

SALEM BUSINESS CHART

CASH REWARD--\$10.00 EACH WEEK

PRIZES--1st, \$5.00; 2d, \$2.00; 3d, \$1.50; 4th, \$1.00; 5th, 50c

HOW TO COMPETE--Study the advertisements and the map of Salem's Business District on this page. Then mark accurately on the map where each of the following phones are located, by placing dots on the map and drawing a line from each dot to the advertisement where phone number is printed. THEN bring, or send, this page marked with your answer to The Statesman office on or before Saturday.

AWARDS will be made for accuracy and neatness. If your sense of location is highly developed, chances are that you will win.

CONTEST OPEN TO ALL--YOUNG AND OLD

- Phone 954 Phone 649 Phone 110 Phone 282
- Phone 493 Phone 428 Phone 398 Phone 167
- Phone 413 Phone 1774 Phone 44 Phone 268

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Bake-Rite Sanitary Bakery

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Small Tracts and Investments

275 State Street.

WINNERS

The selection of the winners for last week's business chart problem was a difficult task. The judges had a very large number of solutions to pass upon--many of them very accurately and neatly done. As the awards were to be made for neatness as well as accuracy the following have been decided as the winning solution:

First reward, \$5. Susie D. Lindstrom, 2705 Cherry avenue, Salem.

Second reward, \$2. Clara A. Dame, route 3, box 65, Salem.

Third reward, \$1.50. John Varley, 660 Electric avenue.

Fourth reward, \$1. Harold Harversen, 652 North Liberty street.

Fifth reward, 50 cents, Albert Roy, 720 North Church, Salem.

There were many other solutions, praiseworthy done, also some which were reasonably accurate but lacked neatness. To these we say, better luck next time. Don't forget that neatness and cleverness count as well as accuracy. Try again this week--and next week--and every week--but don't forget neatness.

NOTES ON AMATEUR RADIOS

Last week we took up the subject of the national organization called the American Relay League. We told some of the things the amateurs were doing. This week we will take up some of the later improvements in the radio phone line.

Up to a very short time ago, and we reckon time in years, the radiofone was an experiment. And it still is, although it is used commercially. Ninety-nine per cent of the stations today use what is called the undamped wave for transmission of messages. Our government has been experimenting for years on another form of wave called the damped wave, and has been very successful, having many of the most important naval stations transmitting with an arc set. This form of C. W. however is not well adapted to telephone transmission so we use still another form of C. W. produced by vacuum power bulbs constructed something like the audion detector.

For the successful transmission of human speech or music over the air, it becomes necessary to have at hand a source of high voltage direct current, which is used to send out a carrier wave. This wave will transmit farther and be heard better than is possible with the spark or undamped form of wave. This carrier wave is charged or as radio men say, modulated, into smaller waves which correspond to the vibration of the voice or musical instrument. To successfully receive this form of radio signals, we find it necessary to have receiving instruments that will allow very close adjustment. With suitable equipment these radiofones may be heard on the crystal detector for short distances, but the vacuum valve is the best for this class of reception.

The high cost of high voltage batteries, vacuum tubes, and other sensitive equipment makes it hard for the young man that is just learning the radio game to enjoy all these things. However, during the last great war much of the advance made by this country and other countries were made possible by the amateur who had some experience in this class of work. A young man who is making this work their hobby and many times work out problems that have puzzled the radio engineers. Due credit should be given these same men.

We should not discourage the boy who wants to get into this line of work. However, it should not interfere with school work, as an education is absolutely necessary for the man who gets ahead in this class of work. But we have strayed from the subject.

What is the future of the radiofone? In the future you can talk to your friends out in the country without using metallic lines. You can call your music dealer and have him play a given record on the phonograph with your approval. You can talk to your friend, relative or sweetheart on the ocean, and other things too numerous to mention. The operation of a

radiophone station does not require that a person be skilled in the operation of radio apparatus. After the set is installed anyone who can throw a few switches can get excellent results. The installation of the set, or the manufacture of one is a different matter. The adjustment of the various condensers, inductances, batteries, and other instruments are critical and therefore must be properly adjusted.

Problems Encountered in Radio

There are several things that happen in the everyday reception of radio signals that puzzle the best of our radio engineers. One of them is why do signals fade? You may be listening to some station that is a long distance away, or you may hear one relatively close to you and get the signals loud and clear and then presto, these signals begin to get fainter or fade, sometimes completely away and then they come back as strong as at first. What is the cause of this? We do not know.

Another thing. We sometimes hear some station that is located a considerable distance away, and using a very low power whose signals come in loud and clear. We will cite for instance the record of an amateur station at Keyport, N. J., whose radiofone message was recently heard in far away Scotland. We call this "freak" work.

There have been several scientists who each seem to have an answer for these so-called "freak" messages. One theory is that it is caused by the changing of the lines of magnetism around the earth which causes messages to carry long distances, and to cause others to fade. One of the latest theories is that the influence of the moon or other celestial bodies may be the cause. They are only some of the problems that remain for the present or some future generation to solve. Who knows but what these are the correct solution? We know that the moon has an effect on the water in the oceans and why not on the ether waves of the radio art is just in its first stages regardless of the remarkable progress we have made. What will the future bring?

Amateur Record

A relay message sent from Portland's (Me.) mayor to the mayor of Portland, Ore. was transmitted across the continent in 35 minutes. This message was sent over the northern route of the American Radio Relay League, and shows that the organization is alive and accomplishing things. The local radio association will probably be in a position to help handle these messages soon.

A New Use For Radio

Last year the student body of the Oregon Agricultural college went to the expense of a leased telephone wire to report the games of the state college and the University of Washington. They will now use the radio equipment that is installed in both places.

The University of Oregon, University of California, Stanford and other schools will be included in this system soon. The G. A. C. will offer a course in wireless for the third term of this year for those who wish to take it up. It is also planned to use the wireless in conjunction with the Pacific Intercollegiate Press association now maintained by the institutions of the northwest and Pacific coast.

Born Politician

Senator Pelham is one of those who predict a great future in politics for women. "They are born politicians," he declares, and cites the case of Mrs. Green of San Francisco to prove his point.

It seems that Mr. Green was never missed a musical in his district, or any function where he could get up and sing.

On this particular occasion, however, he was not in his usual form as he had his wife with him, and she had never heard him perform. In fact, he didn't know he had ever done so.

When the gathering was drawing toward its close, the chairman asked for someone to favor them with a song and Green, more from force of habit than anything else, climbed up on the platform, much to his wife's amusement.

"George," she whispered, on their way home, "whatever made you get up on that stage and sing?"

"Why, my dear," he replied, "to give pleasure to the other guests."

"Oh, I'm so glad," sighed Mrs. Green with relief, "I thought you were taking vengeance on me for asking you to wait 20 minutes for your dinner."

TO DARKEN HAIR

APPLY SAGE TEA

Look Young! Bring Back Its Natural Color, Gloss and Attractiveness

Common garden sage brewed into a heavy tea, with sulphur added, will turn gray, streaked and faded hair beautifully dark and luxuriant. Just a few applications will prove a revelation if your hair is fading, streaked or gray. Mixing the Sage Tea and Sulphur recipe at home, though, is troublesome. An easier way is to get a bottle of Wyeth's Sage and Sulphur Compound for use. This is the old-time recipe improved by the addition of other ingredients.

While wispy, gray, faded hair is not sinful, we all desire to retain our youthful appearance and attractiveness. By darkening your hair with Wyeth's Sage and Sulphur Compound, no one can tell because it does so naturally, so evenly. You just dampen a sponge or soft brush with it and draw this through your hair, taking one small strand at a time; by morning all gray hairs have disappeared, and after another application or two your hair becomes beautifully dark, glossy, and luxuriant.

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