175. This is entitled "A Study of the Structural Action of Several Types of Transverse and Longitudinal Joint Designs," by the Division of Tests, Bureau of Public Roads, and is reported by L. W. Teller, Senior Engineer of Tests, ap-

pellees' witness in this case, and Earl C. Sutherland, Associate Highway Engineer.

In No. 7, at pp. 145-146, it is stated:

> "The decade following 1920 also saw the general adoption of longitudinal joints that divide the pavement into slabs approximately 10 feet wide. Experience showed that such joints practically eliminated longitudinal cracking and, since this width is about what is required for a single lane of traffic, the practice of building pavements in slabs about 10 feet wide has developed naturally and has resulted in effective control of longitudinal cracking.
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> "During the early part of this decade researches such as the test road at Pittsburg, Calif., the Bates road tests in Illinois, and experiments of the Bureau of Public Roads at Arlington, Va., developed certain basic facts concerning the effect of loads on pavement slabs of various designs. In all of these researches the need for strengthening slab edges was definitely indicated. Free edges of slabs can be strengthened most simply by increasing the slab depth, but where the slab adjoins others the possibility for inter-slab support as a means for strengthening the edges has long been recognized and has led to many proposals for joint designs in which varying degrees of interlocking action are developed. The use of transverse joint designs in which some form of load-transfer mechanism is incorporated has become quite general, the round steel dowel bar being the most common."

In "the most important conclusions to be drawn as a result of this study," it is stated in No. 8, p. 191:

> "3. Since a free edge is a structural weak spot in a slab of uniform thickness, it is necessary to strengthen the joint edges by thickening the slab at this point or by the introduction of some mechanism for transferring a part of the applied load across the joint to the adjacent slab. *Otherwise, the strength of the joint edge will determine the load-carrying capacity of the pavement.* (Italics supplied.)

> "4. The structural effectiveness of a joint design is measured by its ability to reduce the critical edge stress to a value equal to the critical stress which exists in the interior area of the slab."

The conclusions then go on to describe the various types of joints used and their effectiveness in transferring the load to the adjacent slab.

Arthur G. Bruce, Senior Highway Engineer of the United States Bureau of Public Roads, states in his book "Highway Design and Construction" (International Textbook Co., 1934), on page 367:

> "It has also been found advantageous to divide pavements into lanes about 10 feet wide by longitudinal joints as longitudinal cracking is thus reduced to a negligible amount."

In "Principles of Highway Engineering" by Carrol C. Wiley, C.E., Ass't Professor of Highway Engineering, University of Illinois (McGraw-Hill Book Co., 2nd Edition, 1935), it is stated on page 228:

> "Center Joints. Center joints were suggested about 1912, but the idea received little attention until the Bates road [2] tests showed their advantage. *They have now become standard practice on both rural roads and city streets.* (Italics supplied.)

The foregoing also demonstrates that the 1080 to 1200 miles of concrete pavement in South Carolina without center joint plainly cannot be called "standard pavement." It further demonstrates again that there can be no such thing as standard concrete pavement throughout all the states because longitudinal joints must be designed, as stated in "Public Roads", "to meet traffic, subgrade, and climatic conditions." Obviously these are local conditions.

As to Mr. Older's reputation and professional standing, he was respectfully referred to by appellees' engineering witness Tucker (R. 126, 129). He is also referred to

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[2] Proc. A. S. C. E., Vol. 50, No. 2, p. 175, February, 1924.

with respect in Mr. Bruce's book (p. 281) as the originator of "the formula widely used for determining thickness at the edge of a double track pavement resting on ordinary soil." This is identified by Mr. Bruce as the Bates road test. And it is interesting to note that the Court in *Werner Transportation v. Hughes, supra,* found as a fact that the concrete roads in Illinois had been damaged, as Mr. Older testified that he had observed (R. 238).

On page 97 appellants state:

> "* * * The enforcement of the South Carolina regulations will result in defeating the purposes for which the national Government and the states have completed the improved and capable primary Federal Aid System."

There is no competent proof in the Record as to what are these "purposes." Conceivably these purposes may be to furnish to 99.94 per cent. of the trucks which are licensed to carry no more than four tons or the 99 per cent of the trucks licensed to carry no more than three tons (R. 272) and all the passenger cars with safe and adequate highways, building a great deal more mileage for such than could be built with the same money for the heaviest vehicles (R. 161). The Bureau of Public Roads has recognized such a purpose in furnishing aid for such low type roads (R. 253). And it assuredly is not defeating any conceivable purposes for the State to insist upon preserving the 148.3 to 358.2 miles of low type roads interspersed with the concrete upon the numbered highways named in the decree (our first brief, pp. 92-93). The undisputed evidence and the District Court's findings are that the statute is necessary and reasonable as to such types of roads, but the decree opens them to unrestricted weights because the Court thought them unimportant (our first brief, p. 93). It further is not defeating any purpose for the State to insist upon preserving its 1080 to 1200 miles of concrete pavement

without center joint as to which it is not contradicted that they should be limited to wheel loads of 4,200 pounds (our first brief, pp. 67-69). It is not defeating any purpose when the legislature, upon the advice of highly competent State engineers, fixes a weight limit calculated to preserve all of the State's highways. It is not defeating any purposes for the State to seek to conserve its best concrete highways upon the advice of its own engineers even though commercial truckers with their own "purposes" to serve dispute the opinion of such engineers.

Furthermore, there is no explanation in the record of the "capable primary Federal Aid System" referred to in such statement. Although such roads may be capable for automobile traffic and the great majority of trucks, namely those not exceeding 20,000 pounds gross weight, we cannot assume that the Federal Aid System, as a system, is capable of supporting vehicles of greater weight than 20,000 pounds or even of the axle loads of 16,000 to 18,000 pounds.

On page 103 appellees purport to set forth the contrast in the respective positions of the appellants and the appellees. In the first place attention is called to the fact that appellants' position there referred to by appellees is only a part of one of several arguments earnestly urged by us. Furthermore, appellees attempt at showing a contrast falls far short of doing so. Without in any way attempting to repeat our legal arguments or in any manner to limit those we urged in our original brief by what we say here, it is apparent that appellees proceed upon the premise that the statute in question "exceeds the reasonable necessity for the exercise of the police power." That is an incorrect premise. As we insisted in our original brief, we take the position that the statute does not exceed the reasonable necessity for the exercise of the police power. This is apparent from a consideration of our brief. The cases cited

on pages 105 to 115 of appellees' brief do not reach the fundamental principles we rely on to sustain the statute.

On page 118 appellees apparently claim that the principles of certain cases which we cite (being *Geer v. Connecticut,* 161 U. S., 519; *Silz v. Hesterberg,* 211 U. S., 31; *Bayside Fish Flour Co. v. Gentry,* 297 U. S., 422), have been "repudiated" by other cases. To show how erroneous is appellees' claim it is only necessary to read the cases which we cite. The principles they state have never been questioned. They distinguish the cases which appellees cite. Thus, the latest of them all, *Bayside Fish Flour Co. v. Gentry, supra,* cites as authority *Silz v. Hesterberg, supra,* and (p. 427) expressly distinguishes from this line of cases *Foster-Fountain Packing Co. v. Haydel,* 278 U. S., 1.

There is nothing in *Oklahoma v. Kansas Natural Gas Co.,* 221 U. S., 229, or *Pennsylvania v. West Virginia,* 262 U. S., 553, which in the least diminishes the state power upon which we rely. The controlling principle of the decision in *Oklahoma v. Kansas Natural Gas Co.* is shown in the following from p. 262:

> "The State, as we have seen, grants the use of the highways to domestic corporations engaged in intrastate transportation of natural gas, giving such corporations even the right to the longitudinal use of the highways. It denies to Appellees the lesser right to pass under them or over them, notwithstanding it is conceded in the pleadings that the greater use given to domestic corporations is no obstruction to them. This discrimination is beyond the power of the state to make."

And the principal issue in *Pennsylvania v. West Virginia* was stated by the Court, as follows:

> "We turn now to the principal issue, whether a State wherein natural gas is produced and is a recognized subject of commercial dealings may require that in its sale and disposal consumers in that state shall be accorded a preferred right of purchase over con-

> sumers in other states, when the requirement necessarily will operate to withdraw a large volume of the gas from an established interstate current whereby it is supplied in other States to consumers there."

In pages 133 to 140 appellees attempt to distinguish *Morris v. Duby,* 274 U. S., 135, and *Sproles v. Binford,* 286 U. S., 374. As a part of that argument they make what we consider to be an incorrect statement of the record on page 140. While *Morris v. Duby* did not contain some of the fact elements of this case, the law there declared demonstrates the District Court's error. But *Sproles v. Binford* does contain every fact element present in the instant case. Because of appellees' continuous insistence to the contrary, we again briefly discuss this case in connection with appellees' argument at this point.

In *Sproles v. Binford* there was (1) as much burden on interstate commerce as the instant case, (2) the same kind of engineering evidence as the instant case (our original brief, pp. 38-39; and this reply brief): (3) and in the instant case, as in the *Sproles case,* there is no regularly connected system of concrete highways. It is this third element we notice at this point. We wish to call the Court's particular attention to appellees' erroneous statement of the record on page 140.

The correctness of the figures shown in the table on page 92 of our first brief is not challenged by appellees, as indeed it could not be, being based strictly on appellees' Exhibit No. 6. Appellees' only reference to this table is to draw the patently erroneous deductions stated on page 140 of their brief. So let us see just what that table does show.

The table shows the roads designated by number in the District Court's decree. It shows the mileages of the various types of road surfacing on such designated roads. The total mileage of all types of surface is 1134.7 miles. Of this total mileage there are the following mileages of roads

which, under the undisputed evidence and as found by the Court, are the types as to which the 20,000 pounds gross weight limitation is reasonable. Bituminous types are omitted from the following table and will be considered separately.

	Miles	*Per Cent. of Total*
Macadam surfacing	70.9	6.2
Sand-clay surfacing	25.2	2.2
Earth surfacing	10.3	0.9
Not specified surfacing.....	41.9	3.7
Total	148.3	13.0

Thus, leaving out of consideration any bituminous types, there are in the highways specifically designated by number in the District Court's decree 148.3 miles of low-type, non-bituminous and non-concrete roads, constituting 13 per cent. of the total of such mileage.

As to the bituminous types, the map, appellees' Exhibit 6, includes all bituminous types under one key marking, that is, the map legend states that roads marked "A" include "roads having surfaces of bituminous materials irrespective of base: such as Sheet Asphalt, Bituminous Concrete, Bituminous Macadam and all types included in Bureau's Code Numbers 480-630". Of these there is a total mileage in the numbered highways enumerated in the decree of 209.9 miles or 18.5 per cent. of the total.

The only evidence in the record even tending to support appellees' claim as to the load-carrying capacity of any type road other than concrete is that concerning bituminous concrete. At page 140 of appellees' brief appears the following:

> "Thus, of the total of 1134 miles on these 7 highways across the State of South Carolina, only 3.1 per cent., or 35 miles, is shown as not surfaced either with concrete, *bituminous macadam,* or bituminous concrete,

which the evidence disclosed was of the best type and to be ably supporting the present traffic without damage." (Italics supplied.)

Although not mentioned in our original brief, appellees' Exhibit No. 4 (R. 253) "Mileage of Highway and Grade Crossing Projects in South Carolina Improved With Funds Available to the Bureau of Public Roads as of October 31, 1936" indicates that there are 3.3 miles of bituminous macadam pavement in the Federal Aid system in South Carolina. Except for that one reference and for the legend which appears on the map, appellees' Exhibit 6, there is no evidence in the record of any character even tending to show the existence of bituminous macadam pavement in the State of South Carolina. The record also shows (R. 159) 1724 miles of bituminous surfacing on a "low cost," processed sand, sand-clay or similar base described by the witness, Williamson (R. 160, 161). There is not only a failure of proof as to the existence of more than 3.3 miles of bituminous macadam pavement in the State, and failure of proof as to where it may be located, but appellees assume in the above-quoted excerpt from their brief a condition of the record which does not exist when they include bituminous macadam pavement among the highways described "as of the best type." The appellees' own witness, Teller, at R. 134, admits the impossibility of calculating the weight-carrying capacity of bituminous macadam and similar types of pavement. As we indicated in our original brief, if it is material to the issues, appellees had the burden of proving that the seven highways named in the decree constitute a well-connected system of roads capable of bearing loads greater than those prohibited by the statute. Certainly the 209.9 miles of bituminous surfacing is not proven to be bituminous concrete. Neither is it proven to be bituminous macadam, and even if it were it is not proven that bituminous macadam is capable of supporting loads any greater than those permitted

by the State. The District Court held to the contrary. See the discussion of all this in pages 91-94 of our first brief.

Thus the highways designated by number in the District Court's decree, presumably the best in the State, totaling 1134.7 miles, contain, interspersed in that mileage, from 148.3 to 358.2 miles of low-type surface roads, types as to which the 20,000 pounds gross weight limitation was found reasonable by the District Court (R. 85).

In view of these undisputed facts we see no foundation for the statement on page 140 of appellees' brief.

It is submitted that had the District Court realized these facts it would not have found (18th Finding of Fact, R. 81, R. 85) that this interspersed mileage of low-type roads consists of "a few short stretches a few miles in length which are not of sufficient importance to justify the denial of the use of these arteries of commerce for the use for which they were constructed." As we pointed out at page 93 of our first brief this is not a finding of actual fact but is a conclusion lacking any factual basis.

It is further submitted that the foregoing plainly shows that in the instant case, as in *Sproles v. Binford, supra,* the high-type roads do not form a regularly connected system. And when it is considered that the District Court held that as to 96 per cent. of the highways the statute is reasonable, the similarity to *Sproles v. Binford* is further revealed.

In pages 141 to 149 appellees attempt to meet Part IV of our first brief, pp. 139-144. Unfortunately for appellees' contentions the cases of any materiality which they cite are direct authority for our position. We are particularly indebted to appellees for referring to *Central Kentucky Co. v. Commission,* 290 U. S., 264. Thus in that case the actual holding of this Court was (p. 271):

> "District courts may set aside a confiscatory rate prescribed by state authority because forbidden by the Fourteenth Amendment, but they are without authority

> to prescribe rates, both because that is a function reserved to the state, and because it is not one within the judicial power conferred upon them by the Constitution." (Citing cases.)

And this Court there reversed the District Court because it refused to enjoin one rate unless the plaintiff would accept another.

The other rate fixing cases cited by appellees are those in which a court **as part of temporary injunctive relief to maintain the** *status quo pendente lite* fixed a maximum rate. This Court distinguishes temporary relief of that kind from permanent injunctive relief in *Central Kentucky Co. v. Commission, supra.*

It seems plain that if the District Court had realized that it must consider the highway system as a whole and that it could not enact a new width limit it would have held the statute valid as to all roads.

Appellees state (p. 143) that the District Court "faced an intricate and difficult problem * * *." Taking that statement at its face value, it simply means that in the attitude it adopted the District Court took upon itself legislative powers.

On October 29, 1937, the Court of Appeals of Kentucky upheld the constitutionality of the laws of Kentucky limiting gross weight of motor vehicles, including a tractor-semi-trailer combination, to 18,000 pounds. *Whitney v. Fife,* 109 S. W. (2nd), 832. At p. 835 the Court said:

> "* * * it appears to us that the conclusions reached by the court in the South Carolina decision are not in accord with the decisions of the Supreme Court of the United States in so far as it held the South Carolina statute invalid as to certain roads, and failed to give effect to the principle that the legislative authority had the right to use its judgment in determining what regulations were necessary or proper, as was

held in the various opinions of the Supreme Court cited herein."

Respectfully submitted,

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APPENDIX I.

Acts of South Carolina, 1920—Statutes at Large, Volume 31, pp. 1072, 1075

ACT No. 602

AN ACT to Create a State Highway Department, to Define Its Duties and Powers, to Provide Funds for Its Maintenance by the Licensing of Motor Vehicles Operated on the Highways of the State, to Raise Revenue for the Construction and Maintenance of a System of State Highways, and to Assent to the Provisions of an Act of Congress, Approved July 11, 1916, Entitled "An Act to Provide That the United States Shall Aid the States in the Construction of Rural Post Roads and for Other Purposes," and All Acts Amendatory thereto.

Section 9. Offenses in Regard to State Highways—Obstruction of Drainage—Placing Objects Injurious to Vehicles—Cutting Trenches, Etc., Without a Permit—Loads or Vehicles of Excessive Weight or Width—Tractors—Timber Carts.—It shall be unlawful for any person to willfully obstruct ditches and drainage openings along said roads, to place obstructions upon said roads, or to throw or place on said roads any objects likely to cut or otherwise injure vehicles using same. It shall also be unlawful for any person, firm or corporation to cut trenches, lay pipes or tracks through, under, over or on said highways and bridges without first obtaining a permit from the State Highway Engineer; or to transport over such highways and bridges loads exceeding a specified tonnage or weight per square inch of bearing surface in excess of that prescribed in the regulations laid down by said Highway Commission; or to run or operate any farm tractor or traction engine with wheel lugs or cleats on said highway, without first removing said lugs or cleats, or providing fillers for same,

so that no injury will be done to road surface, **or to operate over said highways or bridges any motor vehicle, the maximum width of which, or of the load it carries, exceeds seven and one-half feet (7½′),** or to operate motor vehicles with chains upon or around the wheels, contrary to such regulations for the use of chains which may be adopted and promulgated by the State Highway Commission. It shall also be unlawful to operate upon any of the public highways of this State any two-wheeled timber carts, with tongue or small wheel attached thereto, which comes in contact with the road, and it shall also be unlawful to operate any vehicle over said roads for the purpose of carrying timber or other loads, by which timber or any other character of load is allowed to strike or drag on the surface of the road: Provided, further, That this proviso shall not apply to four-wheeled lumber carts where the load is so suspended as not to come in contact with the road. Any violation of the provisions of this section shall be deemed a misdemeanor and punished by the fine or imprisonment prescribed in Section 15 hereof. (Emphasis added.)

APPENDIX II.

Code of Laws of South Carolina of 1932, Volume 3, Section 8525 and Section 5894

Section 8525. Additional Annual License Fee Required of Owner or Operator of Motor Vehicles Engaged in Transporting Persons or Property for Compensation.—(1) *Amount.*—Before operating upon the public highways of this State, every owner or operator of motor vehicles engaged in the business of transporting persons or property for compensation on the public highways of the State of South Carolina under the provisions of Sections 8507 to 8524, inclusive, shall, in addition to the license fees imposed by said sections pay to the State Highway Department an annual license in an amount equal to or the same as the annual license paid by and required of the owner of motor vehicle under the provisions of Section 5894.

(2) *Purpose of this Section.*—It is the purpose of this section that the annual license herein imposed shall be in addition to the license fees imposed by Sections 8507 to 8524.

(3) *Disposition of Funds.*—All funds derived by the State Highway Department from the provisions of this section shall be credited to the State Highway Fund and used for the construction and maintenance of the State Highway System.

(4) *Violation a Misdemeanor—Penalty.*—Any person, firm or corporation violating the provisions of this section shall be deemed guilty of a misdemeanor and upon conviction shall be fined not less than Ten ($10.00) Dollars nor more than One Hundred ($100.00) Dollars or be imprisoned not less than ten (10) nor more than thirty (30) days within the discretion of the Court.

1930, XXXVI, 1398.

Section 5894. Annual License Tax on Motor Vehicles—For Part Year—Transfers—"Motor Vehicle" Defined.—On and after January 1, 1926, every resident owner of a motor vehicle in the State of South Carolina shall pay to the State Highway Commission in lieu of all other State, municipal or county licenses, an annual license as follows:

For each automobile weighing not over 2,000 pounds, the sum of Nine ($9.00) dollars; for each additional 500 pounds of weight, or fraction thereof, the additional sum of three ($3.00) dollars. The manufacturer's weight of automobiles shall be accepted as the weight for the purpose of registration hereunder. And for trucks the license fees shall be as follows:

Trucks of a capacity of not exceeding one ton, thirty ($30.00) dollars, trucks exceeding one ton and up to and including two tons, sixty ($60.00) dollars. Trucks exceeding two tons and up to and including three tons, one hundred and twenty ($120.00) dollars. Trucks exceeding three tons and up to and including four tons, two hundred ($200.00) dollars. Trucks exceeding four tons and up to and including five tons, four hundred ($400.00) dollars. Trucks exceeding five tons and up to and including six tons, six hundred ($600.00) dollars. Trucks exceeding six tons and up to and including seven and over, eight hundred ($800.00) dollars: *Provided,* That a reduction of fifty (50%) per cent. on the license be allowed on all trucks using pneumatic tires on all the wheels. Lumber trucks and other trucks with trailer attached shall pay an annual license of twenty ($20.00) dollars for each trailer so operated, and an additional sum of eight ($8.00) dollars for every 1,000 pounds or part thereof of ordinary loading capacity of such trailer: *Provided,* That where pneumatic tires are used on trailers a reduction of fifty per cent. shall be allowed: *Provided,* That no truck larger than a four-ton truck shall be allowed to be used on a highway or public road in this State unless the

person desiring to operate any such truck larger than a four-ton truck shall first make a petition to the authorities in charge of the roads in any county where it is proposed to operate such truck, stating the road or roads proposed to be used and such road authorities shall consent to the use of such truck on such roads, and such consent shall be approved by the State Highway Engineer, in which event such truck shall, upon payment of the license fee herein provided, be permitted to operate on the road stated in the petition and none other. For every motorcycle, five ($5.00) dollars *per annum.*

All licenses shall expire on the 31st day of December, following the day of issuance. Annual license shall thereafter be issued between the first day of January and the first day of February of each year. In the case of motor vehicles registering for the first time, the full annual fee shall be paid for licenses issued between January 1 and March 31st; three-fourths of the annual license fee for license between April 1st and June 30th; one-half of the annual fee of license between July 1st and September 30th; and one-fourth of the annual fee for license issued between October 1st and December 31st. The State Highway Commission shall furnish the Clerk of Court of each county with a sufficient supply of application blanks for licenses for use of the people of the county. The term motor vehicle, as used in this section, shall be construed to mean and include all automobiles and vehicles, whether propelled by steam, gasoline, electricity or other such sources of energy other than muscular power, except farming implements, or as operated only upon rail or tracks therefor.

1926, XXXIV, 983.