YOUNGSTOWN STATE UNIVERSITY

ORAL HISTORY PROGRAM

Railroading History

Southern Railway Experience

O.H. 185

ROBERT T. SEWELL

Interivewed

by

Lillian Eminhizer

on

August 11,1975

ROBERT TERRELL SEWELL

Robert Terrell Sewell (Round Trip Sewell) was born on April 3, 1896, the son of Oscar Theron and Mary Daniell Sewell. He attended high school in Atlanta, Georgia.

In 1912, at the age of sixteen, he worked for the Seaboard Railroad installing a telephone system. From 1913 to 1918, he was employed by the Nashville, Chattanooga and St. Louis Railroad as a signalman. Then on January 3, 1919, he became employed by the Southern Railway Company and worked as an assistant maintainer, signalman, maintainer, signal foreman and signal supervisor, retiring May 1, 1963 after fifty years in railroading.

Mr. Sewell is a member of the Mason, Brotherhood of Railway Signalmen and Railroad Retiree's #121. His hobbies include gardening and old railroad friends.

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INTERVIEWEE: ROBERT T. SEWELL (R.T., Round Trip Sewell)

INTERVIEWEE: Lillian Eminhizer

SUBJECT: Signal Systems of the Nashville, Chattanooga and St. Louis Railroad and of the Southern Railway Company; other related work experiences

DATE: August 11, 1975

E: This is an interview with Robert Terrell Sewell for Youngstown State University, by Lillian Eminhizer, at his home at 308 Rosewood Circle in Mauldin, South Carolina. It is August 11, 1975, at about three o'clock in the afternoon.

You had quite an interesting career on the railroad, Mr. Sewell. Would you like to tell me something about it?

S: Well, railroading, you have got to remember, the railroading career is a peculiar career and also it refers to a particular group, but that group is composed of different individuals being raised under different environments and different heritage. The result was that they reacted differently to the same conditions.

Now, I railroaded about, well, nearly fifty years. I thoroughly enjoyed it. I made an error as a child. My mother died when I was twelve years old. My father remarried to my own cousin and we didn't like one another as children. And the result was that I ran away from home as a high school student. And luckily, I went to work with a bunch of square heads. And that is not a detrimental remark, because there is not sixteen preachers in Greenville County that would take a teenage lad and lead him through that later teenage period of his life as good as that bunch of squares. I take my hat off to them.

Then I applied to the Atlantic Coastline Railway for a position in Savannah, Georgia. And on going home one weekend, my father asked me why I didn't apply for work right there with the N.C. & St. L. Railroad as the Coastline had the old mechanical type of interlocking and the N.C. & St. L. had the electric interlocking which was more advanced and rapidly replacing the old mechanical plants. And on applying to the N.C. & St. L., I was given a position as a signal helper.

Incidentally, some twenty odd years later, I found out that my father had arranged that job before I applied for it. But the thing of it is, the first day's work might be of interest to some of these young lads now going to work. L.E. Misemhamer, who was the chief maintainer to whom I reported for work that morning at seven-thirty, as instructed, gave me a twelve inch monkey wrench, a cold chisel, a hammer and a pair of pliers. He took me up to a model two electric interlocking machine derail. He pulls the brushes on the motor and tells me whatever I did, to be careful; do not replace those brushes. And then he told me to take that machine to pieces. And then he goes down to the tower and props his feet up where it's nice and cool and leaves me out there in the sunshine to go ahead and . . . No, I beg your pardon, because there was a December wind blowing around the corner of that old pickle factory. I was out there in the cold instead of the heat. And just at noon time, I got that machine all dismantled and laid down between the tracks. And every time I'd take a piece of equipment out, I'd take some waste and clean it with a little oil and wipe it up with other waste.

So, I go on down to the tower and tell him I had the machine dismantled. He says, "Well, it's lunch time. You have an hour for lunch." Since I brought my lunch with me, I ate it and boy, did that ice water taste good. At one o'clock, we walked back up there and he's murmuring uh-huh, uh-huh. Then he says, "Bob, I'd like to compliment you on the way you cleaned your stuff and piled it up there." He said, "Now, I want you to put it back together. And when you get it together, don't put the brushes in on the motor, but let me know and I'll come up and check it out."

Well, that's where I first learned to use railroad English, in skinning my knuckles and fingers and talking about a boss that would treat a brand new employee like that. But I got it back together. I went on down and told him that I had it together up there. And I had to roll it over and operate it by a manual

operation and it worked good. And he wouldn't believe that. He had me roll it over again. He told me to drop the brushes in. Of course, when I put the brushes down, the switch was in position that it belonged in and Mr. Misenhamer lined up with a leverman on duty to watch him. So, he signaled to throw it over, and it would't quite lock. The power driven--the little lost motion in the pins, would drive it over to where it wouldn't lock. He made a very minor adjustment, showing me how to do it and it worked okay. He slapped me on the shoulder and complimented me very highly about that.

Of course, I was still having my fur ruffled up on the back of my neck about that kind of a man, but I understand today that what he was after was to find out if I had any mechanical inherited ability. If I hadn't had that ability, I would have worked a few days and been out on my ears as soon as he could have found someone to take my place.

At the end of ninety days, he promoted me to a maintainer, where I was supposed to go ahead and serve for four years. And shortly thereafter, I was replacing contacts in track relays that I cringe about today, knowing what little I knew about it. And the safety depended on those track relays and I was changing contacts. But I really worked there for several years and enjoyed it.

And then I had a disasterous case of general septicemia and went to the hospital with about $900 in the bank. When I went back to work several months later, I was $4,000 in the hole, working on the main line between Atlanta, Chattanooga, Nashville and Memphis.

And of course, I can remember quite a few little interesting things, off the record there. We had to carry our tool boxes a mile one day to work on an interlocking plant on the drawbridge. And a fellow was squalling about having more tools to carry than the balance of us. So, while we were doing our work on the interlocking plant, we dropped down into the counterbalance pit and got enough track nuts to fill his box up when he wasn't looking and he really wiggled and wobbled on the way back to the depot that afternoon. And of course, when we got into Nashville that afternoon, we set our tool boxes up on the work bench and set out for home. And the next morning when he found out what we did, well, if that old building was standing today, you could still find the scars of those nuts in the woodwork around there where he was trying to find us, but we were lucky enough to dodge.

Then I was offered a position at Aulon, Tennessee, but I wasn't physically able to accept it. And then later on another position came open and they gave it to a younger lad, that is, a lad with younger seniority that I had. And I went to the signal engineer about why he gave it to him and he said, "Well, because he used to work for the company." I said, "Yes, he worked for the company." His wife owned a farm up in Kentucky and when the draft board was breathing down his neck, he went to farming. Now, the war is over with and he wants to go back to railroading. He has been out of service for a couple of years here and my position is that I have age on him. "No, he went to work for the company before you did." That convinced me that we needed a labor organization. Shortly thereafter, the signalmen in the vicinity of Nashville, Tennessee organized the first local, I believe, of the Brotherhood of Railrood Signalmen south of the Ohio and east of the Mississippi rivers.

I resigned from the N.C. & St. L. and immediately went to work for the Southern Railway. Of course, I had to drop back from signalman's rank to assistant maintainer on the Southern Railway and worked assistant maintainer for a period of time and then became a signalman on the Washington Division, moving from Georgia to the Washington Division. I thoroughly enjoyed the Washington Division. It was entirely different, some five hundred miles from home, a different group of employees, a different group of supervisory officials and operating officials. In fact, our signal supervisor on the Washington Division, his name was Tom Murphy.

And to digress from that just a little bit, he ran away from his home in New York as a small lad and went to what is now known as Kansas City, Missouri. They had boardwalks for sidewalks. The wagon axles were dragging in the mud on the street. He got in there on a wagon train. Walking up the street, just in between two saloons, a man stepped out from each saloon and began to pull his gun out and they began to shoot at one another. After they had emptied their guns, neither man was hit; they broke the guns; blew the smoke out of them, reloaded their guns, turned around and walked back into the saloon. I asked Mr. Murphy, "What were you doing while all that was going on?" He said, "I dropped off in that mud and rolled back under that boardwalk." I said, "And then what did you do?" He said, "I went back to the wagon yard and the next morning I caught an empty wagon train and headed back east. And that's as far

west as I got." He said, "I came back to Virginia and have been here ever since."

But we loved him so much. He was a thorough-bred Irishman, with a wonderful personality. We not only respected him, we loved this old man. I enjoyed working up there.

Leaving the Washington Division, I came to Seneca, South Carolina as a maintainer. I remained there a year and then I got an opportunity to go back to the Washington Division and was located between Manassas and Culpeper, Virginia.

On March 3, 1924, we had one big snow storm up there. I had about thirty-five miles of territory. After being out all night in this storm, the next morning I just wrote on the back of an envelope that all the phones, telegraph lines, signal transmission line, sixty percent destroyed. I woke up an AT&T [American Telephone and Telegraph] man, put him on a passenger train engine and sent him to Washington, D.C. with the envelope to let his company and the Southern Railway know what the damage was. But needless to say, we assembled it, of course, and got it back in service in a very short while.

Several months later, I was able to bid in the signal maintainers position at Charlotte, North Carolina. While maintainer there, the superintendent called me to his office. And on going up there, he questioned me on quite a number of subjects and I was in doubt as to what he was driving at. Finally, he asked me if I'd be interested in the signal foreman's position that was being put on at Lynchburg, Virginia. And naturally, I told him that I would appreciate the opportunity for trying out for it. I was promoted to that. And that was my first working of a group of men.

Naturally, quite a number of things pop up in my mind. One day we were due to have a representative of the T.C. and I. Company with us to determine why the rail they rolled were developing so many transverse fissures. And the next morning out there at work, here comes some fellow with a real expensive overcoat and hat. And I said to myself, "Here comes the man from the steel company." So, he walked up and we were laying rail there, and my men were all doing the signal work, bonding of the rail and relocating the insulated joints and moving the rail connections and so forth. And I couldn't understand what he was after there. And he began to ask me questions. And of course, me, not

knowing who he was, I thought he was the steel company man and I sold him a bunch of goods on the Southern Railroad signal department. Finally, I told him it was nice to talk to him, but I had other duties to perform. He burst out laughing and shoved out his hand and said, "You know, I'm glad to meet you. You see, I'm superintendent of this division--operating superintendent." (Laughter) And was my face red. But as long as he remained on the Southern Railway, I had a real friend. After he went off on the other railroad, he must have liked me because he offered me a position. But I declined and stayed with the Southern.

And from that signal foreman's job, I was given an assistant signal supervisor's position at Hot Springs, North Carolina. That is in between Asheville, North Carolina and Morristown, Tennessee, right at what we call the River Line. Now then, that was in the late 1920's.

And while I was over there, there got to be a discussion as to what was the heaviest tonnage railway in the world. And we were handling coal in between Newport and Asheville, whole coal trains. And some railroad up in around Pennsylvania, New Jersey, up in there somewhere were bragging about the tonnage that they handled. And some employees called up the operating department officers that he believed we were handling more tonnage than they were. And on checking it, the River Line of the Southern Railway for the previous year had handled the heaviest tonnage of any railroad in the world. Now, that's a single track railroad, all uphill about a point two [.2] percent grade, slow drag, headed east. And you try to handle fifty to fifty-five trains a day on single track under those conditions, you've got to take your hat off to the individual trainmen and the dispatchers that can do that.

Of course, that is why they had installed the A.P.B. signals over there to expedite the movement of trains. And then the management was so well pleased with their decrease in the cost of operation. Signals are nothing more than a tool to expedite the movement of your trains safely. You've got your investment there. And the faster you can move your trains, the better chance you have of increasing your revenue.

So, they gave me the job of signal construction supervisor to install signals between Asheville and Salisbury, North Carolina. That right-of-way was granted

by the state legislature of North Carolina, 1854-1855 to one hundred feet from the center of the track. For the railroad had never used, oh, in some places had never used over twenty-five or thirty feet from the center of the track. So, you could imagine some of the problems I'd run into when I began to go back a hundred foot from the center of the track and cut out the right-of-way with my right-of-way gangs. And it doesn't feel good to look down a rifle barrel. And those mountain people, they had to be convinced.

In fact, I'll be honest with you, I am ashamed of it today, and I would like to apologize to the old lady. But in one instance we had some timber to cut between a house and the railroad, but one man stood pat, we could not cut that timber. I told him, "All right, let's go get a lawyer and have him take an injunction and the railroad would bust it." This he refused to do. I told him to get his own lawyer and we'd pay for it. "No," he wasn't going to do that either. Well, I knew all up and down the line the other property owners were watching that. And if that old man tied us up, we were going to be tied up all the way to Salisbury, on a hundred and forty miles of railroad.

Well, here I was, I didn't get through high school, but how would I handle that situation? I went to the company that he was working for and asked the man that owned the plant there if I could go back again and talk to this stubborn mountaineer. "Still having problems," he said. I said, "Yes, but I think I've got it figured out." He said, "Well, good luck. Go ahead back there and ask him again. "No, you can't cut the trees," he said. I said, "Hey, am I wasting my time talking to you or should I go talk to your wife?" Now, you must remember, I'm talking to a mountaineer. He began to blow up. I said, "Now, I think I'm wasting my time in talking to you. They tell me that your wife wears the breeches in your family." And I wouldn't give him a chance to quit sputtering because I kept hammering on that. Finally he said, "Go cut the blank, blank, blank trees." And I said, "Now, are you sure or had I better go talk to your wife?" And I thought he was going to take and run me out of the plant.

The next morning I put one of my good right-of-way gangs to work in there, and the old lady comes out of the house. Well, I walked between her and my group of men because I didn't know whether she had a pistol in that pocket or not. Now, don't think I'm a hero, I'm not. I knew that I had two men laying up there in

the woods with 30-06 rifles and telescopic sights on them. And if that old lady had ever pulled a revolver out of her pocket, she would ave automatically signed her own death warrant. But we cut the trees. The poor old soul had a blood rag tied around her head, two black eyes, as black as any I ever saw on a water-front sailor, and walked like she was just stove up. In other words, rolled hard and put up wet, as an old farmer's expression about his horse. I'd like to apologize to that old soul for that today, but I didn't have any trouble anywhere down the line. I just went right on down the road and cut the timber.

After railroading nearly fifty years, you've seen quite a number of things. The sheerest act of heroism I ever saw was the east end of Lick-log Tunnel. Now, they were putting in a new heading for the tunnel there--the bridge gang. And I imagine fifty yards of earth caved off above and buried two of the employees. My men were renewing some insulators on H fistures on our transmission line across the mountain at that time. And of course, we all gathered down there to see if there was anything we could do. There wasn't anything we could do, so I sent my men back to complete their work so we'd get current on the transmission line to come in the other end of the tunnel with lights so that they could work from that end.

They were getting one man out. They got him down underneath his arms where they were trying to get a couple of short pieces of two-by-fours under his armpits to pull him out, when an additional ten to fifteen yards started caving off. Well, of course, the man who was watching it, when he yelled, "She's coming," they all were supposed to clear, but one man turned around and got two or three pieces of timber and put over that man's head. And yes, he too was buried up nearly to the waist himself before he could get clear. The gang went back to work and dug the man out. Got back down to his head again and got him out alive. Of course, he was apparently dead, but given artificial resuscitation, got him breathing again. But that man, I wouldn't have given you a penny for his life, as I stood there and watched. But he was willing to risk his life and save his fellowman. The last man removed was dead of course.

I left the Asheville, North Carolina Division, being transferred to the South Charlotte Division, which headquarters at Gainesville, Georgia. Being reared in Atlanta, my terrirory went to the city limits of Atlanta and I was only fifty miles from home. Well, that was right down my alley. My feet just hit the red

hills down there. And I knew quite a number of the trainmen, signalmen when I was transferred to Gainesville as supervisor. All of the group that was down there had been men that had worked with me while I, too, was the maintainer. And I had it made.

Then for as just about the middle of the fifties, they began to figure on centralized traffic control systems to reduce the operation expenses of the railroad. Now, we were able to salvage about 66 miles of railroad between Greenville, South Carolina and Atlanta, Georgia, out of the main line, and side track double track railroad with passing tracks. And we were able to reduce a good deal of it to just single track and double track operation.

After railroading fifty years, about the proudest thing I can tell you--the experience would be after I retired. One day I was headed west, spent the night at Denver, Colorado. I got up the next morning and went over the backbone of the Rockies. And a few miles going down the other side I could see the railroad and I kenw I was west of the Moffet Tunnel. And then on down the road I could see a signal bungalow. Signal shows up, getting closer, I saw the door open. Well, I naturally, being a retired signalman, I wondered, what was that door doing open? I got closer, I saw a maintainer at work. Well, that was my day right there.

I pulled off the highway and parked and went down and jumped across a little branch, walked over and asked the maintainer some questions. I said, "Pardon me, I'm from down in the Southeastern part of the United States and the railroad has one of these tin shanties just exactly like the one you have." He said, "Oh, that's not a shanty." He said, "This is a signal here and that isn't a tin shanty." He said, "That's my bungalow." I said, "Oh, that's where you stay?" He said, "No, that's where I house my equipment." He said, "Let me show it to you." And I went in there and that was one cracker-jack good maintainer. You could have ate off the floor of that bungalow better than you could some restaurants in this town.

And I kept on asking him questions and he would answer. Finally he leaned up against the building and said, "Say mister, would you mind telling me who in the heck you really are? You asked so many dumb questions you've got to know something about signals." And I laughed and told him that I was with the signal department down on the Southern Railway from his viewpoint, between Spartanburg, South Carolina and Atlanta,

Georgia. "We had a GRS Syncroscan Centralized Traffic Control System. It wasn't the type you have out here." He said, "Oh yes, that's that crazy thing." I said, "Yes, it's interlocking system."

He said, "My supervisor was by here a few months ago with one of the GRS engineers. And that GRS engineer was talking about when he was down there, and that that was the blank, blank territory he had ever worked on. He said he believed that if you jumped on a signalman down there, you'd have to whip everybody from the Operating Superintendent to the colored track laborer. He said, "Now you didn't know whether you was talking to a signalman that wanted to know if they could help you, if you was a member of the signal department or you was a gang of that contractor's." And they didn't say contractors in a very pleasant sense. But if they could help you, they wanted to help you. So, we didn't jump on any of the signalmen. And I'll tell you, I certainly consider that as a compliment to get that far from home and have a stranger tell you what some other stranger had said about your organization.

Then coming home, time rolls on, I began to think about retiring. And of course, this centralized traffic control system was brewing on the railroad until the pot boiled over. They gave me 150 mile track. The trouble of it was it had quite a number, a couple thousand, electronic tubes in the system. I don't know, I never counted them. But if they had just waited awhile, most could have been transistors and eliminated the tubes. But they installed it and we got it operating. And the company, by reducing . . . Well, you can figure the cost of cross ties out there. you take up 66 miles of it, you have certainly reduced your capital investment for ties. To think now that you have got to have six spikes for each cross tie, two tie plates for each cross tie, so many rail anchors for hundred feet of track. And don't forget, they don't give you that rail, you've got to pay for it--132 pound steel. So, you add that all up and you have reduced your capital investment quite a sizeable sum. And it is really nice to sit up there and see that your train is running and on single track and watch the dispatchers make the meets without delaying the trains.

To use a little illustration of something that developed on the CNO and TP over on the rathole division of the western lines, one day they had the general manager on the train; and by this time they had installed the radio communication on the trains where

trainmen could talk to one another and talk to the dispatcher directly. And this engineer was meeting a freight train. He knew he was meeting this hot shot freight about a certain point. So, he told him that he had a tin hat on the back end of his train, "So let's go ahead and make a running meet. Now you keep me in touch of where you're at and I'll keep in touch with you so the both of us can be running. You can be running through the number two track while I am on the number one track. And both of us will be running about sixty miles an hour." And they did it, forgetting all about one of the unwritten laws in that the private car on the back end of the train that the radio is turned on at all times. Everybody got a good laugh except the two engineers, when they found it out, their faces were really red.

But I don't know. Personally, I think I had the pleasure of railroading during the golden era of railroading. To think during the First World War how the trains were crowded. Incidentally, I was on the N.C. & St. L then. And the Dixie Flyer was the crack train down there. Now you would never hear the colored people speak of that train as the Dixie Flyer, that was the Flying Dixie with them.

The little coffee pot engines they had back in those days up until the 4,500 [Series] . . . No, I believe the biggest steam engines was the 6,300 [Series]. Prior to the beginning of World War II, the railroad began replacing the steam engines with Diesels. The Diesel doesn't have the fascination of the rotating side rods that the old steam engines had. But if you will think about the diesel, you can run them 25,000 miles without ever doing anything at all to them, except pouring a little oil into them--lubricating oil and fuel oil. You're dispensed with hauling that coal.

You mine your coal in Kentucky and you've got to bring it all the way to Greenville to burn, or you mine in Alabama, you've got to haul it up there. You've got to buy gondolas to haul the coal in. Then you've got to put that coal in a coal shute to coal your engines. You've got to stop about every 150 miles or so to load it up with coal and water. You've got to have a pumper out there pumping the water. You've got to take those ashes and then have a gondola to haul them off to a point that you could dispose of them. And that is another investment. There is no comparison in the cost of operations between the two systems. Economics would force you to use the diesel, but it doesn't have the fascination for the country

boy and the country boys are not railroading now like they used to.

Do you want a little interesting conversation there?

E: Yes, go ahead and tell me anything that would . . . I have some questions here for you.

S: I think about the most interesting conversation I ever had. One day following the Second World War I boarded the train at Charlotte, North Carolina en route to Greenville, South Carolina. We had no more than reached the city limits, I sat down in the smoker of the real pullman, when in walked a general in the English Army. He had been invited to speak at one of the Southern universities. He was just like a turkey in a box looking out the window to see where he was. And finally he asked me if I knew where the Battle of King's Mountain was fought. And I told him, "Yes, just sit down and ease your pain as I will show you what I can from the railroad."

He was telling me that he had to submit a paper on the Battle of King's Mountain while in military school. And I laughed and told him, "Yes, if it hadn't been for those 603 colonists, I believe it was, that came from Ohio, Kentucky and Tennessee over there, the English would have won the battle." He said, "We not only lost the battle, we lost the colonies on account of them losing that battle." I said, "Well they showed up one day, joined the American Forces, fought the next day and went home the next."

You see, these 603 mountaineers from over in Ohio, Tennessee, Kentucky terrirory, they had to be good marksmen or they wouldn't have been alive to have been there. They lived in Indian territory. And for any of you who don't know the Battle of King's Mountain, that was fought during the Revolutionary War. And these men from Ohio, Kentucky and Tennessee, they'd get behind a tree or a rock, and of course, the English method is for the platoon to walk forward kneel and fire in front of the group, [the next row to] fire over their heads and so forth and so on. And of course, that was just like shooting fish in a barrel for the men from Ohio, Kentucky and Tennessee troops.

Of course, he had to get out this little notebook and put all that down. Now, his history teachers hadn't taught him about those fellows from Ohio, Kentucky and Tennessee, who had to be good riflemen or the Indians would have killed them. He got a little laugh out of it and was unusually outspoken for an

Englishman, much less an English Army officer.

Finally I asked him to tell me how my country looked to him. And finally I convinced him that I was sincere about the questioning. He said, "Well, I'm shocked at the disintegration I find in your government, your business and in your family life. You are fast approaching the point of no return in your finances. You are going from that into inflation, from inflation into unlimited inflation and from unlimited inflation to dictatorship. And when you go into dictatorship, the balance of the world is going to join together and we will beat the hell out of you." Now, please remember that was an English General and he wasn't talking through his hat. And also remember what our country has done in the last twenty years, exactly in line with his prediction, but that's just one of those little things that's interesting.

E: Well, the men you encountered as you rode the railroad.

I think we ought to put down here what the N.C. & St. L. is.

S: Now, we used to have a ditty for that, but I've forgotten what the heck it is.

E: It's the Nashville, Chattanooga and St. Louis Railroad, right?

S: Well, the N.C. & St. L. Railway that I worked for, that's the Nashville, Chattanooga and St. Louis. I was working on what is the old W&A part of the railroad, that's the old railroad between Atlanta and Chattanooga. There was less than a thousand miles of railroad in the world when that railroad was built.

E: When was it built?

S: It was built, oh, young lady, I've forgotten. I know it was built quite a while ago . And you see, that was one of the big objects of Sherman's campaign through Georgia was to destroy the railroads. But I forgot the year that it was constructed. But that was the W&A Railroad. That belonged to the State of Georgia, but it was under a 99 year lease to the N.C. & St. L. Railway.

E: Okay, when you say W&A . . ?

S: Western and Atlantic.

E: Okay.

S: State owned railroad. And then the L & N Railroad bought controlling stock, Louisville and Nashville. You people in Ohio should know what the L & N stands for. (Laughter) But the L & N purchased controlling stock in the N.C. & St. L. and then, of course, finally have changed the name. They omitted the name of the N.C. & St. L. and made it all the L & N System.

E: What kind of signal system did they use on the N.C. & St. L?

S: That was interlocking plants where I was at. Now, they used the Union Switch and Signal Company, absolute permissive block system. And the Union Switch centralized traffic control systems now, but when I was there, they didn't have anything in Atlanta except the interlocking. Now, while I was with them at the terminal in Nashville, Tennessee in 1918, the Union Switch and Signal Company was replacing the old straight pneumatic interlocking plant. Now that is a plant that is all operated by air. And as well, remember that you had five pipes for each switch. They were replacing that with, of course, the electric pneumatic plant, Union Switch and Signal Company, which required only one pipe with the compressed air and of course, of wires for the control part of it.

E: How does this interlocking system work?

S: Well, it's just a straight electric 110 Volt D.C. system at that time. They were fed by storage batteries. We had four plants there and three of the plant's batteries were charged by mercury ARC rectifiers. Tower Number 4, they were charged by just straight, electric generators.

Incidentally, I'll show you the safety. When I went to work railroading in 1913, you would see men with one arm, one leg, no legs, no arms, a common sight on account of very little regard was given to safety. I was never told, "Be careful about carrying an open light into a battery room while we are charging."

We had trouble at number 4 one night, I reckon two or three o'clock in the morning. I got up there and my voltmeter would not register. I had a 110 volt, but as soon as I put a load on it, it would drop to zero. On checking my main panel, I had the same condition, which there is only two wires from that to the main battery boss. So, that indicated that my trouble was in the battery room. But the first thing I did when I got there was put the motor generator to work to where we could operate the plant with the motor genera-

tors, but they in turn were charging the batteries somewhat. I took my lantern and went in there and began to go over the different connections and I found a corroded connection. But in doing so, I happened to get to where I could see my lantern--I had a dietz inspectors lantern. That's a lantern with a mirror in behind the flame and a little metal hood around it. There goes my flame and then there was a blank spot about an eighth of an inch and then a pretty little blue flame you've ever seen about a quarter of an inch over that and a blank spot and a little yellow flame about that. I said, "My God, I'm going to get out." No one had told me that the oxygen and the hydrogen were explosive in there.

But when my son, a young lad then--I took a glass of water and put a little salt in it, put a little battery to it and put a spark plug in there. And then after I get my water broken down a little bit, I blew that bag all to pieces to explain the hazzards of what can happen if you don't think.

E: When you worked on the Southern, you tried to require your men to get some education. What type of education did you require of them?

S: No, no, first when they gave us centralized traffic control system down here, now you've got a couple thousand electronic tubes. In other words, we had a hundred and some miles of underground cable. That gives you all of the troubles that you have with an underground cable system. We had about 25 miles of overhead line, which gives you all the trouble you'll have with an aerial line. Now, we have two big power companies in this area, Duke Power Company in South Carolina, Georgia Power Company in Georgia. Now, when they have trouble on their systems, they will give us trouble in our systems. And just using that to where, in fact, the signal man has got to have all of the basic trades. He's able to do just about basic trades, but now worth a hoop at any one of them.

In other words, the boss gives me a job for the riveting forge back in my young days, of welding some two-inch square stock material with snow about two inches on the ground. And he wasn't expecting anything, except for it to be welded. We didn't have any acetylene welding torches in those days. We'd take that old, hand-operated, coal-fired forge and weld it. And I did and that's it. I never did hear of it coming to pieces.

Now then, as far as the education is concerned, our employees were supposed to have had minimum requirement of completed high school. In fact, I wouldn't hire a boy who didn't have a high school education for a pick and shovel job because later on he might be able to establish seniority and work into position. Now, that was the management's requirement. What you you really desire though is to catch a good, clean, small town or country boy, freshly graduated from high school before he has been ruined anywhere. They make the best employees. A boy that has got a college education, all that financial investment and satisfied with one of our jobs, we wouldn't be satisfied with him. But you do need a little root system of electricity and electronics.

Now, you see, this CTC System I was speaking of, it replaced just the straight, automatic, alternating current signal system on the double track.

E: How does that work?

S: Let's take your telephone. You've got two wires coming down to your house, haven't you?

E: Yes.

S: Some little kid in the neighborhood goes out there and throws a little metal hoop over those two wires. You understand that your telephone is going to be out of service until you get that hoop off, don't you?

E: Yes.

S: Okay, well now, that's just the same with the signal system. Consider your two rails out here as your two telephone wires. Now, the current is running down those rails, you feed your track circuit; you put your current on there. It goes on down to the next signal down yonder. If there is no hook laying across there that signal will clear. If this signal up here is red, that one down there would be yellow. If this signal here is yellow, that one will be green.

And incidentally, we have had hoops (Laughter) The steel bands off the cars, why, they had lumber nailed down and stuff like. Steel bands come off and get across the rails and foul them out. And we had restricted signals and that was all the trouble it was. But, go back to what I started to say there. Now, you've got your signal green down there. Okay, a train approaches that; he sees the green signal. That

means proceed at normal speed. The yellow signal means approach the next signal, prepare to stop short of the signal, which would be a restrictive or red signal. But now when he comes over into that, now that's that band laying across your two telephone wires. You can't use your telephone and that signal can't go yellow or green as long as that steel band is across the rails or a train in the block. Do you understand?

E: Yes.

S: That's just a simple way that one can understand it. Well, now, when this one is red here and then the next one in advance will be yellow and the next one, of course, green.

E: So, they went from that system to . . ?

S: Centralized traffic control systems, which is controlled from this control building down here at Greenville, South Carolina. That would really be an interesting sight, too.

I said 132 pound steel, didn't I?

E: Yes.

S: Now, you've got a switch point; it's a little over thirty feet long. Now then, part of that rail is cut off until it's just one quarter inch thick out where it fits against the stock rail. But you have two of those now. Then the dispatcher here at Greenville, if he wants to throw a crossover about ten miles east of Atlanta--in fact, it's still inside the city limits of Atlanta--he just turns a little button up here if wants to bring that man out of Atlanta on track number one, bring him up, out there at the foremost. [To] put him on track number two, you see, he just goes ahead and throws his crosslines, his crossover. Or if he wants to go ahead and bring him up track number one, just let him come up track number one, then crossover line reverse. Twist this button and crossover goes normal, which throws him up track number one, and turns another button that clears the signal that gives the train the right to proceed to the next control point.

E: It's all an electrical system, isn't it?

S: It's all electric, yes. And that's why you get your tubes, you see. In other words, from here to Atlanta, you check every signal, every switch. That's not only

the power switches, that's also the manual switches along the wayside. If any of those are reversed, you get a red track out there. With the power switches, you've got those shown on there and if they're not normal, you get your indication on that.

E: Where did they run the electric part? Did they run on cables in the air or something and then bring it down to track?

S: Well, we buy our power at all of these necessary locations. Now, the control cable, that's just two wires. They leave here and then where we can, we're underground, but some places we have to go up into the air. And of course, going across the rivers, we just put the cable on the bridge. Of course, if you desire to put it in water, under the river, then that should be submarine cable. But we just put our attachments on the bridge.

E: That was with the Southern. Now, did the N.C. & St. L. Railroad--they were using a . . ?

S: Now, since I left there, you see, that has been a long time ago, my dear. You take 1918 until today, that's quite a few years. Let me see when that was. Buck Jones, one of our old maintainers went over to the N.C. & St. L. as a foreman.

E: You were there in 1913 to 1918?

S: Yes, but I was trying to think when Buck Jones left the Southern and went to the N.C. & St. L. It was about 1930, I imagine. I've forgotten. But they installed their centralized traffic control system. I think they run all the way from Atlanta to Chattanooga, Chattanooga to Nashville and I don't know whether they go west of there or not.

E: How often does the Southern--on this central traffic control--how often do they have to have a man at the control board?

S: Oh, there's on there all the time.

E: Yes, I know, like they have one in Atlanta.

S: Oh, you mean how far apart?

E: Yes, how far apart?

S: Well, now I'll tell you, we have one here . . .

E; In Greenville?

S: This one machine here and during the rush daylight hours, they have two men. One man that operates the machine from here to Atlanta. The other man operates the machine from here to Salisbury. Now incidentally, that would be quite an interesting thing there. They have just completed installing a new control system on the line between Greenville and Salisbury, which is just like the CRT, Cathode Ray Tube, System that you look at what you do. In other words, if you are going to go ahead and line your signals up, it shows your switches up there. Just what you do is on the TV screen. That's a new system. They've got one here and then they've got one at Greensboro, which handles it from--in other words, I said Salisbury, it's actually Spencer, North Carolina. And the dispatcher at Greensboro--or control, whichever one you want to call him--he handles it from Spencer to Monroe. And then the man at Alexander, Virginia, he handles the machine from Alexander down to Monroe. Can you follow me?

E: Yes, I'm following you.

S: Now, I was out on the Western Pacific and they were figuring on consolidating their machine. They had one, two, three, four machines in one building. And they were figuring on consolidating that into one machine and at night it would be one man handling nine hundred miles of railroad.

E: That seems a little bit much for a man to keep up with.

S: Well, you don't have any passenger trains today.

E: Yes, that's true.

S: You see, the way you used to, you'd have, oh, twenty or thirty box cars. Sometime here during my railroad days, Uncle Sam had a couple of guests over here from one of the little countries that Russia now rules, and I was delegated to meet them and go with them to Atlanta. And of course, I am guilty of telling one lie, but I had to brag on America a little bit. And I'm quite sure if I went over there, if they didn't tell me over one tale in a day's time, that would be real good. But we went on down the road and they were very interested in talking with me, and told me about their trip. They had gone to Germany, France, England, Sweden, Canada and down into America. And we were handling and getting our information faster than any other system they had

seen. They complimented me about the great works my mechanics did several times during the day. They also got a big kick out of it. I was able to show one of the roadway department T&S gangs, which their eyes popped out. They'd never seen anything like that where practically all of the work was being done with power machine.

In Russia, you see, all of that work is done--well, they've liberated the women over there. They killed so many of the men during the war that they let the women tend the track and do all the track work. Incidentally, they have quite a number of women engineers and I understand that the women have just taken over the medical profession, which when we were real small children, we depended on mama doctoring us. If we skinned our toes, we lit out for mama. I think that is a good item for the ladies too, to take over the medical profession to be frank with you.

But the lie I told them that day . . . We've worked all the way down the road and we went into the depot at Gainesville, Georgia. One of the other railroad men that was with them out of Washington and the two from Russia, walked in there and I went to the telegraph office to see if I had any telegrams waiting for me and then came right on back out and met them outside. A frieght train was just starting. While I was in the depot the agent on duty advised me that it was a good thing that I had not come along an hour earlier, they would have had you out there. He said, "That freight train has had Athens Street blocked for three hours." I think it was about 300 cars of 100 tons each. Some three hours earlier this train had stopped to set off cars containing local merchandise. This train had blocked Athens Street, a very busy thoroughfare. Some disgruntled native was angry about the crossing being blocked. Also knowing very little about railroading, he had raised the cup lever, which would allow the cars to separate when the train started to move. When the cars separated, the brakes were applied in emergency on the entire train. It took the train crew quite a few minutes to locate the separation. By radio they were able to get the engineer to back up and recouple the train. It then required quite a while to recharge the train line with air which controlled the brakes. They had all the city policemen, all the deputy sheriffs, all the railroad men they could round up to guard the train to see that no one raised the cut lever again. The train crew started the train rolling, and this enormous freight train finally went on South.

We could see one and one half miles south. The train went on down and the engines went around the curve. We looked back north, we could see a half a mile behind us and as far as you could see, cars were still coming around that curve. So, when the rear end of the freight train passed, my assistant, whose office was across the track, came over. I said, "Mack, what the devil is the matter today, business is so light, such a short train? Oh, yes, that's all right Mack, today is Monday and business is light." (This train was run by Superintendent J. Ray Brosnan. It was found to be prohibitive in labor cost in getting it over the road. On arrival in Atlanta, it was necessary to cut the train in two pieces, as the yard was unable to handle such a long train. Needless to say, this performance was never repeated.)

E: (Laughter) I wanted to ask you to tell us what a few things were here. Now, you cleaned your equipment in your signal boxes and like that, you used waste? Now what is waste?

S: (Laughter) Waste is from the cotton mill and used to clean dust from the signal boxes and excess grease or oil from the field equipment.

E: Okay.

S: The railroad has quit doing that and now they use, well, we'll say, Cannon, the towel manufacutrer up here, the largest towel manufacturer in the world, I understand. Now then, at the end of a days run, they have a ton or two of waste towels. They are so defective they can't put them out as third grade towels. See, you've got your first line towels, and then you have your second line towels and then you have the waste. Now, they'll sell those and the railroad will buy them, those old cloths, towels, or in other words, any kind of heavy material that will absorb grease, the railroad would buy. Each of these mechanics are furnished with a small supply. These old towels or cloths are used on the engines also. And when a sufficient supply is collected at the terminals, are laundered and returned to service. It is necessary to have a mechanic at Greenville, South Carolina; Liberty, South Carolina; Seneca, South Carolina; Toccoa, Georgia; Cornelia, Georgia; Gainesville, Georgia; Buford and Chamblee, Georgia.

E: These are your maintenance men?

S: Those are the maintainers. That title is "Signal Maintainer."

E: Well, going north, where are they?

S: Well, today you have a man at Spartanburg, South Carolina; Blacksburg, South Carolina; Gastonia and Charlotte, North Carolina. These men are on another supervisor's territory.

E: That puts about four or six men on a supervisor's territory?

S: Well, about that.

E: What's an A.P.B. signal?

S: Absolute Permissive.

E: What signal system is that a part of?

S: You see, just a straight automatic signal system, it governs a three mile block and then another signal takes over and runs to another three miles and so forth. Now, on single track, you have about ten miles of single track and then about ten miles of double track, then you have another ten miles. See, when you leave this double track here, you have the signal displaying green, yellow or red. Then you have down four feet under it, you have another red light. Now, when both of those lights are red, the only way you can get by that light is to have authority from the dispatcher or send your flagman ahead of you. And if he's got a ten mile walk, you see what a delay that would be.

E: How tall is one of those signals?

S: About fourteen feet.

E: Well, if he's got a caution, would that red light be on down at the bottom?

S: This red light burns all the time indicating it is a positive signal. But if he has a yellow light up here, that means proceed with caution approaching the next signal prepared to stop short of the signal.

E: This centralized control system, did they have to put in continuous rail for that?

S: Oh, no. Continuous rail, honey, is just exactly like the CTC system. This is another method of reducing your operating expenses. See, your long rails are a quarter of a mile long. With us they are welded in Atlanta and shipped to the field in one-fourth of a mile lengths. They will take up the old rail, which is in 33 or 39 foot lengths and since it's still serviceable rail, it's shipped to Atlanta to be welded

into one-fourth mile sections. And it's a sight to see them unload those two rails there a quarter of a mile long. And the surveyor comes out there and tells you exactly where it is going to stop. And they pull out those two and then they pull out two more. They start here and go a quarter of a mile further ahead. Then they put them up there and then they weld the one-forth mile sections together. You see, every time you've got a joint, that's a point of weakness. Now, you've got your angle bars on there and your bolts on there, but the stress for a period of time would loosen the joint up. You've been on the train and you hear it go click-i-ty, click, click, click, every time it runs over a joint, click-i-ty, click, click, click?

E: Yes.

S: Well, now you get on a continuous rail, you never hear that. Well then you can imagine, the first thing you do is you save the cost of that angle bar and your six bolts.

E: Yes.

S: That's a few dollars right there. But the real thing that you save is the hammering on your road bed. You'd chew that tie to pieces, knock the ballast out from under it there and the first thing you know you've got . . .

E: Yes, you've got a string of effects.

S: You've rode a train and it's bump-i-ty, bump, bump?

E: Yes.

S: It just jumps up and down. Well, that's the old pot holes that's dug out by the joints. Now then, you see by the continuous rail, you save that. You save that section foreman having to carry a gang of men back there and tamp those ties up. Well, here comes a big rain and that long freight train runs over it and hammers it out and you've got bump-i-ty, bump, bump, bump and they've got to go back. So, you save all that. The joint is the weakest point in the track structure.

E: When did the Southern go to continuous rail?

S: I'd say, I'd guess at about 1950. You see, that wasn't in my department.

E: No.

S: Of course, whenever a man's mind gets to be crowding eighty, honey, you can't depend on it too far.

E: (Laughter) I don't think it's that bad. What are track relays?

S: A track relay is nothing more than an instrument. A double element relay is one that is operated by local current at this location with a very, very weak current off the rails. Single element track relay is nothing more than the rails out here picking up current at a designated point and coming up here and the current has to be sufficient to operate the relay.

E: Yes. I want to clear up something. When you talked about the track picking up current and bringing it up and so forth--are the tracks actually charged?

S: The rails?

E: Yes.

S: Oh, yes indeed.

E: Oh, they are?

S: Yes. While I was at work, I wanted to do some dynamiting--of course, this is against the pure food law now, but if my shooting was where I could, I'd explode with the track current.

E: But is there ever enough voltage in that track that if somebody was on it they'd get hurt?

S: Oh, no.

E: That's what I thought. I wanted to ask you, you worked in the installing of signals between Asheville, North Carolina and Salisbury or Spencer, North Carolina, what did this involve?

S: Getting a few gray hairs. No, no, I'll be frank with you, I was young, ignorant, and my superintendent had more confidence in me than I had in myself. You might say, I only represented the Southern Railroad on the job because the actual installation on that job was done by the GRS Froces, General Railway Signal Company Forces. Let me see, Bill Bennett was representing the signal company. The first thing of it is, look at it this way: You got to have a concrete foundation to mount your signals on. Now, you go to each one of these switches out here, there is a solid iron bar in between one rail and the next rail over there and the other rail.

You've got to cut that bar in two, cut this tie bar in two and put an insulating strap in there to keep the current off this rail from shorting out with the other rail. And then you install your insulated joints at all your signals and switches. When it leaves, you want it to go back up yonder and the current coming from down yonder you want it to stop here. You don't want this current here to get over and pick up the relay on location. So, you must install the insulated joints and you must bond around each track joint except insulated joints. Now, back in those days, it was all 33 foot rail. So, you must bond your track. Now, that was done by GRS on that job.

E: What do you mean by 'bond your tracks'?

S: You've got two rails here and now then you've got that joint on there, but that's not a positive conductor. So, you've got to bring your wire off of this rail around over here to this rail.

E: Were the men that worked on the electrical end of the railroad, were they licensed electricians?

S: Yes, yes. Well, I had Tom Bush, he was my electrician. Oh yes, he's a licensed, full fledged electrician. That's part of his job. I think, if I'm not mistaken, Tom served his apprenticeship in North Carolina. Now, my signalmen, understand, they're not electricians. They flag. They're signalmen and members of the signalmen's organization.

E: Did your signalmen take care of these light crossings and like that where there were automobile crossings for the railroads?

S: You mean the crossing signals?

E: Yes.

S: Oh, yes indeed. That's getting to be a big portion of their work. They're getting so many of the crossing signals.

E: What causes those things to come on without a train setting them off?

S: We had a report. It's a novel thing that just show you how they'll go, how they work. The gated would start down and then they would go back up. And the people didn't like it at all. I had to send a mechanic down there. And the guy driving the caterpillar tractor

found out what he was doing. He was on crossing, but he could see down the railroad. And he would drive up there on the crossing and wait until the gate would start down, because of his metal treads shorting out the track circuit, the same as a train would, then he would go on about his business. That's just one of the little novel things that we encounter.

Another one, we used to have a fellow that would go to work late. He was like Dagwood; he wouldn't leave home on time. And every morning he would come along when our passenger train was just about due. Sometimes he'd get that last sip of coffee and the passenger train was about to beat him to the crossing. And the gate had started down. We lost six or eight gates. Anyway, I was tipped off about this. I was over there investigating and I found out about this young lad. I found out who he was and where he worked and so forth and so on. Well, a man that is that careless with his life, there is no use to talk to him. So, I went up town, purchased some sixteen guage metal strips, the same size as my gate arms. I reinforced the gate arm with that sheet metal. I painted it standard color. I went back over there the next week and the party that told me about what was happening, he said, "You should be ashamed of yourself." I said, "How's that?" He said, "You shaved that automobile from the front end to the tail end. It looked like it had gone to the barber shop and got a GI haircut." He said, "I went over there and that paint was rolled up six inches." (Laughter) I said, "Well, we haven't lost a gate since then." He said, "No, because he's learned to stop." (Laughter)

E: Okay, we were talking about the crossing system. Can you explain how they worked?

S: Of course, the old system was nothing more than storage batteries or primary batteries feeding to the track. Like I was installing crossing signals that year, quite a number of years ago and I asked the foreman to come down to install it. And he told me, "The first freight that comes through there, Mr. Sewell, the time table shows fifteen miles an hour." "I see." He said, "That freight comes through there at just exactly fifty miles an hour." I said, "Son, you read that backwards. That means fifty-one miles an hour. He's running just a mile slow."

But go back to the modern crossing signal. The motion detector is the thing that appeals to me. Now, here comes a freight train. He's running thirty miles an hour.

That equipment will determine to where that crossing signal will come down, go to operating, just in time to protect the traffic. With the old systems, he could be back yonder and he could be running fifteen miles an hour, the gates would come down at just the same speed that if he was running sixty miles an hour. So, the traffic was unnecessarily delayed. But what the new equipment is now is what you call a motion detector. That equipment will determine at what speed he is running and protect the crossing accordingly. If he stops, the gate never comes down. And then if he takes the notion to come on, the gate is going to come down.

E: How far back up the track from a crossing are these things located?

S: Well, that depends on your speed. On a slow speed location, there is no use to go way back yonder. You see, the speed of your trains will determine the elevation on your curves. There is so much of the railroad based on speed. Now, you say how far we go back. Well, we'd say you go back 2500 feet. But if the freight train is on a mountain, if this railroad is on the mountain now, he comes down the mountain at sixty miles an hour and climbs the mountain at twenty miles an hour. Do you follow me?

E: Right.

S: You want the close approach on the twenty mile side and go back in the field to protect the sixty mile because you want your gates down. You've got to start your lights to flashing. And then your gates start down. And that gate wants to be down before the train ever files the crossing.

E: I wondered if they had a set distance, but with that motion thing, that would change things.

S: The motion detector that is one of the . . . See, the automobile traffic is increasing to the point that you must not delay them unnecessarily.

E: You held the position of . . ?

S: Signal and electrical supervisor.

E: Supervisor, and then before that you were maintainer and then before that foreman. Is that right?

S: No, no.

E: Is it the other way, in reverse?

S: I started off as signal helper. And that is what I was fussing about. The boss was so well pleased with me. Oh yes, I got a nice increase in salary. But today, I cringe about some of the duties that I did while I was ignorant as I was.

E: Now, when you were signal helper, what did you do?

S: I'd go around to all of the signals to see that the lights were okay. I'd oil the machines. We had detector bars. That's the bar that lays right along side the rail. You've got a clip in the rail web that fits onto that bar. And it's got a V-shape piece of metal riveted to it. When you start operating that machine, the very first thing that takes place is that this bar raises up about an inch above the ball of the rail. If there's a train on there, you can't raise it up. If there is no train around there, then you can just operate your machine anyway that you please. Now, if you clear a signal for a train to come through you interlocking plant, the mechanical locking on the front of that machine forbids you from operating the switch. But the engine gets by that signal and you shove your lever in and you get your indication that it's gone red and you shove it all the way in. You've released the locking. And you go up in and you pull this lever. If the train is on the detector bar, this will prevent the switch points from moving and possibly endangering the train.

E: When you were a helper, you used to see to these?

S: Well, I'll just be, in other words, take care of that. And then every now and then the freight train would tear up one of those detector bars. And they'd usually let me get ahold of that six pound sledgehammer and straighten that thing out. That bar looked like the ocean waves and you've got to straighten it out just like, in other words, it's got to be perfectly straight.

E: And then you moved up to the signalman?

S: Yes, I did that. I jumped from a helper. I should have gone to an assistant maintainer, but I just jumped to a maintainer. But then when I left the N.C. & St. L. that was on a maintainer's job. But then when I went on the main line . . .

E: For the Southern?

S: No, I went on the main line with the N.C. & St. L. and then I was a signalman. And then when I left them and

came to the Southern Railroad, I had to go back to an assistant maintainer.

E: What does a signalman do that the assistant doesn't do?

S: Well, a signalman is responsible for wiring the cases or in other words, setting the foundation out here, getting some helpers and cutting the concrete and filling that foundation setting. In other words, a signalman, he's just like a doctor. If anything turns up in his profession . . . Now, you'll find some signalmen specializing in one field of the signal work, just like you'll find a doctor specializing in a field of his work.

E: There would be several signalmen working in a section or a division in a given area under a maintainer?

S: A maintainer can't report to another maintainer; you've got to give that chief maintainer a five cents an hour differential in salary, because you put two men out there and both of them drawing the same salary, then each one of them is going to want to be boss. But that five cents an hour determines who's boss. But now then, just the maintainer normally he operates by himself. If there is two or three maintainers down there, then you'll have your chief maintainer. If you've got three or four maintainers, normally, you'll have a maintenance foreman or a maintenance supervisor.

E: Does the signalman help set up or set up the signal and do any new work and this type of thing and the maintainer keeps it up?

S: That's right. The signalmen normally are in a group. They are in a gang. Now, we'll say a gang will come down here and put in a crossing signal. But when they put that in, they are done with it. The maintainer then he's got to take it over. Just like the state, the state will pay the railroad ninety percent of the cost, federal money, to install that crossing signal, but that isn't where the cost is. It's sort of like getting married. You can get a marriage license quite cheap. (Laughter)

E: It's not the cost.

S: That maintenance cost, the day to day cost, the railroad pays that.

E: Now, the signalmen would move from one area to another?

S: Normally, yes. Sometime they are assigned to definite headquarters, but normally they move from here and yonder and elsewhere as to where they would be required.

E: Now, the signal foreman, he has several maintainers under him?

S: In some cases and in very few railroads. We didn't have that on the Southern Railway System. Now, a signal foreman, he has a group of those signalmen working under him. The signalmen report to the foreman.

E: Did you work on the Seaboard to help set up their signal system?

S: No. To install a communication system, a telephone system between Savannah, Georgia and Jacksonville, Florida.

E: And this was in 1913?

S: No, 1912.

E: What type of telephone system did you set up?

S: My dear, I have forgotten.

E: Was it one from station to station?

S: The dispatcher issued his train orders over it.

E: Did you have little boxes along the road?

S: No, I had a station to station. That little thing of putting the telephones out at the passing tracks came on years later. But I don't think that the Seaboard ever used that. I don't remember noticing them down there when I was through that country.

E: Did the Southern ever have the telephones at the passing tracks?

S: Well, the Southern Railroad that you see today, the present system today is that the train engineer out here, he'll talk to the dispatcher by radio. Now then, before that, the dispatcher would talk to an agent down here at Easley, we'll say, or issue a train order over the telephone to that agent at Easley or Gainesville, or where it was necessary. Now then, before that, it was the old Morse System, the old Morse Telegraphic System. And you'd have your operators and the dispatcher up here and he'd get over on his key and the

fellow down there would take his sounder and transcribe it, that is, according to what the dispatcher gave him.

E: Now, the crew on the train had no way of communicating with the dispatcher except stopping at a station?

S: Up until they got the radio.

E: Some of the railroads had telephones that they'd go on.

S: Well, the Southern Railway might have had a few of them scattered around, but not as a policy.

E: Did you ever have to go out and help clean up a wreck or anything like that, put stuff back after a wreck?

S: I'm very fond of a little incident. It's just a small incident that happened at a derailment and the six hundred mile post. I'd say that this must have been about 1935, somewhere back there. Here you are out here at the derailment, cold, two o'clock in the morning and you are so sleepy you're almost staggering. And a colored boy passed me, "Mr. Bob," so you back, back a little bit. The kid passes me and says, "Mr. Bob, do you want a cup of good hot coffee?" Now, the derrick was picking up the wreck. His dining car is down here a couple of miles. So, you've got coffee down there, but that doesn't do you any good up here. "I sure would," I said. He said, "I sneaked off and I gone and told the old woman that I was going to ask you if you wanted some hot coffee." He says, "Incidentally, she's got some good sweet potatoes down there in the fire." So, I fooled around there a couple minutes and then I said, "Buck, I'll be back in a few minutes." And I started this way and got outside the light of the fires and came back around this way and went down to an old colored laborer's house down there, a hundred and fifty yards, I reckon.

That old negro woman says, "Mr. Bob, is that you?" I said, "It sure is." She said, "That old man of mine told me he was going to send you down here." So, I went on in. And she says, "Get over there and get warm by the fire." She said, "Just you warm now and I'll get you some coffee." She got me a big old mug full of coffee. They had a Guernsey cow. And everything was just as clean, in other words, she had scrubbed the floor so much that she was about to wear the plank out just scrubbing it clean. But anyway, I set that mug of coffee down and I stretched my feet out. And she said, "Mr. Bob, I've got some good sweet potatoes over

here in these ashes." Have you ever eaten a sweet potato that's baked in the hot ashes of a wood fire?

E: No, never have.

S: Well, you have an experience coming. But anyway, she got me a couple of those potatoes out and put them on a plate and went back and got me a pound of butter. She set it down on the table there and shoved the table up to where I could get to it without having me leave the fire. And I am going to tell you, I got those good old, yellow yams, almost red, and that good country butter and I mashed them up; I mashed that butter into it; and that cup of coffee. I've never eaten a nicer meal at any of the nice hotels around Chicago. And I believe anyone in the Punk Room, up there, at the hotel in Chicago would enjoy eating that also, an appreciate the warm friendship shown by this black couple. It was just a wonderful courtesy shown by colored employee. Oh yes, that was years ago.

But I remember him just sizing up there and no one else heard what we said there and him sending me down to his home. And of course, he knew that I was cold and wet. I was just hanging around there. I had a 4400 volt transmission line and I couldn't afford to let them tear it down. I wasn't involved in the derailment, but I just had to be there to see that they didn't mess up my department.

I'd railroaded about forty years before I was ever at a derailment where a human being lost a life out of all the derailments I saw. And the first one that I ever saw was the result of carelessness.

E: The Southern has pretty good grade and pretty good road bed and that would help.

S: Now honey, let me see, have you ever heard of Tennessee Pass in Colorado?

E: No.

S: Okay, right over here between Spartenburg and Asheville, they have a 5.15 percent grade, I believe it is. And you rise five feet in a hundred feet and you try to lift a boxcar up there, you've got a load on you. And that's the steepest grade in eastern North America on Class A railroad. And it's the different companies that use it for test purposes. They use Tennessee Pass in Colorado and this place over here.

E: Now, is this the Saluda Mountain area?

S: Saluda Mountain, yes.

E: That's what I thought. I thought they had taken some of that grade out over there.

S: When that railroad was built, they had a good survey between Tryon and Saluda to where you'd miss the town of Saluda, but you'd come out over there to where you wouldn't have that grade at all. But when the railroad was built, every county was supposed to build it from the eastern line to the western line. What they wanted to do was to complete their railroad through to get to the Tennessee River. And Polk County is right in the edge of the county and they didn't get any benefit from the railroad, so they just built a track almost straight up the mountain. And that's why you got that. The Southern Railroad went in there and rechecked the old survey and it got a good survey in there for cutting that mountain out, but it wouldn't be justified from an economical standpoint today.

E: They probably got a lot of industry that developed along the railroad. In your signal systems, did this include siding?

S: Some siding were signal and some siding were not. In other words, you didn't call it a siding, you called a number two track.

E: Oh, a number two track, okay.

S: (Laughter) You'd know why it had signals.

E: Did the N.C. & St. L have a lighter rail than the 132 pound?

S: Oh, good Lord, my dear, yes. You see, we didn't get one hundred pound rail. The N.C. & St. L, they used 85 pound rail. And I came to the Southern and we have 85 pound rail. And then we went to one hundred. And we got a little 112 pound. And then jumped from 112 to 132. And the Pennsylvania, the last I heard from them, I believe they were using 144 pound steel. But you see, you are getting into big money when you begin to buy that kind of rail.

Now in mentioning rail, we had a fellow one time that was very ignorant. He never did think. We had an old piece of the scrap rail built into just the shape of a pear, but was built out of sheet metal. I'd give anything under the sun if I had a piece of that rail today to put in the Smithsonian Museum. But they gathered up all the rail. I knew where it was, but I

just neglected to get it. And I heard about them picking up all the scrap rail for war effort, Second World War. And I let out a yelping call to Toccoa Georgia, to the maintainer down there and to tell him to go down there and to cut me off a foot or two of that rail. He said, "Why, that's been gone two weeks."

E: That's the way it goes. Did you have more trouble with the steam engines tearing up your signal systems than the diesels?

S: Oh yes, because, you see, your steam engine would slip much easier. Now, if you take a big steam engine, oh yes, you had six drivers under it. All you want to do is take a penny and go around in there and just shove a penny up against each one of those drivers. And I'd bet a fellow five dollars that engine wouldn't lift itself. It wouldn't. Now, you leave one of those pennies away from that where that wheel could go ahead and get a toe-hold on that rail, you've lost your five dollars. The steam engines were bad about slipping. And they'd slip across a welded and insulated joint and give you trouble and complications.

And just another thing of it is--go back to that track we were talking about awhile ago. Have you ever thought about the weight at those reciprocating parts? Take that big side rod on the engine, in other words, every now and then a general wedge would stick on the steam engines. And when you stuck a wedge on it, then the whole weight of the engine at one point in that revolution, the whole weight of the engine would be on that one wheel. And the result was that you'd kink the rail. And one engine I think did about $100,000 worth of damage between Monroe, Virginia and Alexander on just one trip.

E: Was that that big passenger steam engine that the Southern tried to run? Was it the Southern? One of them had a steam engine that would move faster than any other steam engine. They tried it and it would go a hundred miles an hour or something like that. Was that one of those big ones?

S: No, I don't remember. I believe it's the 1401 of which is in the Smithsonian Museum in Washington. That's the show piece. I certainly do take my hat off to Mr. DeButts or Mr. Fairfax Harrison, which ever one worked that out to get that into the Smithsonian Museum up there. It's a wonderful piece of equipment.

E: What did that big engine do up there out of Monroe?

S: You refer to the 1401? It was just one of the series engines. It operated all over the Eastern Lines. In fact, I've ridden that engine on the Asheville Division when she had the floating boxes under it for our mountain division, that is the sharp curves. And then for the main line you've got to change your engine a littie bit to really operate successfully out here on the main line because it would have a tendency to sway too much, long tangent track that you have on the main line.

E: I didn't know that the engines were structured different for the mountains than they were for the straight line.

S: No, you use your same engine. It's just a small modification in the boxing. You see, if you are on a small radius, now just like they have one ton point tunnel in one of the divisions, that tunnel has got a fourteen degree curve on it. Now, you don't want your engine in there if the wheel base--you see, you've got to have that thing get around that curve. If it is all ridging, now either your engine is going on the ground or the rail is going to turn over, one or the other. So, you've got to have some method of your engine allowing to get around the curves.

That is another thing with your diesel engine. You see, your diesel engine is just like a streetcar. The wheel base of the truck on the diesel is so short that you could drive it around a curve that you wouldn't dare put a steam engine around. But then you are getting into economics again. You can install a siding to service an industry and use a diesel engine to go in there, but you never could consider using a steam engine, because of the short curvatures in the track.

E: In other words, the radius of a curve would determine somewhat the size of a steam engine that they could operate on it?

S: Oh yes, that is the length of the frame of the engine.

E: Did they have a different signal system up Saluda Mountain than they did on the main line?

S: Well, not up the mountain. They had one down the mountain.

E: Okay .

S: When I was over there, they had what they called number one and number two safety tracks. Now, I under-

stand that they've cut them out. I don't know. But back under the old steam engine days, you had number one and number two safety track. The engineer would leave the top of the mountain and he'd come down and if he was all right, he'd blow for the switch tender to tell him everything was okay. Now, this man stayed right there at the switch to line the switch over to where he'd go straight on down the main line, otherwise he'd run up the safety track up here on the other side of the mountain to stop the train. If he was all right, he'd go on down to the foot of the mountain to number two safety track and repeat the same process.

That was with the steam engine, but you see, with your diesel engine, you've got so much more air and you've got such a better control of your train. And just change your motors under you engine to generators, put your grids in the circuit, and you've got your generating current and you've got your generator shorted almost. And of course, it takes an awful lot of power to turn it over, but the weight of that train shoving it. But you are braking and you're holding your train with the generators underneath.

E: Is that what they call reversing the engine?

S: No, no, When you reverse the steam engine or the diesel you just reverse the direction of movement.

E: Well, they had to have two attendants up there? What did you call them?

S: Switch tenders.

E: Switch tenders up there on Saluda Mountain coming down.

S: After they put in the signal system over there, they converted that to automatic and they cut the switch tenders off. And if the train came down the mountain slow enough, the switch would reverse automatically and that would allow him to continue on down the mountain. If he was running too fast, the switch would not reverse, forcing him into the safety track, thereby preventing a possible derailment.

E: Did they have some way of reading his speed somehow before he hit the switch? Do you know what I mean?

S: You had a time relay in there with the electric equipment. And just like going on the Bay Bridge in San Francisco, every thirty seconds you got a train. There

might be a dozen of them in there and and all running forty-five miles an hour, but if that front man stumped his toe, the brakes would go back on all the trains at the same time.

E: But they use a timing switch up there?

S: After he'd hit their probed circuit, and then he had such and such a length of time and then the switch would go over. If he was running to fast, the switch would never go over.

E: He'd get there before the switch would go?

S: Yes.

E: Did the Southern ever use the automatic train control?

S: Oh yes, automatic train stop. Now, we didn't use control, we used the automatic train stop. If an engineer was waving at the farmer's daughter out there and the signal was yellow, the brakes would go on. If he was tending the business in the engine and saw that yellow signal and pulled his acknowledging lever and the fireman was waving at that farmer's daughter, the whistle would blow in the engine. The trains stop whistle would blow to let that fireman know that the engineer was passing a restrictive signal. Now then, we'll say that the engineer was approaching that yellow signal and dropped dead, when the engine passed the signal, his brakes would automatically be applied and he'd stop before he ever got to the red signal.

E: How did they get to this automatic?

S: How did they accomplish it?

E: Yes.

S: Well, you had a coil out here on the side of the engine, two coils, in fact. You had one out here on the wayside right along the rail. And then it went up there and if the signal was clear, this coil was shorted out. If the signal was red, it was open. And when the train came along, if he doesn't balance the current in his coils on the engine, then the brakes would be automatically applied, it's just all electric process.

E: Well listen, this has been very interesting. Is there any little anecdote or anything that you would like to add to all of this? Do you want to tell us about the night that you had an intruder back when you were maintaining?

S: Well, you see that my mother intended for me to be a doctor. And the line-up was that when I got through high school, I was supposed to have my complete skeleton, not my own, but one that belonged to somebody else, and know the names of the different bones and all working parts. But my mother passed away when I was only twelve years of age and I only had the skull and the first joint of the vertebrate at that time. See, I had a cousin, and grandfather doctor and I was really interested in it. And of course, when my mother passed away, all those plans blew up. But I still had the skull.

So, while working there on the N.C. and St. L., I was on night duty and we had three murders around there. And I had decided that it would be a good idea to get some kind of a scarecrow to keep all the loafers away from my place of business at night. So, I carried my skull down there and put one of the old carbon filament lamps inside the skull. And I'd be honest with you, I'd have run myself if I didn't know what it was when I turned that light on. I set it over on the porter's workbench and I turned that light on.

And I couldn't wait. Finally, here comes a boy. The colored lads, principally, would get out and carouse around Atlanta and dissipate and heading for home one and two o'clock in the morning. And they'd always like to stop and get a drink of ice water. And if I needed any help, they'd get out there and work like the mischief for an hour or two helping out on the railroad and not getting a cent for it or anything. I really had some good colored friends. But after three murders had been committed right around there, it's time to begin to sort of head your market a little bit.

So finally, this colored lad walks in there. And he said, "Hello, Mr. Bob." And I said, "Hello, John. How are you tonight?" And he says, "I'm fine. How are you." And of course, he's walking all the way towards that fountain and he tells me that he wants a drink of water. And I said, "Go ahead and get it." He's looking at me instead of looking at the fountain because he's been in there so much and he knew right where it was. And of course, when he turned around, there was that skull with that yellow looking light coming out of those two eye sockets and the nose. Well, he turned around, I reckoned a dozen times before he could find the door and out that door he went. The platform was about ten foot broad and then you step out of the door and then you turn immediately to the right and go out on the field because we were actually

on the second floor of the power house. The storage batteries and the mercury arc rectifiers and so forth were downstairs. But when he went out, he just went on and run against the banisters and, of course, the top part of his body, he just turned a somersault and over those thing he went and he went on to the ground.

Well, of course, he was yelling holy murder all the time. I reached over and picked up a gun on the work bench there and run out there. I just shot it up into the air. I didn't want to shoot down there, I was afraid I might shoot him. But I just shot up in the air a couple of times and hollered real loud. Of course, him yelling and me yelling, and about that time he got straightened out up through there and in the honeysuckle vines there was a bunch of old rotten metal oil drums. And that poor devil got tangled up in those oil drums and you never heard such a racket. And I imagine that scared him more than he already was scared.

And the switch engineer working the yard over there--it was unusual for me to be hollering and shooting a gun so they heard it--he began to blow the alarm whistle on the switch engine. And here comes the switchmen across the top of the boxcars. I don't know whether they came over to see the fun or to help me out. But they came a running and I appreciated it. Well, of course, that poor devil and all that yelling and commotion going on, the last we heard of him, and that has been about sixty years. And you know, he never came back to ask for another drink of water as far as I know. (Laughter)

E: Is there anything else you'd like to add?

S: No, I hope I haven't bored you.

E: No, we're fine.

S: Well, wait a minute. My dear, you have had the pleasure of attending a sand house meeting. Back in the old days when they didn't have the air brakes on the train, everything had to be stopped by hand brakes. And during rainy, sleety weather, the brakeman would have to go on top of those cars and put hte brakes on. Well, when you would hit a coal shute or wood shed, either one in those days, they'd have to have dry sand. They'd have fires going in the stove in there to dry the sand to go in and put in the sand dome on the engine to keep the engine from slipping. So, you always knew where you was going to have a good warm dry spot.

And of course, while they were putting that wood on the engine or the engine was coaling, those brakemen would light out for the sand house. And if there was a down train at the same time an up train was there, they'd swap information, gossip in other words. And you'd ask someone and well, now he'd tell you so and so. "Did you hear about Bill Jones getting a divorce?" "No, where in the world did you ever hear that." "Oh, I heard it at the sand house committee." Now, even today you hear railroad people discuss sand house committee and they don't even know what a sand house is because you buy all your sand today in bags for the diesels.

E: So, we've had a sand house meeting here? (Laughter)

S: So, you attended a sand house meeting.

END OF INTERVIEW