

CUT RADIUM'S COST FULLY ONE-THIRD

Government Announces the Discovery of a New Method of Extracting the Metal.

WILL AID FIGHT ON CANCER

Institutions Here and in Baltimore Obtain Half of the New Supply.

Special to The New York Times.

WASHINGTON, Nov. 21.—Five grams of radium have been extracted from American ores at the Denver experiment station of the Bureau of Mines, and half of it has been delivered in finished form to the Kelly Sanitarium in Baltimore and the Memorial Hospital in New York for experimental and curative work. Franklin K. Lane, the Secretary of the Interior, in announcing this fact today asserted that this radium was produced for less than one-third the present selling price of radium, and made public the methods by which the Bureau of Mines had been able to produce radium at this reduced cost. This radium was extracted by a new and cheaper method, which has been patented for the benefit of the people.

The cost of making radium at the Denver experiment station of the Bureau of Mines, including the cost of the higher experimental work, was \$37,000 for each gram of radium metal, or approximately \$1,200,000 an ounce, apothecary weight.

The market price of radium in the last two or three years has ranged from \$120,000 to \$160,000 a gram. The ability of the Bureau of Mines to produce radium for \$37,000 a gram has at last made it possible for two great hospitals in the country to obtain a goodly supply of the metal for use in the treatment of cancer. This disease is costing the lives of 75,000 human beings in the United States every year.

The production of this radium by the Federal Bureau of Mines has been accomplished in co-operation with the National Radium Institute. This institute was formed for the purpose of studying the curative properties of radium, and not for public gain. The radium investigations of the Government from the beginning have been under the direction of Dr. C. L. Parsons of the Bureau of Mines, with funds furnished under co-operative agreement between the National Radium Institute and the Bureau of Mines by Dr. Howard A. Kelly of Baltimore and Dr. James Douglas of New York. Commenting on the successful result of the co-operative arrangement between the Government and the National Radium Institute, Secretary Lane issued this statement tonight:

"The application of radium in the treatment of cancer and other malignant growths has made much more rapid progress in the last two years than is generally appreciated even by the medical profession. All kinds of opinions may be easily had from the laity and from cancer experts, and the public can draw almost any conclusion from the statements appearing in the newspapers, but preference should be given to the opinions of those persons who have had extended experience in the use of radium in sufficient quantities to enable them to speak authoritatively.

"One thing regarding radium therapy that has been developed is that if the gamma rays of radium are to be successfully applied to the cure of cancer a much larger quantity of radium must be used than is possessed by not more than two or three individual surgeons or hospitals in the United States. I know of no individual or hospital that has had the privilege of working with so much as half a gram of radium that does not report cures in increasing numbers or that is not able to treat even advanced cases with increasing success as a knowledge of technique is developed.

"The extent and variety of cures reported and the helpful effects of the gamma rays at depth are almost in direct proportion to the quantity of radium that can be applied at one time to the patient. I do not mean that radium in comparatively small amounts may not be effective with some form of cancer or some malignant growths in their incipiency, but in two American hospitals that have a half gram of radium or more results are being obtained daily that unquestionably will not be duplicated elsewhere until equal quantities are available. Physicians and surgeons who do not have this much radium have no right to criticize or condemn the physicians who have more and who are obtaining results.

Broke Up Possible Monopoly.

"At the time the bureau began its radium investigations the miners and prospectors in Colorado and Utah who were engaged in the mining of carnotite ore were receiving between \$75 and \$80 a ton for their ore, this price being for the ore delivered in New York for shipment to Europe. The ore was being sent abroad in quantity and was not being treated in this country, although one or two companies were rapidly purchasing from prospectors claims at \$50 to \$200, and thereby laying the foundation of a future possible monopoly in this rare material.

"It was hoped that methods could be found that would enable miners and associations of miners to extract the radium from their own ores, place it on the market, and obtain profits that had been going to foreign manufactur-

ers. By August, 1914, when the European war came on, carnotite ore was selling for more than twice the price that had been obtained in the Summer of 1912, this being undoubtedly due to the Bureau of Mines calling attention to the situation as it existed at the beginning.

"This time there were sixteen to twenty grams of radium contracted for abroad, chiefly in Germany, at prices above \$120,000 a gram. Seemingly, the war has not affected the market price, but simply the amount produced.

"As to the selling price of radium in the future, the Bureau of Mines makes no prediction, but it does not follow that the selling price will decline because of the cheaper methods of production. The situation is somewhat analogous to the production of gold, diamonds, or any other matter that is in steady demand, but occurs only in small quantities. Beyond doubt, the amount of radium in nature is exceedingly small. Other deposits of radium ore may be found, but it is highly improbable that the past rarity of radium ores will be greatly modified, so that the price of the radium will largely depend on the ability to procure the raw material.

"According to the best evidence that the Bureau of Mines can obtain there is not sufficient ore available to maintain for many more years the rate of production in 1914.

Aims of the Government.

"When this radium work was taken up, it was the desire of the department to show beyond doubt that, if authorized by Congress, the radium could be procured from ores then owned by the people at a cost approximating one-third the market price, and that it was much better policy for the Government to obtain the radium so greatly needed in the hospitals of the army, navy, and Public Health Service at this low cost than to give these ores to large corporations and then purchase, as radium material that had belonged to the people at a price insuring large profits to the possessors.

"Unfortunately, the bill introduced into Congress in 1914, which would have accomplished this purpose, failed to pass, and in the meantime the carnotite areas have been thoroughly prospected and the most valuable claims located. Accordingly we must be content with the good that may come to the American people through the radium being extracted in the plant of the National Radium Institute until such time as the Government may furnish funds sufficient to enable it to purchase in the open market such ore as may be necessary to supplement the little that remains unlocated on Government land.

"The report of the bureau on this new and cheaper method of producing radium from carnotite ores is highly technical in its character and will only interest those chemists who are engaged on such work. The methods devised are entirely new and differ from former methods not only in detail but in apparatus used. The time of operation is much shorter than in any other plant now producing radium, and the commercial recovery is much greater. Furthermore, it is believed that the cost of production is less than that in any method used heretofore. It should be remembered, however, that the methods apply solely to the treatment of carnotite ore and are not necessarily applicable to pitchblende or autunite. The methods of extracting the radium that have been evolved may be utilized under intelligent technical control by any firm, association or corporation that can obtain the raw material. Although being patented for the benefit of the people, the processes may be used freely by any one within the United States."

Charity Bazaar and Dance at Plaza.

There will be a bazaar and dance in the Hotel Plaza on the afternoon of Dec. 10, for the benefit of the New York Home for Homeless Boys, 443 East 123d Street. Among the patronesses are: Mrs. Adolph Lewisohn, Mrs. Stuyvesant Van der Poel, Mrs. Samuel D. Levy, Mrs. S. O. Fish, Mrs. Paul, Mrs. Hugh Auchincloss, Mrs. George Gordon Battle, and Mrs. H. Snowden Marshall. Tickets may be bought from Miss Jennie McC. Taylor, 122 East Eighty-second Street; Mrs. P. A. S. Franklin, 41 East Sixty-first Street; Mrs. William Gulliver, 383 Park Avenue; Mrs. Joel Wolfe Thorne, of 9 East Seventy-sixth Street, or at the Hotel Plaza.

CITY BREVITIES.

Ministers' Day at the Palestine Pageant Oriental Exposition at the New Grand Central Palace takes place today, and it is expected more than 300 clergymen of all denominations will attend.

The New York School of Applied Design for Women will hold an exhibition and sale next Friday and Saturday in the Winter Garden at the McAlpin.

The Lotos Club will entertain at dinner next Saturday evening John J. Carty, the telephone engineer, under whose direction the wireless telephone tests between Washington and Hawaii were made.

Commissioner of Correction Katharine B. Davis will address the Brooklyn "Big Brothers" and "Big Sisters" tomorrow evening at 8:15 o'clock in the Brooklyn Children's Court, 102 Court Street. Justice Wilkin will preside.

The Sisterhood and Auxiliaries of the Temple Beth Emeth, at Church Avenue and Marlborough Road, Flatbush, are arranging a bargain bazaar to be held in the vestry rooms of the temple, between Tuesday, Nov. 30, and Dec. 4. The bazaar will be open in the afternoon on Dec. 1 and 2.

The Bowery Mission will hold a meeting on Thanksgiving evening in honor of its thirty-sixth anniversary. The Brotherhood now has a membership of nearly 30,000. Positions for 27,000 men have been obtained by the Labor Bureau. The bread line will also be resumed on Thanksgiving Day.

A conference between representatives of the New Jersey Board of Commerce and Navigation, the New Jersey State Grange, Southern New Jersey farmers, wholesale market men of New York, and city officials will be held this afternoon in the offices of Borough President Marks in the Municipal Building to promote a more extensive use of the New Jersey inland waterway from Cape May to Bay Head.

The twenty-first annual dinner of the Society of Mayflower Descendants of New York will be held at the Hotel St. Regis tomorrow evening. The dinner will commemorate the two hundred and ninety-fifth anniversary of the signing of the compact in the cabin of the Mayflower at Provincetown Harbor. The speakers will be Major Gen. Wood, William D. Guthrie, Colonel Thomas Snell Hopkins, and Chauncey M. Depew.