

(COPY)

COLUMBIA UNIVERSITY
in the City of New York
(New York 27, N. Y.)
Department of Physics

Columbia Radiation Laboratory
538 West 120th Street
New York 27, N. Y.

January 11, 1956

To Whom It May Concern:

Mr. Ferris E. Alger was employed in the Columbia Radiation Laboratory as a glassblower from August 1942 to September 1944. The Laboratory was at that time engaged in the development of microwave generators and imaginative experimental techniques were required for carrying out this program. The program had considerable success and we feel that the success was in part due to the skill and ability of Mr. Alger.

His background of technical information and skills was considerably greater than that of the average glassblower. He is familiar with vacuum tube production and techniques. He is also familiar with machine shop practices in the sense that he is able to design the jigs for the precision assembly of the glass parts of vacuum tubes. He understands the glasses that are used in various vacuum tube applications and is skilled in the fabrication of all kinds of glass to metal seals. He has introduced new techniques in the use of Kovar which have been adopted in production in industrial plants cooperating with our laboratory.

I have had only occasional contact with Mr. Alger since 1944. It is my impression that he has used the last years to good advantage in expanding the range of his knowledge and skills.

Mr. Alger is conscientious in the performance of his duties and is able to get along with his fellow employees.

Very truly yours,

(Signed)

P. Kusch,
Executive Director

CHICAGO MIDWAY LABORATORIES

(COPY)

THE UNIVERSITY OF CHICAGO

To Whom It May Concern:

July 27 1956

I have worked with Mr. Ferris Alger between 1950 and 1953 during the first 2½ years of his employment at the Freed Radio Corporation and had the privilege of interviewing him previously. It was obvious at the first meeting that Mr. Alger's experience and knowledge exceed by far those required by the job we were trying to fill at that time, but as he was among other also an exceptionally talented glassblower we were glad to secure his services as such.

It is credit to his personal modesty and his unlimited loyalty toward his work and employer, that he not only started his employment with conventional glassblowing but was always willing to do all the work required in connection with glass and vacuum technology, be it routine glasswork on the bench, complex machine operation on the glassblowing lathe or structural design of unconventional glass and metal apparatus. He also designed and constructed all the auxiliary equipment required (furnaces, tools, burners, electrical controls etc) to his glasswork, but after a few weeks everybody knew that Mr. Alger's background in experimental physics, chemistry, mechanical and electrical engineering qualifies him to be consulted with on every problem arising in vacuum tube technology or experimentation. Mr. Alger made many contributions during his work at Freed Radio Corporation, he conceived, designed, and constructed vacuum apparatus, microbalances, evaporators, freezing traps of original and ingenious kind, quickly according to the unexpected demands of research work.

His essential talent is his fast understanding of and accomodation to any problem in the fields related to vacuum physics, electronics and technology and his main assets are his vast experience, his magic skill and his highly professional viewpoint.

We were all glad to increase his range of responsibilities and burden him with all the problems the physicists and engineers could not solve.

I greatly enjoyed working with him and am proud of many facts and thoughts I learned from him in a field in which my own professional experience covers the last 25 years.

(Signed) Michael J. Neumann
Physicist

(Michael Neumann is the brother of the late John von Neumann.)

(COPY)

P R D Electronics, Inc.

202 Tillary Street
Brooklyn 1, New York

29 March 1962

To Whom it may Concern:

I am confident that you will find -- as I have during nearly six years of association at PRD Electronics -- that Ferris Alger is highly skilled, knowledgeable, creative and enthusiastic in his chosen field. Over most of this period, I was familiar with his work which was in a broad range of physical-laboratory type of activity, including the specification, design, construction and operation of test equipment, experiments, and working prototypes. His projects include extensive and highly successful work on NH beam masers, as well as thin film components and cryogenics. Such work demands, of course, inventiveness and meticulous laboratory technique in the range of glass, metal and unconventional material fabrication; high vacuum techniques, and critical purity considerations. Mr. Alger has the rather scarce skills and motivations to accomplish these, and is accustomed to carry out the full range of activity implied, with or without assistance.

Before his service with PRD Electronics, he had very considerable comparable experience, including service with world-famous experimental scientists. His personal qualities of integrity, forthrightness, modesty, his pleasantness of personality, and his general culture also commend him beyond the average.

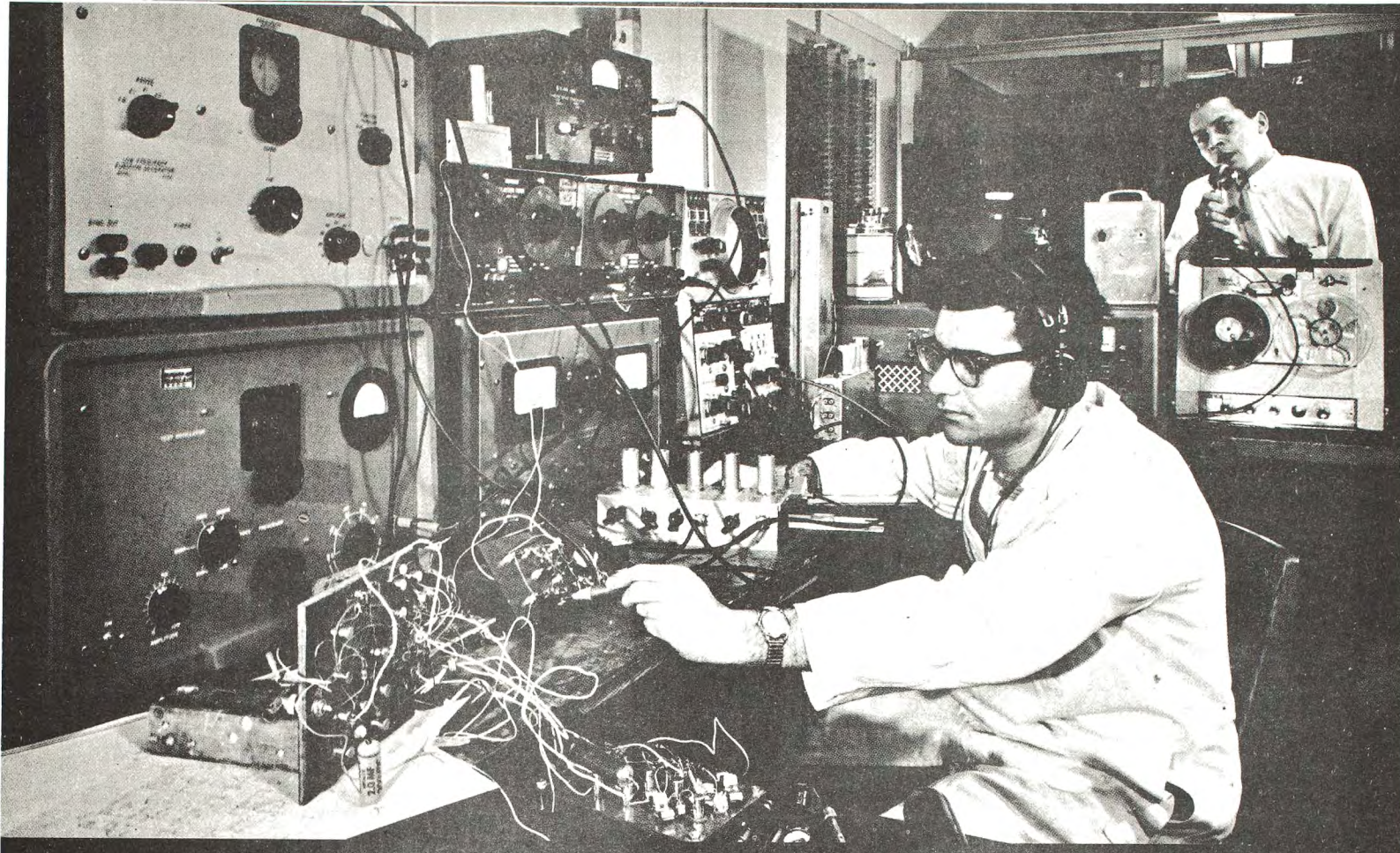
I am pleased to recommend Mr. Alger and am confident that he can perform faithfully and well in any position for which he would be willing to apply.

Very truly yours,

(Signed)

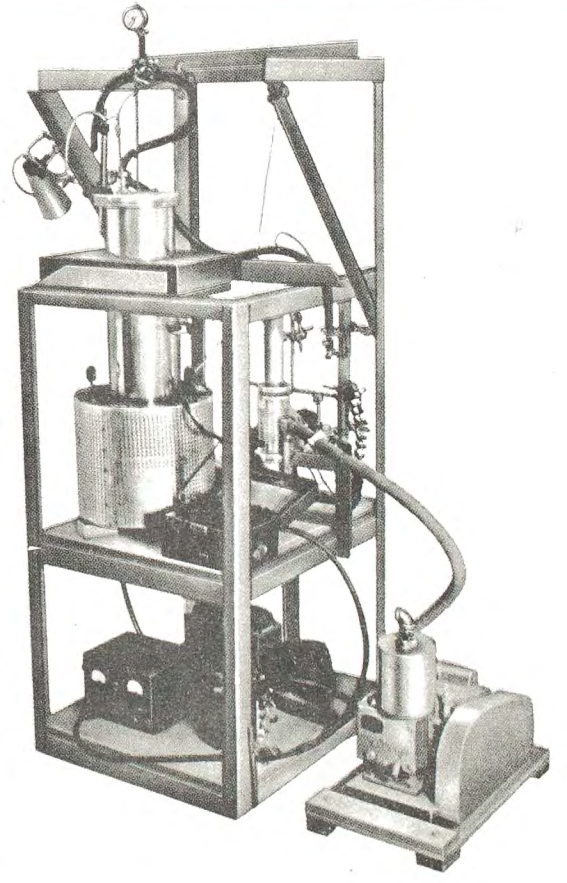
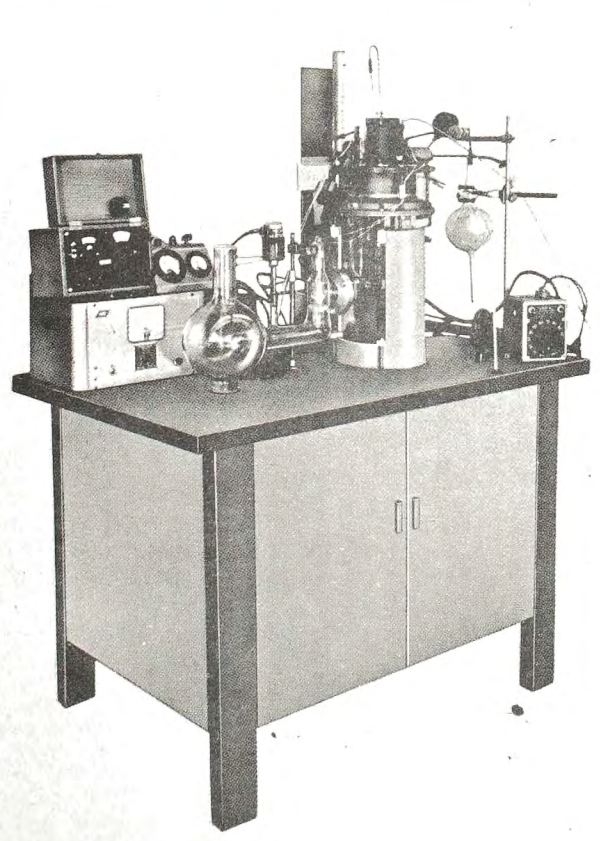
S. W. Rubin
Project Engineer

SWR:mm



PRD

RESEARCH DIVISION



This is a page from the brochure of Polytechnic Research & Development Co. (P R D)
Brooklyn, New York

To illustrate their physics research capability they have chosen two pieces of
apparatus of my design and construction.

Lower left: Experimental N¹⁵ Ammonia Beam Maser with interchangeable parts

Lower right: Liquid Helium Cryogenic Apparatus

Ferris E. Alger

125 Cedar Street, New York City 7

EXPERIMENTAL PHYSICS RESEARCH

In some areas of High Vacuum - Cryogenics
Molecular Beam Masers - Glass
Aerodynamics - Nuclear Physics

October 1961

Dr. Polykarp Kusch
Executive Director
Columbia Radiation Laboratory
Columbia University
New York City 27

Dear Prof. Kusch,

I have recently made an extremely valuable discovery, of a principle which is capable of revolutionizing commercial aviation, making it much safer and cheaper. It will save many lives, over the years, and serve to greatly expand practical uses of air transport. It may add some useful knowledge to the understanding of physical phenomena. I have tested it and I am certain and will guarantee that it can make air transportation safer and cheaper than it is. Therefore it could be the foundation of extensive multi-billion-dollar industry for many years to come.

I fully realize how valuable it is. Certainly it should be worth millions of dollars to its discoverer, five or ten or more, fairly and conservatively. (This estimate is based on a similar previous discovery of comparable importance.) It is my discovery completely, conceived entirely, worked out, planned and tested by me alone solely upon my own initiative and at my expense. It is in no way connected with any other work I have ever done for any firm or government or organization whatever, and none can have any claim.

As I'm sure you know I have always safeguarded security carefully, and all rights of any employer or government, and would on no account do otherwise. The only rights here involved are mine. This discovery is entirely mine alone to do with as I see fit. No one else ever suspected its possibility, though some should have.

It is a principle -- I must purposely refuse to describe it, naturally -- and as such is not easy to protect or patent. Furthermore, to make the most of it its use should be guided by its discoverer or one who can visualize its possibilities. It could be kept secret or disguised for a while perhaps, but it is certain to be adopted universally in due time. Fortunately it is primarily of commercial value and not military, except for logistic purposes, though for this use it could save the government much money.

I should like to sell it to the government preferably, for licensing to aircraft manufacturers, for it is too large and much too valuable a matter to be retained by one company for its own exclusive use.

Furthermore I am frankly very skeptical of the chance of finding any company in America which could be relied upon to deal completely in good faith after the principle is disclosed, or to conclude a satisfactory agreement beforehand, though I will guarantee it able to perform as promised or refund the money.

The United States government is not easy to deal with in matters like this. It has no very satisfactory means of so doing, and at best too much depends on the notions and whims of the individuals, inescapably not all qualified to assess a new idea. There is often a strong tendency of even qualified men to underestimate the discoveries of anyone else, especially if an excuse can be found for doing so, and perhaps later appropriating credit if the idea proves successful. I say this from several past bitter experiences, the latest in connection with the maser, and several others, the glass-to-metal compression seal for one.

In general I feel that America has not dealt very fairly with me in previous instances, especially the one last mentioned. Now that I am in a position to demand the terms I am inclined to require that some certain past misdeals be rectified so far as possible before I would be willing to discuss further business.

When I graduated from high school in Colorado I won a scholarship to the University of Colorado. The principal, K. L. Sanborn, neglected to inform me of it but my teachers told me. They were furious about it, for they said I achieved the highest I Q score ever made. I refused to find out what it was for I did not wish it to make me immodest, though I did demand an explanation from Mr. Sanborn who awarded the scholarship to another student. He said "His father pays a lot of taxes in this town and I feel he deserves it for his tax money." I have never forgotten these, his exact words.

I tried to enter college anyway, expecting to earn my way; I always have since I was twelve, or even younger in fact. The University of Colorado turned me down very cold indeed. So sorry, no scholarship, no help -- period. Made me feel I had to apologize for even asking.

I tried several other colleges -- I remember Berea College especially -- where students could earn their way. They were solidly booked several years in advance, refusing all applications except with special recommendations. Having lost the scholarship I won constituted a powerful negative recommendation that I could not overcome.

I knew I would need a doctor's degree to be of any value as a scientist, and that cannot be earned by part-time study throughout college. One must have at least several years of full time study, preferably a bachelor's degree if possible.

The girl I was in love with came of a nice family and I felt ashamed to offer her the uncertain prospects of a would-be scientist without a college education. I stopped writing her, for I knew she could marry someone with better security to build a family, and so she did. It has made me very bitter.

I didn't ask for the scholarship in the first place, though I won it fairly and it belonged to me, and I needed it; the one who received it didn't. I only expected a chance to earn my way as necessary. I certainly had a right to ask that much if my country expected to use my abilities for its benefit. Apparently I had valuable potential abilities worth developing, according to the competition results. I had no other way of knowing it either. Someone should have had sense enough to see that they could be developed rather than strangled, ignored and destroyed.

All I've wanted from life was a chance to use my talents to the best advantage for civilization or human welfare -- what ever you want to call it; to work somewhere in the broad scientific field; and to raise a family of children of good character. America has cheated me of the last in particular, by the perfidy of one petty official and the lack of vision and courage and common decency of many other people who might easily have given me a chance to compensate for that.

My bitter anger over that matter was not easily assuaged. I considered going to some other country, but I was born here and have rights here, even though I have been cheated of the most valued of them. A government has certain obligations to its citizens: to promote their welfare, protect their rights, provide the common defense; that is its sole legitimate purpose of existence. It would be even more difficult for me to make a living in some other country because I have no college education.

At least in my own country I would have a right to fight for my rights, which I would not have as a guest in another. The Second Amendment is one of the strongest conditions upon which the Constitution was adopted. It can not be repealed without destroying the entire authority of the Constitution, and it either means exactly what it says or it means nothing at all, and the whole Constitution is then invalid.

Many angry years I devoted to developing weapons, both tactical and powerful strategic weapons, secret, safeguarded, secure, under my full absolute control in any eventuality, and unable to be detected, frustrated, or subverted. There are ways to provide for all contingencies, such that any attempt to subvert them will backfire, be defeated in its purpose, and operate against one making the attempt. But, as the Devil asked Faust, "Now that you have the perfect weapon, what do you propose to do with it?" That is a cogent question.

What is the use to have to live as a savage in one's own country? It is better not to live, or else not to live in such a country. Yet it would be as wrong to destroy one's own life, as to destroy one's neighbors simply because they have not honor and common decency. War is all wrong and futile, yet it is no less wrong for a nation than for an individual. In fact there is some element of decency in the picture of an individual fighting for the rights of himself and others which is totally lacking in the spectacle of obscene giants threatening to destroy the earth or enslave its people. The blessings of civilization should provide some greater goal than the necessity to devote all major energies to fighting for simple elementary rights.

So far as rival nations are concerned, the reality is that we have to live with them whether we like it or not, whether we agree with them or not. At best, we could not destroy them without destroying our own soul, and probably life on Earth as well. Furthermore they have recognized, as we have not, that in the very near future no tyrannical, unfair, dishonorable government can ever exist in safety. So it behoves us to look ahead, attend to these matters, and get on with the business of living and building a future.

Certainly we would be justified in defending freedom, if we have enough to bother about. It is probably the only thing worth defending, but we have rapidly less and less of it ourselves. The burden of petty tyrannies here, especially at the state and local levels, is so oppressive as to be comparable to the gross tyranny we pretend to oppose. These are examples:

Exorbitant income taxes added to exorbitant state and local taxes and nuisance taxes of all sorts, for any excuse or none.

Compulsory exorbitant insurance that insures nothing but fraud

Compulsory inspections known to increase accident rates, and to encourage outrageous rackets.

Secret police operating under quotas (insufferable outrage to any sense of justice) selecting victims without witnesses or chance of defense, and states with reciprocal agreements to place them in multiple jeopardy.

Police preying upon normal citizens mostly for trivial offences, but protecting and working with criminals.

Outrageously severe punishments for trivial offences, but little or none for major crimes.

This is only a small sample. There are innumerable outrageous rackets and frauds and tyrannies, mostly petty and thoughtless, useless, expensive, and often dangerous. Perhaps no single one seems worth fighting over, but taken together they destroy the preference of freedom America is expected to exemplify. Is it not obvious that the wave of public attacks on police is a clear expression of resentment against such tyrannies and injustices? It reminds one strongly of the early stages of revolt in Hungary in 1956. If we thought this could happen only in a police state, the implication is clear enough.

By this time I have proved some degree of exceptional ability beyond any question in several different instances, and in fair open competition with the whole world, in a way.

You know a good deal about that already of course, in two years of close daily association as my immediate superior at Columbia Radiation Laboratory. I am sure you must agree that I managed my department very well and efficiently at the Radiation Lab. Also I made a valuable discovery, the glass-to-metal compression seal, which was a useful contribution to our effort during the war and is now the basis of a sizable industry.

A more recent instance was the concept of the independent Maser. This was in a sense a nationwide contest. Many brilliant scientific teams were trying to develop a compact ammonia maser for use in missiles and satellites, as well as for laboratory and other uses. My design proved to be the only practical one, and the first practical sealed molecular-beam device I think. The Signal Corps Lab used my original system in a design of theirs, which was fair enough of course since it was developed on a Signal Corps Contract. Although I have been passed off in papers on the subject, either as only a technician who did some work on the project, or without mention at all. The actual concept of the complete maser in substantially its final form described in J. R. Singer's book MASERS was originally mine alone. I had to fight all the way to get my ideas accepted. Ali Javan can verify that for he was there every week.

Of course I did not develop the entire independent maser alone for there were aspects of microwave and molecular theory that I did not fully understand, to say nothing of electronic problems. But it was my solution to the entire management of the ammonia charge that made it feasible. The entire development required the best efforts of our team of Joseph Hannwacker, Stanley Johnson, and myself, with the help of Ali Javan and others. The greatest credit was due to Stanley Johnson as head of our group, for his perceptiveness, modesty, skill, and patience; his own ideas, experience, and competent knowledge in microwave and cavity design areas especially; and his quick understanding of and faith in my ideas. He was the founding employee of our company, and in a very large measure his developments were responsible for its success. Far more than that, he was a great scientist and a great person, one of the greatest I have ever worked with, and I have had the good fortune to work with many great people.

However I designed the basic physical system, designed and made the ultra-high-vacuum valves for there were no suitable ones available; designed and built the processing apparatus; and devised, prescribed, and used the methods of processing the maser, of assembling the maser by hydrogen brazing, and of purifying the ammonia charge. No one else seemed to realize the paramount importance of having ammonia of the highest purity, nor were they able to purify it. I had to fight for all these points, but Stanley had the vision to support my views. This is what made success possible.

No one else succeeded in developing an independent maser, but we did. This time I have a patent to prove it, No. 2,972,697, but now it lies obscurely buried. Ironically, I am not even permitted to attend conferences on masers, or to publish papers. After all, it might be embarrassing if I wrote an unsophisticated paper on this subject I know nothing about. Such things are only for sophisticated people with advanced degrees who can create a good impression by displaying a broad theoretical knowledge of the subject. Having cheated me of the chance to secure such a degree, they are also determined to usurp and obscure the credit due me, and to place me in an embarrassing position to demand it.

In January 1937 I designed a very unusual sort of airplane for the Lindbergh Decennial TransAtlantic Air Race. It had two engines in a tandem arrangement with the pusher propeller of the rear engine behind the tail surfaces. Such an arrangement, quite simple and logical as has since been proved, had never even been previously suggested. I had begun design of a single-engine plane a month or so earlier when the race was first announced, but the rules were modified to require multimotored planes only. This two-engine design was my answer. It simplified the design work, which had to be completed within a short time, eliminated some dangerous torque problems of conventional types, and promised far higher performance than anything then imaginable.

I advertised for bidders and sent details to several interested parties who responded, but the race was cancelled before serious work got under way and I heard no more about it. However a few months ago I learned from a magazine article that Germany had copied and used my design as a fighter in World War II, designated as the Dornier DO-335. It was the fastest propeller driven plane of the war, and so promising that a research program on variants of the type was begun. See the following references:

Relfe & Dawidow, Airplanes of World War II
 Jane's, All the World's Aircraft, 1945
 Kens und Nowarra, Die Deutschen Flugzeuge 1933-1945
 R A F Flying Review, International Edition, January 1961

Fortunately for us, Germany frittered away her chance to make the most of this airplane, and only got it into limited production too late to be decisive. The German Air Ministry quarrelled for several years with Dornier for wanting to produce a fighter when they had been designated as bomber producers. By such stupidity are nations destroyed. We should learn an important lesson from that now.

I had copyrighted my original design drawings and specifications to protect the design well enough until the race was over and establish my priority of origin, and now it serves a good purpose. I have copies of the letter of copyright registration and of correspondence relating to this airplane and the race, and registered mail receipts, blueprints and specifications. I will send you photocopies of this material, and of the Dornier DO-335.

I had been interested in aeronautical engineering since I was about sixteen, published a technical paper on Efficiencies of Airplanes at eighteen (Aero Digest, Jan. 1932), and wrote several more, but there was no technical aeronautical journal in America then and popular journals would not accept much of too technical a nature.

I designed some tailless and delta-wing airplanes which had promising advantages, and to which tricycle landing gear was well suited. I think I was the first, in 1932, to analyze tricycle landing gear and prove it to be inherently stable, self-restoring to asymmetric loads. I still have some of my original data on it. I fully realized what a giant step this would make possible in aircraft performance, and tried to tell the aircraft industry about it, but encountered only ridicule and scorn. I knew I would not dare show it on the original design for the Paris racer or I could never get a backer, though I hoped to persuade one to accept it after he was committed to the program.

I always knew I was right about the tricycle gear, and had to prove it last year when I landed my own airplane, an Ercoupe which has tricycle gear, at 130 miles per hour downwind in severe turbulence, and with failing brakes. I had no trouble, but used up a 5000 foot runway and 1000 feet of taxiway. The control tower still remembers that landing. Such landing speeds are common enough with jets today, but before tricycle gear sixty or seventy mph was pushing the limit of safety. It took the aircraft industry at least fifteen years to realize fully what I tried to tell them.

About 1947 or early in 1948 when making some neutron counters for Chien Shiung Wu, I suggested using B^{10} boron carbide as a coating for the counter wall, to enhance the capture probability for the $B^{10}(n,\alpha)Li^7$ reaction. I know it introduces complications, but it must have worthwhile advantages for it apparently became standard practice within a few years, according to Glasstone, Sourcebook on Atomic Energy.

Whims sometimes lead me to investigate almost anything that arouses my curiosity. I've long been interested in rocket fuels. Since about 1930 I have known of a very promising one, ammonia, not suspected by others until fairly recently I think. Six years or so ago I wrote to George Kistiakowsky with whom I had worked some years back, about it. It had by that time been investigated and of course is now used extensively. Around three years ago I began to suspect that some other nation had a fuel better than we knew about, and from my knowledge of ceramics and other unrelated fields, I deduced that there may be another system which looks very promising indeed. Very meager data are available to work on. It will take some persistent investigation to prove out, but I'm pretty certain that my reasoning is basically sound. If so it may yield very worthwhile results indeed. A friend's illness took all my attention at that time so I made little progress with it. I also have a few ideas about the design of rockets themselves, but they are rather far out so I must do a little experimenting before springing them.

A few years ago I proposed a system for air traffic collision warning radar which I still think is among the most practical. It was not elaborately complex, sophisticated and expensive, but was based partly on my own experience as private pilot. It called for rather simple equipment on small slower planes, grading to more elaborate on larger and faster ones, but all compatible.

As for the discovery of the glass-to-metal compression seal, perhaps you should remember something about that even though it was a long time ago, since I discovered it while working at Columbia Radiation Lab under your supervision. I realize that so many more important discoveries have been made there, including Charles Towne's expounding of the Maser principle among many others, that my own discovery is not really very outstanding. Yet it is important to me because what I have accomplished is the only criterion of my own ability, since I have no degree, and therefore my only asset and passport to future valuable service, otherwise I would prefer to make no special point of it. For this reason I resent having been denied an opportunity to either publish a paper on it or get a patent. It is now the basis of a small industry, and I believe it started the thinking which resulted in successful ceramic-to-metal seals.

When I finally realized it was hopeless to expect to enter college full time, I wanted to take some evening courses but had no permanent job near a college offering them until many years later. It is virtually impossible to earn a doctor's degree, starting from the beginning and studying evenings only. Most colleges discourage or specifically forbid it I think. I have known this for many years and that is why I was determined to get at least a bachelor's by full time study if possible.

I always study avidly and can learn much faster and better alone, except for advanced mathematics which is difficult for me to manage entirely alone, though I have tried hard and have gotten through calculus and most engineering math. Since so much of theoretical physics depends on more advanced specialized math it is a severe handicap. To make matters worse, when I realized I had hopelessly lost the girl I loved I developed a strong aversion to all math which lasted for many years. I've tried to overcome that too, and by now I can use it to such extent as necessary, as I did for some of the maser development and other things. There have been famous scientists who accomplished worthy results without facility in math.

In school I was not an "A" student, for I went to school to learn useful things, not make grades. I averaged about B, but I learned well and remembered what I learned. I never studied just specifically for an examination in my life, but I made better grades on exams than in daily work generally, for I concentrated on that part of homework which I thought most important, sometimes neglecting other parts. Most of what I learned I still remember and use well.

In high school I lectured in the physics class one period each week and conducted an aviation ground school class each week, both of these by invitation of classmates and the physics teacher.

I have always considered it an obligation to help, teach, and inspire others to develop their best abilities, and have not neglected opportunities I found to do so. I have sponsored and encouraged member candidates for the American Physical Society. Others I think promising or seriously interested I try to encourage to pursue a scientific or creative career, and above all to continue formal education as far as possible.

As you know I tried several times to get some credit for my own fairly extensive experimental experience, or else at least arrange to take examinations for some credits, for I could not now afford either the time or money to start college as a freshman. Such arrangements have been made for refugees I know, including the man who has been my department head for the past five years. Why should they be denied to a native? Or is a native American who shows promising talent to be regarded as a presumptuous upstart, to be slapped down and stifled at every chance? I have seen repeated evidence of such an attitude. Perhaps it serves America just right to lose the product of much of its best talent. If America has no loyalty or kindness or devotion to its own people I seriously question whether it is worth doing anything for.

I do remember that you and Chien Shiung Wu spoke to Dean Dunning on my behalf about this matter of credits or examinations for me several years ago, but he could do nothing, even though my work was well known there at Columbia. I want you to understand that I am very grateful for the help you and others have tried to give me on various occasions.

A year or so later I wanted to take some mathematics courses at Brooklyn Polytechnic Institute. Paul P. Ewald was head of the physics department then. Learning of my situation, he offered to arrange a minor degree, perhaps equivalent to bachelor's, so that I could take the courses I wished. Otherwise as an undergraduate I would have to adhere rigidly to the prescribed curriculum and start as a freshman; but he retired without doing so. Now last year I wanted to take Heinz Weichart's Maser course at Columbia. Still hoping to get credits, I recalled Professor Ewald's promise to the attention of Brooklyn Poly, but they coldly refused to honor it, told me that degrees were only for heavy financial contributors.

I am even effectively denied the help of the well-publicized tuition assistance plan of our company (See Reader's Digest, P. 99, February 1961) unless I start as a freshman, for I am not allowed to take courses for credit otherwise. This is difficult and rather senseless and inefficient now at my age of forty-eight. It would take ten or twenty years at least to get anywhere studying part time. I want to learn useful things in time to use them.

I don't mean to imply that America owed me a free education, but rather that if it expected to profit from the use of my talents it was necessary to make it possible for me to develop them. This is primarily in the nation's own interest, not mine. I never asked for a free education. I don't mind striving and working; that is necessary to make life worthwhile, but there must be some fairness and chance of success. I was perfectly willing to earn my way and would have had to earn much of it in any case for the scholarship did not cover everything, but would have given me a start. Since I won the scholarship fairly it rightfully belonged to me. Its loss has cost me the most valuable things in life, and made life only an unhappy burden to me. It has seemed very unjust to have to despise God's gift of life and talents.

I know no one can give back or pay for the girl I loved or the children I wanted or the long bitter angry empty years without them; perhaps it is better not to think of that. Although I feel an obligation to fight for my children's right to live so long as there can be any hope at all, I know too well there is now no longer any realistic hope of raising a family under reasonably normal conditions at my age. Even if it were possible to find some woman sympathetic to these wishes, and with courage enough to surmount complications, custom and prejudice, my own bitterness which is no longer easy to suppress would color their lives and rob them of the happiness they should have.

Frankly I would simply prefer not to live, yet I feel it is wrong to leave a promising life wasted and useless. So I should like to have my most valuable discovery made available to the world and used to the best advantage to give a brighter future to other people and their children, even though I expect to find no one willing to raise a hand or voice for mine. I don't want to be just robbed of it, scorned for it, have it misused, but rather to give it under conditions which will guarantee its maximum benefit.

It has occurred to me that I might be able to make use of my discovery to improve the world's international situation and the future prospects of humanity in general. Certainly any device which can facilitate commerce and intercourse has such a possibility of itself if it is well used. I wish to do more than that however; to make it available first to those nations willing to prove by evidence of definite concrete actions their primary devotion to the future welfare and happiness of humanity, rather than the destruction of all future prospects.

I know that the world now faces the prospect of a greater, brighter, richer future than we ever dreamed of, with an abundance of nuclear power for all our needs, if we can learn to work for it and share it. I want to help shift the emphasis of man's effort more toward such constructive goals and away from warlike destructive ones. I want to see evidence of specific action in this direction.

For one example I should like to see in America a systematic official concerted permanent effort to reduce and eliminate so far as possible the petty useless tyrannies, rackets, burdensome and often unprofitable nuisance taxes, unjustifiable compulsory inspections (automobile inspection causes an actual slight increase in accidents) irresponsible local regulations such as zoning and many similar trivial matters which nowadays extend to the smallest local rural communities; the compounding of highway banditry which the motorist has long suffered by interstate agreements of each state to punish again each others victims. The citizen of a state is entitled to expect from it protection from the rapacity of others.

In short I would like to see a strong sustained effort to preserve freedom by simplifying the burdens and inequities of government at all levels. Our multiplicity of governments otherwise defeats this purpose, and imposes a complicated arrangement of petty tyrannies. We have to do more than prattle about freedom if it is to be worth defending. People are not so easily deceived. If they seem indifferent about freedom it is because they think rightly enough that there is little of it to defend, not that they do not value it. Freedom is only one thing: The absence of unnecessary restrictions and laws, regulations and taxes. In short, efficient government.

Another practice I should wish to help correct is the age-old tendency of nations to cheat, harrass, strangle and handicap their most promising pioneers in science and arts, and to demand of them their valuable contributions without compensation; to scorn and maltreat these originators until they are dead, pretending to atone for it by pious useless lip service afterwards, like vultures at a carcass. They have the gall to exploit the suffering and struggles and to claim their accomplishments were made possible by the generosity of the very nation which robbed them. As an example, a recent advertising campaign implied that Einstein had to come to America to accomplish anything useful. Of course the facts are that most of his important work was done long before he came here; he could never have gotten the education here to do it; he was invited here long after he had his reputation, to lend glamour to an institution primarily; he was then roundly abused, insulted, and poorly treated here. This was the great gentle man who gave us the most valuable fundamental gift of our time, who opened the gate of the future in a way of speaking, or the lid of pandora's box, if that is what we choose to make of it. Fermi, John Dunning, and many others have had their discoveries virtually seized and used with little or no compensation, or at best a pittance as aftertoken. Discoveries are the most valuable of all contributions to our civilization, and they deserve a reasonable reward. The men who make great discoveries are almost invariably modest enough to want only modest compensation, and often to waive it entirely if they earn enough in regular employment to afford that, but they must not be cheated of their rights to compensation and proper reward, if others are to be encouraged to make contributions. This is the only sound basis of any philosophy.

Not only America but many nations have taken savage delight in cheating those who contributed most to civilization, but the immediate future of mankind is too crucial to tolerate this conduct now. This is one of the strongest reasons the West has lost the space race, and more vital, the race for the future of human dignity: The Rat Race is so much more important.

I think it is the failure to try to solve just this one problem that has done more to defeat the United States than anything else. I am sure that a great deal of scientific work and talent has been lost to this country quite unknown; much has been given to rival nations by disillusioned people or at least withheld from our own, just for lack of reasonable appreciation or compensation or incentive. If this nation encouraged and aided its scientific talent there would be no lack of it and no cause for malcontents. We need to encourage, develop, and utilize all the intelligence we can if we hope to regain any respect and have any future we would want. I can point out a sound precedent.

No intelligent person can have completely selfish interests. He knows too well his own and family's interest is bound up with the welfare of the community, but this works both ways. The community's welfare depends upon that of its individuals, most especially of those who create and advance the arts on which the community thrives, though no less important are all others. No scientist or artist I know is primarily interested in immoderate wealth or fame, but mostly in the opportunity to work to the best of his abilities in his chosen field, to develop these abilities to the maximum proficiency, and to have just sufficient recognition to give him needed support so his work will be used and not wasted. It is the essence of the creative spirit to wish to contribute in some way to the development of humanity. It is very wrong for the nation to take advantage of this modest nature to maltreat and cheat him. There are many who strongly resent this treatment and protest it. A creative spirit is driven by a strong urge; for one to be forced to suppress his own creative ability is as abhorrent as to have to strangle his own child. If our nation is too stupid to encourage and reward the creative artist or scientist it deserves no better than to lose his benefit.

America manages to provide well for the prosperity of many sorts of business people, some who work hard and some who actually contribute greatly to her growth, but rewards reasonably well only a random few of her exceptional scientists and artists who contribute far more valuable things. Others have difficulty living decently from their work, especially if it is original creative work, the most valuable kind. They can foresee the value of their work, and while they realize it takes time to assess and prove it, they can rightfully expect reasonable protection and compensation. It is understandable that they become bitter at being cheated, as many do. If those who contribute most to civilization can look forward only to hatred, resentment, exile and suicide as their rewards it is a very sorry excuse of a civilization indeed.

While they are alive they are strongly resented, ridiculed, and hampered at every turn for any flimsy excuse. This conduct is speciously justified on the ground that they may someday have a useless fame after they are long dead, and that would make up for it all. This is a cheap and shoddy pay for a priceless gift. Even such a fame if it materializes is motivated by no noble purpose but is an attempt to assuage the guilt of an ungrateful public who robbed and scorned the giver while he lived. But now and then it happens that a native country finds that a more discerning rival nation has discovered one of its scorned geniuses and made use of his work, as Germany did of Robert Goddard's pioneering in rocketry, and to a lesser degree in my case too, with the DC-335 airplane. This is not of the same importance, yet it does represent design advances which are still being used, and could have been used to great advantage.

The Signal Corps officers who administered the original Maser contract insist upon credit by name at every mention of the independent maser, and so do all other people in administrative positions connected with it. My own department head (who was allowed to earn his bachelor's degree by studying College Outline Texts and taking examinations) writes and lectures extensively, as he should to engender interest in it for it is a useful device, and he made valuable theoretical contributions too, yet he forbade us to write about it when it was most timely. All these people helped in some way and definitely enabled its development, which I freely, fully acknowledge, yet all seem to have demanded credit except me whose concept it originally was. I am not sure whether to be amused or peeved. Certainly I need the credit for my concept even more than they, because of lacking a degree, and am entitled to it.

Now because of such previous experiences I intend to lay down beforehand the terms of my discovery this time, the terms on which I will make it available. I've had enough of being cheated of these discoveries and I'm not going to have it happen again to this one. Often I think I'd sooner give it to an unfriendly nation, but yet in mature reflection I wish to have it used to the best benefit of all humanity. I will give my country one first chance (which is more than it has given me) on what will actually turn out to be quite reasonable terms if they choose to accept them in good faith and will take definite steps and action to prove it. However they must accept the conditions I prescribe.

I am not interested in any large amount of money, for I care nothing for pretentious living. Neither do I want the responsibility of managing much more than I need, for it should not be wasted but used for the public benefit. Yet I have learned that valuable things must be paid for or they are not valued. If I offered to give my discovery free it would be only scorned anyway, and probably adopted by a smarter rival nation. So I should like to make the offer first to this country, but it will be made once only, and must be accepted promptly.

I shall try to make the offer in alternative forms, so that if concrete steps are taken toward improving the world's future prospects, and also toward rewarding and guaranteeing reasonable or partial rewards to those who make valuable discoveries or creative contributions to civilization, the net cash cost would be low. In the first place these are steps which should be taken anyway. In the second place I will guarantee that my discovery will improve the safety of air transportation and its efficiency, and that it will earn the value paid to me many times over, to the government itself both in savings and taxes, and additionally to American industry.

However there are also some matters affecting me personally which I feel require remedy, and since they affected me personally I have a right to make issue of them. The terms of my offer will be influenced by the spirit in which these demands are received and met.

I shall waste no time to bicker, bargain, or vacillate. I shall offer it to America but once only. The offer will be made by means of a letter like this one containing substantially the same information as this. It will be sent to some people, listed at the end, who I feel are qualified to judge its merits and recommend or initiate action.

The intention to accept it and take action necessary to its acceptance must be indicated very promptly, for I am already preparing offers to other nations. If it is rejected, neglected, ignored, or not taken seriously the offer will be withdrawn without further ado and made to some other country. Perhaps not necessarily to an unfriendly one first, though I would prefer that than to be cheated again by my own, but I would really rather do all I can to promote peaceful progress in the whole world. So I may not exclude any nation willing to meet reasonable criteria of these aims, though I am sure you will remember that I have no preferences for other nations or philosophies. There are several European countries for example having sufficient aircraft industry capacity to profit well from my discovery -- Britain, France, Germany, Italy, Sweden, at least. These and others may easily meet criteria of devotion to human welfare and peaceful progress.

Perhaps even one of them would yet afford me an opportunity to build a family of my own, which my country has indirectly but nonetheless surely cheated me of. No doubt snug people, especially who already have their children, will criticize in every way my wish to raise mine. Yet I feel I have a right and duty to fight for their chance to live. Perhaps I am being unsportsmanlike, but I doubt you would regard your children's lives a subject for sporting propositions. Neither do I, though I would accept proper and any naturally legitimate reasons if that is necessary. Any person wishing to raise a family is entitled to the sympathetic cooperation of all decent civilized people. If there are no such people in this country it is time to seek another, and I shall be free to offer my discoveries without reproach to any other I wish.

No decent person would discourage a nesting bird or an animal wishing to raise its young; by what neurotic reasoning is a human entitled to less? At any rate I shall continue to fight for my children's right to live as long as there can be any hope, and will accept no excuses, other than unavoidable natural causes. I hate to hurt anyone, seem selfish and rancorous, but though the chances are now slim at best I will not forfeit them just for the sake of seeming to be nice.

I have other worthy purposes in making major issue of this:

To encourage nations to develop, reward, and better utilize creative talent, to safeguard the rights and wishes of all people, and to realize that development of human assets is in ultimate the only worthy aim of civilization;

To encourage more intelligent and advanced nations to take a greater part in the development of population and the world's resources to supply its future prosperity, or there may be no prosperity but only the grinding poverty of Dark Ages;

To direct the attention of humanity toward constructive goals;
To diminish the threat of tyranny, oppression, and persecution.

The list is not complete, nor likely to be accomplished in more than small degree, but the purposes are worth fighting for.

If this nation does not value its honor and decency, nor have sense enough to encourage people of exceptional talent and protect their normal basic rights, she does not deserve to profit from their contributions. If my own talent may be valuable it is no credit to me, for it is a gift of the Heavenly Father. It is not valuable to me, but a serious handicap to happiness, a burden and responsibility. Nevertheless I have worked hard to develop and use my gifts as well as possible for the ultimate benefit of humanity, with faith in the belief that knowledge will benefit humanity. I have not heretofore asked favors for myself, and seek now only what rightly belongs to anyone. If I had not been dishonorably denied what I fairly won, or another chance to earn my education, I would not need to ask it now.

My gifts are not essentially different from those of other creative people, and I have no less right or duty to fight for a chance to use them most effectively. I know there are stacks of articles written to prove that a high I Q is meaningless, and no doubt they are right. Nevertheless I have proved my ability in many instances, so there can be no doubt of exceptional talent, though I do not understand it myself. This situation was well known to the Greeks and Romans and other civilized peoples, was discussed by Rene DesCartes several centuries ago, and has been explored by many philosophers. A genius may not seem especially brilliant in ordinary circumstances, conversation, and small talk; on the contrary he is likely to be dull or shy or ill at ease, or to seem eccentric. I often have not ready answers to many things ordinary students may understand, or feel sure they do, even matters pertaining to simple things in my own field, but often seek the information thoughtfully.

Yet it is unquestionable that I have made many useful discoveries, perhaps partly because of this. I want my new discovery made available for use now because it is timely, it is needed now; it will become obsolete if allowed to die so I do not intend to allow it to die. If America doesn't want it someone else will.

This alternative is the least expensive form of my offer: Simply to ask a reasonable remedy for a few of the injustices most costly to me in terms of my right to pursue my chosen career (in which I have demonstrated ability) with a fair chance of success, and to raise a family. I will name only the minimum necessary of conditions. If they are accepted and met in good faith, with a reasonable wish to be as fair as possible, my discovery will be given to America without charge in any manner or arrangement anyone would suggest. These are the conditions:

1. The State of Colorado must indicate promptly that it will assume full responsibility for the perfidious action of the high school principal who gave my scholarship to someone else, and that it will do everything within its power to make fair and adequate remedy so far as that is possible.

It must award me at once a sum equal to an accepted average value of a college education to a man during his lifetime, which is something like one to two hundred thousand dollars I think. I have seen it quoted as \$151,000 or more according to recent census bureau survey. The average figure must be arrived at as conscientiously as possible and be generally acceptable.

For a scientist who must have a doctor's degree for a useful career its value should be much more than average, yet on the other hand if I had such a degree I might have spent a fair part of my life teaching. To help and to inspire promising people to develop and use their best capabilities is to me an important purpose of living, and it has rewards of its own in creative satisfaction more valuable than money, yet teaching often does not pay very well. However I would have been glad to accept that, so likewise I shall be glad to accept an average figure now.

I clearly demonstrated at Columbia Radiation Lab my willingness to accept a lower pay in order to be of service, for my pay there was below my prewar rate. The spirit in which this request is treated will be more important than the exact amount of itself, and will definitely affect the further terms of my offer.

2. The University of Colorado must award me the degree I would like to have earned. All too keenly indeed I am aware that it is only the learning and earning of it that matters, that a degree not earned is worth nothing at all to anyone, nor will it now buy me a cent more of salary or anything else; but it is now too late to argue or wrangle over that. I will accept neither substitute nor excuse, only the degree I wanted to earn: Doctor of Philosophy in physics, with the honors normally accorded a reasonably fair student. In answer to objections I can only say I am sorry too, but that is the least I can accept. If two wrongs do not make a right, neither does ignoring the wrong make it right, but only a sincere attempt at restitution.

If after awarding the degree the University still insists I should earn it I shall fully agree. I'll start as a freshman at the very beginning and take every blasted course in the curriculum, and the State of Colorado can pay my salary and expenses all the way, however long it takes. This is not unreasonable; many companies now pay salary and expenses for promising scientists to study. Colorado should have protected my rights in the first place. I submit in proof of being a promising scientist, several principal proven accomplishments: I designed the fastest piston-engine airplane ever produced; Proved and tried to call attention to the advantages of tricycle landing gear ten or fifteen years before they were otherwise realized; Discovered the glass-to-metal compression seal; Conceived the only workable independent molecular-beam maser, among about a dozen competing groups.

Honestly now I think I've earned and am entitled to some smattering of recognition, some fair chance to earn a living with reasonable dignity in my chosen profession, most of all a fair chance to raise a family under normal conditions. It seems unjust to have to use up a lifetime earning something to bargain with for these basic rights, or for that matter to have to bargain for them at all.

So far as my present qualifications for this degree are concerned, clearly they are deficient in some aspects of advanced mathematical theoretical physics where they should not be, more specifically in broad acquaintance with and ready facility in the use of mathematical theory. Obviously there are matters I should understand better in the areas to which I have been denied access, for obviously I was not able to study alone the standard curriculum entirely. I use various methods to overcome this handicap so far as possible, and have proved by practical results that my qualifications are stronger in other aspects. I have acquired a rather broad education by both study and experience in many fields, and in open competition demonstrated that my ability is in average equivalent to Ph. D. level. Concessions will have to be made now and this offer serve as my Doctoral Thesis for the time being.

3. The United States must grant me a patent on the glass-to-metal compression seal. No doubt an act of congress would be necessary for this. I want determined or estimated by a reasonable and accepted method a fair value of royalties which should have been earned at nominal rates to the present time, since the time such a patent would normally have been awarded on a wartime discovery. I want one-half this amount as damages for refusing to protect my rights in the discovery, and will then assign the patent to the United States Government or the public domain, as it chooses. The other half of royalties will be my contribution to the public also.

4. I want advice and help from an appropriate government department in the matter of presenting a claim to the German government for the Dornier DO-335 airplane. This was, so far as I can learn, the fastest piston-engine plane ever produced (I think there may have been a faster experimental one which proved to be impractical.) and clearly a copy of my design of January 18, 1937.

I want this claim investigated; I am quite sure my evidence is clear enough that it will be substantiated. Then I wish to present a claim for nominal reasonable compensation to Germany.

As an alternative to the foregoing terms, I will offer my discovery for a cash price of two million dollars, with no other obligations or complications attached. I will guarantee it to be able to perform as promised, to improve the safety, controllability, and efficiency of aircraft greatly, and to be worth much more than its price, both in direct savings of cost to the government and again in tax income to the government, and much more again in the benefit to the aviation industry of this country and eventually the rest of the world too. If it should fail to realize these promised expectations I will refund the price or revise it down to a fair and reasonable value. In such a case, if this offer is more to be preferred than the previous one, I will accept one-half the price in advance and the balance over a period of several years, as the discovery is tested in use.

If either alternative is accepted in good faith I will continue experimental research on the discovery and make developments available, and will advise in its applications at all times, without charge. I will also offer preferentially to this country any future discoveries in other fields. I believe the ideas that I am exploring in the field of rocket propulsion look very promising indeed and may have a very important influence on the future of space travel. I wish to pursue them further as soon as possible. If they prove as promising as they seem I'll make them available on very nominal terms, for I want only moderate necessities for myself in any case.

In summary, the former alternative will cost only ten to twenty percent of the latter, but it requires the United States to assume some responsibility for and try to rectify acts of interference and neglect of my rights, and to take some steps to protect the rights of others in the future, and to provide at least some partial reward for those who make valuable contributions to society. I think it will be more beneficial to the nation and the world in the long run.

The latter alternative is based solely on a free-enterprise philosophy, offering the discovery at a very reasonable price too, but even at that I do not intend to use the compensation for my own exclusive benefit. When I am satisfied that it is well-earned I expect to use some of it to prevent some of the same kind of misfortunes that have befallen me, to see that some exceptionally promising people who have otherwise missed their chances are given an opportunity to make their contributions. Perhaps also I would be able to make some partial rewards to others who have already contributed valuable things. I know that my own greatest wish is to contribute usefully to the future benefit of all people.

I should like to make my natural personal feelings about my country perfectly clear. I would like to have no question of them. I would prefer to live and work in my own country, for the reasons I previously stated, and because the surroundings are familiar I can work efficiently. Also I have friends here; at least I had friends. One who fights for his rights soon loses most of them. Above all I would prefer to make my contributions to my own country. I resent having been forced into the position that I may have to turn elsewhere, but I don't intend to be further cheated by it. It is enough that I have been robbed of the only thing I really want.

America has long played the role of the magnanimous profligate, generous and hospitable to all other people while neglecting and cheating her own. Yes of course I am sympathetic to other people, but it is far past time that justice and opportunity be given to her own too. Most of those who come from abroad and seek it are given every aid possible, which is as it should be, but natives are scorned as unworthy. Each attempt of mine to secure the education I need by any means I can afford has been thwarted. Am I to be blamed for my bitterness?

Despite America's blind thoughtlessness most of its people really wish it to be a free and humane and just nation, with fair and equal opportunity for all its people in actual fact. This might be nearer the true situation if it were not for the greatly increased extension of government interference into every inconsequential phase of human activity; not for humane purposes, which would be commendable, but primarily to increase the power and size of governments to the point of oppressive tyranny. It becomes a capricious racket, catering to the influential or power politician or pressure group, operating irresponsibly as expedient to create a propaganda image, not striving to protect its citizens and promote their welfare, but crushing them.

The world has seen the last of bloodthirsty despots of the sort of Hitler, Stalin, Tamerlane, for they will soon now no longer be able to exist in safety. Any intelligent person will have available very powerful weapons, and there is no way to prevent this. I suspect that Communist nations have already recognized it and come to realize the only hope for the future lies in trying to provide a free and fair government which no one will have sufficient cause to destroy. There is evidence that they are moving in that direction.

Meanwhile America seems quite determined, subconsciously I'm sure, to invent an adequate substitute for these ironclad tyrannies -- an interlocking network of petty tyrannies, irresponsible to any curb of power, mutually sustained and supported by each other, permeating and regulating every phase of human activity as portrayed in George Orwell's 1984, requiring permits and fees for each detailed action, denying by whim benefits and rights for any excuse or none, especially to those not having proper connections or education or color or age or what-not. Yet there may be no recourse for a dishonorable act of some petty official, no willingness to accept responsibility for it, no matter how much damage may result.

Here is another example: Some years ago, learning of the desperate need for them, I made some neutron counters for Columbia University without charge, which I was most happy to do of course. I had made the first ones about 1943 as you probably remember, and at this time --1948 -- I wished to secure some business in this line. The AEC was in need of a source of supply, so I set up manufacturing facilities at my expense and spent much time and effort trying to sell counters to them. Several professors at Columbia recommended to the AEC to consider my facilities, which they promised to do but did not. There was at that time a regulation of the Senate Small Business Committee requiring that small companies be given contracts for items of this nature which were in limited demand. After about two years of my persistent efforts apparently the AEC became annoyed at my continued persistence, called me in for an interview and told me I would never get any business in this line because it had been given to one of the largest corporations in the nation. I asked how this could be reconciled with the Small Business Regulation, and was told that the AEC had given the corporation \$12,000 to set up a separate division to circumvent that requirement. I was forced to go out of business at great loss.

Now I should normally prefer to offer my services to some Federal Government agencies where they would be most valuable, but my responsibility of position and hence opportunity to render any service of value would be determined almost solely by my college training. This is true of many large companies as well, who will not even talk to one without first knowing one's college record. My pioneering work and the value of my discoveries means nothing to them. The fact that I have been unfairly denied access to college is no concern of theirs, so thus the responsibility is escaped by everyone.

Since I have been forced by circumstances to work for many private employers I observe strictly the ethical responsibility of protecting each one's proprietary information, and that of the nation as well. If I should find it necessary to offer my discoveries to some other country you may be quite sure it will be only my own property, my own discoveries, and nothing which belongs to the United States, that I will offer.

In summary then, I have a discovery that will be very valuable to America. I want to trade it for a fair chance to raise a family, or the means to make that possible. This is something no person should have to bargain for, but because intelligent American women seem to have no courage, I have been cheated of it, and the chance to be of maximum service to my country also.

Sincerely yours,

Herrie Alger

September 1962

Postscript

In looking back over this letter it appears to me that perhaps I have failed to make an adequately strong clear case to explain why I feel bitterly toward my country. I had been reluctant to drag out all my misfortunes,, for obviously most such matters should be ignored, marked off to the vicissitudes of life, and not made issue of. To be aggressive or self-seeking is not the habit of intelligent persons, who are often handicapped by a gentle nature and unwilling to fight for necessary rights. Unfortunately there is not even a clear definitive criterion of useful intelligence, except ability or achievement, but certainly not wealth or fame or brilliant wit or arrogance.

Yet I must make my reasons clear or it seems I could not justify my rancor, so I will give here another typical example to illustrate my position: Several years ago I designed for a tube manufacturing firm a plant and system for production of a complicated radar display tube used in the SAGE defense network. My system was simple and quite original in many aspects, and clearly quite ingeniously much more efficient than any conventional facility for this purpose. I have since kept in touch with the history of this plant through friends and verified its outstanding performance. Now one would expect any decent firm to be grateful for such a plant and to honor its designer. Indeed it had been agreed beforehand that I would be production supervisor of it. However as soon as all details of design, operating procedures, and specifications were clear and well completed the firm dismissed me without notice or explanation and spread false malicious stories to employment agencies and other firms. Though I spent considerable time and effort to track down the nature of this slander I was not able to do so. One agency urged me to sue the firm for slander, but even that agency refused to disclose the nature of it, on grounds that they could not afford to become involved, so I could do nothing.

Has the Rat Race only produced a Race of Rats whose reward to a benefactor is treachery? Do you expect me to condone such practice? Obviously the firm relied on the fact that I had no degree and was used to seeking no fame or credit for my achievements, to make use of these tactics. It is now very distasteful to have to waste energy demanding recognition, and to be placed in a position that this is necessary. I want only to work efficiently and anticipate the conquest of future challenges using talents of demonstrated proficiency, which seem to be, perhaps with some gift of serendipity, an ability to originate developments of primarily practical value. They may be partly limited to this scope because I've been denied the education needed for more sophisticated theoretical work. Yet even despite this handicap I have clearly demonstrated in competitive research efforts an ability on par with that of the most intelligent and skillful of scientists. This discovery I now offer is a good example of it. It could have been made by any of a number of renowned theoretical scientists, or certainly experimental physicists, but it wasn't.

It is also very distasteful and somewhat more than shameful that a human should find it necessary to bargain for a fair chance to raise a family, and certainly it is all wrong, inappropriate, complicated and difficult for me to have to do so at this time of my life. I have tried vainly to solve this situation otherwise, but to make an issue of it now is apparently the only way because of my country's shameful treatment, as I have tried to make adequately clear. No doubt this will seem a strange way to seek to raise a family, but it has all the elements of a completely self-justifying test: If an intelligent young woman can be found who wants my children enough to let nothing stand in the way, and I can have the cooperation of my country in protecting their rights and needs, I shall gladly give this contribution freely or in whatever manner will serve it best. This is all I want, and what I should like.

Naturally I should be inclined to seek an intelligent woman with whom I would have tastes, mostly classic tastes, in common; but intelligent American women demand men of formal education able to provide security to raise a family, or else they subscribe to the sophisticated doctrine that child-raising is for peasants who don't know any better. Perhaps it is a mistake to seek an intelligent woman, yet it seems to me that a civilization should surely have room for and be hospitable to intelligent people, men and women and their children, or else what good is it? What hope for the future can it offer? Only a haven for morons? I have seen this heartless witless civilization crush out the lives and spirits of intelligent sensitive friends, and I will neither condone it nor yield to it, though it is difficult to fight.

I shall offer my discovery, the subject of my letter, in return for the chance and the means to raise a family. How practical or mercenary is it necessary to be in such bargaining? Must I then conceive a new discovery for each child? How can I promise that? But this is all I want in return, a fair chance for children, mine and others too. Now that for the first time in history some of mankind may almost approach the edge of knowledge enough to maintain a growing peaceful prosperous civilization, if I can help gain it by adding my bit of weight to the precarious balance I want a fair chance for children of mine to share in it. Excuses don't count, though I would have certainly accepted legitimate natural causes which no one could help.

Of course if one has to live as a savage I am well equipped to do that too, with adequate weapons capable of automatic retaliation if necessary, and discoveries of some slight military value especially to a small nation, which I would prefer to destroy and forget. They would not be of much importance to our great arrogant sophisticated nation with nuclear bombs enough to blow the whole world to hell. Besides our "Visit to a Small Planet" military types would not welcome contributions from Americans anyway, as the former General Medaris has made clear in a touching expression of non-confidence in American ability. He assured us that America would win the space race because "we have better German scientists than the Russians. They got the technicians but we got the professionals." (Popular Mechanics, Oct. 1961) Was Dr. Robert Goddard a German scientist? But only Germany had sense enough to listen to him.

No doubt the General's attitude is justified, for America seems determined to stifle any native who shows promise, to deny him the education and opportunity to develop whatever talent he may have. Then finally even if he should succeed in developing useful contributions despite all these handicaps, as Dr. Goddard and others and I have, they would be scorned and rejected until adopted or approved by Germans, and even then the development credited to them, with the role of their American originator minimized. Our real trouble seems to be that we no longer have a strong independent Germany to recognize and adopt our good conceptions, nor sense enough to recognize them ourselves.

Since writing the foregoing letter I have been able to further explore and largely confirm my ideas concerning promising high-energy rocket fuels, and devise a system for management of the most energetic one. Some of the other concepts will require extensive development and testing, and may not be of much help just yet to the immediate future of rocket propulsion. However I shall offer them also for future use.

I did not send this letter at the time I wrote it for I am sure my requests will be thought unreasonable, though how anything can be more unreasonable than the ruthless destruction of my rights is hard to imagine. I am reluctant to have to set such an example as to make an issue of this, on one hand, but on the other, it is long past time that this dishonorable conduct of our society be made issue of and corrected. I haven't asked for special treatment; just fair, honest, honorable treatment. Now I have to demand remedies and rights, and to bargain for them with gifts I should prefer to give freely.

To sum up the burden of my argument, I would think it most sensible and profitable to develop and make the greatest possible use of the talents of those, especially our own, who show promise of creative intelligence, and to provide an hospitable environment in which they can work and achieve their aims. It seems at least very wasteful, neurotic, and childish to devote all possible efforts instead to stifling them and beating them down, and trying to prove that evidence of promise is meaningless.

What is now left of this once-promising intelligence of mine? Can it still produce valuable contributions? Perhaps only if you have some faith in it. Obviously it is not omniscient; none ever is. It is inadequately educated; self education may be poor education at best, though it fosters originality. What might it have been with better education? I don't know either. At any rate it was scorned and crushed by people without sense of honor or justice, nor sense enough to value it. Perhaps that could be expected of a nation who would bomb The Last Supper and Teatro alla Scala. Vandals despise and destroy what they cannot create. Creative intelligence can be destroyed too, or crushed and diverted from constructive service. Now I have one very valuable discovery, and several others also, able to contribute to a nation's prosperity. I do not intend they shall be lost to all humanity. I shall make this one desperate offer to my own nation first. If it is rejected I shall offer it to some other, preferably to one who would respect and encourage my wish to raise a family, as every major effort and sacrifice I ever made has been devoted to that aim. Of course if American women had any honor and faith and courage that would have been done long ago.

No doubt I should make it clear why I consider American women cowardly. This is why: Some time after I lost the girl I was first in love with, I met another young lady with whom I fell in love. We planned to be married soon after she finished college, for she wanted to raise a family too, but she finally yielded to her father's urging to marry someone able to offer more security to raise a family. Years later I learned from a mutual friend that she wished she had not done so, but by then she had several children, five or six I believe. Now it happens that I too want six children, or several.

There may be a nation who would recognize and welcome an intelligent person, encourage his development, value and utilize his talents, reward reasonably and be grateful for his contributions, respect and protect his own wishes and aspirations and rights. If so I still have hope for the future of humanity and want children of mine to share in it. I am in no wise yet thoroughly convinced that America is such a nation, that Americans are fitted to become the Herrenvolk of humanity, that a world dominated by an arrogant America will be eventually much happier than one dominated by an arrogant Germany or Russia or any other nation, but in offering this discovery of mine I shall mark the nature of her response as a test.

I've earned the right to raise a family. I've earned every right and everything I've gained almost ever since I was nine. At that age I worked on a slave farm, an orphanage where children were worked under whips twelve hours a day in the fields. Our depraved guardians constantly reminded us that they would prefer "niggers" who could pick more cotton but wouldn't eat any more than we did. I being the youngest of the boys, and several others slower ones, were whipped two hundred lashes almost every evening, especially during the cotton-picking season, for failing to keep up with faster and older ones. Yes, it happened in America in the twentieth century, at the Baptist orphanage in Kinston and Thomasville, N. C. I envied Oliver Twist; at his orphanage children were not worked under whips as slaves, and he dared ask for more food. We didn't.

I've never objected to earning what I've gotten, even as a child. Though I do object very seriously to being cheated of what I've earned. That is why now that I have a discovery of great value -- that will save thousands of lives over the years and provide a great industry-- I must offer it in trade for the only thing of great value to me: Full effective sympathetic cooperation in raising a family of my children in the security normally expected by any intelligent person in a civilized nation. I'm sorry it has to be bargained for and bought this way, but it seems the only way now. I am not otherwise concerned about specific terms or prices of my offer. Most of them are negotiable. However I will tolerate absolutely no threat or hint of force or any coercion from any agency whatever. I may prefer not to use weapons, for hate unloosed will destroy humanity in a generation or two, but I will not hesitate to use powerful effective ones against a threat.

When mankind has laid aside its weapons, or at least has learned to manage them wisely and humanely, never using them to enforce oppression or tyranny or gross injustice, you may be sure I will do likewise. In actual practice it turns out that I do not need to bother to use violent and powerful weapons at all, though I make it clear that I have very adequate ones ready for any eventuality. My most effective weapons in destructive potential are not weapons in the physical sense, but only in the use I choose to make of them. It is perfectly fair and just that I should value the lives of others exactly as much as they value the lives of my children, their chances to live. If they want my discovery to benefit their lives, I have a right to expect full willing sympathetic cooperation from all decent civilized people.

Naturally it came as a shock to me long ago to learn at the same time that I had scored the highest Intelligence Quotient ever recorded -- that is what they told me -- and that the scholarship I desperately needed and had won with that score would be given to the son of a rich man who did not need it but "deserved it because his father pays a lot of taxes in this town." When the University of Colorado and every other college I tried refused me, and the girl I wanted married someone else because of it, that did not make matters any easier. That simply made it quite clear to me that my rights were only those I could bargain for and enforce, and now I have the means to do this.

I purposely refused to find out what the score was for I did not wish to trade upon it. I have never attached importance to past achievements, but have been willing to let the value of my work stand squarely on its own merit at all times in each case, though there is no one on earth able to be always a fair judge. Yet I would not have needed security beyond a faith in my own ability and the good sense of enough people to judge my work reasonably fairly on its merit. The number of such people and especially of organizations willing to hire a scientist without a degree is rapidly diminishing now, so there is no longer enough security for raising a family at my age. For this reason, though I would prefer to give my contribution freely, I must require a price in money for this discovery of mine, enough for adequate security for my children, and to attract a young woman from this or some other country.

Harris

June 1963

POSTSCRIPT

I have so long delayed making this offer in order to help a friend. I have used the intervening time to investigate the application of my discovery in practice, and also to weigh deliberately the question of whether to make the offer at all.

The only thing I could really want in exchange for my discovery, the only thing of any great value to me, is a fair chance to raise a family under normal conditions. That chance was destroyed by the dishonorable action of the principal, K. L. Sanbern, or the subsequent lack of ordinary human decency of many colleges who might have valued my intelligence and given me a chance to earn an education, and the cowardice of American women. I realize it is rather hopeless now at my age, and not a matter which can or should need to be bargained for at all. Yet since it is all I want, and since every major effort and sacrifice I ever made has been devoted to that aim, I have a right and duty to continue to fight for it. I am thus disposed to accept any reasonable offer which may yet be likely to help accomplish it, and I am willing to consider that some of my other demands are at least subject to negotiation.

If I should be criticized for using a discovery able to save lives to bargain with, I can only explain that I have exactly as much regard for the lives of others as they have for the lives of my children. That is fair enough. When nations and people learn to value and encourage the rights and aspirations of others the prospects for the future will be much better in many ways. My own previous experience indicates I would get neither thanks nor recognition for the discovery otherwise, nor would it benefit people of good will or be well utilized.

As for the future, I believe Leo Szilard thinks humanity has not much time left, may not survive a half dozen years or so longer, and even the President expresses similar apprehensions. This is a serious matter, not to be dismissed lightly. I am sure there are good grounds for pessimism for there are ominous signs enough, though obviously I could not agree with them or I should want no children of mine. At the most pessimistic I should grant perhaps a generation or two, without some great improvement in humanity's sense of values and maturity. I think even that may be possible; there are some signs of it too. The possibility of a great abundant future is worth fighting for and working for. I expect I can estimate from the nature of the response to this offer of mine whether it would be wise to gamble on that.

So I shall let my original intention stand. I will make my offer now first to America, once only, and subject to prompt acceptance.

Harris Alger

Ferris E. Alger

125 Cedar Street, New York City 7 BARCLAY 7-5816

EXPERIMENTAL PHYSICS RESEARCH

In some areas of High Vacuum - Cryogenics
Molecular Beam Masers - Glass
Aerodynamics - Nuclear Physics

Personal Data

White, Male, Age 49, 160 lbs, 5 ft 10 in. Native US citizen.

Classification

Experimental physicist of repeatedly-proved original creative capability, with 30 years experience in fundamental research, development, engineering, and production.

Fields

High vacuum and very high vacuum, vacuum tubes, vacuum and hydrogen furnaces, molecular beams; thin films; cryogenics; glass and ceramic seals; aerodynamics; physical chemistry; nuclear physics.

Member of Societies

American Physical Society, American Ceramic Society, American Ordnance Association, American Vacuum Society.

Principal Achievements

- 1956- Conceived and designed sealed maser, ammonia beam type, the only independent NH_3 maser suitable for airborne and space navigation, developed in competition with many leading scientific teams working on this problem. (see MASERS by J. R. Singer, also U. S. Patent 2,972,697)
- 1948- Suggested improvement in BF_3 neutron counters, use of boron carbide coating, soon adopted. (See Glasstone, Sourcebook on Atomic Energy)
- 1943 Discovered principle of glass-to-metal compression seal, now the basis of sizable industry.
- 1937 Designed airplane which was copied and used by Germany (unknown to me until recently) as fastest propeller plane of World War II. (See Rolfe & Dawidow, Airplanes of World War II)

Positions

- 1956- Polytechnic Research & Development Co. Brooklyn.
- 1962 Maser development; Cryogenic research; Thin film research.
- 1953- Consulting, mostly cathode-ray tube production, design of plant and processes for production of complicated SAGE tube.
- 1950- Research at Freed Radio Corp. New York City, on dark-trace phosphor tubes (skiatrons). ^{originated} Designed cryogenic optical baffle type vacuum trap.
- 1948- National Union Radio Corp. Orange, N. J. Research in vacuum tubes, computer memory, radial beam, frequency detector, transit-time mass spectrometers.
- 1945- Consulting and own business, neutron counters, discharge tubes, cold cathode lighting and irradiation equipment, bolometers, electronic flash equipment.
- 1942- Columbia University Radiation Lab. New York City. Research on K-band magnetrons.
- 1944 Glass, high vacuum, hydrogen furnace, mass spectrometers.

6 June 1963

To Whom It May Concern:

Mr. Ferris Alger has been with our Company for nearly a year. He was in charge of vacuum systems department and, at the same time, contributed substantially in the construction of laboratory glass apparatus. We were extremely pleased with his excellent performance. He was responsible for the planning, assembly, and fabrication of a variety of low-pressure vacuum systems, as well as the fabrication of intricate glass systems. We were extremely pleased with the performance of the equipment made with his help.

Due to a change in our area of technical interest, we are forced to terminate his employment. I will have no hesitation to recommend Mr. Alger for a responsible position in an area within his qualifications and will definitely consider him eligible for re-hire should a need for this arise in the future.

Reg. H. J.

Dr. [REDACTED] Manager
Space Instrumentation Department

6/25-

Ferris E. Alger

125 Cedar Street, New York City 7

EXPERIMENTAL PHYSICS RESEARCH

In some areas of High Vacuum - Cryogenics
Molecular Beam Masers - Glass
Aerodynamics - Nuclear Physics

15 June, 1963

Dr. Leo Szilard
Hotel duPont Plaza
Washington 6, D. C.

Dear Dr. Szilard:

I have recently made a discovery of a useful principle which will be very valuable to the development of air transportation and the aviation industry. I should like to offer it preferably to the government of this country, for it is of sufficiently broad and general value that it should not be the exclusive property of one company.

This is what it will do:

1. It will greatly increase the controllability and safety of aircraft, thus saving many lives lost in aircraft accidents.
2. It will greatly increase the performance and efficiency of aircraft also, thus making air transport less expensive and much more widely useful and practical.
3. It should save the government itself a great deal of money in air transportation costs, passenger and cargo, civil and military.
4. It should serve as foundation for augmented aircraft manufacturing and air transport industry, thus contributing both to national economy and tax revenues.

I have tested the discovery and will guarantee it capable of the performance claimed. It is my own discovery exclusively, conceived by myself alone, worked out and tested entirely by me solely at my expense on my own initiative.

Further information concerning my offer is included herewith in the form of a letter initially addressed to Dr. Polykarp Kusch, Chairman of the Physics Department of Columbia University, outlining the terms and conditions of my offer. I have chosen to address the letter to Dr. Kusch because he was for two years my immediate superior at Columbia Radiation Laboratory, and is thus familiar with my work and abilities, and because he is well known in the scientific field. Copies of the letter will be sent to others who may be able to recommend action leading to acceptance of my offer.

Very truly yours,

Ferris E. Alger
Ferris E. Alger



Specifications in design according to construction on the 262 would have reached the Allied Air Force



GERMANY'S "ARROW"

GERMANY'S "ARROW" is the most advanced fighter yet developed. It is a jet-propelled aircraft with a top speed of 550 m.p.h. and a range of 1,500 miles. It is the only aircraft in the world capable of flying at a speed of 550 m.p.h. and a range of 1,500 miles. It is the only aircraft in the world capable of flying at a speed of 550 m.p.h. and a range of 1,500 miles.

IN 262A-1 PRESS SPECIFICATION

262A-1 PRESS SPECIFICATION
 1. Maximum speed: 550 m.p.h.
 2. Range: 1,500 miles
 3. Altitude: 50,000 feet
 4. Climb rate: 10,000 feet per minute
 5. Service ceiling: 50,000 feet
 6. Fuel capacity: 1,000 gallons
 7. Weight: 10,000 lbs.
 8. Length: 30 feet
 9. Wingspan: 35 feet
 10. Height: 10 feet

DIGEST

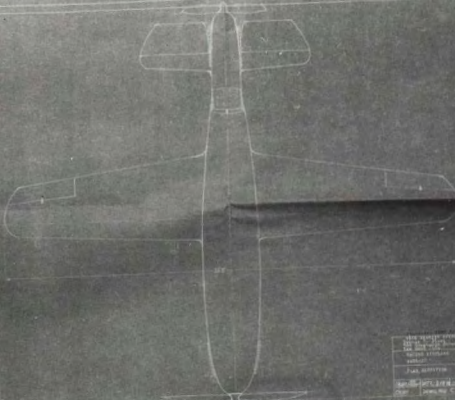
CORRESPONDENCE
 CONCERNING RACE
 RULES FOR LINDBERGH
 DECENNIAL AIR RACE
 NEW YORK TO PARIS - 1937

Magazine Article in Jan. 1961
 RAF Flying Review

Describing German W.W.II
 Fighter, obviously
 Copied from AMR6-2C
 "Fastest Propeller Plane of W.W. II"
 says Rafe & Davidson, Airplanes of 1940

2-MOTORED RACE
 AIRPLANE AMR6-2C
 ORIGINAL DESIGN OF
 FERRIS EALGER JAN 18 1937

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 JAN 18 1937
 FEDERAL BUREAU OF INVESTIGATION
 U.S. DEPARTMENT OF JUSTICE



THE UNITED STATES OF AMERICA
 OFFICE OF THE SECRETARY OF WAR
 DEPARTMENT OF WAR
 WASHINGTON, D. C.

3864
 UNITED STATES DEPARTMENT OF COMMERCE
 BUREAU OF PATENT AND TRADEMARKS
 WASHINGTON, D. C.

85 Central Street
 Haverhill, Mass.
 March 8, 1937

LETTER OF
 REGISTRATION
 OF COPYRIGHT
 MARCH 8 1937

ORIGINAL DESIGN
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 SPECIFICATIONS AND
 PERFORMANCE ESTIMATES
 DESIGNED FOR LINDBERGH
 DECENNIAL AIR RACE, PROMISED
 NEW YORK TO PARIS, 1937
 DESIGN DATA COPYRIGHT 1937 EGA

United States Copyright Office
 Library of Congress
 Washington, D. C.
 Designer:

ST
No. 1000
1937

de la République Française
Lettre n° 100000
Paris le 10 Mars 1937

RESPONDANCE
LERNING RACE
ES FOR LINDBERGH
ENNIAL AIR RACE
ON TO PARIS - 1937

NEW YORK 8, 1937
100000 (1/2)

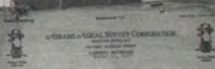
Mr. Strelly
Hyde Park Hotel
Chicago
Box 2523
New York, N.Y.

Box 2523
Aero Digest
515 Madison
New York, N.Y.

NEW YORK 8, 1937

Please to get in the race with a SEBAST
A-1000 Van, A new model 307 in his line. Painted
Coke Red in color with black and white stripes. Power
on top of the gear after they are in a special
engine. Coupled with a single SE 1750 SAUER
SOA 100 HP. For Power. For the engine
the color of the car.

I still had the new SE Whisp and an TRV
SOA 100 HP. If I succeed I would be able to fly
alone into your proposition. I would like
to fly in the race. Let me know if
you are interested in my engine and
I will be glad to send you the details.
I am interested in my engine and
I will be glad to send you the details.
I am interested in my engine and
I will be glad to send you the details.



AERO-GENERAL SUPPLY CORPORATION
100000 (1/2)

Mr. Strelly
Hyde Park Hotel
Chicago
Box 2523
New York, N.Y.

Dear Sir:

We have your letter dated the 10th of March 1937 and in reply to inform you that we are very glad to hear of your interest in the 1937 Lindbergh Race. We are sure that you will find our service very satisfactory and we are sure that you will find our service very satisfactory and we are sure that you will find our service very satisfactory.

Very truly yours,
E. Strelly

March 10, 1937

WHITE EAGLE
AERO ASSOCIATES
INCORPORATED

Mr. Strelly, also
to custom order,
Chicago, Illinois.

Dear Mr. Strelly:

Your letter of March 10, together with the drawings and specifications, I am sure you will find most satisfactory. We are sure that you will find our service very satisfactory and we are sure that you will find our service very satisfactory.

Very truly yours,
E. Strelly

CORRESPONDENCE
WITH INTERESTED
PROSPECTIVE BACKERS

ORIGINAL DESIGN
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DESIGNED FOR LINDBERGH
ANNUAL AIR RACE, PROMOSION
NEW YORK TO PARIS, 1937

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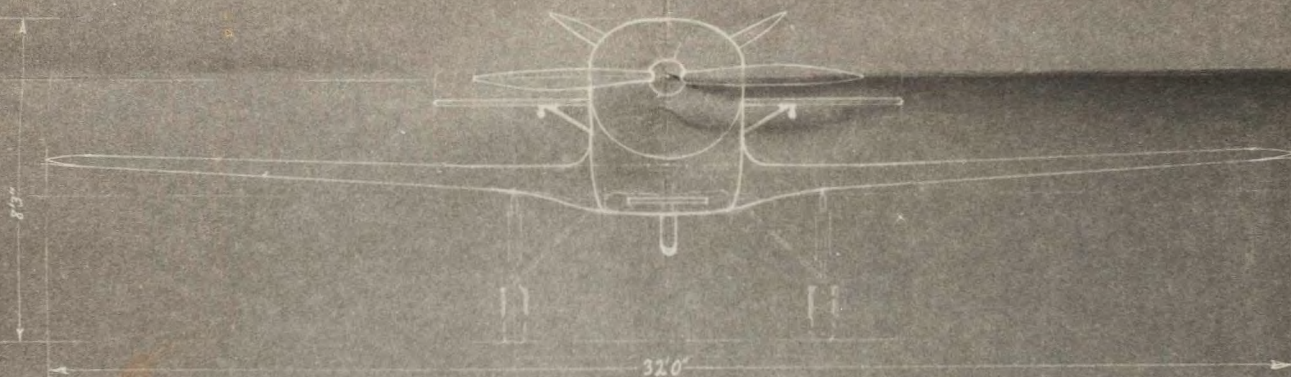
168

Ferris Alger, left.

Supervising assembly of Vacuum Space
Environment System of my design.

ORIGINAL DESIGN
BLUEPRINTS AND
SPECIFICATIONS AND
PERFORMANCE ESTIMATES

DESIGNED FOR LINDBERGH
DECENNIAL AIR RACE, PROPOSED
NEW YORK TO PARIS, 1937
DESIGN DATA COPYRIGHT 1937 FEA.



COPYRIGHT 1937 BY F. A. FEA.	
THIS DRAWING PROPERTY OF F. A. FEA. 1120 100 W. 42ND ST. NEW YORK 36, N.Y.	
RACING AIRPLANE	
AMRB-2C	
FRONT ELEVATION	
DATE: 1-17-37	SCALE: 1/8" = 1'-0"
DRW:	DRWG. NO. C-61-02

Address all correspondence direct to the Corporation

AERO DIGEST

Published monthly by
THE AERONAUTICAL DIGEST PUBLISHING CORPORATION
200 West 42nd Street, New York 36, N.Y.
515 MADISON AVENUE - NEW YORK, N.Y.

January Fifth
1937

Harrie E. Alger
80 Central St.
Worcester, Mass.

Dear Sir:

The New York-Paris Race is sponsored by the French Air Ministry, Paris. You may communicate with them for any blanks and may inform them you desire.

CORRESPONDENCE
CONCERNING RACE
RULES FOR LINDBERGH
DECENNIAL AIR RACE
NEW YORK TO PARIS-1937

ORIGINAL DESIGN
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DESIGNED FOR LINDBERGH
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DATE CHECKED	1937
DATE APPROVED	1937
DRAWING NUMBER	ENG-80
BY	REYNOLDS
CHECKED BY	REYNOLDS
APPROVED BY	REYNOLDS
DESIGNED BY	REYNOLDS
SCALE	1/10"
REF.	REYNOLDS C-61-03

WRIGHT AERONAUTICAL CORPORATION
PATENTON, N. J.
U. S. A.

February 23, 1937

Mr. T. W. Alford,
30 Central Street,
Bangor, Maine.

Dear Mr. Alford:

In accordance with your request herein we
have prepared a copy of the drawings covering the
engine information for the proposed airplane design
covering the proposed airplane design for the year 1937.
These drawings will cover the engine.

ENGINE
INFORMATION
←

June 25, 1963

Ferris E. Alger
125 Cedar Street
New York 7, N.Y.

Dear Dr. Alger:

Your very interesting letter of June 15th to Dr. Szilard and a copy of your letter to Dr. Kusch arrived after Dr. Szilard left for Geneva, Switzerland.

Dr. Szilard plans to be in Geneva for the next month or two. I am sure though that he will be writing to you upon his return.

Sincerely,

Kay M. Shannon
Secretary to Dr. Szilard

Ministère de l'Air

République Française

Cabinet du Ministre

Section de la Presse et
de l'Expansion Aériennes

R-49577

Paris le 1 MARS 1937

OBJET :
Epreuve NEW YORK-PARIS
Renseignements

Monsieur,

En réponse à votre lettre du 12 Février 1937, j'ai
l'honneur de vous faire connaître que la National Aeronautic
Association est qualifiée aux Etats-Unis
pour la diffusion des renseignements concernant l'épreuve
aérienne NEW YORK - PARIS.

Je ne puis donc que vous engager à vous adresser
à cet organisme.

Par ailleurs, vous me demandez si la clause spé-
cifiant l'utilisation des multimateurs peut être changée.
J'ai le regret de vous faire savoir qu'il est impossible,
pour des raisons que vous comprendrez aisément, de modifier
cet article du règlement.

Veillez agréer, Monsieur, l'assurance de ma con-
sideration distinguée. Le Colonel

Chef de la Section de Presse
et de l'Expansion Aériennes

Monsieur HENRI H. ALGER
80 Central Street
Bangor - Maine (U.S.A.)

CORRESPONDENCE
CONCERNING RACE
RULES FOR LINDBERGH
DECENNIAL AIR RACE
NEW YORK TO PARIS - 1937

T. Henry Hauser
Linden, New Jersey

80 Central Street
Bangor, Maine

March 22, 1937

Dear Mr. Hauser:

I have made some revisions in the design for the AM86
and am sending you prints of the 2-views.

I have decided to use a Clark Y section tapering in plan
to near the root, then in section also to Y-15 and Y-13. The wing
spars are solid rectangular sections, to facilitate analysis,
laminated vertically, straight and continuous from tip to tip.
The wings are covered with plywood. Fowler flap supports are
designed to transmit only bending to spars.

By simplifying analyses throughout I feel that I'll be able
to complete the entire job in six or eight weeks, the wing analysis
in three or four, so that construction can be finished in time.

I've moved the wing a little farther forward, and the
tail goes farther out of range of engine vibration, farther forward
out of range of possible propeller beating. The tail has sufficient
area to exert about 50% excess down moment at lowest stalling
speed as the wing is now placed.

The landing gear is placed farther forward. The cowling
is cleaner, as when the first drawings were made I did not yet
have the Conqueror installation drawings.

I have written C. E. Sabb and Visalort for motor and

CORRESPONDENCE
WITH INTERESTED
PROSPECTIVE BACKERS

REVISED 1937 P. E. A.

DESIGNED BY PROJECT OF

2000 3-11-37

AS BUILT - PRICE

AS BUILT - PRICE

RACING AIRPLANE

AM86-2C

PLAN ELEVATION

DRAWN BY DATE: 1/18/37 SCALE: 1/4" = 1'-0"
CHECKED BY: DRWG. NO. C-61-01

80 Central Street
Bangor, Maine

March 9, 1937

United States Copyright Office
Library of Congress
Washington, D. C.

Gentlemen;

I should like to enter application for copyright of
the enclosed (Classification (1) DRAWINGS OF A SCIENTIFIC
OR TECHNICAL NATURE with their accompanying specifications.

I am enclosing a fee of one dollar.

These drawings were not completed and assembled in
their present form until February 26th, although work was begun on
the drawings January 19th, which date they bear.

LETTER OF
REGISTRATION
OF COPYRIGHT
MARCH 8 1937

ORIGINAL DESIGN
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SPECIFICATIONS AND
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RECEIPT FOR
REGISTERED
LETTER

POSTAGE 9064
POSTMARK OF
BANGOR
MAINE
MARCH 10 1937
MAILING OFFICE

Ferris E. Alger

125 Cedar Street, New York City 7

EXPERIMENTAL PHYSICS RESEARCH
In some areas of High Vacuum - Cryogenics
Molecular Beam Masers - Glass
Aerodynamics - Nuclear Physics

Dr. Leo Szilard
Hotel DuPont Plaza
Washington 6, D. C.

19 August, 1963

Dear Prof. Szilard:

I do not know if you have replied to my letter or tried to reach me, for I find that some of my mail has been intercepted. I wonder if I should accept the obvious implication that there is no despicable means to which the government will not stoop to stifle criticism, avoid embarrassment from my discovery which could have been made by NACA but wasn't, or escape responsibility for the dishonorable actions? At any rate if America hopes to benefit first from my discovery, this above all is not the way to do so.

Of course I chose to word my offer in such a manner as to challenge the nation's sense of honor and generosity and human concern and faith in intelligence, for I think these very feelings provide the best criteria of the prospects for humanity's continued survival and prosperity, and thus would indicate whether the prospects were good for future generations.

The earth alone of all our planets possesses abundant wealth, food capacity, the magic water, and sources of energy to provide a great prosperity for a tenfold or more increased population for some billions of years. How unthinkably stupid that people should risk the destruction of this possibility, especially on the threshold of a new era. Yet from present indications one would be inclined to predict that humans will destroy themselves long before such a level can be reached. Certainly the increased population will not be without many and serious problems. The most pressing requirement is for a better utilization of intelligence in anticipating and solving them, and for concern and care for all humans. Lack of the latter will soon decay to lack of concern for any humans and human values, and then the destruction of all of them.

This is the burden and purpose of my message. It had been my hope that America or some nation would wish to sponsor the use and distribution of my discovery to realize its potential capabilities as fully as possible. However if America does wish to accept the offer, or negotiate for it for my terms were not meant to be rigid, the response must now be very prompt indeed.

Very truly yours,

Ferris E. Alger
Ferris E. Alger