

~~CONFIDENTIAL~~

COPY

Patent Application on Facsimile Encipherment

1 Mr. Hall,
Patents Sec.
Legal Div.,
OCSigO

In accordance with our telephone conversation a few days ago, I am sending you herewith a copy of the sketches, description and correspondence relative to certain systems for enciphering facsimile which were conceived and forwarded to the Patent Section a number of years ago. I hope that it is not too late to file on either of both of these systems and, in view of the fact that processing was not started soon after the recommended action of the Patents Board, I would like to suggest that these cases be given some priority if possible. I am particularly interested in the one dated January 24, 1936 because I believe it would be much more practicable than the other in connection with present facsimile systems.
Incls.

Wm. F. Friedman
Sig.Intel.Serv.
6-6-42

(_error in original)

Declassified and approved for release by NSA on 07-22-2014 pursuant to E.O. 13526

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OCSigO-334.7-Sig.C.Patent Bd.

January 8, 1937.

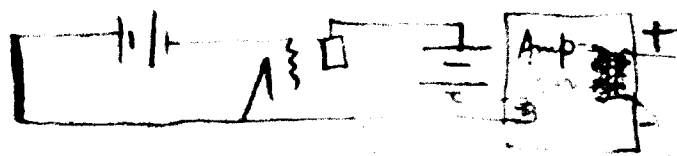
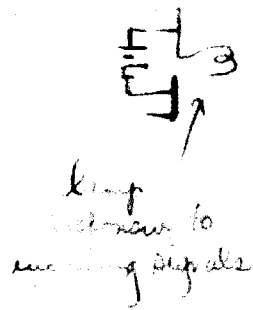
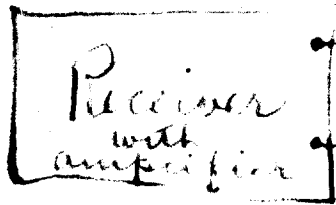
MEMORANDUM FOR: Mr. W. F. Friedman

1. Reference is made to memorandum from this office dated September 1, 1936, concerning the action of the Signal Corps Patent Board on two inventions of yours and Colonel Hamborgne's.

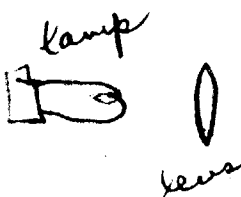
2. This office has directed that applications for patents of the inventions referred to be filed under the provisions of Par. 5, A.R. 850-50 and that such applications be placed under the "Three Year Rule" as provided for in Section 4894 R.S., as amended by U.S.C. Title 35, Section 37.

By order of the Chief Signal Officer:

H. P. Browning,
Major, Signal Corps.



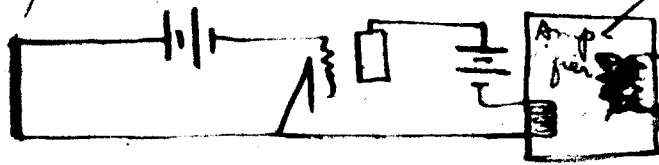
Amplifier
with
output of
pulsating
D.C. of
opposite
polarity



Camouflage

An exact duplicate, positive image of the screen as transmitted will produce a negative image of original message transmitted. An exact duplicate, negative image of the screen at transmitting station will produce a positive image of original message transmitted.

light sensitive
cell



lens
photo
plate
or
paper
(light sensitive)

Receiving Station

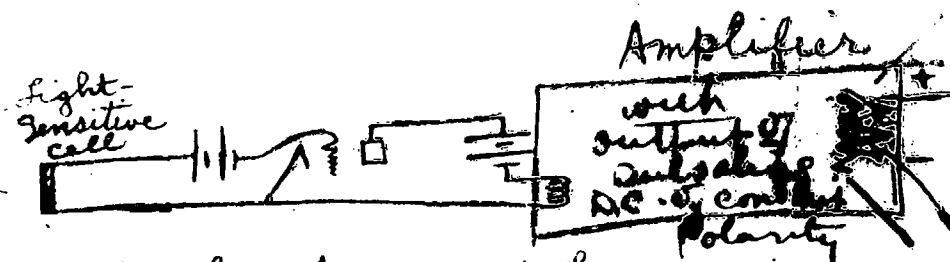
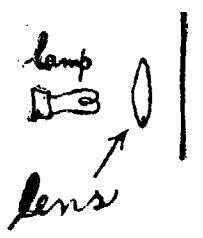
William F. Friedman } Inventors
J. H. Langlois

Disclosed to us this 25th of Jan 1926 at Washn. D.C.

Guy D. Stoddard
Paul S. Edwards

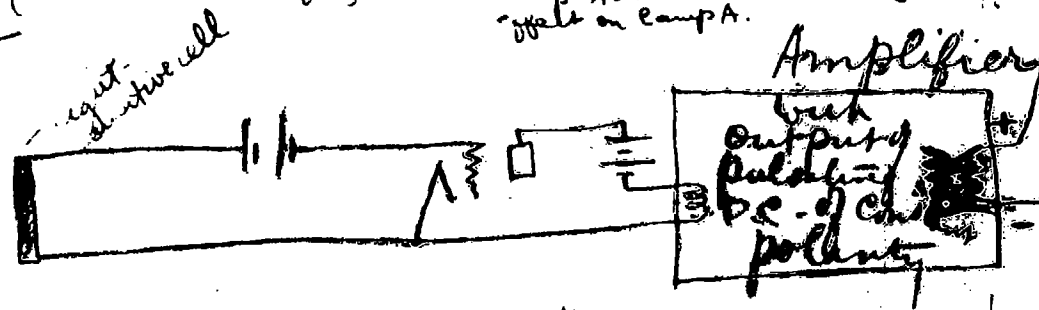
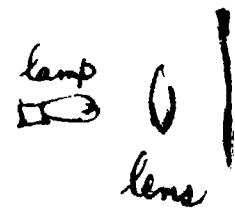
- Operation of Lamp A' according to four cases:
- Case 1 { Signal in receiving circuit } increase in potential through A' across C'-D' in receiving circuit part of bridge. increases glow.
 - Case 2 { no signal in receiving circuit } increase in potential through A' across B'-C' in camouflage circuit part of bridge. increases glow.
 - Case 3 { signal in receiving circuit } Equal and opposite potentials established through Lamp A'. No effect on glow.
 - Case 4 { no signal in receiving circuit } no effect on Lamp A'.

message
negative



- Operation of Lamp A according to four cases:
- Case 1 { signal in message circuit } = Decrease in potential through Lamp A, across C-B, in message-circuit part of bridge. increased glow.
 - Case 2 { no signal in message circuit } = Increase in potential through Lamp A, across B-C, in camouflage-circuit part of bridge. increased glow.
 - Case 3 { signal in message circuit } = equal and opposite potentials established through Lamp A, No effect on Lamp A.
 - Case 4 { no signal in message circuit } = no increase or decrease in potential, same as original or steady potential, through Lamp A due to its local voltage. No effect on Lamp A.

Camouflage



Equal and opposite potentials established across Lamp A sensitized by local voltage

message-circuit part of bridge

across Lamp A sensitized by local voltage



Lamp A

Camouflage-circuit part of bridge

light sensitive cell

Transmitting station

To modulator tube of transmitter



William F. Friedman { Inventor
William B. Chace }
Disclosed to us this 25th Jan. 1926
at Wash. D.C.
By [Signature]