—NDA NUCLEAR DEVELOPMENT ASSOCIATES, INC.
33 WEST 60TH STREET, NEW YORK 23, N. Y. - CIRCLE 6-5170

April 11, 1949

Dr. Leo Szilard
University of Chicago
Institute of Radiobiology and
Biophysics
Chicago 37, Illinois

Dear Dr. Szilard:

We have obtained four copies of your patent, have kept one in our files and enclose three for your use.

Sincerely,

John R. Menke

JRM:BDH

Enclosures - 3

L 5

June 13, 1939. L. SZILARD 2,161,985

PROCESS OF PRODUCING RADIO-ACTIVE ELEMENTS

Filed March 11, 1935 3 Sheets-Sheet 1

Fig. 1.

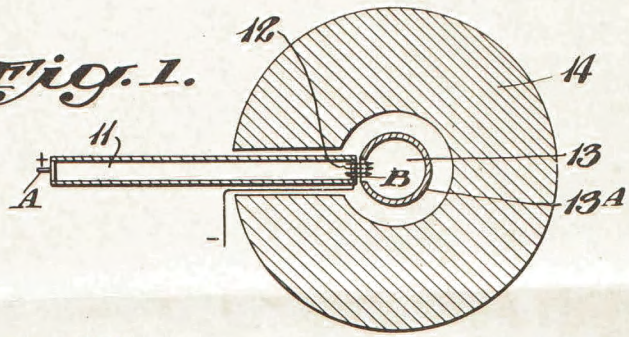
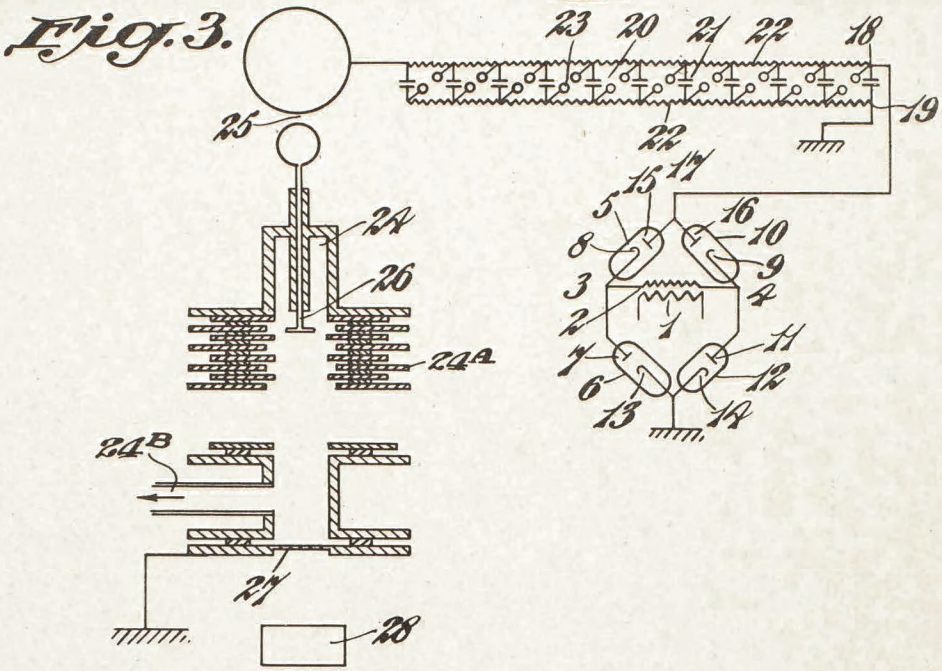


Fig. 3.



Inventor:

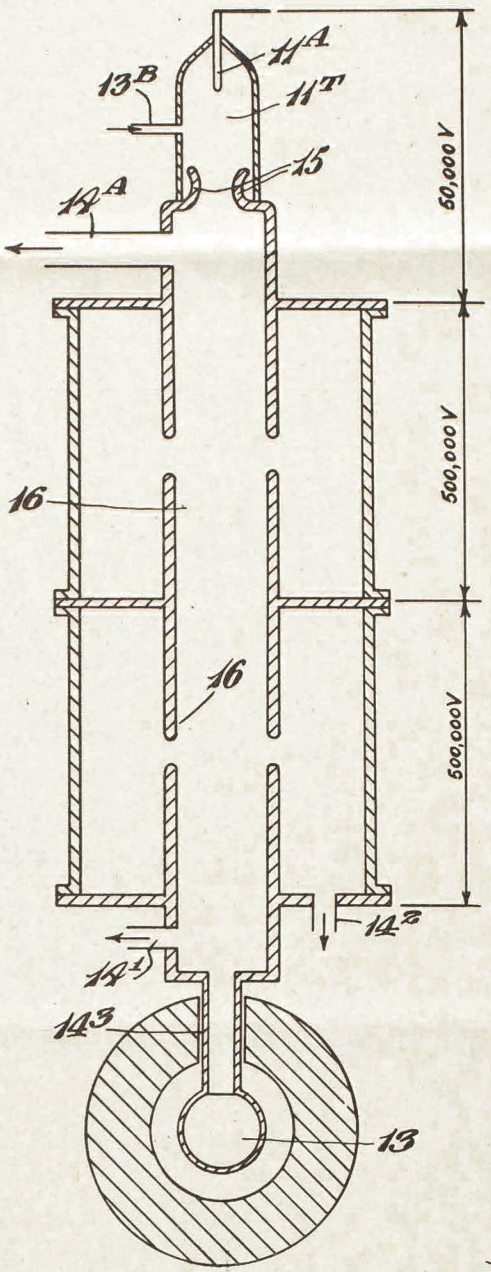
Leo Szilard

June 13, 1939. L. SZILARD 2,161,985

PROCESS OF PRODUCING RADIO-ACTIVE ELEMENTS

Filed March 11, 1935 3 Sheets-Sheet 2

Fig. 2.



Inventor:

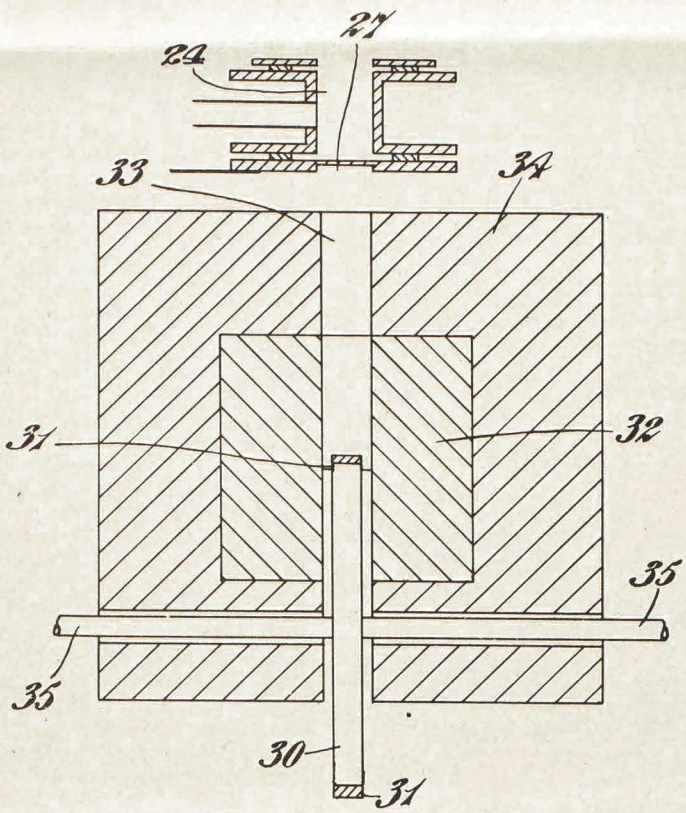
Leo Szilard

June 13, 1939. L. SZILARD 2,161,985

PROCESS OF PRODUCING RADIO-ACTIVE ELEMENTS

Filed March 11, 1935 3 Sheets-Sheet 3

Fig. 4.



Inventor:

Leo Szilard

Patented June 13, 1939 2,161,985

UNITED STATES PATENT OFFICE

2,161,985

PROCESS OF PRODUCING RADIO-ACTIVE ELEMENTS

Leo Szilard, New York, N. Y.

Application March 11, 1935, Serial No. 10,500
In Great Britain March 12, 1934

9 Claims. (Cl. 204—31)

This invention concerns methods and apparatus for the generation of radio-active bodies.

According to one feature of my invention, radio-active elements may be produced from natural elements by bombarding a natural element or compounds of natural elements with neutrons produced in various ways, more particularly, by subjecting the natural elements to neutrons emanating from a target containing lithium, which target is subjected to a bombardment with fast deuterons. Another feature of the invention is directed to the production of radio-active elements from natural elements by exposing the natural elements to an irradiation with neutrons which are liberated from certain elements under the action of X-rays. Another feature of the invention is directed to chemically concentrating radio-active elements produced from natural elements if the radio-active element is isotopic with the natural element from which it is produced.

Other features of the invention will appear in the following detailed description referring to the drawings, and will be more particularly pointed out in the claims.

In the drawings,

Figure 1 represents a sectional elevation of an apparatus for carrying out the invention,

Figure 2 shows a more constructional lay-out of the apparatus of Figure 1,

Figure 3 shows the circuit arrangements for further modified apparatus and,

Figure 4 is a sectional view of apparatus intended to co-operate with that shown in Figure 3.

Referring first to Figure 1 of the drawings, 11 is an electrical discharge tube adapted to project a beam 12 of fast deuterons. The tube 11 is filled with deuterium and an anode A and cathode B are provided for connection to a source of high voltage. The deuterons are thus projected at high speed and pass through the cathode B. The deuterons fall on a substance 13 in a sealed container 13A. The substance 13 consists, for instance, of lithium. The collision of the fast diplogen ions with the substance 13 causes transmutation, i. e. a nuclear reaction of the deuteron with an atom of the target. The substance 13 is surrounded by a thick layer 14 containing the element which it is desired to transmute into a radio-active element. In order to have a high efficiency, the thickness of the layer 14 has to be sufficiently great, compared with the mean free path of the neutron, to prevent escape of any of the neutrons.

Figure 2 shows in more detail the electrical discharge tube 11 referred to in Figure 1. The tube essentially consists of a main portion 16 serving to accelerate the deuterons and an auxiliary tube 11T for initiating the flow. 11A is the anode and 15 the cathode of the auxiliary tube, deuterium being admitted thereto through the inlet 13B and being pumped away through the outlet 14A. The flow initiated by the auxiliary tube is accelerated by passage through the main tube 16 which is maintained exhausted by suction outlets 14^1 and 14^2, and which has a high potential gradient, there being a million volt potential difference between the ends of the tube. The accelerated deuterons emerge through the neck 14^3 of the tube 16 and collide with the substance 13 as described with reference to Figure 1 of the drawings.

If the substance 13 is a light element for instance lithium, then the bombardment by the accelerated deuterons results in emission of uncharged particles of mass of the order of magnitude of the mass of a proton. Such uncharged nuclei i. e. neutrons, penetrate even substances containing the heavier elements without ionisation losses, and will cause the formation of radio-active substances in the layer 14 exposed to them. It is to be noted that by the method so far described, the ionisation losses suffered by the deuterium nuclei are comparatively small in light elements and also that the substance to be made radio-active is irradiated with neutrons i. e. uncharged nuclei, which pass through even heavy elements without ionising them. The substance 14 exposed for treatment by the neutron radiation may be in the form of an organic compound for the purpose of carrying out separation of the generated radio-active element, as described more fully hereinafter.

Neutron radiation may also be produced by the action of X-rays upon an element having a dissociable neutron at the prevailing voltage, and apparatus for carrying out this process will now be described with reference to Figure 3 of the drawings.

In Figure 3, 1 is the primary of a transformer, the secondary 2 of which is connected to the junctions 3 and 4. The junction 3 is connected to the cathode 8 of the rectifier tube 5 and to the anode 7 of the rectifier tube 6. The junction 4 is connected to the cathode 9 of the rectifier tube 10 and to the anode 11 of the rectifier tube 12. The cathodes 13 and 14 are connected to each other and to earth. The anodes 15 and 16 are connected at 17, and fom this point are connected to the pole 18 of the impulse generator 20,

the pole 19 of which is connected to earth. The impulse generator 20 is built of condensers 21, resistances 22 and spark-gap devices 23.

The impulse generator and rectifying unit shortly described above, are known components adapted to give an extremely high voltage for a fraction of a second. With such a system voltages up to 3 million volts have been obtained. The negative side of the impulse generator is connected to a spark gap device 25, which in turn is connected with the cathode 26 of the discharge tube 24. The latter is built up from rings 24A of which only a few are shown in the drawings. It will, however, be understood that the rings are continuous to enclose a space which is exhausted through the outlet 24B. The anode 27 of the tube is connected to earth and is formed by a metallic window. A body of material 28 is arranged at the external side of the window 27.

When the impulse generator operates to produce discharge between the cathode 26 and anode 27 of the tube 24, fast electrons penetrate the anode 27 and impinge upon the body 28. The latter when formed of Bi or Pb or some other heavy element, efficiently acts as an anti-cathode and hard X-rays are produced.

In Figure 4 of the drawings there is shown the lower portion of the discharge tube 24 with a device therebeneath for utilising the hard X-rays capable of being produced with the aid of the fast electrons emerging through the anode 27 of the tube 24. The device consists of a block 34 of the element which is to be made radio-active, a block 32 of an element with a dissociable neutron, being located therein. An aperture is formed in both the blocks 32 and 34 to allow entry of the cathode rays from the tube 24 above. The blocks 32 and 34 are also arranged to accommodate a wheel 30 and axle 35. The wheel 30 at its periphery carries a covering of tungsten or lead 31. The covering 31 acts as an anti-cathode and is cooled with water introduced along the bearing for the axle 35. The block 34 may be in the form of a cube having a length of side of 50 cm., whilst the block 32 can also be of cube form with a side of 25 cm. For the sake of example the block 34 may be formed of iodine or arsenic or other material which lends itself to being made radio-active. The block 32 may be of metallic beryllium. In order that an isotopic separation as described hereinafter may be performed after irradiation the material of the block 34 may be in the form of an organic compound. A voltage of 3 million volts may be used for the discharge tube and in operation the wheel 30 is rotated so that electrons passing through the anode 27 of the tube 24 hit the rotating anti-cathode covering 31. When the fast electrons strike the anti-cathode, hard X-rays are produced which penetrate the beryllium block 32 and cause neutrons to be released therefrom, which neutrons then act upon the block 34.

It may be that fast electrons and hard X-rays have a similar effect upon beryllium and one may therefore contemplate the making of the covering 31 of the wheel 30 from beryllium, the beryllium block 32 then being dispensed with, so that the neutrons released directly from the beryllium anti-cathode may enter and act upon the block 34.

It is found that when various elements are irradiated with neutrons by the process described above, practically all elements which become radio-active transmute into their own radio-active isotopes, and it becomes difficult to separate these radio-active isotopes from the remaining portion of the element unaffected. In order to achieve separation of the radio-active element from the non-radio-active part thereof the following process may be adopted. This process is based on the fact that if a compound of an element is irradiated by neutrons, and if an atom of the element transmutes into the radio-active isotope, then this atom is freed from the compound. In accordance with the process, a compound of the element it is desired to make radio-active is chosen such that the freed radio-active isotope of the element will not interchange with the combined atoms of the element within the compound, whereby the freed isotope may be chemically separated from the irradiated compound. Very often the element whose radio-active isotope is to be isolated, can be conveniently irradiated in the form of a compound in which it is bound to carbon. Thus in the case of iodine compounds such as iodoform or ethyl iodide, the radio-active iodine isotope may be chemically separated from the original iodine compound in the form of free iodine. In order to protect the radio-active iodine isotope a small amount of normal iodine may be dissolved in the organic iodine compound before irradiation or after irradiation but before separation.

What I claim and desire to secure by Letters Patent of the United States is:

1. The method of producing a radio-active element from a natural element by causing fast deuterons to impinge on a target containing lithium, and exposing a layer of the natural element to be transformed into a radio-active element to the neutron radiation emitted by the said target.

2. The method of producing from a natural element a concentrate of a radio-active element which is isotopic with the said natural element, which comprises subjecting a compound of said natural element to an irradiation which will transform some of said natural element into a radio-active isotope of said natural element, said compound of said natural element being one which in the environment in which the irradiation is being carried out does not interchange atoms of said natural element bound in the compound with atoms of said natural element or its isotopes outside the compound, and separating, after irradiation, from the compound said natural element and its isotopes which are outside the compound.

3. The method of producing from a natural element a concentrate of a radio-active element which is isotopic with said natural element, which comprises subjecting a compound of said natural element to irradiation with neutrons which will transform some of said natural element into a radio-active isotope of said natural element, said compound of said natural element being one which does not interchange in the environment in which the irradiation is carried out, atoms of said natural element bound in the compound with atoms of said natural element or its isotopes outside the compound, and separating, after irradiation, from the compound said natural element and its isotopes which are outside the compound.

4. The method of producing from a natural element a concentrate of a radio-active element which is isotopic with said natural element, which comprises irradiating with neutrons an organic compound of said natural element which will not interchange atoms of said natural ele-

ment bound in the compound with atoms of said natural element or its isotopes outside the compound, and separating, after irradiation, from the compound said natural element and its isotopes outside the compound.

5. The method of producing from a natural element a concentrate of a radio-active element which is isotopic with said natural element, which comprises irradiating with neutrons a compound which contains carbon, in which said natural element is bound to carbon and which compound will not interchange atoms of said natural element bound in the compound with atoms of said natural element or its isotopes outside the compound, and separating, after irradiation, from the compound said natural element and its isotopes outside the compound.

6. The method of producing from a natural element a radio-active element which is isotopic with the natural element comprising the steps of producing fast electrons, directing them toward a target adapted to produce X-rays under the impact of said electrons, exposing to the action of said X-rays an element of the class consisting of beryllium and heavy hydrogen which produce neutron radiation under the action of said X-rays, and producing a radio-active element from a natural element by exposing the natural element to said neutron radiation.

7. The method of producing from a natural element a radio-active element which is isotopic with the natural element comprising the steps of producing fast electrons having an energy of at least 3,000,000 volts, directing them toward a target adapted to produce X-rays under the impact of said electrons, exposing to the action of said X-rays an element of the class consisting of beryllium and heavy hydrogen from which neutrons are liberated by X-rays of 3,000,000 volts energy, and producing a radio-active element from a natural element by exposing the natural element to said neutron radiation.

8. The method of producing from a natural element a radio-active element which is isotopic with the natural element comprising the steps of producing fast electrons, directing them toward a target adapted to produce X-rays under the impact of said electrons, exposing beryllium to the action of said X-rays to produce neutron radiation, and producing a radio-active element from a natural element by exposing the natural element to said neutron radiation.

9. The method of producing from a natural element a radio-active element which is isotopic with said natural element comprising the steps of producing fast electrons, directing them toward a target adapted to produce X-rays under the impact of said electrons, exposing to the action of said X-rays an element of the class consisting of beryllium and heavy hydrogen which produce neutron radiation under the action of said X-rays, and irradiating by said neutron radiation a compound of said natural element which in the environment in which said irradiation is carried out will not interchange atoms of said natural element bound in the compound with atoms of said natural element or its isotopes outside the compound, and separating, after irradiation from the compound said natural element and its isotopes outside the compound.

LEO SZILARD.

The University of Chicago
CHICAGO 37, ILLINOIS
Institute of Radiobiology and Biophysics
6200 Drexel Avenue

January 30, 1950

Mr. John R. Menke
Nuclear Development Associates, Inc.
33 West 60th Street
New York 23, New York

Dear Mr. Menke:

Dr. Szilard has asked me to return the enclosed papers to you with his thanks. He greatly appreciated your sending them to him.

Sincerely yours,

(Mrs.) Shirley D. Sykes
Secretary to Dr. Szilard

sds

—NDA— NUCLEAR DEVELOPMENT ASSOCIATES, INC.
33 WEST 60TH STREET, NEW YORK 23, N. Y. - JUDSON 6-3340

February 10, 1950

Dr. Leo Szilard
The University of Chicago
Chicago 37, Illinois

Dear Dr. Szilard:

In visiting the chemical companies I have tried to ascertain any interest in the development of machines that might be improvements over Podbielniak machines.

At Heyden Chemical Company there was no interest and a firm prediction that no process chemical company would spend money to develop a machine, per se. Heyden lost money in 1949.

At Chas. Pfizer and Company there was an immediate interest and a request to disclose the idea in confidence. If they liked it, they thought about $10,000 could be found rather readily for a first design plus a model. Chas. Pfizer and Company made money in 1949.

Pfizer specifically asked for disclosure in confidence to their company and to their consultant, Dr. Sherwood, chemical engineer professor at M.I.T. What do you think? of course, I have not yet disclosed it.

I have not yet visited Schenley as no other purpose would bring me there.

Sincerely yours,

John

John R. Menke

JRM:BDH

The University of Chicago
CHICAGO 37, ILLINOIS
Institute of Radiobiology and Biophysics

1155 East 57th Street
Chicago 37, Illinois
May 19, 1950

Mr. John Menke
Nuclear Development Associates
33 West 60th Street
New York City, New York

Dear Menke:

Thanks for enclosure which I am returning herewith. Several sets of drawings were sent to you earlier this week, and if you haven't received them by the time you get this letter, please send me a telegram.

Sincerely,

Leo Szilard

wv

Sorry for pushing! Drawings were received same day note sent. Will see C Pfizer Co today with Weber Jan

—NDA NUCLEAR DEVELOPMENT ASSOCIATES, INC.
33 WEST 60TH STREET, NEW YORK 23, N. Y. - JUDSON 6-3340

June 1, 1950

Dr. Leo Szilard
Institute of Radiobiology
and Biophysics
The University of Chicago
Chicago 37, Illinois

Dear Dr. Szilard:

Just an interim note to inform you that C. Pfizer asks whether or not an infringement search (as distinct from a patentability search) has been made on your gadget. I said that I was not informed on all steps that your attorneys may have taken.

Sincerely yours,

J. R. Menke

NDA

June 9, 1950

Dr. Walter J. Podbielniak
Podbielniak, Inc.
341 E. Ohio Street
Chicago 11, Illinois

Dear Dr. Podbielniak:

We have entered upon a program to introduce and exploit a centrifugal liquid-liquid solvent extractor invented by Dr. Leo Szilard, now of the faculty at the University of Chicago. While this machine is quite unlike the Podbielniak extractor it does serve functions in a similar field. For instance, it has aroused some interest at the Chas. Pfizer Company. For these reasons we have wondered whether you might wish to know more about the development.

Dr. Szilard would be willing to disclose the development to you in confidence in Chicago or we might do so here in New York.

Yours very truly,

JRM/nmk

John R. Menke

NDA

We have today received from Nuclear Development Associates, Inc. confidential disclosure of centrifugal liquid-liquid phase separating machine, an invention by Dr. Leo Szilard, Chicago, Illinois, including seven drawings by L. E. Packard, dated:

4/16/49
4/17/49
4/23/49
4/30/49
5/8/40
5/13/49
5/25/49

and including modification (not shown in drawings) wherein mixer shaft remains stationary, eliminating need for one set of bearings.

Accepted in confidence by

_____ _____

Date

NDA

June 12, 1950

Dr. Walter J. Podbielniak
Podbielniak, Inc.
341 E. Ohio Street
Chicago 11, Illinois

Dear Dr. Podbielniak:

Dr. Szilard has informed us of your call and of his willingness to disclose his invention to you if you will sign the enclosed acceptance of confidential disclosure before you receive the indicated four drawings from Dr. Szilard. Our copy of this letter to Dr. Szilard will authorize him to furnish you with these drawings and a full explanation of his invention after he receives the enclosed receipt signed by you.

Yours very truly,

John R. Menke

JRM/nmk
enclosure
cc: L. Szilard

[John Menke?] → LS.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL = Day Letter
NL = Night Letter
LC = Deferred Cable
NLT = Cable Night Letter
Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

CC004 PD=NEWYORK NY 13 156P=

1950 JUN 13 PM 1 31

L SZILARD=

:QUADRANGLE CLUB=UNIVERSITY OF CHICAGO=

:PRELIMINARY CHECK INDICATES POD HAS NO MONEY CAREFUL=

JOHN=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

NDA
NUCLEAR DEVELOPMENT ASSOCIATES, INC.
33 WEST 60TH STREET, NEW YORK 23, N. Y. - JUDSON 6-3340

June 30, 1950

Dr. Leo Szilard
c/o Quadrangle Club
1155 East 57th Street
Chicago 37, Illinois

Dear Dr. Szilard:

We have a copy of Podbielniak's letter and will look into Dutch patents if we can find them here, and also into the June 1950 Industrial Engineering Chemistry article.

What were your impressions of the people?

Sincerely yours,

JRM/nmk

John R. Menke

NOV 2 1950

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1.80

NDA

NUCLEAR DEVELOPMENT ASSOCIATES, INC.

33 WEST 60TH STREET, NEW YORK 23, N. Y. - JUDSON 6-3340

#1.80

November 1, 1950 $ 1.80 ck

DIVISION E

NOV 6 1950

Commissioner of Patents
U. S. Patent Office
Washington 25, D. C.

Dear Sir:

Enclosed please find our check No. 1041 in the amount of $1.80 for one photostat copy of Dutch patent 63,629.

We will appreciate your mailing the above to our new office:

Nuclear Development Associates, Inc.
80 Grand Street
White Plains, New York

Thank you.

Very truly yours,

John R. Menke

JRM:BDT

Enclosure

PHOTO PRINTS MAILED

NOV 7 1950

9 SHEETS / COPIES COST 1.80

Dutch 63629

L.C.

NDA
NUCLEAR DEVELOPMENT ASSOCIATES, INC.
80 GRAND STREET, WHITE PLAINS, N. Y. - WHITE PLAINS 8-5800

June 6, 1955

Dr. Leo Szilard
Sheraton-Park Hotel
Connecticut Avenue and Woodly Road, N.W.
Washington, D.C.

Dear Leo:

Having seen the item in the N.Y. Times on June 3rd, "The United States agreed today to lease about thirteen pounds of enriched uranium to Israel as part of an agreement to help Israel develop atomic energy for peaceful purposes", Mr. Menke has asked me to inquire whether you can suggest how NDA might get the job of supplying that reactor.

With best regards,

Sincerely,

Helen

Helen W. Meller
Secretary to Mr. John R. Menke

cc to King's Crown Hotel

NDA
NUCLEAR DEVELOPMENT ASSOCIATES, INC.
80 GRAND STREET, WHITE PLAINS, N. Y. - WHite PLAINS 8-5800

December 4, 1952.

Dr. Leo Szilard
University of Chicago
Inst. of Radiobiology and Biophysics
Chicago 37, Illinois

Dear Dr. Szilard:

This was disclosed to the Food Machinery and Chemical Corporation today, with the protection received for you, as indicated in the enclosed copy of an acceptance agreement, signed by me for you, and by the Food Machinery and Chemical Corporation.

I do not want to raise your hopes very much on this matter as it is not at all clear that this is a development which is pertinent to the work of the Food Machinery and Chemical Corporation.

Hope to see you soon when you get to New York.

Sincerely,

John R. Menke

JRM:LBS

Enclosure

You did not respond to my outline of NDA "future directions". At RL Meier's recommendation supporting some Japanese work by Hiroshi Tamiya on chlorella which is my choice now. Do you think this is right

FOOD MACHINERY AND CHEMICAL CORPORATION

SAN JOSE 6, CALIFORNIA

DISCLOSURE AGREEMENT

UNPATENTED INVENTIONS

With respect to the proposed investigation by Food Machinery and Chemical Corporation (hereinafter referred to as "FMC") of the invention hereinafter described, FMC and the undersigned inventor hereby agree as follows:

1. The inventor will make such disclosure of his invention as is necessary to enable FMC to investigate its nature, novelty, originality, priority, patentability, practicability, cost and marketability. The invention is described as follows:

Invention by Dr. Leo Szilard, Chicago, Illinois, described in drawings by L. E. Packard, dated:

4/16/49
4/17/49
4/23/49
5/25/49
4/30/49
5/8/49
5/13/49

and including modification (not shown in drawings) wherein mixer shaft or casing remains stationary, eliminating need for one set of bearings.

Two drawings received by FMC, dated 5/8/49, 5/13/49, 4/30/49, initialled by J. R. Menke, President of Nuclear Development Associates, Inc., 80 Grand Street, White Plains, N. Y., acting for Dr. Leo Szilard, Inventor

(USE REVERSE SIDE IF ADDITIONAL SPACE IS REQUIRED)

2. The acceptance of such disclosure by FMC shall not be deemed to place FMC in a position of trust toward the inventor; and FMC shall not be under any obligation to the inventor, express or implied, because of such disclosure unless and until a mutually satisfactory agreement is entered into between the inventor and FMC covering the exploitation of said invention.

3. No information concerning said invention will knowingly be disclosed by FMC to any other person, firm or corporation (other than a subsidiary or affiliate of FMC), nor will FMC use the same commercially or cause it to be used by another person, firm or corporation, unless and until FMC acquires license rights therein or title thereto from the inventor, or, in the alternative, FMC finds that said invention (a) is unpatentable, (b) has become public information or public property, (c) was developed by FMC prior to its discovery by the inventor, (d) is now being worked on by FMC, or (e) was disclosed to FMC by someone whose rights are prior in time or otherwise superior to the rights of the inventor.

4. FMC will conclude its investigation of said invention as promptly as is practicable; and the inventor will be advised upon completion of the investigation whether FMC is interested in making an agreement with the inventor for the exploitation of said invention. Unless otherwise agreed in writing, all sketches, descriptions and other material submitted to FMC for use in conducting its investigation of said invention will be retained, so that FMC will have a record of what was disclosed to it.

IN WITNESS WHEREOF, the inventor and FMC have executed this agreement in duplicate as of the 4th day of December, 1952.

Witness:
Lorien B. Seager

John R. Menke
(INVENTOR)

Food Machinery and Chemical Corporation,

By: Robt B Brown

MARSHALL MACDUFFIE
7 EAST 44TH STREET
NEW YORK 17

September 24, 1956

MEMORANDUM

To: Dr. Leo Szilard

Re: John Menke

Here are some further notes on my talk with Mayor.

Mr. Mayor talked to Menke about Unitronics building a computor for him to his design. But it was felt that we couldn't contribute much since it was his design. Also, Menke is busy with an 18 million dollar contract and is hiring men and is so busy that he can't give much attention to the computor. If he turned the matter over to us, we don't have 14 mathematicians to design the next machine and that's 60% of the job. The manufacture is about 40%, and we at the present just couldn't work out an equitable arrangement which would be useful to both.

Confidential

February 22, 1957

Dr. John Menke, President
Nuclear Development Corporation of America
White Plains, New York

Dear Menke,

I received the attached letters, concerning which I might want to get your advice.

I shall be in New York on March 1st and might call you then at your office.

Sincerely,

Leo Szilard

m
Encl.

Friday, Dec. 18, 1959

Dear Leo:

Mrs. Meller has kept me informed about your present problems. As you well know all of us here keep you in mind and wish we could help you. (In only one way that I can see - if finances are any part of your worry pls let us share them - can we do anything concrete.) However, we do all each in our own way, ask for blessings from our God for

you. His grant of good health
with a speedy return to work;
may you have it quickly.

Very best wishes

John Menke

NDA_ NUCLEAR DEVELOPMENT CORPORATION OF AMERICA
5 NEW STREET, WHITE PLAINS, N. Y.

April 13, 1961

Dear Dr. Szilard:

Your story "Voice of the Dolphins" is impossibly utopian. There never was and never will be a conference that will close a week early because there is nothing left to talk about!

Sincerely yours,

John R. Menke

Dr. Leo Szilard
Du Pont Plaza Hotel
Washington, D. C.

JRM:hwm Hope to see you soon on next trip to Wash. D.C. I saw many ideas in the whole book - but mostly I saw a new method - kind of

"Engineering" ideas manipulating men and motivations - especially money to get novel results. I hope I will be bright enough to use these ideas.

Very best

John.

file 5

20 March 1962

John Menke
Nuclear Development Corporation of America
White Plains, New York

Dear John:

A few days ago I received twenty-five shares of your corporation made out in the name of my wife. Circumstantial evidence indicates that these shares were sent to me on your behalf and I am writing to thank you for this gift. It was very thoughtful of you to have these shares registered in my wife's name rather than in my own name.

Kindest regards.

Sincerely,

Leo Szilard