RADIO MAY SAVE ENTOMBED MINERS

Government Bureau Holds Out Hope of Success.

RECORD OF TESTS GIVEN

Electro-Magnetic Waves Made to Travel Through Solid Strata Far Below Surface.

WASHINGTON, D. C., Dec. 2.—Radio communication between rescuers on the surface and miners entombed in mines following fires and explosions is a hope held out by the United States bureau of mines to lessen the horrors and losses of mine disasters. Preliminary tests conducted by the bureau, with the cooperation of a great electrical manufacturing concern, in an experimental mine at Bruceton, Pa., already have resulted in a degree of success.

While these experiments have so far failed to develop any practical method of using wireless waves for underground communication, nevertheless, says a publication of the mines bureau, they indicate clearly that electro-magnetic waves may be made to travel through solid strata. In the Bruceton experiments signals were heard distinctly through 50 feet of coal strata, although the audibility fell off rapidly as the distance was increased. The absorption of loss of intensity with distance is very great for the short wave lengths used in these tests. Longer wave lengths are known to suffer less absorption and may possibly be found practically effective under certain conditions.

Radio Sent Through Rock.

In this connection it is interesting to note tests conducted by the United States bureau of standards in dropping wireless antennae down deep, unused oil wells to underlying rock strata in order to send the wireless impulses through the rock instead of through the air. The results, it is believed, may be the same as projecting the antennae upward into the air strata.

The desirability of substituting the wireless system of communication for the present telephone system in use in mines is evident in considering that the rock fall or explosion, by breaking wire connections, can put the entire system out of order.

The mine telephone has been perfected to such an extent that it is giving satisfaction in most mines where the wiring is well insulated, the bureau of mines announcement continues. Very often the telephone cannot be depended upon on account of falls of rock, grounding due to worn insulation or extreme dampness. In the event of a disaster it frequently happens that the mine telephone system is put out of commission by the agency that caus the disaster, at the very time when it is most urgently needed. On this account the mining industry is interested in any kind of telephone system that can be counted upon in an emergency. Many requests have been received by the bureau of mines to devise means of utilizing wireless methods for this purpose.

Waves Penetrate Earth.

The preliminary experiments consisted, first, in receiving signals from without the mine by means of a receiver located inside the mine, and second, both sending and receiving messages underground through the strata. It was found that with a receiving instrument set at a point 100 feet underground signals sent from station KIKA of the Westinghouse Electric & Manufacturing company at East Pittsburg, 18 miles away, could be heard distinctly. About 50 feet from the receiving station used in the mine in this test was a six-inch bore held extending from the surface, lined with iron pipe and containing electric light wires which extended therefrom through the mine. The presence of these wires, according to the experimenters, evidently assisted greatly in the reception of the signals, for when the receiving set was carried to another point in the mine removed from the wires and tracks the signals were barely audible through 50 feet of cover. The fact that signals were detected at all, however, even though faintly, was declared sufficient evidence of transmission through ground to encourage further experimenting.

In sending waves underground a transmitter was used in such a manner as to send out continuous waves of 200 to 300 meter lengths. On account of the limited time at disposal no attempt was made to modify the apparatus in such manner as to produce waves of greater lengths.

Vertical Waves Give Best Results.

In all experiments the vertical antennae were found to give better results. The horizontal antennae gave practically no reception. A loop of a single turn was used with fair results. All these experiments were tried with a wave length of 200 to 300 meters, except the reception from KDKA, which was 350 meters.

The strata at the experimental mine lie almost horizontal. The direction of strata, it was said, may have some influence on the transmission of radio waves, but the present experiments gave no conclusive evidence on this point. No doubt the degree of wetness of the strata influences the transmission of radio waves, it was reported. The mine used is a comparatively dry mine, but the overburden is damp, and a small stream of water is continuously flowing from the mine. This overburden consists chiefly of soil and soft shale. The underground workings of the mine follow a horizontal five-foot vein of bituminous coal, and the transmission and reception inside the mine followed the course of this vein.

Details of the experiments are explained in Serial 2407, which may be obtained from the bureau of mines at Washington.

JEWELS, LIQUOR CARRIED

Two Men Bound Over to Grand Jury on Dry Law Violations.

Jewels and liquor were the stock in trade in a little store at 60 North Sixth street, conducted by Joe Mazurosky, according to evidence adduced at a hearing before United States Commissioner Frazer yesterday, and which resulted in Mazurosky and J. J. Anderson being bound over to the grand jury on charges of violating the prohibition law.

Federal prohibition agents on November 23 succeeded in allaying the suspicion of the proprietor and gained admission to a back room, where Anderson was found with a bottle of moonshine, sold at 50 cents the drink. The sleuths entered the place on three separate occasions on that day and on each occasion succeeded in purchasing drinks. When they returned later with a search warrant Anderson poured one bottle of liquor down a sink and smashed the other on the floor. One of the raiders mopped up the liquid with his handkerchief and succeeded in salvaging enough to be used as evidence. Tests showed that the liquor was only 45 proof.

William Jett, who was arrested in the place at the time of the raid, was released when evidence showed he had no connection with the resort.

LOOKIT TH' NEW MOSES

MAYOR HYLAN PROPHET OF THIRD PARTY.

Tammany Man, Back From West, Says People Are Sick and Tired of Standpatism.

New York World.

Mayor Hylan, with Corporation Counsel John P. O'Brien, Surrogate-elect of New York county, and Grover A. Whalen, commissioner of plant and structures, arrived last evening from French Lick Springs, Ind., where he had conferred with Tammany Leader Murphy. He looked to be in splendid health and said he was feeling very well.

Mrs. Hylan, Mr. and Mrs. John F. Sinnott, the mayor's daughter and son-in-law; Mrs. Whalen and her little daughter and Albert Meehan of the board of purchase greeted the mayor at the Pennsylvania station. Although his train was an hour and 23 minutes late. Mayor Hylan was much more cheerful than when he is delayed five minutes in the subway.

When asked about the third party, whose coming he predicted at French Lick Springs, the mayor said:

"Unless the old parties nominate progressive candidates like Johnson and Hearst, there will be a third party. I have talked with a great many people in the west and they are sick and tired of standpatism. They are tired of having the government controlled by the international bankers and insist on its being returned to the people."

KUBLI TO CALL MEETING

Multnomah Legislative Delegation to Confer Soon.

K. K. Kubli will issue a call this week for a meeting of the Multnomah legislative delegation. The date will be some time next week. Mr. Kubli will issue the call by virtue of having been delegation chairman in the 1921 session. After the delegation has met and elected a chairman and secretary it can decide whether it wishes to hold hearings on local bills before the legislature meets.

As a rule these hearings accomplish little, for the bills discussed at a pre-session hearing are threshed over again at Salem and at the hearings the members usually decline to commit themselves one way or another.

ORCHARD MOUSE FOUGHT

Fruit Districts Get 40,000 Pounds of Poisoned Grain.

OLYMPIA, Wash., Dec. 2.—(Special.)—More than 40,000 pounds of poisoned grain has been spread in the Yakima, Wenatchee and Okanogan districts during the last three weeks in the campaign against the orchard mouse, Leo K. Couch, in charge of rodent control in the Washington district, announced yesterday. Early results have been so good and the campaign so effective, that the work has been slowed down now, Mr. Couch said.

In the Yakima district more than 20,000 pounds of grain poisoned with a strychnine mixture was distributed over about 9000 acres of orchard owned by more than 300 growers.

Woodmen Initiate 56.

A class of 56 candidates was initiated into Multnomah camp, No. 77, of the Woodmen of the World Friday night at the regular meeting in their hall at East Sixth and Alder streets. The degree was conferred by the regular officers of the camp and the degree team, with Earl Smith, captain, and E. A. Clark, consul commander, in charge. During the social hour following the initiation ceremony J. E. Dunne, who has just returned from an extended trip through the east, gave an interesting account of his journey.

Bridge Tolls $7251.56.

PASCO, Wash., Dec. 2.—(Special.)—Tolls amounting to $3467.91 were collected for the month of November at the Pasco-Kennewick bridge. This sum together with $3783.65 collected for 24 days' use during the month of October brings the total receipts since the bridge has been in operation up to $7251.56. Low day for November was November 20 with $77.95 and high day November 29 with $230.45.

AID TO FARMERS PLAN OF BUREAU

American Federation Meets in Chicago December 11.

BIG MEN TO GIVE TALKS

Bernard M. Baruch Heads Programme With Address on Agricultural Finance.

CHICAGO, Dec. 2.—Working conferences on the many phases of the federation's activities will consume the major portion of the fourth annual meeting of the American farm bureau federation to be held here December 11 to 14.

Among prominet speakers to appear on the programme are Bernard M. Baruch, former Governor Frank O. Lowden of Illinois, Mrs. Ellsworth Richardson of Iowa, C. W. Pugsley, assistant secretary of agriculture, and Samuels Adams of Virginia. Reports of officers and department heads are the order of business for the day.

Mr. Baruch is on the programme to speak Tuesday afternoon on "Agricultural Finance," and will be followed in the evening by Mr Lowden and Mrs. Ellsworth, who will speak at the annual dinner.

Reports from department heads will be resumed Wednesday and Thursday morning, Mr. Pugsley will speak on "The Relation of Agricultural Education to Farm Organization." He will be followed by Mr. Adams, who will speak on "Farm Organization in Europe." The meeting will close Thursday afternoon with the election of officers.

E. H. Cunningham, president of the United States Grain Growers, Inc., will discuss the co-operative grain marketing programme of the organization, while prominent officials of livestock, fruit and vegetable, wool, tobacco and cotton co-operative marketing associations will speak on issues within their organizations.

Women's work will have a large place on the programme, it is announced. Heads of the various women's departments of the federation will conduct sessions to be devoted to developing and encouraging activities of women in the federation.

Farm bureau headquarters announces that special trains will bring delegates to the convention from all parts of the country.

FARMERS SEEK LEGISLATION

National Council of Co-Operatives to Meet in Washington.

DALLAS, Tex., Dec. 2.—The meeting of the national council of farmers' co-operatives, to be held in Washington December 14 to 16, is the result of a common desire on the part of the co-operative marketing organizations throughout the United States to obtain national legislation on rural credits, and the same desire on the part of leaders in Congress in enacting into a law a rural credits bill that will meet the need of agriculture, according to C. O. Moser of the Texas farm bureau, and member of the council.

Virtually one-sixth of all the agricultural commodities of the United States now are sold co-operatively, he said, and the success or failure of such institutions is a matter of great national concern. There are now approximately 150 such organizations doing an annual business in excess of a billion dollars.

The conference, while designed chiefly to confer with the national leaders in congress in the matter of the financial legislation, will discuss other proper needs of agriculture credit, both from the standpoint of livestock and crop production and of marketing.

Representatives of virtually all of the large co-operative marketing associations will be present and participate in the conference, including the California fruit groups, the apple organizations of the northwest, the wheat organizations of the north and middle west, the potato organizations of Maine, Michigan, New York and Wisconsin, the milk organizations of New England and Chicago, as well as the perishable associations in the southern states, including those of Florida. This will include as well the co-operatives in the south of rice, tobacco and cotton.

BOY TO SING SERVICE

Morris Rottenberg to Introduce Novelty at Synagogue.

A novelty will be introduced in the annual Chanuka concert of the Congregation Shaaro Tore, a Jewish synagogue, when Morris Rottenberg, 12 years of age, will perform the service in song. The occasion will be observed on Sunday, December 17, at 6:30 in the synagogue, which is located on First street.

Arrangements for the affair are being made by Rev. Elias Bachman, minister of the congregation. The public is invited to attend and proceeds will go toward the erection of a new edifice.

ARENA MAY BE FACTORY

Milwaukie Car Barns Proposed as Site for Ladder Plant.

That the old Milwaukie car barns, in use during the past year as an arena for fistic encounters, may be used to house a new industry in the community is now highly probable as a result of a move to establish a ladder factory in the building.

The plan for the new factory was explained to the members of the Milwaukie Real Estate and Development association at their last regular meeting and will be discussed again at their next session on Wednesday night. Promoters of the new industry desire to interest Milwaukie business interests in the plan and to incorporate at once.

Phone your want ads to The Oregonian. Main 7070.

ARYANS IN SOUTH SEAS

ORIGIN OF POLYNESIANS IS TRACED BY GENEOLOGIST.

New Zealander Says Adventure Leads Maoris From Borneo to Pacific Mystic Isles.

SYDNEY, N. S. W., Dec. 2.—The Polynesian race originally sprang from an Aryan people. This is the conclusion of Alfred H. Newman, a member of the Polynesian society of New Zealand, which has devoted much time and study to the origin of the race. For many years members of the society have been collecting the old myths, traditional songs and geneologies of the south sea islanders.

In his book "Who Are the Maoris?" Mr. Newman traces the origin of the race to an Aryan people who crossed from the Punjab to the plains of the Ganges between 2000 B. C. and 1500 B. C., where they conquered and afterward amalgamated with a Mongolian race inhabiting that region.

The ruling castes were, however, proud of their Aryan blood and endeavored to preserve the Aryan ascendency, according to Mr. Newman. The result of this fusion was a mixed race with dominant Aryan characteristics. About 1000 B. C. the race invaded Burma, slowly fought its way down the peninsula and about 500 B. C. crossed into Java, which they found inhabited.

"When the Maoris left Borneo and New Guinea they did not do so from curiosity or love of adventure or because they were skilled navigators," wrote Mr. Newman. "They left in consequence of great wars. The emigrants were nearly always the beaten people and they left island after island for the same reason."

He said he believed the emigrants left the Malay archipelago between 200 A. D. and 300 A. D., coming first to Samoa and then to other islands of the south Pacific. It is from such a source, he said, that the most daring navigators and hardy adventurers the world has ever seen have sprung.

Linn Trials Are Set.

ALBANY, Or., Dec. 2.—(Special.)—The criminal docket for the December jury term of the Linn county circuit court was set here yesterday by Judge Kelly. Herbert Lerwill will be the first on trial, facing a liquor charge, when court convenes Monday morning at 10 o'clock. C. W. Bass, on a statutory charge, comes up Monday afternoon. E. H. Hale, accused of attempting to jump a board and lodging bill, will face trial Tuesday afternoon. Carl Sibel, under bond to keep the peace, was dismissed on motion of the district attorney.

Citizenship Classes On Monday.

SILVERTON, Or., Dec. 2.—(Special.)—The Silverton school authorities will begin classes next Monday night at the Silverton high school for the instruction of the men and women who have made application for citizenship and who need help in preparing for the final examination necessary before they can become citizens. The classes will cover all necessary work in English, American history and United States government.