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COPY

Serial 0949

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MEMORANDUM FOR THE SECRETARY OF THE ARMY

SUBJECT H R 1152 83rd Congress 1st Session

1 Reference is made to the bill H R 1152 83rd Congress 1st Session For the Relief of William F Friedman concerning which I have previously expressed my views at the request of your Department

2 Mr Friedman has now requested me to forward through channels a letter which he has written to the Honorable Chauncey W Reed Chairman of the House Committee on the Judiciary setting forth arguments in support of the full amount of the award sought in H R 1152 Mr Friedman s letter is classified as CONFIDENTIAL - SECURITY INFORMATION which I believe to be the proper classification I also believe that the statement in paragraph 8a(1)(b) of Mr Friedman s letter is accurate according to the best available information However I have not undertaken in any way to examine the validity of Mr Friedman s arguments

3 I have considered carefully the question of forwarding Mr Friedman s letter to the House Committee on the Judiciary and believe that there are two aspects to the problem which involve important matters of policy namely (1) the desirability of releasing classified information to Congress in support of a private bill and (2) whether the release of this information would require the prior security clearance and indoctrination of the Congressmen concerned

4 Since Mr Friedman s letter contains information involving both Communications Intelligence and Communications Security the special rules involving those branches of intelligence apply In view of the limitations established by higher authority I doubt that the Department of Defense or any of its Agencies could properly resolve the above question

5 In view of the fact that the Department of the Army is the action agency for the Department of Defense on H R 1152 I am submitting Mr Friedman s letter to you and would appreciate your advising me whether you would have any objection to its transmission to Congressman Reed if proper authority for release could be obtained

/s/ Ralph J Canine
RALPH J CANINE
Lieutenant General US Army
Director

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Incl
Mr Friedman s ltr w/Incls thereto

cc- DIR, AG Legal Advisor

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910 Second Street, S E
Washington 3, D C

15 September 1953

Lieutenant General Ralph J Canine, USA
Director
National Security Agency

Dear General Canine:

As I told you some weeks ago, the Honorable Robert T Stevens Secretary of the Army, sent a report, dated 6 July 1953 to the Honorable Chauncey W Reed, Chairman of the House Committee on the Judiciary, in regard to H.R 1152, 83rd Congress, 1st Session a bill "For the Relief of William F Friedman A copy of the report has been given me by Mr Reed in order that I might prepare comments thereon

I have embodied my comments in the inclosed letter, which is in the form of a brief in substantiation of the amount of the award provided for in H.R 1152, and which I would like to have forwarded to Mr Reed "through channels

The reason for routing the proposed letter through channels is that I do not have the authority to disclose classified information to Mr Reed Also, it is possible that the Secretary of the Army, after reading the proposed letter to Mr Reed, may be willing to modify his report on H.R 1152, thus perhaps making it unnecessary to forward it to Mr Reed

Thanking you in advance for any consideration you may appro priately give to this matter, I am,

Sincerely,

WILLIAM F. FRIEDMAN

1 Inclosure
Ltr to Hon C W Reed,
thru channels

THIS LETTER IS DE
DOWN GRADED TO Unclassified
WHEN INCLOSURE IS REMOVED

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310 Second Street, S.E.
Washington 3, D. C.
18 September 1953

Honorable Chauncey W. Reed
Chairman, Committee on the Judiciary
House of Representatives

THRU CHANNELS

Dear Mr. Reed:

1. Reference is made to a letter, dated 6 July 1953, which the Honorable Robert T. Stevens, Secretary of the Army, sent you with regard to H.R. 1152, 83rd Congress, 1st Session, a bill "For the Relief of William F. Friedman." You have been kind enough to provide me with a copy of that letter for comment, and for ease in reference I append the letter as Inclosure 1 hereto.

2. a. The following paragraph is quoted from page 4 of Inclosure 1:

> "The Department is of the view that Mr. Friedman should be compensated for the loss of his property right in the inventions, a right which would permit him exclusively to make, use and sell the subject matter of his inventions, or to reap profit from the licensing of others to practice the inventions. Except for the withholding of patents of his inventions in the interest of the security of the United States, Mr. Friedman could have sought financial gain therefrom. Where the fruit of an inventor's labor has been of substantial benefit to his Government and his right to seek reward for his efforts is impaired for so great a period of time for security reasons, it is equitable that he be compensated for his loss. This view, is in accord with the policy of the Department of encouraging technological advancement. To deny an inventor the right to seek gain from his inventions merely because they are vital to our national defense and the security of the Government, while permitting such pursuit by inventors in other fields where security interests are not paramount, would be discriminatory and would discourage advancement in matters vital to our national defense."

b. The foregoing finding is, of course, a source of much gratification to me, since it epitomizes the results of the study made on H.R. 1152 by the military departments, a study which culminated in a favorable report based upon the equitable considerations involved.

3. a. Having stated the view that I should be compensated for the loss of my property right in my inventions, Inclosure 1, page 5, continues as follows:

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"As pointed out in paragraph 2c of General Canine's letter of 29 February 1952, it is impossible to evaluate Mr. Friedman's loss. In the absence of more definite information than is at hand relative thereto, the Department does not favor an award of the magnitude set out in H.R. 1152. While this is a matter for the Congress to determine, the Department feels that an award of $25,000.00 should be adequate compensation for Mr. Friedman based on the facts at hand." (Emphasis supplied)

b. It is clear, therefore, that the Department acknowledges an obligation on the basis of equitable considerations and questions only the magnitude of the award sought in H R. 1152.

4. The language used in stating the Department's doubts on the last-mentioned phase of the Bill can be construed to constitute an invitation to submit more information and additional facts which might afford a better basis for evaluating my loss This letter, therefore, is being sent you for the purpose of presenting the desired additional information and facts; but it must at the same time be noted that security considerations impose restrictions on what can be said in a document of this sort. I am confident, however, that on the basis of the information already furnished and the additional data submitted in this letter, the Committee will have all the evidence required to substantiate an award of the magnitude of that sought in H.R. 1152.

5. a. A preliminary comment on the first sentence of the extract quoted in paragraph 3a above may be pertinent. If reference is made to the actual wording of the first sentence of paragraph 2c of General Canine's letter of 29 February 1952, it will be noted that he stated that "estimation of the commercial possibilities of the Friedman inventions is difficult;" he did not say that it is "impossible," as is stated in the extract quoted in paragraph 3a above. My purpose in calling attention to the exact wording of General Canine's statement on this point is merely to present my opinion that an evaluation is difficult to establish, but not impossible.

b With these preliminaries out of the way, I shall now proceed to set forth the information and additional facts which may be useful to you and your Committee.

6. a. First, I wish to emphasize that I make no point whatsoever, under the equitable considerations involved in the case, of the fact that my inventions were and still are in use by the U.S. Government or of their worth as contributions to our national defense: Even though, as General Canine has stated, my inventions over a period of years have been of very substantial value to this Government and its allies, and even

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though in Secretary Stevens' letter there is a very clearly stated implication that my inventions have been vital to our national defense, I acknowledge without reservation that the Government owes me nothing whatsoever for the use of my inventions, since the conditions under which they were made were such as to give the Government all the rights it needs to practice or to take full advantage of those inventions. Secondly, I wish to say that I am in complete accord with the Department of the Army in the opinion that I should be compensated only for the potential financial loss attributable to the effect of withholding of patents of my inventions, in the interest of the security of the United States. In fact, I shall be well satisfied if the compensation is based on that factor alone, provided due consideration is given thereto.[1] It is with a view to affording a basis for ascertaining the extent of loss that the data submitted herein will be directed, in an endeavor to justify the amount of the award sought in H.R. 1152. Furthermore, in weighing the extent of the loss it should be noted that the secrecy restrictions have been in effect for a considerable length of time; in one case they have been in effect over 20 years, and in two cases, 17 years. In the five cases still under secrecy restrictions it is probable that those restrictions will continue to remain in effect for several or many more years - it is not yet possible to say how many. Let it also be noted that in the case of two other inventions, patent applications were never filed thereon, because of security considerations.[2] Except to indicate that these two inventions concerned

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[1] This is consonant with the following extract from S. 27, 83rd Congress, 1st Session, "A Bill to authorize the establishment of an inventions Award Board with the Department of Defense, and for other purposes:

/Sec. 7(c), p. 7-8/ "... in determining the amount of any such award consideration shall be given to -

(1) * * *
(2) * * *
(3) the extent to which the inventor has been denied the benefits of commercial exploitation of such invention in consequence of any secrecy restrictions imposed by the United States."

[2] See paragraph 2, page 2 of Inclosure 1; see also, note on page 4 of Inclosure 3. The following is quoted from page 445, Vol. II of Report and Recommendations of the Attorney General to the President on Investigation of Government Patent Practices and Policies, 1947. (The extract refers to my two inventions noted herein): "There have been inventions, such as certain devices in the cryptographic field made by the Signal Corps, as to which the need for secrecy is so great that the War Department is unwilling even to file a patent application."

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apparatus for certain analytical operations in the cryptologic field, no more will be said about them in this letter.

b. It is obvious that one way of ascertaining the extent of my loss would be to try to measure the potential financial worth of my inventions if it had been or were possible to exploit my commercial rights therein, both foreign and domestic. In this connection attention is invited to paragraph 2c of General Canine's letter:

> "2c. Estimation of the commercial possibilities of the Friedman inventions is difficult. As far as is known here, relatively little commercial use is made of privacy systems in this country except in banks and other financial organizations, and their use of business codes is commonly dictated as much by economy considerations as security; nevertheless, it cannot be said that a market for high-grade ciphering machines could not have been developed. Moreover, in the absence of security considerations, it is likely that a substantial market for the inventions could have been developed among foreign governments. Future commercialization is subject to the same difficulties of evaluation." (Emphasis supplied.)

7. a. Let us take up first the potentialities for the exploitation, in foreign countries, of the commercial rights in the inventions in question. It is in this area that the necessity for imposing secrecy restrictions, based upon security considerations, prevented my exploiting a quite profitable market.

b. In this connection it is perhaps not amiss to note that the Supreme Court, in 1933, in its study of the well-known case of the United States vs. Dubilier Condenser Corporation (289 U.S. 178), quoted without comment, the following from a report by an Interdepartmental Committee established by executive order to study the question of patents made by Government employees:

> "... It must not be lost sight of that in general it is the constitutional right of every patentee to exploit his patent as he may desire, however expedient it may appear to endeavor to modify this right in the interest of the public when the patentee is in the Government service."

c. It is quite obvious that the Secretary of the Army has taken full cognizance of this point, as can be noted in the last sentence of the extract quoted in paragraph 2a above, wherein he states:

"To deny an inventor the right to seek gain from his inventions merely because they are vital to our national defense and the security of the Government, while permitting such pursuit by inventors in other fields where security interests are not paramount, would be discriminatory and would discourage advancement in matters vital to our national defense."

d. In this connection I deem it pertinent to add that the record will show that I have never questioned either the propriety or the desirability of imposing security restrictions on my inventions in the interest of national defense.

8. a. It is obvious that there must be some correlation between the financial value of an invention and the utility of the apparatus covered by the patent thereon. It is with a view toward permitting such a correlation that the following information is submitted:

(1) During the U.S. participation in World War II the large majority of the highest-level, written communications of the U.S. Government and especially those of the military forces thereof (including Army, Navy, and Army Air Forces) were enciphered by means of crypto-equipments based upon the inventions listed in H.R. 1152. In this connection it is to be noted -

(a) That throughout World War II the U.S. Government gained vital intelligence from enemy communications because U.S. cryptanalysts were able to solve the highest level crypto-communications of Germany, Italy and Japan during that war; and

(b) That the German, Italian and Japanese Governments were denied similar vital intelligence from U.S. highest level communications because the crypto-equipments used by the U.S. Government for such crypto-communications successfully resisted all attempts of cryptanalytic staffs of the German, Italian and Japanese Governments to solve such U.S. cryptocommunications.

(2) That, in contrast to the foregoing situation, messages enciphered by a machine which was invented by a foreign engineer and which was adopted by the U.S. Armed Forces were found to be solvable and were frequently solved by the German, Italian and Japanese cryptanalytic staffs. This machine bore the designation U.S. Army Converter M-209. Further data concerning it will be set forth in paragraph 8d below.

b. (1) In substantiation of the statement made in paragraph 8a(1)(a) above, it is necessary merely to refer to the Report of the Joint Committee on the Investigation of the Pearl Harbor Attack.[3]

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[3] Senate Document No. 244, 79th Congress, 2d Session.

Honorable Chauncey W. Reed

That Report is replete with information on the subject of the so-called "Magic," the cover name then employed for Communications Intelligence, that is, intelligence produced by intercepting and reading enemy communications The following statements, which appear on pages 179 and 232 of the Report will be of interest:

> "With the exercise of the greatest ingenuity and utmost resourcefulness, regarded by the committee as meriting the highest commendation, the War and Navy Departments collaborated in breaking the Japanese Codes. Through the exploitation of intercepted and decoded messages between Japan and her diplomatic establishments, the so-called Magic, a wealth of intelligence concerning the purposes of the Japanese was available in Washington " (Page 179)

> "The success achieved in reading the Japanese diplomatic codes merits the highest commendation and all witnesses familiar with Magic material throughout the war have testified that it contributed enormously to the defeat of the enemy, greatly shortened the war, and saved many thousands of lives." (Emphasis in the original, Page 232.)

(2) Of particular significance in this connection is the testimony of General George C. Marshall before the Joint Congressional Committee at the afternoon session on December 7, 1945. That testimony involved the disclosure of the contents of a letter which General Marshall wrote to Governor Dewey on the 25th (and on the 27th) of September 1944. A copy of that letter, which appears on pages 1128-29 of Part 3 of the Hearings before the Joint Committee, is included here as Inclosure 2.

(3) The significance of the statement (made in paragraph 8a(1)(a) above) in connection with this matter is obvious: the cipher machines used by the German, Italian, and Japanese Armed Forces produced messages which could be and were solved by U S. experts

c. (1) To substantiate the statement made in paragraph 8a(1)(b) above, it would be necessary to submit data of a classification beyond that permissible in this letter. However, since I am forwarding the letter through my superior, Lt. Gen. Ralph J. Canine, Director of the National Security Agency, and the Secretary of the Army, they will have the opportunity to review such data as may be pertinent and to submit such information of a classified nature as they deem appropriate.

(2) The significance of the statement (made in paragraph 8a(1)(b) above) in connection with this letter is obvious: the U.S. Armed Forces were able to plan and execute with suprise and success their highest-level strategic and tactical operations; the enemy gained no advance information thereof from insecure cryptocommunications. In other words, the cipher machines used by the U.S. Armed Forces to protect the voluminous communications involved in such high-level plans and operations produced messages which could not be solved by the enemy.

d. (1) To substantiate the statement made in paragraph 8a(2) above, it again would be necessary to submit data of a classification beyond that permissible in this letter. The data would, however, make it obvious that the Armed Forces of Germany, Italy, and Japan gained useful intelligence from their interception and solution of messages enciphered by means of Converter M-209.

(2) The significance of the statement (made in paragraph 8a(2) above) in connection with this letter is that it affords a basis for contrast between the amount the inventor of the Converter M-209 received for his invention and the amount of the award sought in H.R. 1152. The data for the contrast will now be set forth.

9. a. The cipher machine designated as U.S. Army Converter M-209 is a machine which was invented and developed by a Swedish engineer, Mr. Boris C. W. Hagelin, of Stockholm. The American promoters of Hagelin's invention succeeded in interesting the U.S. Army in the device to the extent that during the years 1941-1943 a total of 71,929 of them were manufactured, under Hagelin's patents, for the U.S. Armed Services, by the L.C. Smith-Corona Typewriter Co., Groton, New York. The total cost to the U.S. Government of these machines, including spare parts and instruction books, was $8,614,790.22. The financial arrangement with Hagelin's promoters was such that Mr. Hagelin received the following royalties:

On the 1st 5000 machines	($125 royalty on each) ...	$625,000
On the 2nd 5000 machines	($75 royalty on each) ...	375,000
On the remaining 61929 machines	($25 royalty on each) ...	1,548,225
Totals - 71929 machines	Total Roy. -	$2,548,225

b. However, because of considerations involving U.S. and Swedish income tax laws, it turned out that Hagelin sold his U.S. patent on Converter M-209 (U.S. Patent No. 2,089,603 and also a royalty-free license to two more U.S. patents covering associated apparatus) to the U.S. Government for the sum indicated above, viz., $2,548,225, on which he paid a capital gains tax of approximately $700,000. (A straight royalty would have resulted in no tax to the U.S., under our convention with Sweden.) Thus, the sale of his U.S. patent netted him about $1,850,000. His rate of royalty was approximately 30% (instead of the more usual 5, 7, or 10%) because of the absence of competitive devices; Hagelin had a proprietary product fully covered by his own patent.[4]

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[4] The average cost to the U.S. of the 71,929 machines was approximately $120.00 per machine; the average royalty to Hagelin was approximately $35.00 per machine.

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c. Reference to paragraph 8a(2) above will disclose that the device we have been discussing is the one that produced messages which were frequently solved by the cryptanalytic staffs of the German, Italian, and Japanese armed forces. The degree of security afforded by the cryptoprinciples underlying that device was very small in comparison with that afforded by the cryptoprinciples underlying the machines invented by me and covered by several of the patent applications listed in H.R. 1152. In addition, Converter M-209 was a hand-operated device; no keyboard or rapid operation was possible, the normal speed of operation permitting the encipherment or decipherment of 5 to 6 words per minute. On the other hand, the machines based upon the inventions listed in H.R. 1152 and used by the U.S. Government were electrically powered so as to permit keyboard operation at the rate of 40-50 words per minute. If necessary, or when desirable, greater speed of operation can be achieved since the machines can be operated by perforated tapes at a steady speed greater than that normally possible by a human operator manipulating the keys of the keyboard.

10. a. U.S. Patent Applications Nos. 682,096 and 70,412, listed in H.R. 1152, apply to the cryptographic principles and circuitry underlying the principal item of crypto-equipment used by the U.S. Armed Forces since 1940. After those principles were found acceptable, a machine embodying them was developed by the U.S. Armed Forces for intra-Service or Joint use, as well as inter-Service use. In the Army the machine was given the short-title SIGABA; in the Navy, it was called the ECM (Electrical Cipher Machine). The machine will therefore be referred to hereinafter as the SIGABA/ECM.

b. Soon after the U.S. Forces began using the SIGABA/ECM (in 1941-42) our British Allies learned of the existence of this machine and began a heavy campaign to acquire these machines or at least to be permitted to use the principles thereof. The campaign was fruitless. Ultimately, however, it was successful; but it was not until November 1952 that the principles were officially disclosed to British cryptographers and a limited number of SIGABA/ECM machines made available to the British. This is not the place to cite the details of the story; suffice it to say here that the negotiations were conducted on the highest levels in the U.S. and U.K. Governments. I believe that the principles of the SIGABA/ECM equipment were the only U.S. communication-equipment secrets not shared with the British in World War II; it is possible that the statement is true of all equipments except as regards atomic energy equipments.

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c. If the inventions listed in H.R. 1152 had not been placed in secrecy, patent applications thereon could have been filed in several foreign countries and the inventions exploited. It is possible that the

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British Government would have purchased or would have had manufactured for British use about 12,000 to 15,000 of these machines. This is the total number of cipher machines they manufactured for use in World War II, machines that represented merely a modification of a well-known German cipher machine.[5] Since the average cost of one of the SIGABA/ECM was then about $2,000, the cost of 12,000 of them would have been $24,000,000. A very modest royalty of 5% would have brought the inventor $1,200,000; a royalty approximating that which Hagelin received on Converter M-209 (30%) would have brought $7,200,000. But if one counters by saying that there is nothing in the record to prove that the British would have bought or manufactured a large number of SIGABA/ECM machines, or anything like 12,000 of them, then at least this much is certain: they might well have used about 6,000 of them to meet their needs for Combined (U.S.-U.K.) communications. On the basis of that many machines, the total number of machines would still have brought a very handsome royalty. The total World War II expenditures of the U.S. for the machines and devices made under the inventions listed in H.R. 1152 exceeded $30,000,000.00. This fact is cited only to corroborate the statements made with regard to the probable size of the foreign market.

11. All my inventions in the cryptographic field could have been protected by patents in foreign countries. But in view of the imposition of secrecy on those inventions subsequent to 1933 and on the U.S. patent applications thereon, it was and still is not possible to apply for patent protection in foreign countries. It is certain that had I been free to exploit the foreign rights to several of my inventions, I would have had an excellent opportunity to sell those rights to foreign governments, especially the British, and to foreign manufacturers, especially to Mr. Hagelin, the leading commercial manufacturer of crypto-equipment in the world. In addition to Mr. Hagelin's firm, there are or were before World War II several manufacturers of communications equipment who could probably have been interested in the commercial potentialities of security equipment based upon my inventions, not only for the European but also for the international market.

12. a. The two preceding paragraphs deal with the SIGABA/ECM. Similar data pertaining to several other of my inventions in the crypto-equipment field could here be cited, too, but because I think sufficient information has already been furnished to establish the fact that the potential value

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[5] Incidentally, it may be of interest to note that a royal commission awarded Air Commodore Frank Whittle £100,000 (=$403,000), tax-free, for his work in developing jet engines, even though Whittle was specifically assigned to research and invention. (See article by Capt. George N. Robillard, USN, "Are we stifling the inventors?," Saturday Evening Post, 9 June 1951.) Only recently Sir Robert Watson-Watt was awarded £50,000 by a royal commission for his inventions and developments in radar apparatus.

of the foreign rights of but one of my inventions far exceeds the amount of the award sought in H.R. 1152, I will omit such similar additional data, except as to the information given in subparagraphs b-e below.

b. The U.S. version of the "CCM," the Combined Cipher Machine, used for intercommunication with the British, was furnished the U.K. in some quantity. The stepping of the crypto-elements of this machine is accomplished electrically and this feature of cipher machines is covered by one of my U.S. Patent Applications listed in H.R. 1152.

c. The British were furnished a limited number of U.S. machines for enciphering teletype transmissions. The cryptoprinciples used in these machines, designated by the short title SIGCUM, were based upon another of my U.S. Patent Applications listed in H.R. 1152.

d. Practically all U.S. Allies were furnished the U.S. cipher devices known as the Strip Cipher Device, covered by my U.S. Patent No. 2,395,863, also mentioned in H.R. 1152. This one, which was held in secrecy for at least six years, was finally allowed to issue in 1946.

e. The information given in subparagraphs b, c, and d above will assist in forming the conclusion that the market for the foreign rights to my inventions would have been important if I could have exploited those rights before or during World War II.

13. a. We come now to the potentialities of the exploitation of the domestic commercial rights to the inventions listed in H.R. 1152.

b. With reference to the commercial use in this country of privacy or secrecy systems for the protection of written communications, it should be noted that several U.S. corporations, in particular, the International Telephone and Telegraph Co., the International Business Machines Corporation, the American Telephone and Telegraph Co., and the Automatic Electric Co., have spent considerable sums of money in their endeavors to devise, develop, or purchase U.S. rights for cipher machines. However, qualified cryptologic guidance was not available to these companies because expert knowledge in this field is confined almost exclusively to Government personnel; therefore, the efforts of these companies were largely unprofitable. However, it is probable that a secure, efficient, and automatic cipher attachment for teletype transmissions would fill a long-standing need of large corporations for privacy or secrecy in that category of communications. In fact, on two occasions approaches were made to me on behalf of one of the companies named above, in connection with the possible purchase of the commercial rights to one of the inventions cited in H.R. 1152, viz., U.S. Patent Application No. 443,320. This application has been in a secrecy status since 16 May 1942. The first occasion on which I was approached by an officer or at least a high-level official of a U.S. company interested in the machine covered by

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U.S. Patent Application No. 443,320 was during the time when the machine was being produced in quantity by his company, in 1942. I was, of course, unable even to discuss the subject since the invention had been placed in secrecy and I merely indicated that negotiations relative to a license could perhaps be initiated after the war was over. The second occasion on which I was approached with reference to the commercial exploitation of U.S. Patent Application No. 443,320, was in September 1945, when Major General Frank E. Stoner, USA, Assistant Chief Signal Officer, advised me that the commercial communications companies were interested in acquiring a license to use the invention covered by Application No. 443,320, and suggested that I get that application released from secrecy. The official records in the case will show that my efforts to have that application released began on 27 September 1945, extended until 20 November 1947, and were unsuccessful. The case is still in secrecy.

b. There exists in the U.S. a market for the so-called literal cipher devices or crypto-equipments for business office use other than as indicated above, but the extent of the market is difficult to gauge. Soon after the close of hostilities in World War II a limited number of copies of the U.S. Army cipher machine referred to in paragraph 8a(2) above (Converter M-209) came, by inadvertence or disregard of regulations, to be placed upon the market as U.S. Army surplus equipment; they quickly found purchasers. This substantiates in some degree the surmise on the part of the companies cited in subparagraph a above that there is a market for cipher apparatus for commercial usage. Nevertheless, it is true that, by and large, U.S. firms doing an international business and engaging in overseas communications use business codes and that their use of them is commonly dictated as much by economy considerations as security. However, as General Canine has already remarked, "it cannot be said that /In this country/ a market for high-grade ciphering machines could not have been developed." It is my belief that a market could be developed for a high-grade, trustworthy, and efficient machine.

14. a. The following extract from Secretary Stevens' letter, quoted in paragraph 2a above, will now be examined:

> "... To deny an inventor the right to seek gain from his inventions merely because they are vital to our national defense and the security of the Government, while permitting such pursuit by inventors in other fields where security interests are not paramount, would be discriminatory and would discourage advancement in matters vital to our national defense." (Emphasis supplied.)

b. Although numerous instances could be cited wherein pursuit by Government inventors of their commercial rights in their inventions has yielded substantial financial benefits, only three cases will be cited herein to illustrate the nature and possible extent of the discrimination to which allusion is made in the Secretary's letter:

(1) In the Report and Recommendations of the Attorney General to the President on the Investigation of Government Patent Practices

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and Policies, submitted in 1947, and, specifically, in Volume II thereof, dealing with the "Navy Monograph," page 270, there appears the following paragraph:

> "The relationship between naval employees and private industry resulting from the interest in selling the former's inventions was, on at least one occasion, supplemented by an even closer business connection between them. That case involved an outstanding member of the /Naval Research/ Laboratory staff, Dr. /Harvey C./ Hayes, of the Sound Division, who had been acting as a consultant for Texaco and was under contract for years to assign all of his patents to that company, allegedly at compensation of $25,000 per year. In 1937 the Department made an effort to prohibit conflicting outside employment, whereupon Dr. Hayes offered to resign if he were obliged to relinquish his Texaco contract. Upon submission of the matter to the Judge Advocate General it was decided that he could retain his connection with Texaco while continuing in the Navy Department."

(2) In the same Report (mentioned under subparagraph (1) above), and specifically under the section devoted to the "War Monograph," page 450, there appears the following:

> "In some instances substantial sums have been realized by War Department personnel from their inventions, an example being in the Air Forces. Mr. Weldon Worth, a civilian employee at Wright Field laboratories has made a number of inventions, one relating to an oil dilution system for airplanes. This system has been used by the British Government in the recent war and, pursuant to the patent interchange agreement between the two countries, that Government requested the United States to obtain for it a license under Worth's British patent on the system. By the terms of the patent interchange agreement, the United States would bear the cost of procuring such a license. The Air Forces entered into negotiations with Worth, who offered to grant a license for an annual fee of approximately $100,000. The negotiating officer considered this too high and negotiations were suspended. During the course of the negotiations, Worth submitted information which indicated that he was receiving approximately $30,000 a year from licenses under his Canadian patents on the invention in question." (Emphasis supplied.)

(3) Despite a long-standing and quite restrictive policy maintained by the National Bureau of Standards with respect to rights in inventions made by its employees, the Bureau has never withheld foreign rights from employee-inventors. "The Bureau as a matter of practice

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has permitted its employees to retain the foreign patent rights even to inventions as to which the domestic patent rights are to be assigned to the Government." (Report cited above, page 99.) One of my friends who is a Bureau of Standards employee-inventor, Mr. Jacob Rabinow, fully aware that I was planning to use his information in this letter, told me on 10 September 1953 that he recently sold his foreign rights in two of his inventions and that they brought him a total of $130,000.

c. Attention is especially invited to the pertinacy of the second and third illustrations cited above as to the value of foreign rights, because it is in that area that secrecy requirements dictated by the needs of our national defense have most seriously impaired, if not completely nullified, my property rights in my inventions, rights granted me many years ago by a properly-empowered Patents Board (of the Signal Corps) having jurisdiction in the determination of what rights inhered in the Government and in the inventor, respectively.

15. a. The last paragraph of Inclosure 1 calls for comment. That paragraph is as follows:

"The Bureau of the Budget advises that while there is no objection to the submission of this report, it is believed that there is a serious question as to the desirability of making the proposed award in view of the fact that it is inconsistent with general administrative and statutory policies relating to inventions made by Federal employees in the course of their employment with the use of Government materials and with the aid of other employees."

b. The basis for the statement that the proposed award "is inconsistent with general administrative and statutory policies relating to inventions ..." is not clear. In fact, I am quite sure that the statement is not pertinent in respect to the award sought in H.R. 1152.

c. It appears hardly necessary for me to emphasize the fact that the award proposed in H.R. 1152 is not sought or intended as compensation for the use of my inventions by the Government. I think I have adequately covered this point in paragraph 6a above.

d. If by "Administrative ... policies" the Bureau of the Budget refers to Executive Order 10096 of January 23, 1950, then I wish to point out:

(1) That the said order applies only to inventions made by a Government employee on or after the date indicated (January 23, 1950);

(2) that the inventions listed in H.R. 1152 were made many years before that date;

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(3) that even under Executive Order 10096 the foreign rights in inventions made by Government employees inhere in the inventors;[6] and

(4) that the sole basis for the award sought in H.R. 1152 is the fact that security considerations required that the inventions listed herein be kept under seal of secrecy, and as a result I was unable to exploit my property rights therein, especially my foreign rights.

e. With regard to "statutory policies" with which the award might be considered to be inconsistent, this possibly refers to the following extract from Section 3 of 35 U.S.C. 181-188 (codifying Public Law 256, 82d Congress, the "Invention Secrecy Act of 1951"):

"This section shall not confer a right of action on anyone or his successors, assigns, or legal representatives who, while in the full-time employment or service of the United States, discovered, invented, or developed the invention on which the claim is based."

f. In respect to the foregoing extract, I wish to point out:

(1) That the relief sought in H.R. 1152 is not in the nature of a settlement of a claim based upon considerations involving the legal status of rights in the inventions listed therein;

(2) That the inventions listed in H.R. 1152, with one exception,[7] were not placed in secrecy under the provisions of the above-mentioned 35 U.S.C. 181-188 until 20 May 1947. Therefore, those provisions of law were not applicable to the inventions listed in the H.R. 1152; hence no claim based upon such legal issues as may exist in the case could be filed in any event;

(3) That the Secretary of the Army took into consideration the provisions of the law cited in the preceding subparagraph when he stated:

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[6] See Section 6, Administrative Order No. 5, dated April 26, 1951, issued by the Chairman, Government Patents Board. Also, note in this connection paragraph 14b(3) of this letter.

[7] The exception involved Patent Application No. 300,212, which was placed in secrecy on 16 July 1940, under the provisions of the then Public Law 700, 76th Congress. The application was released from secrecy after World War II and finally issued, on 5 March 1946, as U.S. Patent No. 2,395,863.

Honorable Chauncey W. Reed

"It is believed that there is no law which provided for Mr. Friedman's redress. He has no legal remedy under 35 U.S.C. 181-188 (codifying Public Law 256, 82d Congress, the 'Invention Secrecy Act of 1951"), that law excluding from its benefits anyone who was a full-time Government employee when he made the invention in question. Section 10 of Public Law 256, 82d Congress repealed Public Law 700, 76th Congress (35 U.S., 1946 ed., 42) but preserved any rights then existing under the latter act. However, this appears to afford no legal remedy for Mr. Friedman, since Public Law 700, 76th Congress, required a claimant to have a patent issued upon an application which was in secrecy and tendered to the Government under the provisions of that statute. Likewise, 28 U S C. 1498, relating to recovery for patent infringement by the Government, fails to provide Mr. Friedman any legal remedy, since the Government has at least a royalty-free license to use the Friedman inventions;"

(4) That the way in which my inventions were kept in a secrecy status from 1933 to 1947 was by means of 35 U S C (1946) ed) Section 37, the so-called "three-year rule" which rule could be invoked repeatedly on the same patent application so that the invention could be kept in a secrecy status for an indefinite number of years, as was done in the case of all the inventions listed in H.R. 1152, with one exception (see Note 7); and, finally,

(5) That the "three-year rule" contained no provision whatsoever for compensating an inventor for withholding or indefinitely delaying issuance of a patent.

g. For the foregoing reasons it is difficult to see the validity of the position taken by the Bureau of the Budget in regard to H.R. 1152; there is nothing in that bill which is inconsistent with general administrative and statutory policies pertaining to the case.

16. When permission was granted me to employ counsel to assist me in the preparation of the case it was officially stated that there was no objection to my "hiring private counsel provided no classified information is revealed thereby." I have rigidly adhered to this condition and will state without qualification that my counsel has not participated or assisted me in any way in the preparation of this letter. Hence, any inadequacies, ambiguities, or errors of law therein are my sole responsibility

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Honorable Chauncey W. Reed

17. It is my hope that after reviewing all the data and evaluating all the considerations involved, your Committee will conclude that the amount of the award sought in H.R. 1152 is not excessive and will recommend granting the full amount mentioned therein. That amount would provide, as I think the facts presented in this letter support, a very modest recognition of the value of the foreign rights and the domestic commercial rights which I am unable to exploit because of security considerations. Indeed, I feel that the amount sought in H.R. 1152 does not to any substantial degree reflect the real value of those rights.

Very respectfully,

WILLIAM F. FRIEDMAN

2 Inclosures
1. Ltr from Sec/Army.
2. Marshall-Dewey ltr.

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REF ID:A71827

MEMO ROUTING SLIP

NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS

1 NAME OR TITLE	INITIALS		CIRCULATE
ORGANIZATION AND LOCATION	DATE		COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

Mr Smith (Legal): 1 Dec 53

He talked this P.M. with Gen. McClure (Dep G-2) about releasing paper on private bill. G/McC said try get it out next week

(Talk with Gen C about this day end of week - maybe he will say something to Gen McC

FROM NAME OR TITLE	DATE
ORGANIZATION AND LOCATION	TELEPHONE

DD FORM 1 FEB 50 95 Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 13, 10 Nov 47, which may be used.

16—42457-4 GPO

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ORGANIZATION AND LOCATION	DATE		COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

Want to see Adm. Espe today to ask him to ask JAG's people to push action — I didn't much care which way it went just so they acted. "Every day counts now!" He told me he was not cognizant of case at all but would see what could be done. I think he will call Adm. Cannon (DNC) who he thinks might be cognizant officially

15 Jan 54

FROM NAME OR TITLE	DATE
ORGANIZATION AND LOCATION	TELEPHONE

DD FORM 1 FEB 50 95 Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

16—48487-4 GPO

MEMO ROUTING SLIP

REF ID: A71827

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	INITIALS		
1 NAME OR TITLE			CIRCULATE
ORGANIZATION AND LOCATION Adam Espe	DATE		COORDINATION
2 5C 572 53239			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE

REMARKS

Col. Lundberg - Action Officer, Army Hdq. liaison (71745)
"Navy is only one not yet acted."
Navy Legislation Counsel, JAG:
Cmdr. James R. Carnes (75586)
Lt ii McGuiness

Have had paper 2 weeks
Army, AF, Defense have acted

20 Jan 54: N Fischer phoned to say Lundberg called to say Navy had pushed the paper out at last.

FROM NAME OR TITLE	DATE
ORGANIZATION AND LOCATION	TELEPHONE

DD FORM 1 FEB 50 95 Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

16—48487-4 GPO

1. HR 1152 —
2. Crypto - understood [illegible] long time
3. Discrimination against inventor in classified field.
4. Pending Bills, other
5. History my case -?
6. Urge JAG get paper out as [illegible] don't care too particularly as to kind
   g. report - just get it out.
   a. Impasse in Both Houses
   b. Long time processing
   c. Finally all agree on principle except budget.
   d. But want reduce award to $25000
   e. He is in small position to understand value, but
   f. I don't want him to do anything but

#6
7. Show Carnie letter?

Ready for presentation to Sec because they have reached a
Must refer to Dep. Defense for coord (position
Also Budget
Will take some time

Above per
Mr. Sydney Smith
on
14 Dec 53