

**MEMORANDUM CONCERNING**

**A**

**BILL FOR THE RELIEF OF  
WILLIAM F. FRIEDMAN**

**Submitted  
at Request of**

**MAJOR JAMES R. MILLS, JAGC  
Chief, Patents Division**

**By**

**FISCHER, WILLIS AND PANZER  
Dupont Circle Building  
Washington 6, D. C.**

**August 21, 1950**

TO: Major James R. Mills, JAGC  
Chief, Patents Division

RE: Bill for the Relief of William F. Friedman

Introduction

At a conference held on June 8, 1950, I submitted to you orally our proposal to have submitted to the Congress a bill for the relief of Mr. William F. Friedman, now Chief of the Technical Division, Armed Forces Security Agency, Department of Defense. This proposal was made to you pursuant to the authorization and direction your office had received through channels from the Department of Defense to investigate and report upon the matter, and to determine the attitude of the Department of Defense in that connection. I presented an oral argument to you and your associates at that time in which I emphasized that it was not our purpose in presenting the matter to the Department of Defense to request any affirmative action on its part, but rather, to acquaint the Department with the situation and to request merely an indication that the Department of Defense has no objection to the submission of the bill to the Congress for consideration upon its merits. At the end of the conference, you asked that we submit the matter fully in writing as a convenient basis for your ascertaining the policy of the Department of Defense with reference to the proposed bill. This memorandum is accordingly submitted in triplicate in compliance with your request. If there is any additional information you wish, please let me know.

William F. Friedman

Mr. William F. Friedman has been an officer of the Army and a civilian employee of the War Department and the Department of Defense for almost thirty years; he began his civilian employment with the War Department in 1921. Throughout the entire period of his employment with those departments he has worked in the highly specialized field of military communications, specifically cryptology, and for his entire period of employment the character of his work has been highly classified. He is now Chief of the Technical Division, Armed Forces Security Agency, Department of Defense. In World War I, Mr. Friedman was a first lieutenant in the Military Intelligence Division, assigned in 1918 and 1919 to General Headquarters, AEF, in France, in charge of the German code solving section of the Intelligence Division. From 1922 to 1941, he held a commission in the Signal Corps Reserve, attaining the grade of Lieutenant Colonel. He was retired in 1941 from the Reserve Corps upon the finding of the Surgeon General of a permanent impairment of health. Despite his illness, however, he received for his work in connection with World War II the highest civilian awards of honor bestowed by the United States: the Medal for Merit awarded by President Truman and the Commendation for Exceptional Civilian Service awarded by Secretary of War Stimson. The citation accompanying his Medal for Merit reads as follows:

WILLIAM F. FRIEDMAN, for exceptionally meritorious conduct in the performance of outstanding service, conspicuously above the usual, with the Government of the United States during the period from 8 September 1939 to 2 September 1945, in duties of considerable responsibility while Director of Communications Research, Army Security Agency, Military Intelligence Service, Washington, D. C. By untiring and self-sacrificing devotion, by exceptional technical ingenuity in an extremely specialized

field, which ranks him among the world's foremost authorities, by able leadership, by initiative and zeal above and beyond the requirements of duty, Mr. Friedman distinguished himself in contributing directly and tremendously to the successful prosecution of the war effort. The conduct of Mr. Friedman has been in keeping with the highest traditions of the Government Service.

The citation accompanying the Commendation for Exceptional Civilian Service reads as follows:

For outstanding performance of service to the War Department, over and beyond the requirements of duty, during his extended period of service with the Signal Corps. He has demonstrated a degree of initiative, forethought and leadership which has proved of utmost importance to the Army Signal Corps in the execution of its mission. His research and developments in the field of military communications have been valuable to the operation of all units of the Armed Forces.

The highly classified nature of Mr. Friedman's services, of course, made it impossible to set out specifically in the citations quoted above the work for which he was honored. In this connection, however, it is interesting to note that he was one of the first in World War II to receive these awards.

#### The Inventions Involved

During the period of his employment with the War Department, Mr. Friedman invented a number of systems and devices in the field of military communications, some alone, others in collaboration. With respect to some of the inventions, patents have been issued; as to others, patent applications are being held in secrecy under the "three-year rule" (35 U.S.C., §37) or P.L. 700 (35 U.S.C., §42) or both; as to at least two, the need for secrecy was such that no patent applications were ever filed with respect to them. Some of the inventions on which patents have issued were held in secrecy for a time either under the "three-year rule" or P.L. 700 and were subsequently allowed to go to issue. The specific inventions, patents and patent applications involved in this matter, with the relevant information concerning each of the inventions are set out in the following table:

## ISSUED PATENTS

Held Under

<u>Pat. No.</u>	<u>Description</u>	<u>Inventors</u>	<u>Filed</u>	<u>Issued</u>	<u>3-Yr. Rule</u>	<u>Pub. 700</u>	<u>Used by Govt</u>	<u>Owner</u>	<u>License</u>
2,395,863	Crypto Device (Strip Board)	Friedman	19 Oct 39	5 Mar 46	No	Yes	Yes	Inv	Govt

## PENDING APPLICATIONS

Serial Nos.

682,096	(Conv. M-134)	Friedman	25 Jul 33	--	Yes	Yes	Yes	Govt	Inv
107,244	(Conv. M-134-T2)	Friedman	23 Oct 36	--	Yes	Yes	Not yet	Govt	Inv
70,412	SIGABA (Conv. M-134-C, ECM)	Friedman & Rowlett	23 Mar 36	--	Yes	Yes	Yes	Govt	Inv
478,193	Facsimile enc. sys.	Friedman	6 Mar 43	--	Yes	No	?	Inv	Govt
549,086	(Conv. M-325)	Friedman	8 Nov 44	--	Yes	Yes	Yes	Inv	Govt
443,320	SIGCUM (Conv. M-228)	Friedman & Rowlett	16 May 42	--	Yes	Yes	Yes	Inv	Govt

In addition to the inventions set out in the table above, two basic inventions in the cryptanalytic field were made by Mr. Friedman and submitted for action to the Signal Corps Patent Board in April, 1937. Because it considered these inventions so highly classified, the Board recommended that no patent applications be filed, and, in fact, no applications were ever filed with respect to them. However, at least one of these basic inventions was used and developed and extensions of it are now in use.

The inventions described above all arose in connection with the official duties of Mr. Friedman, but not as a result of any specific direction or designation to invent the things involved. In fact, all the inventions listed above were made while Mr. Friedman was engaged in other work which was in part responsible for his ultimately receiving the Medal for Merit. The official descriptions of the various posts held by Mr. Friedman in the course of his employment cannot of course be submitted because of their classified nature; but Mr. Friedman assures us that nowhere in the official records will there be found any designation to invent a specific thing, and that, in fact, no such designation was ever made. Further, specific findings have been made with respect to several of his inventions, including one of the latest and most significant still in secrecy (Serial No. 443,320, filed 16 May 42), that they were not the result of any specific direction or designation to invent the thing involved, these findings being made by a board having special jurisdiction for that purpose, the Signal Corps Patent Board. And, in consonance with this state of the facts, under the provisions of A.R. 850-50, Mr. Friedman, along with his collaborators, has in fact been allowed to retain, either by ownership of the patent or exclusive license, the domestic commercial rights and all foreign rights in the inventions listed in the table above.

On April 25, 1936, Mr. Friedman subscribed a document purporting to constitute an agreement to make a complete assignment of any inventions thereafter made by him to the United States, if the Chief Signal Officer requested such assignment. No such a request has been made with respect to any of the inventions described above and in all the inventions made subsequently to April 25, 1936, Mr. Friedman has been allowed to retain rights under the provisions of A.R. 850-50, to the same extent as in those inventions

made prior to that date, excepting those two so highly classified that no patent applications were filed. The provisions of the "three-year rule" and P.L. 700 were, of course, invoked to maintain secrecy.

The salient fact regarding all the inventions which were or still remain in secrecy, is that the rights retained by Mr. Friedman cannot be exercised while an invention is in a secrecy status. In making this point, we wish to emphasize that there is no question as to the wisdom of the judgment placing any of the inventions in secrecy. Indeed, it appears that most of the inventions still in secrecy are of such significance to our national defense, that the prospect of their release at any time in the near future seems remote, and Mr. Friedman would be among the first to argue that the retention of the secrecy status with reference to them is necessary in the national interest, whatever may be the consequences to his personal fortunes.

#### Legal Status

It is not our purpose to argue the strict legal status of the rights Mr. Friedman may have in his inventions or of any claim he may have arising from these rights. The reasons for this will become clear, we believe, when we discuss later in this memorandum the nature of the relief we seek for Mr. Friedman. But because the legal issues are relevant to the equitable considerations later to be discussed we wish to point out the nature of those issues.

It seems fairly beyond the realm of dispute that the rights which Mr. Friedman may have in his inventions have been substantially and adversely affected in at least two ways in connection with those specific inventions which were in secrecy and subsequently released as well as with those that today remain in secrecy; first, to the extent that the secrecy

requirement has prevented and still prevents the use of such rights during the period of secrecy and second, to the extent that foreign governments may have been or still are permitted the use of any of the inventions during the period of secrecy. The first type of impairment has occurred to a more or less substantial degree in respect of all those inventions described above which were placed in secrecy. Because of the secrecy surrounding the use of the inventions, the Department of the Army and the Department of Defense alone would know the exact measure of the second type, namely, that resulting from the use of any particular invention by foreign governments. One of the conditions under which Mr. Friedman was permitted to retain counsel in this matter was that he would not disclose any classified information and therefore we are not in full possession of the facts.

With respect to the inventions released from secrecy, and on which patents have issued, the question is raised whether Mr. Friedman has a claim in the case of Patent No. 2,395,863 under the provisions of P.L. 700, 35 U.S.C., §42 which provides as follows:

Whenever the publication or disclosure of an invention by the granting of a patent might, in the opinion of the Commissioner of Patents, be detrimental to the public safety or defense he may order that the invention be kept secret and withhold the grant of a patent for such period or periods as in his opinion the national interest requires: Provided, That the invention disclosed in the application for said patent may be held abandoned upon it being established before or by the Commissioner that in violation of said order said invention has been published or disclosed or that an application for a patent therefor has been filed in a foreign country by the inventor or his assigns or legal representatives, without the consent or approval of the Commissioner of Patents.

When an applicant whose patent is withheld as herein provided and who faithfully obeys the order of the Commissioner of Patents above referred to shall tender his invention to the Government of the United States for its use, he shall, if and when he ultimately receives a patent, have the right to sue for

compensation in the Court of Claims, such right to compensation to begin from the date of the use of the invention by the Government: Provided, That the Secretary of War or the Secretary of the Navy or the chief officer of any established defense agency of the United States, as the case may be, is authorized to enter into an agreement with the said applicant in full settlement and compromise for the damage accruing to him by reason of the order of secrecy, and for the use of the invention by the Government. [Emphasis added]

With respect to those inventions still in secrecy, which are of such significance to our national interest that their ultimate release from secrecy seems at best remote, the question is raised whether the Secretary of the Army, or the Secretary of Defense, in accordance with the authority granted by P.L. 700, should not "enter an agreement with the . . . applicant in full settlement and compromise for the damage accruing to him by reason of the order of secrecy".

We appreciate fully that the application of the provisions of P.L. 700 to inventors in the position of Mr. Friedman is subject to argument: we point out the legal issues here not to argue such issues, but rather to show subsequently the relevance of these issues to the equitable considerations in the matter.

#### The Relief Sought

As we have already indicated, it is not our purpose to argue the strict legal issues that may exist in the case of Mr. Friedman, the reason being that the strict legal issues are not the foundation for the relief we are seeking on his behalf. Mr. Friedman does not request any affirmative action of the Department of the Army or of the Department of Defense.

What we seek on Mr. Friedman's behalf is an opportunity to present his case to the Congress without objection on the part of the Department of Defense.

We propose to have submitted to the Congress a bill authorizing the Secretary of the Treasury to settle all claims and rights of Mr. Friedman in respect of all the inventions described above for the sum of \$100,000, the bill being in the following form:

For the relief of William F. Friedman.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That the Secretary of the Treasury be, and he is hereby, authorized and directed to pay to William F. Friedman, out of any money in the Treasury not otherwise appropriated, the sum of \$100,000 in full settlement for all rights in respect of his inventions in connection with military, naval and air communications facilities, which are now or at any time have been placed in secrecy status by the War Department or the Department of Defense, including but not limited to all rights with respect to his inventions covered by Patent Number 2,395,863, and by patent application serials 682,096, 107,244, 70,412, 443,320, 478,193 and 549,086 and with respect to all inventions for which patent applications have been withheld by the War Department or Department of Defense in order to preserve secrecy: Provided, That no part of the amount appropriated in this act in excess of 10% thereof shall be paid or delivered to or received by any agent or attorney on account of services rendered in connection with such claims and rights.

The sum of \$100,000 will not be submitted as having any relation to the legal measure of damages due to the impairment of Mr. Friedman's rights in his inventions because of the secrecy orders. We think that a figure determined in accordance with any legal measure of damages could reach a magnitude in his case which would be far beyond the range and purpose of the relief we seek; indeed, the experience of the War Department in the purchasing of rights in inventions of this nature would probably offer a fair indication of the value of the foreign and domestic commercial rights in Mr. Friedman's inventions. The sum of \$100,000 will be submitted to the Congress as a sum Mr. Friedman can reasonably request in the light of the equitable considerations to be discussed below.

At this point, we wish to make it doubly clear that we ask nothing of the Department of Defense except an indication that the Department will not object to the submission of the bill described above to the Congress for consideration upon its merits. It is of course, obvious that Mr. Friedman, who is a high level technical consultant in the Department of Defense, would be highly embarrassed if he were to take any action in the matter without first soliciting the attitude of the Department upon it. It seems equally obvious that it is desirable from the Department's viewpoint that we ascertain its policy before proceeding.

#### The Equitable Considerations

Mr. Friedman is now 59 years old and has dedicated his entire adult life to the work he has done for the War Department and the Department of Defense. He has made inventions of the greatest importance, and has retained rights in them which he will probably never be able to exercise in his lifetime because of the orders maintaining them in secrecy. He has received the highest honors the United States can bestow upon a civilian, but, ironically, the very significance of the work which brought him honors has placed upon him burdens and disabilities to which he would not otherwise have been subjected. It will be necessary to catalogue only a few of them in order to demonstrate this.

(a) In the course of his work, but beyond the requirements of any of his duties, Mr. Friedman performed basic research, developed techniques and made discoveries and inventions of a significance to the national interest which we understand would challenge the most creative imagination to evaluate in any monetary terms. In accordance with the firm policy of the War Department to offer an incentive for inventive genius, which brought about such

exceptional results in the case of Mr. Friedman, he was granted the domestic commercial rights and foreign rights in his inventions. If those inventions had been of only minor significance to the national interest, Mr. Friedman would have been in a position to benefit from those rights. Because of their inestimable importance to the national interest, however, Mr. Friedman has been effectively and properly (from the point of view of the national interest) foreclosed from exercising any of his rights in his most significant inventions. It seems equitable, and desirable from the viewpoint of the government, to mitigate by some token the penalty which has thus unintentionally been imposed upon high achievement, and to vindicate in some small measure the long standing War Department policy of stimulating inventions, a policy which failed here simply because it was so successful.

(b) The desirability of some relief for Mr. Friedman in this situation is heightened by reference to the policy of the Congress expressed in 1946 by the statutory authority granted to all Government departments to make awards to government personnel for any suggestions beneficial to the government (5 U.S.C., §116a), without limitation in amount, so far as the Department of Defense is concerned. In furtherance of this policy, awards have been made for suggestions improving methods of packing, office procedures, files and the like. It is not reasonable to assume that a Congress which authorized such rewards for any helpful suggestions to the government, would not authorize relief for Mr. Friedman in the extraordinary situation in which he finds himself.

(c) Although it may be that the provisions of P.L. 700 do not apply to inventors in the position of Mr. Friedman, they point generally to the consideration given to the problem set out in paragraph (a) above by the Congress

and show a further disposition on its part to grant relief against inequities of this nature. The patent provisions of the Atomic Energy Act (42 U.S.C., §1811) likewise show the concern of the Congress to avoid stifling the inventive urge in those areas of our national interest of the highest importance by compensating for the penalties which are dictated by necessity.

(d) The secrecy which has surrounded all the achievements of Mr. Friedman in connection with his duties for the Government, has effectively circumscribed any opportunities of Mr. Friedman to engage in his profession elsewhere whether by teaching, writing, lecturing, by independent invention or otherwise. It may be noted in this connection that Mr. Friedman has written a number of basic works in his field which are maintained in secrecy and are available for use only to a comparatively small group within the Department of Defense.

(e) The secrecy surrounding all his work has effectively denied Mr. Friedman the recognition his superior work deserves and to which men in all professions and sciences aspire. The recent experience of the Atomic Energy Commission in its efforts to retain in its employ scientists of the highest calibre under a blanket of secrecy is relevant to the present case. (See Report of the Joint Committee on Atomic Energy, 81st Cong., 1st Session, Oct., 1949, Senate Report No. 1169, p. 36.)

(f) The immeasurable stress of his work and the burden of responsibility imposed by the necessity for constant secrecy ever since 1921 were major factors in the impairment of Mr. Friedman's health which now makes his livelihood increasingly precarious.

It is this last consideration which finally induced Mr. Friedman to permit us to bring the matter to the attention of the Department of Defense.

Of course, this consideration needs no documentation because much of the medical attention Mr. Friedman has received over the past several years has been in army and veteran hospitals. As already indicated, also, Mr. Friedman was required to retire from the Reserve Corps in 1941 for this reason. We are enjoined by Mr. Friedman from expanding upon this consideration and laying upon it the stress we think it deserves. This alone explains the bareness of its presentation.

#### The Precedents

There are at least two precedents for the relief we propose to seek from the Congress on behalf of Mr. Friedman, both involving the invention of devices in the field of military communications. The first, an "Act for the Relief of Captain Russell Willson", and the second, an "Act for the Relief of Maude P. Gresham and Agnes M. Driscoll". The full statement of facts and the legislative history of each of these acts is attached hereto as Appendix A.

(a) In each of the cited cases, a single cryptographic device was involved, invented in one case by a naval officer and in the other by a naval officer in collaboration with a civilian employee of the Navy Department. In the case of Mr. Friedman, at least nine inventions are involved.

(b) The practical significance of the inventions involved in the two cited cases is unknown to us and Mr. Friedman is enjoined from disclosing that information. Only the Department of Defense is in a position to weigh that significance in comparison with the significance of the inventions of Mr. Friedman.

(c) As in the case of Mr. Friedman, the devices involved in the cited cases were inventions by officers and personnel of an organization now a part of the Department of Defense, made without designation to invent, put to use by the government and maintained in a secret status.

(d) In the two cited cases no patent applications were ever filed and accordingly the inventors had no patent rights in the inventions whatever; with respect to two of Mr. Friedman's inventions, he is in exactly the same position. As to the other seven inventions listed in the table above, Mr. Friedman was, in fact, granted the domestic commercial rights and foreign rights. It has already been indicated, however, that these rights have been defeated by the very importance of the inventions, and have been completely nullified for all practical purposes by the necessity for holding the inventions in secrecy. In the case of one of his inventions (Serial No. 682,096), these rights have now been suspended for 17 years; in another (Serial No. 107,244), 14 years; for how many more years they will remain suspended is not even subject to rough estimate. Obviously, suspension in these circumstances becomes synonymous with nullification.

(e) The personal considerations in the two cited cases were similar to those in this case.

(f) In the two cited cases, the claims submitted to the Congress received the express approval of the Navy Department. Mr. Friedman asks only that the Department of Defense express no objection to the presentation of his matter to the Congress. He would of course be happy if the Department of Defense were to give the matter its affirmative approval, but he does not ask that much.

Aside from the cases cited above, which seem parallel to the present case in all respects including the very nature of the inventions involved, there are others where officers and employees of the military services sought and received relief from the Congress for inventions which were put to use by the government. These cases, of course, are not directly in

point here, because we do not intend to make any request based upon government use of Mr. Friedman's inventions and for this reason are not cited here. They are mentioned, however, to show generally the disposition of the Congress to aid in the effectuation of the War Department and Navy Department policies of offering this form of incentive to stimulate invention in the national interest.

Conclusion

It has been our purpose to make this memorandum as brief as a reasonable presentation of the matter of Mr. Friedman would allow. It is respectfully submitted as a basis for the request for an indication that the Department of Defense has no objection to the presentation of the matter to the Congress on its merits. The considerations which seem to make that request a reasonable one in the circumstances have been set out along with the factual background of the matter. Favorable consideration of the request would be greatly appreciated.

Respectfully submitted,

FISCHER, WILLIS AND PANZER

BY \_\_\_\_\_

Henry G. Fischer

Attorneys for William F. Friedman

APPENDIX A

74TH CONGRESS } HOUSE OF REPRESENTATIVES } REPORT  
 1st Session } } No. 284

CAPT. RUSSELL WILLSON

MARCH 4, 1935.—Committed to the Committee of the Whole House and ordered  
 to be printed

Mr. SEARS, from the Committee on Naval Affairs, submitted the  
 following

R E P O R T

[To accompany H. R. 5564]

The Committee on Naval Affairs, to whom was referred the bill (H. R. 5564) for the relief of Capt. Russell Willson, United States Navy, having considered the same, report it to the House with the recommendation that it do pass.

The purpose of the proposed legislation is to give Capt. Russell Willson, United States Navy, \$15,000 in full settlement for a certain invention of his used in connection with the secret communication facilities of the Navy.

The value to the Navy and to the Government of this invention cannot be measured in dollars and cents. Its value to the Government may be judged by the fact that it was used during the World War in all dispatches between the Navy Department and naval headquarters in London, including those concerning movements of transports, where its secrecy protected thousands of lives and millions of dollars worth of property.

Being aware of comparative ease with which confidential and secret messages were intercepted and decoded by unauthorized persons, Captain Willson conceived and perfected this invention while on a tour of sea duty in 1916. For Captain Willson to have patented this invention would have destroyed its usefulness in that it would then have been open to public inspection; instead, he gave it to the Navy.

The efficiency of the device may be more fully appreciated from a statement made before the committee during the hearings on this bill which is quoted as follows:

Toward the end of the World War a dispatch from a diplomatic agent in Copenhagen reported that copies of all cables were reaching Berlin and all were being deciphered except those in Navy cipher.

This bill provides for long-delayed compensation for a device which during the World War was the basis of the Navy's system of secret communications.

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CAPT. RUSSELL WILLSON

The Navy Department favors this proposed legislation as is indicated by the letter of the Secretary of the Navy to the Speaker of the House of Representatives which is hereby made a part of this report.

NAVY DEPARTMENT,  
*Washington, February 4, 1935.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES,  
*Washington, D. C.*

MY DEAR MR. SPEAKER: There is transmitted herewith a draft of a proposed bill for the relief of Capt. Russell Willson, United States Navy. The proposed legislation provides that the Secretary of the Treasury is authorized and directed to pay Capt. Russell Willson, United States Navy, out of any money in the Treasury not otherwise appropriated, the sum of \$15,000 in full settlement for a certain invention of his used in connection with the secret communication facilities of the Navy.

Captain Willson while serving at sea in 1916 conceived and designed this invention relating to the secrecy of naval communications, and developed it in 1917 without suggestions, ideas, or help from any other person at any time. He submitted the invention to the Navy Department which accepted it in 1917. The invention has been used by the Navy continuously since that time. For reasons of public policy, it has never been patented. Captain Willson has not in any way, directly or indirectly, received any compensation for his work in producing this invention, nor for its use by the Navy during and since the war.

The sum of \$15,000, which the Navy Department believes should be appropriated, is modest in comparison with the value of the invention to the Government during the World War and during the 16 years thereafter that it has been in continuous use.

The Navy Department recommends that the proposed legislation be enacted.  
Sincerely yours,

CLAUDE A. SWANSON.

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**Calendar No. 835**74TH CONGRESS }  
1st Session }

SENATE

REPORT  
No. 792**CAPT. RUSSELL WILLSON, UNITED STATES NAVY**

MAY 13 (calendar day, JUNE 5), 1935.—Ordered to be printed

MR. HALB, from the Committee on Naval Affairs, submitted the following

**REPORT**

[To accompany H. R. 5564]

The Committee on Naval Affairs of the Senate, to whom was referred the bill (H. R. 5564) for the relief of Capt. Russell Willson, United States Navy, having considered the same, report it to the Senate without amendment with the recommendation that the bill do pass.

The purpose of this bill is to give Captain Willson \$15,000 in full settlement for a certain invention of his used in connection with the secret communication facilities of the Navy.

This bill, if enacted, would involve an additional cost to the Government of \$15,000, but the bill is recommended by the Navy Department and the committee feels that this is a just claim in view of the great value his invention has been to the Navy.

The House report, which explains this bill in detail, is hereby made a part of this report.

[H. Rept. No. 284, 74th Cong., 1st sess.]

The Committee on Naval Affairs, to whom was referred the bill (H. R. 5564) for the relief of Capt. Russell Willson, United States Navy, having considered the same, report it to the House with the recommendation that it do pass.

The purpose of the proposed legislation is to give Capt. Russell Willson, United States Navy, \$15,000 in full settlement for a certain invention of his used in connection with the secret communication facilities of the Navy.

The value to the Navy and to the Government of this invention cannot be measured in dollars and cents. Its value to the Government may be judged by the fact that it was used during the World War in all dispatches between the Navy Department and naval headquarters in London, including those concerning movements of transports, where its secrecy protected thousands of lives and millions of dollars worth of property.

Being aware of comparative ease with which confidential and secret messages were intercepted and decoded by unauthorized persons, Captain Willson conceived and perfected this invention while on a tour of sea duty in 1916. For

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CAPT. RUSSELL WILLSON, UNITED STATES NAVY

Captain Willson to have patented this invention would have destroyed its usefulness in that it would then have been open to public inspection; instead, he gave it to the Navy.

The efficiency of the device may be more fully appreciated from a statement made before the committee during the hearings on this bill which is quoted as follows:

"Toward the end of the World War a dispatch from a diplomatic agent in Copenhagen reported that copies of all cables were reaching Berlin and all were being deciphered except those in Navy cipher."

This bill provides for long-delayed compensation for a device which during the World War was the basis of the Navy's system of secret communications.

The Navy Department favors this proposed legislation as is indicated by the letter of the Secretary of the Navy to the Speaker of the House of Representatives which is hereby made a part of this report.

NAVY DEPARTMENT,  
*Washington, February 4, 1935.*

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES,  
*Washington, D. C.*

MY DEAR MR. SPEAKER: There is transmitted herewith a draft of a proposed bill for the relief of Capt. Russell Willson, United States Navy. The proposed legislation provides that the Secretary of the Treasury is authorized and directed to pay Capt. Russell Willson, United States Navy, out of any money in the Treasury not otherwise appropriated, the sum of \$15,000 in full settlement for a certain invention of his used in connection with the secret communication facilities of the Navy.

Captain Willson while serving at sea in 1916 conceived and designed this invention relating to the secrecy of naval communications, and developed it in 1917 without suggestions, ideas, or help from any other person at any time. He submitted the invention to the Navy Department, which accepted it in 1917. The invention has been used by the Navy continuously since that time. For reasons of public policy, it has never been patented. Captain Willson has not in any way, directly or indirectly, received any compensation for his work in producing this invention, nor for its use by the Navy during and since the war.

The sum of \$15,000, which the Navy Department believes should be appropriated, is modest in comparison with the value of the invention to the Government during the World War and during the 16 years thereafter that it has been in continuous use.

The Navy Department recommends that the proposed legislation be enacted.  
Sincerely yours,

CLAUDE A. SWANSON.

[PRIVATE—No. 79—74TH CONGRESS]

[H. R. 5564]

AN ACT

For the relief of Captain Russell Willson, United States Navy.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of the Treasury be, and he is hereby, authorized and directed to pay to Captain Russell Willson, United States Navy, out of any money in the Treasury not otherwise appropriated, the sum of \$15,000 in full settlement for his invention which has been accepted by the Navy Department for use in connection with naval communication facilities.

Approved, June 13, 1935.

## Calendar No. 539

75TH CONGRESS }  
1st Session }

SENATE

REPORT  
No. 526

## MAUDE P. GRESHAM

MAY 10, 1937.—Ordered to be printed

Mr. WALSH, from the Committee on Naval Affairs, submitted the following

## REPORT

[To accompany S. 1453]

The Committee on Naval Affairs, to whom was referred the bill (S. 1453) for the relief of Maude P. Gresham, having considered the same, report favorably thereon, with amendment, and, as amended, recommend that the bill do pass.

Amend the bill as follows:

Page 1, lines 6 to 8 inclusive, strike out the following:

Navy, out of any money in the Treasury not otherwise appropriated, the sum of \$15,000 in full settlement for the late Commander William F. Gresham's invention which has.

And insert in lieu thereof the following:

Navy, the sum of \$8,750 and to Agnes M. Driscoll the sum of \$6,250, out of any money in the Treasury not otherwise appropriated, said sums to be in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham which said invention has.

Amend the title of the bill so as to read:

A bill for the relief of Maude P. Gresham, and for other purposes.

The purpose of the bill is to pay to the widow of the late Commander William F. Gresham, United States Navy, the sum of \$8,750 and to Agnes M. Driscoll the sum of \$6,250 in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham which has been accepted by the Navy Department for use in connection with naval communication facilities.

The bill was introduced at the request of the Navy Department. The Department states that the bill is in accord with the program of the President and involves an additional cost to the Government of \$15,000.

Commander Gresham invented a device that greatly increased the efficiency of an important part of the naval communication service.

This device was of such a secret and confidential nature, and of such importance to the National defense, that the Navy Department confiscated it for the exclusive use of the Navy and prevented Commander Gresham from obtaining a patent thereon. If this invention had been patented its usefulness would have been destroyed, as it would then have been open to public inspection.

Prior to his death, Commander Gresham requested that he be compensated for his invention in the amount of \$30,000. Upon receipt of his request the Secretary of the Navy convened a board of three officers to recommend the amount of compensation to be paid to Commander Gresham. The board found, after careful comparison of Commander Gresham's invention with earlier and similar devices, that it greatly increased the efficiency of an important component part of the naval communication service and that \$15,000 would be a fair compensation therefor.

The Navy Department has recently conducted a further investigation into the matter and is of the opinion that Commander Gresham was the sole inventor of the device, but that the fundamental cryptographic principles which the machine was designed to employ probably was conceived by Mrs. Driscoll and disclosed by her to Commander Gresham. The committee is therefore of the opinion that Mrs. Driscoll's rights and interests in the invention are substantially equal to those of Commander Gresham and that she is entitled to a fair percentage of any compensation which may be granted to Mrs. Gresham. The committee, therefore, recommends an amendment granting Mrs. Gresham the sum of \$8,750 and Mrs. Driscoll the sum of \$6,250.

Payment of compensation in like amount to Capt. Russell Wilson, United States Navy, for an invention which during the World War was the basis of the Navy's system of secret communications, was authorized and directed by the act of June 13, 1935.

The committee has inspected this invention and believes that it is of great value to the Government in connection with the secret communication facilities of the Navy and is of the opinion that, although the value of this invention to the Government cannot be measured in dollars and cents, \$15,000 is a fair compensation therefor.

75TH CONGRESS } HOUSE OF REPRESENTATIVES } REPORT  
 1st Session } } No. 1099

MAUDE P. GRESHAM AND AGNES M. DRISCOLL

JUNE 24, 1937.—Committed to the Committee of the Whole House and ordered to be printed

Mr. COFFEE of Washington, from the Committee on Claims, submitted the following

R E P O R T

[To accompany S. 1453]

The Committee on Claims, to whom was referred the bill (S. 1453) for the relief of Maude P. Gresham, having considered the same, report thereon with the recommendation that it do pass with the following amendments:

Page 1, line 6, strike out the figures "\$8,750" and insert in lieu thereof "\$8,690.55".

Page 1, line 11, after the name "Gresham", insert "and Agnes M. Driscoll,".

Amend the title of the bill to read:

A bill for the relief of Maude P. Gresham and Agnes M. Driscoll.

STATEMENT OF FACTS

As amended, this bill provides for the payment of \$8,690.55 to Maude P. Gresham, widow of William F. Gresham, late commander, United States Navy, and the sum of \$6,250 to Anges M. Driscoll, in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham and Agnes M. Driscoll, which invention has been accepted by the Navy Department for use in connection with naval communication facilities.

The invention here compensated for has not been viewed by your committee and its exact nature is not known, but the Navy Department states that—

It greatly increased the efficiency of an important component part of the naval communication service and that \$15,000 would be a fair compensation therefor.

A similar finding has been made by the Senate Committee on Naval Affairs, which viewed the invention, and which found that Agnes M. Driscoll assisted in the design of certain of its fundamental principles.

Therefore, the bill includes an award both to the widow of Commander Gresham and to Mrs. Driscoll and the payment of these claims is similar to the action taken by the Congress in connection with another naval invention under Private Law No. 79, Seventy-fourth Congress.

It will be noted that the committee has reduced the payment to Mrs. Gresham by \$59.45, which sum was overpaid to her husband as a rental allowance and was the subject of S. 1313, Private Law No. 86, Seventy-fifth Congress. That law authorized a credit in the accounts of the disbursing officer who made the payment to Commander Gresham. At the time, your committee endeavored to ascertain why the overpayment was not collected from Commander Gresham, and the Department replied that such action was usually taken but that the officer's death had precluded it in the case in question. As the disbursing officer was held liable for the payment, this committee recommended the bill, the evidence disclosing that it was made without negligence on his part and prior to his receipt of certain pertinent instructions. Your committee is not attempting to take a small position with regard to the \$59.45 overpayment, but it is constrained to the opinion that it should have been refunded to the Government either by Commander Gresham or his estate, and consequently we can see no reason why it should not be recovered on behalf of the Government. The deduction here made accomplishes that purpose.

Further facts relative to these claims appear in the report of the Senate Committee on Naval Affairs and a letter from the Navy Department, both appended.

[S. Rept. No. 526, 75th Cong., 1st sess.]

The Committee on Naval Affairs, to whom was referred the bill (S. 1453) for the relief of Maude P. Gresham, having considered the same, report favorably thereon, with amendments, and, as amended, recommend that the bill do pass.

Amend the bill as follows:

Page 1, line 6 to 8 inclusive, strike out the following: "Navy, out of any money in the Treasury not otherwise appropriated, the sum of \$15,000 in full settlement for the late Commander William F. Gresham's invention which has".

And insert in lieu thereof the following: "Navy, the sum of \$8,750 and to Agnes M. Driscoll the sum of \$6,250, out of any money in the Treasury not otherwise appropriated, said sums to be in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham which said invention has".

Amend the title of the bill so as to read: "A bill for the relief of Maude P. Gresham, and for other purposes."

The purpose of the bill is to pay to the widow of the late Commander William F. Gresham, United States Navy, the sum of \$8,750 and to Agnes M. Driscoll the sum of \$6,250 in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham which has been accepted by the Navy Department for use in connection with naval communication facilities.

The bill was introduced at the request of the Navy Department. The Department states that the bill is in accord with the program of the President and involves an additional cost to the Government of \$15,000.

Commander Gresham invented a device that greatly increased the efficiency of an important part of the naval communication service. This device was of such a secret and confidential nature, and of such importance to the national defense, that the Navy Department confiscated it for the exclusive use of the Navy and prevented Commander Gresham from obtaining a patent thereon. If this invention had been patented its usefulness would have been destroyed, as it would then have been open to public inspection.

MAUDE P. GRESHAM AND AGNES M. DRISCOLL

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Prior to his death, Commander Gresham requested that he be compensated for his invention in the amount of \$30,000. Upon receipt of his request the Secretary of the Navy convened a board of three officers to recommend the amount of compensation to be paid to Commander Gresham. The board found, after careful comparison of Commander Gresham's invention with earlier and similar devices, that it greatly increased the efficiency of an important component part of the naval communication service and that \$15,000 would be a fair compensation therefor.

The Navy Department has recently conducted a further investigation into the matter and is of the opinion that Commander Gresham was the sole inventor of the device, but that the fundamental cryptographic principles which the machine was designed to employ probably was conceived by Mrs. Driscoll and disclosed by her to Commander Gresham. The committee is therefore of the opinion that Mrs. Driscoll's rights and interests in the invention are substantially equal to those of Commander Gresham and that she is entitled to a fair percentage of any compensation which may be granted to Mrs. Gresham. The committee, therefore, recommends an amendment granting Mrs. Gresham the sum of \$8,750 and Mrs. Driscoll the sum of \$6,250.

Payment of compensation in like amount to Capt. Russell Wilson, United States Navy, for an invention which during the World War was the basis of the Navy's system of secret communications, was authorized and directed by the act of June 13, 1935.

The committee has inspected this invention and believes that it is of great value to the Government in connection with the secret communication facilities of the Navy and is of the opinion that, although the value of this invention to the Government cannot be measured in dollars and cents, \$15,000 is a fair compensation therefor.

NAVY DEPARTMENT,  
Washington, February 5, 1937.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES,  
Washington, D. C.

MY DEAR MR. SPEAKER: There is transmitted herewith a draft of a proposed bill for the relief of Maude P. Gresham.

The purpose of this proposed legislation is to pay to the widow of the late Commander William F. Gresham, United States Navy, the sum of \$15,000 in full settlement for an invention of the late Commander Gresham which has been accepted by the Navy Department for use in connection with naval communication facilities.

Prior to his death, Commander Gresham requested that he be compensated for his invention in the amount of \$30,000. Upon receipt of this request the Secretary of the Navy convened a board of three officers to recommend the amount of compensation to be paid to Commander Gresham. The board found, after careful comparison of Commander Gresham's invention with earlier and similar devices, that it greatly increased the efficiency of an important component part of the naval communication service and that \$15,000 would be a fair compensation therefor.

Payment of compensation in like amount to Capt. Russell Willson, United States Navy, for an invention was authorized and directed by the act of June 13, 1935 (49 Stat. —).

The proposed legislation, if enacted into law, would involve an additional expense to the Government of \$15,000.

The Navy Department recommends that the proposed legislation be enacted.

The proposed legislation is in accord with the program of the President.

Sincerely yours,

CLAUDE A. SWANSON.

[PRIVATE—No. 267—75TH CONGRESS]

[CHAPTER 583—1ST SESSION]

[S. 1453]

AN ACT

For the relief of Maude P. Gresham and Agnes M. Driscoll.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be, and he is hereby, authorized and directed to pay to Maude P. Gresham, widow of William F. Gresham, late commander, United States Navy, the sum of \$8,690.55, and to Agnes M. Driscoll the sum of \$6,250, out of any money in the Treasury not otherwise appropriated, said sums to be in full and complete settlement of all claims by said parties against the United States arising from the invention of the late Commander William F. Gresham and Agnes M. Driscoll, which said invention has been accepted by the Navy Department for use in connection with naval communication facilities: *Provided*, That no part of the amount appropriated in this Act in excess of 10 per centum thereof shall be paid or delivered to or received by any agent or agents, attorney or attorneys, on account of services rendered in connection with said claim. It shall be unlawful for any agent or agents, attorney or attorneys, to exact, collect, withhold, or receive any sum of the amount appropriated in this Act in excess of 10 per centum thereof on account of services rendered in connection with said claim, any contract to the contrary notwithstanding. Any person violating the provisions of this Act shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in any sum not exceeding \$1,000.*

Approved, August 11, 1937.