

Track Maintenance Without Section Gangs

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Mr. President, members of the Association, and guests:

One of the earliest working units on the railways was the old-time section gang. Such gangs were organized immediately behind construction gangs watching and caring for a section of track so that continuous service could be maintained, and were indispensable in keeping the railroads going night and day.

From our early experience, we recall how men assembled each work day at the section tool house and were designated as "the boss and the section hands." These forces were often referred to as the shock troops of the railway. They were called upon in connection with practically any and all emergencies occurring on the line. When in need of help, almost every branch of railroad service called upon the section forces for their assistance.

Each town and city along the line of road had one or more such gangs and frequently section headquarters were established at strategic locations between towns. Such intermediate headquarters between towns were established where emergencies might frequently occur, or where the towns were so far apart that the men could not readily travel back and forth with the type of transportation available. Generally the early method of transportation for section gangs consisted of a hand car out on the line and a push car in the terminals or yards.

Maintenance Was Corrective

Many of foremen, or "bosses" as they were termed, had the same love for the piece of track assigned to their care, that a farmer had for his farm. Some foremen indicated great ingenuity in keeping a neat, clean and well-maintained section. The length of section was largely determined by methods of transportation available and the emergencies that might occur thereon. However, in general, the type of maintenance which they performed in the early days was what could be termed "corrective." That is, bad spots, rail failures, etc. were taken care of as a corrective measure after occurring and not corrected in advance.

Section gangs in the early days worked exclusively with hand tools. Power-driven equipment and automotive transportation was a thing unheard of. Long hours at back breaking tasks was the rule under which most maintenance-of-way work was performed. Telephones were not known and communication systems were poor, so it was necessary that gangs be spaced along the line of road where their assistance could be readily and quickly secured in cases of emergency. This resulted, as outlined above, in short sections, so far as mileage of main track was concerned, and places of abode close to the line of road with availability for call 24 hours per day.

Change in Maintenance Practices

Early in the present century the motor car was introduced into track maintenance work, permitting greater mobility for gangs. Telephones became available which resulted in better means of contacting the section forces when their services were required in emergencies. Roadbed and track structure became more stabilized, thus requiring fewer emergency calls.

These changes resulted in the abandonment of some of the outlying section headquarters and stretching out of sections. However, track forces still carried on with the old section-gang organization, although it was somewhat enlarged as the motor car provided transportation for a larger number of men than the hand car. In

addition, the weight of materials used in maintenance-of-way work was on the increase and more men were needed on a gang to handle the heavier materials.

During this transition period in transportation and communications, some power tools and units of power-driven maintenance-of-way work equipment were made available, which assisted the section forces in carrying on work with less physical effort and in doing a better job than could be done with ordinary hand tools. In this same period, hours were reduced from 10 to 8 per day, as a man could produce more per hour with the new type of tools furnished. With such changes it can readily be seen how the work of the maintenance forces required men better trained and more specialized.

These enumerated changes, coupled with the increasing costs of labor and material, and faster train speeds, gradually evolved a new and different type of maintenance, which it seems desirable to call "preventive", thus distinguishing it from the "corrective" type under the early system of handling. As an example of the change in type of maintenance, today we have flaw detector cars, ultrasonic detectors, audigages, etc., to locate defects in rails. By use of these machines we detect flaws before failure occurs and remove the rail rather than waiting for failure to occur and then remove it, as was done under the corrective type maintenance. Preventive maintenance, however, requires more intensive planning and closer supervision than was required by the corrective.

Labor Situation

During World War II, the labor situation on the St. Louis-San Francisco became very acute in many localities, and some of the section gangs were unable to maintain any force other than a foreman. This condition appeared quite general on most railroads, particularly around industrial centers. However, from here on in this discussion, the railway referred to will be the St.L.- S.F. or the Frisco as the subject matter is a development on that line.

As a result of the labor situation during World War II, it was necessary to organize gangs at favorable locations and transport the men in trucks to parts of the line where the labor situation was bad. The men were returned nightly to their home station and the gangs were called bucket extra gangs. This method proved very satisfactory from an employee standpoint in that men on this type gang could live at preferable locations and incur minimum living expenses. Likewise from an employer standpoint, there was a distinct advantage in having a dependable labor supply with its minimum of turnover.

As a result of this experience it was decided to supplement regular section gangs with truck-transported gangs on some portions of the line. In order to designate or distinguish these gangs from the ordinary extra gangs, they were called district gangs. These gangs were not assigned to a definite territory other than that under a roadmaster's supervision, but did have a definite headquarters to work from. Where such district gangs were established, section gangs ordinarily only did small odd jobs such as patrolling, spotting or smoothing, etc., but the section foreman continued to be responsible for the general track conditions and the patrolling of his section.

This operation was first started in October 1947, and gradually spread over the system with generally two district gangs assigned to a roadmaster's territory. The foreman and laborers under this arrangement have seniority rights common with the section forces.

The number of the section gangs was reduced and each remaining gang had its territory extended to cover. The net result was approximately the same number of laborers working with more efficient supervision and with a greater percentage of productive hours per man. In a few months, the work required of extra gangs on such territories indicated a noticeable decrease.

By June 30, 1950, 68 such gangs had been established as supplementary to section gangs. The district gangs under this arrangement were truck transported and produced remarkably well. In view of the success of this type organization, after careful thought and study, it was decided to try out establishing such gangs, and to handle all regular maintenance and eliminate all section gangs on a roadmaster's territory. In addition, differing from the original district-gang set-up, it was decided to assign a definite portion of track or territory to each district gang, and make the district gang foreman responsible for all track maintenance and the patrolling on his district.

Track Maintenance By District Gangs Without Section Gangs

The first roadmaster's territory so organized, which was the 50th track division, consisting of a portion of line in Oklahoma, took effect on July 1, 1950. Gang personnel under this type organization consists of the following for ordinary track maintenance work: 1 District gang foreman, 1 assistant district gang foreman, 1 truck driver-laborer, and 10-15 district gang laborers, depending on length and type of track. Additional men are added if an unusual amount of construction work shows up on the district that must be taken care of by the district gang.

Transportation furnished consists of 1-1/2 or 2-ton capacity truck equipped with van-type body with tool boxes and seats to accommodate around 25 men. An inspection-type motor car or a light section-gang type motor car is provided for inspection Purposes. In addition, it large section-gang motor car is provided on some territories where certain sections of the district are not readily accessible to a highway. This gang-type motor car is usually housed near some highway crossing intersecting the portion of track not readily accessible to it highway.

Now Track Is Patrolled

The patrolling of the district and the ordinary light jobs such as smoothing up, etc., are taken care of by the assistant foreman and one to three men depending upon the district and the type of work which they are to do when out on patrol and away from the regular gang. The remaining portion of the gang, under the jurisdiction of the foreman, confines its efforts almost exclusively to out-of-face work.

The tools for the gang consist of:

1. A full complement of the ordinary hand tools required for a track gang of similar size.
2. Four unit tampers.
3. Bolt tighteners, drills, spike pullers, spike drivers, and adzers, all power driven when required.

The tools under Item 3 are to be furnished by the roadmaster where the work that the gang is handling justifies them.

On the 50th track division mentioned above, four such district gangs without the aid of any section forces, maintain 101 miles of Class A main track, 49 miles of branch line track, 57.1 miles of side track, 122 main track switches, and 149 side track switches.

The Class A main track is laid with 112-lb. and 115-lb. rail, the oldest of which is 14 years' and carries two passenger trains and fast scheduled freight trains, During 1951 one district gang on this track division, headquartered at Henryetta, Okla., with a main track district of 33 miles, made the following record: - (1) Surfaced 7 miles of main track out of face; (2) inserted 2800 new cross ties; (3) inserted 2 sets of switch ties; (4) built one mile of right of way fence and (5) cleaned right of way, cleaned around all bridges on the district, and handled all other necessary jobs including patrolling.

The 91st track division, located on a line in Mississippi and Alabama carrying somewhat lighter traffic than the 50th division, is maintained by three district gangs and consists of 152 miles of main track, 32 miles of side track, 99 main track switches, and 44 side track switches. The main track is laid mostly with 90-lb rail and carries two passenger trains and fairly fast scheduled freight trains.

During 1951 the district gang headquartered at Columbus, Miss., with a district of 51 miles of main track, made the following record: (1) Surfaced 9.5 miles of main track; (2) inserted 2,734 new crossties and 2500 secondhand crossties; (3) respected joints on 7.9 miles of main track; (4) spent 3 full weeks time raising track in a sag; and (5) handled all other necessary track work including patrolling on district.

It is to be noted that some of the work listed above is such as extra gangs formerly did. In fact, in the two cases cited, on the basis of the 1951 record the gangs would be able to surface out of face their respective districts in approximately 1 to 6 years.

Expects Output to Improve

These two cases were picked at random and are not unusual. It is expected that each gang will improve yearly with experience, better methods and additional equipment. In May of this year one district gang of 12 men, using an on-track power tamper averaged almost 1/2 mile per day on out-of-face surfacing involving a 2-in. to 3-in. raise, in which, in addition to the lift, the work consisted of tamping, rough filling in, and dressing. On neither of these two track divisions mentioned has an extra gang been used since establishment of the all-district-gang organization.

Where many section foremen at one time handled only the "piddling" jobs on the section and waited for the day to come when an extra gang would be sent to pull them out of the "hole," the same forces today are largely pulling themselves out of the "hole" under the all-district-gang organization. Except for heavy out-of-face rail and surfacing programs, all maintenance work on the district is carried on by the district gang without the assistance of extra gangs. Today we are maintaining about 50 per cent of our heavy-traffic main track with the all-district-gang organization. Additional territories will be so organized when certain present programs can be completed.

On the all-district-gang territories, the roadmasters annually schedule a program of work for each district gang, designating by months and locations the work to be taken care of by the gang. While such schedules cannot always be carried out monthly due to the many emergencies that show up, we find that largely such schedules are completed by the end of the year. A copy of such schedules of work originated by the roadmaster are filed with the division engineer, who assists the roadmaster in securing the necessary materials at the time needed and the equipment that is required if and when needed for the work in progress.

The following distinct advantages have accrued where we have such an organization in service: (1) Sufficient force in one gang to handle almost any type of equipment or work; (2) men readily available who can be moved quickly to any point of emergency; (3) better opportunity for roadmaster or supervisor to contact and direct gangs; and (4) a minimum amount of time spent on non-productive maintenance. The first three items apply not only to the all-district-gang type but also to the combination district and section gang type. The last two items were made possible largely through the all district gang organization. The loss of man-hours from the five-day week has for all practical purposes been offset by such reorganization, change of practices, and the use of additional main maintenance-of-way power equipment.

To date only one track division is maintained without a district gang of one or the other of the two types, and that track division is in a large terminal. However, we have one large terminal maintained by district gangs entirely.

The following should be given consideration before inaugurating an all-district-gang organization:

1. Is roadbed stabilized to where excessive smoothing or spotting is not required.
2. Can good towns be selected for headquarters near centers of districts.
3. Is the district adequately served by highways.
4. Is the track structure such that a definite plan of programming maintenance work annually can be set up.

Helps Solve Major Programs

Some of the major problems facing maintenance-of-way supervisors today are:

1. How to secure and retain good gang foremen.
2. How to have sufficient men in a gang to make use of mechanized maintenance of way equipment.
3. How to stabilize employment.
4. How to meet the demands of the employee so far as living conditions are concerned.
5. How to obtain maximum productive hours out of hours paid for.

The all-district-gang organization has assisted us very materially in solving all of these problems because: (1) Fewer foremen are needed and a higher rate of pay is established for district gang foremen over section gang foremen; (2) gangs are readily available for handling almost any type of equipment; (3) a planned year-around schedule is possible; (4) the headquarters are located in towns having favorable living conditions; and (5) less hours are spent patrolling and riding to and from the point of work.

Conclusion

Comment is often heard that a lot of romance was taken out of railroading when the diesel engine replaced the steam engine. The same comment has been made about the section gang being replaced by the district gang. It seems to me that the time is long past when we, as a major and modern industry in this country, can forego efficiency for romance. We owe it to our company and our country to make our maintenance-of-way organization as highly efficient as possible. You may install a new system and call it planned maintenance, cycle maintenance, preventive maintenance, or district-gang maintenance, but regardless of name, old outmoded, inefficient methods should be replaced. The change no doubt will present many and varied difficult problems, but remember the initial step is always the worst.

Those of you who were at the opening session this morning will recall that the president of the A.R.E.A., Mr. Geyer, stressed particularly that you should strive for two things in your maintenance work: (1) A planned program; and (2) work carried on in a manner that will eliminate as many emergencies and odd jobs as possible.

Mr. Geyer stressed the importance of the above having in mind the high costs of materials and labor and the necessity of conserving both items to the utmost.

Mr. Aydelott, vice-president operations and maintenance department of the A.A.R., in his opening address, touched upon the same subjects as Mr. Geyer did. It should be realized that these gentlemen, as well as the managements on each railroad, are vitally concerned in your maintenance work and the methods and manner in which it is carried on.

In closing, I would like to pay tribute to the roadmasters on the St. Louis-San Francisco who have been of vital assistance in carrying out our program of reorganization of gangs, and without their wholehearted support the program would of necessity not be successful.

DISCUSSION

President Whisler: Thanks to you, Mr. Anderson, for what to me was a recital of not up to this minute but thinking far in advance of today as to what the possibilities are of tomorrow. To speak of maintaining a railroad without section gangs sounds revolutionary but, as I think Mr. Anderson very ably brought to us, it is efficiency in lieu of glamour and, after all is said and done, that is our job. Is there anyone who would like to comment on this splendid address we have just heard?

C. S. Connor (S.P.): Mr. Chairman, I would like to ask Mr. Anderson one question. On these districts are you able to obtain local men for your gangs or do you have to secure them from elsewhere Out on the Pacific Coast we have a lot of trouble getting local men.

Locates Headquarters in Large Towns

Mr. Anderson: We have not had any trouble securing labor. Occasionally we have a little bit, but generally none, As a general thing we endeavor to locate the headquarters of the district at a town that is fairly good size and we don't have any trouble filling out our gangs.

R. A. Jackson (Me. Cent.): Mr. Anderson, referring to that power tamping that you spoke about: did you give your track a raise '

Mr. Anderson: Yes. It averaged a two to three-inch raise.

Mr. Jackson: What kind of tampers did you have?

Mr. Anderson: Multiple tampers.

Mr. Jackson: Is that stone ballast

Mr. Anderson: No, chat ballast.

Mr. Jackson: How many men did you have in that gang?

Mr. Anderson: Twelve men.

Member: And you did a half mile every day?

Mr. Anderson: That's right.

J. Pickrel (C.B.&Q.): Mr. Chairman, I would like to ask Mr. Anderson how he maintained C.T.C. territory in snowstorms and such as that where the men would be located quite some distance from the switches.

Uses Trucks During Storms

Mr. Anderson: That question has been asked a number of times. In fact, we worried about it Ourselves on the first establishment that we made. But we found this, that we could put men in a truck and distribute them from a highway paralleling or close to the railroad and get them Out on switches much easier than we could on motor cars, which was our previous transportation method. In other words, we didn't have a section headquarters at every place we had a power switch, so that it became necessary in a snowstorm, under the old organization, to take men Out in a motor car or get them out some other way. But with a truck you can run up the highway, drop a man off at the switch, and come back and pick him up.

Mr. Pickrel: In Nebraska we have snowstorms in which you can't get through with a truck and it is necessary to walk.

Mr. Anderson: We probably don't have as much snow to deal with as you do.

Mr. Pickrel: You probably have just as much but it probably doesn't drift.

Mr. Anderson: in some situations in which the conditions were very bad, we have put them aboard trains and have distributed them along the right of way in that manner.

Member: I am curious to know where you got that name "bucket gang"?

Mr. Anderson: It originated with the man who carries his dinner out in a bucket and does not go home at noon. He lives out of a bucket. If you gentlemen would care to, I have several roadmasters here and I think they would be glad to answer most any question for you. I have one gentleman here who has a territory right out of Kansas City. He had the first district gang on his territory and he experienced distributing the men out in a truck. Walter Marsh you might tell that gentleman sitting close to you what your experience was. He is the one who asked the question.

W. I Marsh (St.L.-S.F.) : We find our district gangs work better in a snowstorm than any other time. As Mr. Anderson has told you, we put the men in trucks and drop the men off here and there, and, when the storm is over, the truck driver drops back and takes them in. We had one instance last winter of a storm in which 18 inches of snow fell and we couldn't run a truck or a motor car, so we called a way-freight that went from switch to switch and distributed the men. We find there is always a way to get the gang out,

G. T. Summitt (St.L.S.W.): With these district gangs of yours, how often do you patrol the track,

Mr. Anderson: That depends upon the class of track and what the physical conditions are. What I am talking about is just a normal patrolling, not any emergencies that might occur.

Patrolling Schedules Vary

Mr. Summitt: You don't do that daily, though?

Mr. Anderson: No. Each roadmaster sets up his own patrolling schedules. He may have one gang on his own territory that patrols maybe twice as much as another gang, depending entirely on the track conditions.

Member: Where can I get a copy of your address I don't think it is in Railway Age.

President Whisler: I am not positive but I believe that the excerpts will be in Railway Engineering & Maintenance. That is my understanding.. Is either Mr. Dove or Mr. Dick in the room? Mr. Michaels, can you give us anything on that ?

H. E. Michaels (R.E.&M.): It will only be an abstract in the October issue. It will not be printed in full but will be abstracted very briefly.

Mr. Anderson: If you will give me your name and address, I will send you a copy.

C. Halverson (G.N.): I just want to ask you one question. In case the gang is split up into a smaller number of men for handling small jobs, by whom are they supervised,

Mr. Anderson: We have both a foreman and an assistant foreman and we can easily split the gang in two. Now cases may occur when you might want to take a third group and, if they do, we put on another assistant foreman. We don't work the men by themselves many times. Ordinarily the foreman or assistant foreman will handle the job.

B. W. Nyland (D.& H.): Mr. Anderson, you said one of the primary purposes is to stabilize the number of men on your gangs. I wondered how stable they became if you got fluctuations from season to season,

Gang Employed All Year

Mr. Anderson: What we try to do is to plan our work so we can keep as near the same size gang throughout the year as possible.

Mr. Nyland: It does vary in the winter, though?

Mr. Anderson: Not a great deal. You have a gentleman sitting in front of you who has one of those gangs. You can ask him how much his varies.

Member: Mr. Anderson, it seems to me that Your district gang operates on the same order as ours on the Milwaukee Railroad on our large terminals, such as Chicago, way back in 1931. We had some 30 section gangs and we instituted a system whereby we created six yard gangs under the supervision of a general foreman. We eliminated all those section foremen, including a bunch of timekeepers and assistant foremen, and we effected a plan where the entire track forces of the terminal were supervised by six general foremen and six assistant general foremen. We have been operating under that system for the last 21 1/2 years and we have had much good success. We find we can delegate some of our key laborers as temporary foremen and sometimes in extreme storms and bad weather we import foremen from out on the road to help us out. We have had very good success with that system in our terminals.

In regard to patrolling track in Chicago; we have what we call a track inspector. He inspects main line only. He has some 47 miles of main lines and reports conditions by 'phone to the general foreman; also, he makes a written copy of his report for the roadmaster. If he finds something that requires immediate attention, he contacts the general foreman during the day or calls him by 'phone. If it is something that can be deferred until the next day, then it remains within the discretion of the general foreman to decide when that work should be done. In Our terminals that works out very successfully.

Lackawanna Uses Similar Plan

Member: Mr. Whisler, first I would like to say that I certainly was very impressed with Mr. Anderson's talk. I certainly gave us all something to think about because either we went to that planned program within the past year or two or we are going to do so. I think we all feel that way. I am from the New York Central. I am a little sorry that someone wasn't here from the Lackawanna to explain how they are working their gangs. I work in the territory adjoining them and I have seen their work for the past five years. They work along the lines described by Mr. Anderson and to say it is successful is putting it very mildly.

They have an absolute planned program which is given to each supervisor at the beginning of the year, and that includes all machinery, labor, and everything else, so that every supervisor knows just where he stands throughout the year. And, if that isn't a hell of an improvement over what we have been working with for the last 10 years, I'll give it up. And they stick to the program. I understand they are considered the most highly mechanized railroad in the United States today. I was talking with a gentleman coming out on the train yesterday who has occasion to travel all the railroads of the United States and he tells me that the Lackawanna in his opinion has the finest roadbed of any railroad in the United States. Now I can't say that is true, but I can say I do think they have the finest roadbed of any railroad in the northeastern United States. They have detour crossovers built every five or six miles which are always available. They do get the use of the track to do their work,

Mr. Anderson: Gentlemen, if you will bear with me a minute, I would like to call on one of our roadmasters who has had one of these all-district gang organizations for quite some time, Roadmaster Cheatham. He has had a track division down in Oklahoma and I would like to ask him a question or two and let him answer them.

Clyde, before you put on the all-district gangs, you had all sections, working six days a week, and you now have four district gangs working five days a week. You have a lot less foremen than you had. What are you accomplishing with your district gangs working five days a week as compared to the section gangs working six days a week,

Trackmen Like Plan

E. M. Cheatham (St.L.-S.F.): Mr. Anderson, at one time I had 16 section gangs and 16 patrol jobs. and we piddled around day in and day out and did little odd jobs. That's all we did. We did get in a few ties but we didn't accomplish much. I now have four gangs who take care of my entire territory. It is gradually growing better. The men are getting accustomed to it and like it. And, when the men like it, that means you are going to get somewhere,

I might bring in this one point. I was lucky enough to slip the jacks and multiple tamper away from Mr. Anderson for a short time on maintenance. Ordinarily he puts the thing on A.F.E. work, but I used it on maintenance. Consequently, in a very short period of time I had 60 miles of good railroad. It was used by one of my district gangs.

Mr. Anderson, your question was as to what I accomplished. Well, it just seems like I just got started to work when I got the district gangs. I am getting work done now that I never could have done before. My men are all happy and getting things done.

Mr. Anderson: Thank you.

President Whisler: Are there any other questions while we have Mr. Anderson with us?

Foreman Is Responsible

Member: I would just like to ask one question in regard to the delegation of responsibility. in your district-gang setup, I may be a little confused on these figures, but I understand you have one typical district-gang setup where you have 129 miles of main line, 49 miles of branch line, and 47 miles of siding. All this is distributed among four gangs. That would give one district-gang foreman the responsibility for approximately 60 miles of track and approximately on the average 60 switches to take care of. Now in the programming of work, I understand a sub-foreman does what we call the rabbit work and the foreman probably bosses the large tie installations and track raising, and so forth. Supposing you had a derailment on a branch track. Who is responsible for that?

Mr. Anderson: The foreman.

Member: I don't know whether the organization would stand still for that. You are pinning a man down to 60 miles of railroad. You are also making him responsible for the bossing of the main tie installation programs, probably relaying programs, and so forth. He in turn is delegating the responsibility of the rabbit work to a subforeman. Now do you think you can pin a foreman down on that in front of an organization representative

Mr. Anderson: Why not?

Member: I was a bit concerned because of the heavy trackage assigned to one man. Has there been any trouble at all?

Foreman Paid More

Mr. Anderson: No, none at all. These district gang foremen do have a higher rate of pay than the section gang and the higher rate of pay is supposed to compensate them for the extra responsibility that they are put to in connection with having more trackage. The assistant gang foreman they have draws tire same rate of pay as our old section gang, So his assistant foreman is compensated with the same amount that a section foreman is. Does that answer your question., We have had no trouble at all.

Member: Is the district foreman's rate of pay about that of the extra-gang foreman,

Mr. Anderson: His rate of pay is based upon the extra gang rate of pay, which is governed by the size of the gang. It depends upon the size of the gang and the class of work they do.

Member: One more question. Have you been able to get pretty good foremen as district foremen on account of seniority?

Mr.. Anderson: I would say in general that we have. A man who is not capable of going out and handling two or three men, ordinarily doesn't want a district foreman's job. He will take the assistant job but ordinarily doesn't want the main job.

Member: What is that rate of pay, if I may ask,

Mr. Anderson: It varies so much with all these one and two cents up and down I don't remember what it is.

Mr. Cheatham: \$311.00.

Mr. Anderson: We have some at a less rate, we have some who are higher than that.

President Whisler: Are there any other questions gentlemen? I If not, I think we can again say thanks very much, Mr. Anderson, for giving us this fine talk. I think it is very evident that each of us can do a little bit more planning in trying to get a little more efficiency into our organizations, and let the rest go by the boards.

Mr. Gilkey, our first vice-president, has been chairman of the Subjects committee for next year. I would like to read the ten subjects that are under consideration for next year.

Mr. Whisler read the subjects . . .

I have read these to you, and will again tomorrow, and it would be very much appreciated if you gentlemen will leave with Mr. Gilkey or the Secretary any subject that would be at variance with these and you think is worthy of discussion next year. I again remind you that this is your association. Your questions are the ones that we are striving to answer,

Mr. Whisler announced the Adam to Atom Show . . .

Are there any other comments or any other suggestions at this time, If not, we will stand adjourned until 9:30 tomorrow. That is one-half hour earlier than we convened this morning.

. . . Recessed at 4:05 P. M. . . .