

OCSigO-334.7-Sig.C.Patent Board (9/1/36) 4th Memo. Ind. 10.

War Department, OCSigO, Washington. January 7, 1937. To: Captain  
H. G. Miller and Mr. W. F. Friedman.

1. As requested in paragraph two of foregoing first memorandum indorsement, the Signal Corps Patent Board reconsidered its previous action in this case but found that developments were insufficient to warrant any change in the findings and recommendations as shown in proceedings of Signal Corps Patent Board Meeting No. 6 dated August 28, 1936.

*Louis B. Bender*

Louis B. Bender,  
Lieut. Colonel, Signal Corps.

Inclosure: N/c.

OCSigO-334.7-Sig.C. Patent Board (9/1/36) 2nd Memo. Ind. 10.

War Department, OCSigO, Washington. December 21, 1936. To: Director, Signal Corps Laboratories, Fort Monmouth, N.J.

1. In view of the statements made in preceding indorsement, information is desired as to whether your Laboratories have any further comments or recommendations to add to those contained in your first indorsement, dated June 5, 1936, file FM(SCL) 070(5-27-36).

By order of the Chief Signal Officer:

*Louis B. Bender*

Louis B. Bender,  
Lieut. Colonel, Signal Corps.

Inclosure: N/c.

FM(SCL) 070  
OCSigO-334.7-Sig.C. (9-1-36) 3rd Memo. Ind. DEW:N

SIGNAL CORPS LABORATORIES, FORT MONMOUTH, OCEANPORT, N.J. December 28, 1936.  
TO: Chief Signal Officer, War Department, Washington, D.C.

1. Remarks referred to in 1st Indorsement dated June 5, 1936, file FM(SCL) 070(5-27-36), are still considered pertinent.
2. The subject was not discussed officially and the casual conversation referred to in the 1st Memo. Indorsement dated December 17, 1936, addressed to the Officer in Charge, Research and Development Division, office of the Chief Signal Officer, does not warrant changing the comments referred to in the 1st Indorsement dated June 5, 1936, file FM(SCL) 070(5-27-36).

*Wm. R. Blair*  
WM. R. BLAIR  
Lt. Col., Signal Corps  
Director

Incl. n/c.

1936 DEC 30 PM 10:22  
OFFICE  
CHIEF SIGNAL OFFICER

22/21

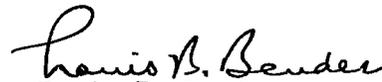
IN REPLY  
REFER TOOCSigO-334.7-Sig.C.  
Patent Board.WAR DEPARTMENT  
OFFICE OF THE CHIEF SIGNAL OFFICER  
WASHINGTON

10

September 1, 1936.

MEMORANDUM FOR: Captain H. G. Miller ✓  
Mr. W. F. Friedman

1. The attached invention is considered to be of insufficient military value to warrant prosecution of patent by the War Department. This office has no objection, however, to your applying for patent on this invention provided such application is prosecuted without expense to the War Department.



Louis B. Bender,  
Lieut. Col., Signal Corps.

Attached: Invention 5-12-36

1st Memo Ind.

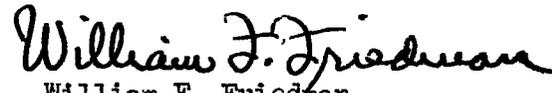
Washington, D. C., December 17, 1936 - To: O.I.C., Research and Development Division, OCSigO.

1. Upon the occasion of the recent visit by the undersigned to the Signal Corps Laboratories, this matter was discussed with laboratories personnel, with the result that the proposed system appears more feasible than was formerly thought by them. It was also brought out that it is possible that the system might have distinct military applications, especially in view of the increase in use of radiotelephony.

2. For the foregoing reason, it is requested that this case be resubmitted to the Signal Corps Patents Board for reconsideration of previous action.

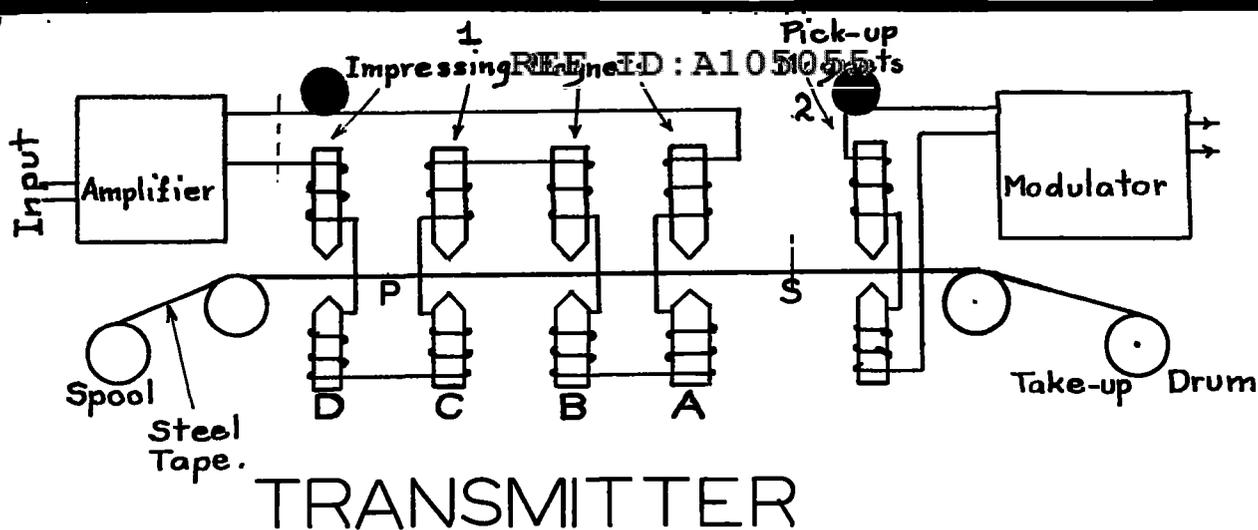


Harrod G. Miller,  
Captain, Signal Corps.



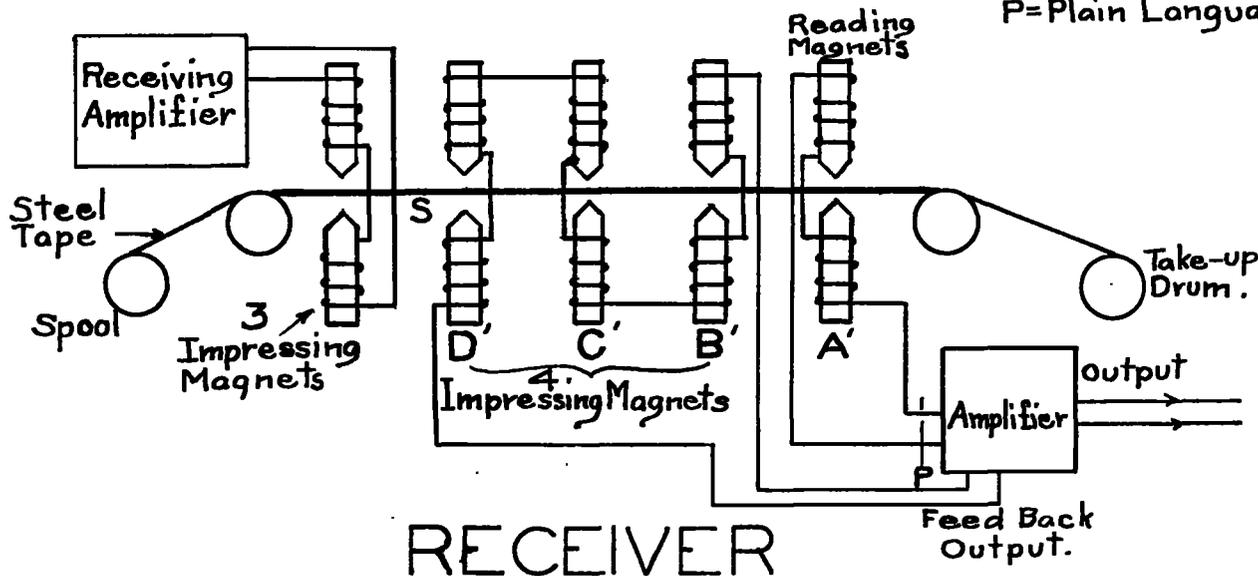
William F. Friedman.

Attached (no change)



# TRANSMITTER

S=Secret Language.  
P=Plain Language.



# RECEIVER

## SYSTEM AND MEANS FOR ENIPHERING AND DECIPHERING MAGNETICALLY-RECORDED SIGNALS.

Transmitting end: Electrical oscillations corresponding to input signals are recorded magnetically on a moving metal tape, the tape passing successively between the paired impressing magnets ABCD which are in series. Thus, the final or resultant magnetization of the tape corresponds to a sequence of blocks of algebraically superimposed frequencies representable by the sequence A, AB, ABC, ABCD, BCDE, CDEF, ..., the "A" block coming at the head of the train. When the record is passed between the paired reading magnets at 2, signals corresponding to the resultant magnetization are emitted or transmitted. These are enciphered signals.

Receiving end: The impressing magnets, 3, record the received signals magnetically on a metal tape moving at approximately the same rate of speed as at the transmitting end. The record passes between the paired magnets at 4. The magnet A' is a reading magnet and its output is led to the amplifier, where part of the energy is translated into final output, and part is fed back into the impressing magnets B', C', and D'. The electrical circuits are such as to cause the feed-back alternations impressed on B', C' and D' to be of opposite phase from the alternations fed by A' into the amplifier. This results in neutralizing and removing the homologous magnetic equivalents on the tape, leaving only the original plain language on the tape when it reaches magnet A'. The signals at this point are deciphered signals.

Disclosure made by inventors  
May 12, 1936 from Memorandum  
May 17, 1936 Richard D. Lawlor  
Office Ch. Eng. officer  
May 22, 1936 Larry H. Johnson  
Office Ch. Eng. officer

Invented Nov 12, 1930 by  
William J. Finckel  
Frank S. Miller, et al.

OCSigO-334.7-Sig.C.  
Patent Board.

WAR DEPARTMENT  
OFFICE OF THE CHIEF SIGNAL OFFICER  
WASHINGTON

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September 1, 1936.

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Mr. W. F. Friedman

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Attached: Invention 5-12-36

Louis E. Bender,  
Lieut. Col., Signal Corps.

1st Memo Ind.

Washington, D. C., December 17, 1936 - To: O.I.C., Research and Development Division, OCSigO.

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Harrod G. Miller,  
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Attached (no change)

William F. Friedman.

*Copy for Mr. Friedman*