

BENNETT CALLS CHURCH TO RISE FROM LETHARGY

Evangelist in Preliminary
Meeting to Revival Says
Majority of Members are
Sound Asleep.

"The churches are dead and they don't know it. Ministers are spending too much time on doctrinal points and too little on presenting real, practical gospel. The majority of church people are asleep and indifferent. The only difference between them and the worldly people is that the church people broke in to get their names on the registers."

Rev. Rollin A. Bennett, of Marion, evangelist, who is here to conduct a four-weeks' city-wide revival at the tabernacle of the Central Christian church, made this statement to a representative congregational meeting.

BOARD GUARDIANS INAUGURATE POLICY OF LOCATING HOMES

"The Board of Children's Guardians will make an effort to obtain a list of homes in which dependent children can be placed in the future instead of keeping them at the expense of the county," said Fred White, president of the board this morning.

"Of course, in all instances, it is not practical to place dependent children in homes, but we have decided that Wayne county should not have more than five children at White's institute at any one time," he said.

MEETING POSTPONED

Dr. L. S. Harold, chairman of the Wayne county Old Trails Road association, and leaders of the Fountain City members of the association, are planning a big meeting of road enthusiasts to be held in that town week after next. The date has not been selected. The meeting scheduled for last night was postponed with the expectation of making the next session a more representative meeting. It is planned to hold a meeting similar to that held in Hagerstown recently when distinct success followed the efforts of the leaders to arouse enthusiasm and support for good roads.

BUY CITIZENS' PILLAR.

MARTINSVILLE, Ind., Sept. 6.—A "Citizens' Pillar" is to mark the Dixie Highway near here. A citizen's name is inscribed on each brick for the nominal charge of two-bits.

\$25,000 FOR

[Continued From Page One.]

gas plant has had an effect on the deterioration, according to the report. The poor drainage, however, has more to do with the rapid rusting than any other cause. The overloading stress is also a factor in this, according to the report.

Although there is no outward evidence of the fact, Engineer Hall is of the opinion that the comparatively poor steel used in the bridge is one of the reasons for its present deteriorated condition. It is constructed of Bessemer steel, which has now been discarded as suitable steel for bridges. It is not uniform in strength so that the stress are distributed unequally. This, he said, could not be determined by an inspection but would have to be determined after an analysis.

Bridge Outlined Useless.

"The bridge has lived out its natural life," said Mr. Vawter. "Twenty years for a bridge built in that style, is about the limit of its safety. This fact, in addition to the overloaded condition, makes it imperative that a new structure be built for the present traffic."

"The effect electrolysis has had on the bridge, is an uncertain quantity," said Mr. Vawter. "We cannot determine that so we did not include that in our report but based our conclusions on facts that were clearly apparent."

Report of Commission.

The following is the report of the commission in part:

The bridge was built nearly 20 years ago. Its details white up to the standard of that time for common highway bridges, are in many cases poor in design and deficient in quantity. It is not clear in the light of existing documents that any other floor than a wooden floor was contemplated. Street cars, much less interurban traffic were not provided for.

It would be safe to say, therefore, that the bridge was found to be in the additional requirements of today, that is to say, a very heavy floor, the heaviest of interurban traffic, increasing loads of motor trucks, etc., even without discounting its strength by the excessive deterioration.

When these excessive loads are put on a structure that was not built to withstand them and in addition a serious loss of metal has occurred due to rust, it must be expected that dangerous conditions are likely to result.

Factors in Construction.

In considering this phase of the matter, attention should be directed not only to loss of main section, but to the bracings and connections upon which, especially in the towers, the safety of the entire structure depends.

Judgment in respect to safety of the structure must consider, also, the location of the bridge, and the loss of life, and interruption of traffic that would follow a sudden collapse. The loads on the Main Street Bridge at present are known, but the probable increase in motor truck traffic in a few years and increased severity and frequency of loading incident to its use as part of a National Highway must be kept in mind. Standards of safety, and a margin of safety, appropriate in an obscure highway bridge

of light and unimportant traffic cannot be held to apply to the case in hand. There should be something more than a close avoidance of collapse. The factor of safety against unexpected contingencies of loading and unavoidable deterioration should not be trespassed upon.

Our technical analysis of the stresses in the present Main street bridge shows that this factor of safety has been largely encroached upon; and the stresses figured in the main members approach the limit of their capacity. In some cases where a substantial portion of the metal has rusted away, the members must be held to be dangerously stressed when the bridge is loaded with present traffic.

How Bridge May Collapse.

The account of the condition of the bridge below (appendix) recites the physical facts, not only in main section, but at gusset plates, joints, and in bracing struts. It must be pointed out that the collapse of some of the tower bracing, which shows signs of undue deformation and rusting, would be followed by the collapse of the bridge.

(a) We find that with an interurban car and a uniform live load of 100 lbs. per sq. ft., allowing no loss due to rust, that the main members of the floor system and trusses under the car track are over-stressed from 50 to 100 percent; and that, when deterioration has been allowed for, the stress approaches the elastic limit of the steel, at which the factor of safety would disappear.

Appendix No. I shows the results of a detailed examination of the bridge in which all the defects are specified and located by reference to a drawing of the bridge.

This survey shows a very serious deterioration about the stringers, floor-beams and top cord over South truss, and the bracing system of the towers. The riser blocks are nearly all broken. At the East end of the bridge the pedestals are both crushed and the portion of the abutment badly cracked. There is general deterioration throughout the entire structure.

Repairs.

In estimating the cost of repairs, we have fixed as an end the original strength of those parts of the structure, such as struts and bracings and the rearranging of the floor system. The main members of the towers, the trusses and the floor beams and the stringers are not restored to their original sectional area. The work of repairs is summarized as follows:

The removing of all pavement from both main roadway and sidewalks.

The supporting of the 160 foot span and the four 80 foot spans of false-work.

The removal of all struts and sway bracings and the introducing of the new members in their stead.

The substituting of steel plate risers at points of beam and joist bearings, for cast blocks now in use.

The thorough cleaning and painting of all metal work in the structure.

The providing of an asphalt concrete base over buckle plates in the main roadway to support pavement, together with proper drainage for said roadway.

The laying of creosote block pave-

ments on the main roadway, and creosote plank floor on the sidewalks.

The removal of the present floor and concrete base, together with the concrete pavement, will be more or less expensive, depending on the character of the old concrete work and there will be no salvage.

All horizontal struts in both towers and spans have so deteriorated, particularly at connecting points, to such an extent that new material will be required to develop the full strength of the main members. Such repairs and changes would carry with it the necessary for new sway bracing and possibly lateral system, or at least the working over of such members in order to accommodate them to a better design of details, which would amount in cost to about the same as new work.

General Conclusion.
As a matter of general statement, we must report that the Main Street Bridge was not designed for present conditions, and is wholly inadequate mechanically to carry the loads; that it is in such bad condition that the cost of repairs would be too large to justify the expenditure; that when repaired it would still be inadequate for present conditions, and that as a matter of present safety, and capacity and ultimate economy, we advise the construction of a new bridge.

Respectfully submitted,
W. K. HATT,
E. B. VAWTER,
FRED CHARLES,
JOHN MUELLER,
LEVI PEACOCK,
Members of Commission.
Richmond, Indiana, Sept. 4, 1915.

APPENDIX II.

Repairs.
The following repairs are necessary to put the bridge into condition, but not for heavy traffic.

The work would come under the following heads, and would be taken up in the order named:

The removing of all pavement from both main roadway and sidewalks.

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The thorough cleaning and painting of all metal work in the structure.

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The laying of creosote block paving.

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