

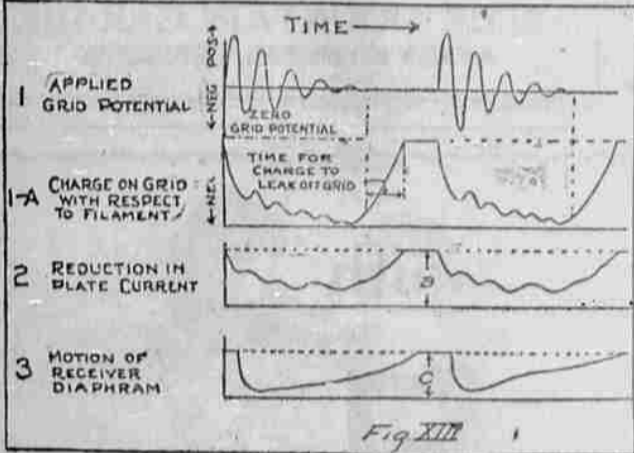
RADIO

CIRCUIT WITH GRID LEAK RESISTANCE

Takes Place of "C" Battery—How Impedance of Flow Is Determined.

Fig. 13 shows a set of curves for a three-electrode vacuum tube circuit containing a grid leak resistance as shown in Fig. 11 instead of a "C" battery with the same symmetrical alternating difference of potential applied to the grid circuit.

There being no "C" battery potential applied to the grid, the grid in Fig. 11 is normally at zero potential with respect to the filament. As the positive half of the first cycle of the alternating difference of potential is impressed upon the grid circuit—see Fig. 13—the grid is made positive



would soon collect a sufficient negative charge to reduce the plate current to zero and the tube would cease to function.

A grid leak having too low resistance will not allow a sufficiently high negative charge to collect on the grid, resulting in a very small plate current reduction and weak response in the telephone receivers.

On the other hand, if the grid leak is of too high resistance, too high negative charge will collect on the grid and the condition of no grid leak will be approached.

In any electrical circuit that has a difference of potential applied to it, the current that will flow depends upon the "impedance" of that circuit. Just as in the flow of water through a pipe, the quantity of water that will flow when any given pressure is applied depends upon how much the flow through the pipe is impeded by the friction of the particles of water against the sides of the pipe and against one another.

In the electrical circuit, the relation between these three quantities is that the current which will flow is equal to the applied difference of potential divided by the impedance, where the current is in amperes, the applied difference of potential is in volts and the impedance is in ohms. In

transposing this equation the impedance is equal to the applied voltage divided by the current. The impedance of a vacuum tube plate circuit, internally between the filament and the plate, when the grid is at zero potential, is an important constant of a vacuum tube and is called the internal plate impedance.

The internal grid impedance of a vacuum tube used in a radio set as a detector determines the impedance of the telephone that will give best results when connected in the plate circuit of that particular tube.

It is then not only the resistance of a pair of telephones, but also the inductance and the distributed capacity of the winding that cause the maximum current to flow in the telephone for a given change in grid potential. The internal plate impedance of a vacuum tube varies only slightly with

men a past or present they can take as many trips as they desire. Next, we will take our Chicago Street Car Lines. They pay their blacksmiths \$1.02 per hour and give them a pass on the street cars. Then we can take the Great Lakes Dredge & Dock Company, paying \$1.01 per hour.

Taking up another industry such as the Sells-Rolling Mill, paying their blacksmiths \$1.10 and giving per hour. Then we will take the blacksmiths working for the City of Chicago. They make and repair forgings of many descriptions. They get \$1.25 per hour. In fact, Mr. Chairman, you will find in our submission that we have submitted approximately forty well established right here in the city of Chicago that pay their blacksmiths from \$1.02 to \$1.25 per hour but still the railroad representatives can only find two shops in the entire city of Chicago, but they could step right over into our next state, at Hammond, Indiana, and find four blacksmiths, and one of those four is the industry that so much has been said about on account of their working, and unfair labor that they employed during our recent war from when they tried to put their own company plan of organization into effect in their establishment, which was resisted by the employees, resulting in a strike which was settled

was agreed to by many managers that it is not beneficial or economical to have specialists as they cannot be used on any other class of work excepting that particular job that they have been assigned to. Also when a layoff comes along this specialist may hold himself out but cannot do the work that is required to be done by those left in service, consequently he is of only a specialist, therefore time is more difficult to secure work elsewhere. Likewise on account of this handicap, he must be submissive to the employers' whims and wishes and in some cases possibly a prey to an unscrupulous employer.

Apprentice System Advocated.

You will not in our rules that we advocate an apprentice system and insist on and insist a clause in our agreements that an apprentice shall be permitted to learn all branches of the trade, so that he can do any class of work called upon to perform thereby being more valuable and obedient to his employer, also being more able to get other employment in case of a layoff because he can do any kind of work the trade requires, being more able to provide for himself and his dependents, hence a more happy and contented American citizen, of which we boast and pride ourselves so much about.

Now then, Mr. Chairman, speaking about outside industries that are comparable to the railroad industry and having employees that are comparable to the employees in the railroad industry, I want to call your attention to the fact that we require a man to have served a four-year apprenticeship or having had four years of varied experience in the blacksmith trade before he is considered or recognized as a mechanic. A blacksmith working in the railroad industry is required to and must be able to read blue prints, sketches or drawings and be able to complete his work to a successful conclusion within a reasonable length of time. That is the only kind of a mechanic employed in outside industries that is comparable to the railroad mechanic. In going over the list of outside industries submitted to your honorable Board by the railroad representatives, I find that there are very few industries that employ mechanics as above described. To a large extent they have submitted manufacturing plants; we contain the railroad mechanics are maintenance and repair men. The manufacturing plants may have one or two real mechanics and all the others being composed of laborers or handy men but according to the managers' presentation, they desire to have those rates averaged up and used as the rate paid mechanics, showing how unfair they are in presenting real facts. It is also "refreshing" to note that the representatives of the railroads have very carefully excluded, almost entirely, industries that are organized, and wherein the employees have had a voice in establishing their wage rate and conditions under which they are employed. An illustration—I call your attention to the industries submitted in Detroit, Mich. The Pease Steel and Wire Company—a Pease factory. Peerless Wire Fence Com-

pany of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

Annual Rainfall.

There has been recalculated from recent data the amount of rain annually falling upon the earth's surface. It is found that it is equivalent to a layer of water of the uniform depth for the whole globe of about 35 1/2 inches. The amount falling on the land is equivalent to a uniform depth of 29 1/2 inches, considering only the land which is drained by rivers flowing into the sea. It is calculated that only 20 per cent is returned to the ocean, and that the rest is removed by evaporation.—Washington Post.

Presbyterian Church.—Who's the boss? Every individual is looking for the answer. Sometimes in politics, sometimes in society, sometimes in business, but always in personal conduct. Every life has a ruler. Consciously or unconsciously we all bow to some sovereign. What we are depends very largely upon the one to whom we pay allegiance. Let us acknowledge God in our lives and give Him an opportunity tomorrow at Sunday School at 9:45 and worship at 11. Mrs. Hal Bohlenkamp will sing "I Come to Thee," by Carlo Roma, at the morning hour to which all are invited. Union service in the evening at 7:30 on the lawn.—W. C. Ross, minister.

First Methodist Church.—The Union meeting in the evening will be held on the lawn of the Presbyterian church at 7:30 instead of 8:00 o'clock. The pastor of this church will be the preacher and Rev. J. W. Gunn will conduct the service. An enjoyable song service will precede the sermon. People who are taking a ride in the cool of the evening are invited to draw up to the curb and enjoy the service with us for one hour.—The Supreme Word of the World will be the sermon topic in the forenoon service. Sunday school at the usual hour. The attendance of teachers and pupils is urged.—Claude Cooper, 429 president.

LATTER DAY SAINTS—Regular services at the Tabernacle. Sunday school commences at 10:30 a. m. Sacramental services at 12:15 o'clock p. m. Mutual Improvement Association, Sunday at 7:30 p. m. Priesthood and Relief Society meeting at 7:30 p. m. Primary association of children, 1 p. m. Primary association on north side at the little chapel, for children, Thursday at 4 p. m. Religion class at tabernacle, Thursday at 2:30 and 4 p. m. Bible

really comparable to the railroad industry, at least such industries where the blacksmiths have had a voice in their wage rate and conditions are considerably higher than what are being paid to the railroad blacksmiths at this time.

Likewise, we have submitted, food, clothing and other necessities of life, and that will not only demonstrate but prove to you that the cost

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

Now is the Time

Does it ever happen as vacation time arrives that you find you are out of funds? That you cannot take advantage of the sort of trip you have for so long planned.

Now is the time to prepare for next year's vacation. Make it a point to deposit a certain sum each month in anticipation of your future desires.

You will find us ever ready to assist you in any banking or financial problem.

J. P. O'BRIEN,
General Manager.

Churches

All church notices must be in the hands of the editor by 4 p. m. Friday afternoon.

Church of Our Lady of the Valley, Fourth and G Streets. First Mass at 7 o'clock. Communion Sunday for the Young Men's Holy Name Society, Second Mass at 9 o'clock. A gospel sermon on the "Gospel of the Day" will be preached at both Masses. Evening devotions at 7:30 o'clock. Holy Communion at 8 o'clock. A social welcome is extended to all.—A. F. Lewis, pastor.

Presbyterian Church.—Who's the boss? Every individual is looking for the answer. Sometimes in politics, sometimes in society, sometimes in business, but always in personal conduct. Every life has a ruler. Consciously or unconsciously we all bow to some sovereign. What we are depends very largely upon the one to whom we pay allegiance. Let us acknowledge God in our lives and give Him an opportunity tomorrow at Sunday School at 9:45 and worship at 11. Mrs. Hal Bohlenkamp will sing "I Come to Thee," by Carlo Roma, at the morning hour to which all are invited. Union service in the evening at 7:30 on the lawn.—W. C. Ross, minister.

LATTER DAY SAINTS—Regular services at the Tabernacle. Sunday school commences at 10:30 a. m. Sacramental services at 12:15 o'clock p. m. Mutual Improvement Association, Sunday at 7:30 p. m. Priesthood and Relief Society meeting at 7:30 p. m. Primary association of children, 1 p. m. Primary association on north side at the little chapel, for children, Thursday at 4 p. m. Religion class at tabernacle, Thursday at 2:30 and 4 p. m. Bible

really comparable to the railroad industry, at least such industries where the blacksmiths have had a voice in their wage rate and conditions are considerably higher than what are being paid to the railroad blacksmiths at this time.

Likewise, we have submitted, food, clothing and other necessities of life, and that will not only demonstrate but prove to you that the cost

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

Now is the Time

Does it ever happen as vacation time arrives that you find you are out of funds? That you cannot take advantage of the sort of trip you have for so long planned.

Now is the time to prepare for next year's vacation. Make it a point to deposit a certain sum each month in anticipation of your future desires.

You will find us ever ready to assist you in any banking or financial problem.

J. P. O'BRIEN,
General Manager.

UNITED STATES NATIONAL BANK
LA GRANDE, ORE.

HARDING PLEADS FOR HARMONY

COLLETERUS, O., July 8.—President Harding in an address Thursday night made a vigorous appeal for harmony in the ranks of the republican party. Two many who profess to be republicans, he declared, are attempting to "attract attention to themselves" instead of working for the good of their party and country.

The president said he did not care to be a "squire" but wished that someone and to get an idea of the

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

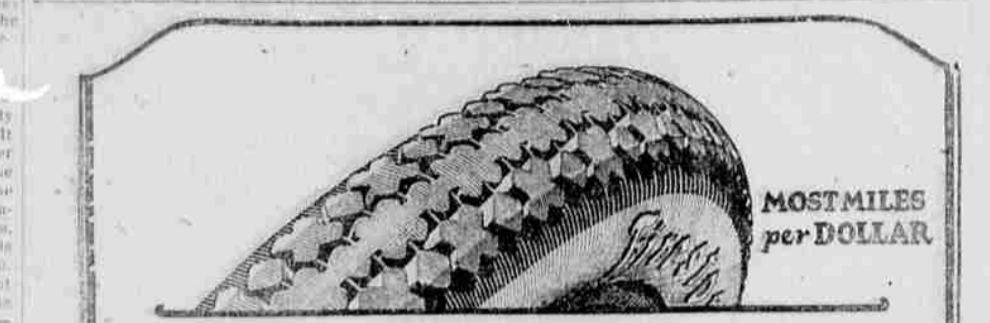
of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

of living has not come down anywhere near to the extent that the other side is trying to make you believe it has and if they were sincere and honest in their purpose why don't they start in at the top, reduce the wages of those that can well afford to be reduced and eliminate with men that may be termed as parasites instead of trying to reduce our American working people into a condition that borders on starvation and deplorable living conditions, which history tells us eventually ends in disaster. In your deliberation, Mr. Chairman and members of the Board, I sincerely hope you will use as your guide our American standard of measurements, give the employees we represent the increase we have asked for so that they can better provide for their dependents and live somewhat nearer a comfortable, happy, American standard of living. By their employees having a greater purchasing power, will result in an increase in business for other industries, improving the situation in our country as a whole.

LA GRANDE CONSTRUCTION & SUPPLY CO.

General Contractors and Builders
Screen Doors, Windows and all kinds of Mill and Cabinet Work, Estimates on Plate Glass and Store Fronts
Phone 428-J
Cor. Greenwood and Madison
La Grande, Oregon
H. P. Neilson and Chas. E. Harris, Props.



Firestone GUM-DIPPED CORDS

and Their High Mileage Records

The high mileage records of Firestone Cords continue to emphasize the fact that Firestone methods are different and better. These records, steadily increasing in number and in mileage totals, justify the Firestone contention that there is one best way to build tires.

Among the primary sources of Firestone extra mileage is double gum-dipping—the saturation of the cord plies in a vat of liquid gum—thus coating each cord and virtually eliminating internal heat and friction.

Another is Firestone air bag curing, with its 200 pound pressure, which places every cord accurately and equalizes the tension.

By blending the rubbers of different plantations and types, and by tempering it before mixing, Firestone men add still more mileage.

Many cord tires are good—a few are better—Firestone users say one is best.

Those who have already experienced Firestone mileage, have stopped shopping and experimenting—they have made these cords standard equipment. Investigate your friends' success with Firestone Cords—and buy your next tire accordingly. Come in and get your share of extra mileage.

30 x 3 1/2	Oldfield "99"	17.50	30 x 3 1/2	8.95
30 x 3 1/2	Oldfield "99"	8.99	30 x 3 1/2	10.65
CORD				
30 x 3 1/2		Regular Size	\$12.75	
32 x 4		Extra Size	17.50	
32 x 4 1/2			22.40	
32 x 5			28.00	

La Grande Filling Company

SHOPMEN WANTED

FOR RAILROAD SERVICE AND AT WAGES AS FOLLOWS:

Machinists	70 cents per hour
Boilermakers	71 cents per hour
Blacksmiths	70 cents per hour
Electricians	70 cents per hour
Sheet metal and other workers in this line	70 cents per hour
Freight car repairers	63 cents per hour
Car inspectors	63 cents per hour
Painters, freight cars	63 cents per hour
Helpers, all crafts	47 cents per hour

These men are wanted to take the place of men who are striking against the decision of the United States Railroad Labor Board, and their status, and the FULL PROTECTION GUARANTEED, are explained by Mr. Ben W. Hooper, Chairman, in his statement of July 1:

"In this case the conflict is not between the employer and the approved employee. The people of this country, through an act of congress, signed by President Wilson, established a tribunal to decide such disputes over wages and working conditions, which are submitted to it in a proper manner. It is the decision of this tribunal against which the shop crafts are striking."

"Regardless of any question of the right of the men to strike, the men who take the strikers' places are merely accepting the wages and working conditions prescribed by a government tribunal and are performing a public service. They are not accepting the wages and working conditions which an employer is trying to impose. FOR THIS REASON PUBLIC SENTIMENT AND FULL GOVERNMENT POWER WILL PROTECT THE MEN WHO REMAIN IN THEIR POSITIONS AND THE NEW MEN WHO MAY COME IN."

Apply to WM. BOLLONS, Supt., La Grande