

1. THRU AS-80 AS-71 6 May 1947 Applications for Patent - SN
TO AS-90 478,193, and SN 478,868

1. Inclosures 1 and 2 are forwarded for evaluation and return.
2. The applications are currently classified confidential. The question is whether the inventions may be declassified so that patents can issue and be exploited commercially.
3. Both disclosures relate to facsimile privacy apparatus.
 - a. Serial Number 478,193 involves the derivation of an on-off signal from a black and white message (picture) and another on-off signal from a dummy picture. The dummy message may or may not be intelligible in itself. The two signals are added by a system of relays so that, when message and dummy signals are alike (both "ons" or both "offs"), an off signal is transmitted while two unlike currents result in the transmission of an on signal. This is, in other words, according to the so-called Vernam rule. At a receiving station, the dummy message or key is subtracted.
 - b. Serial Number 478,868 describes a system essentially like the above except that addition is accomplished by tubes instead of relays.
4. Further information about the subject applications may be obtained, if necessary, from Chief, AS-72.

2 Incls

1. Pat Appn SN 478,193
2. Pat Appn SN 478,868

/s/ Leo Rosen
for S. KULLBACK, Chief
Research Laboratories Div.
Ext 284

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2. THRU: AS-80 May 9 47 Applications for Patent - SN
AS-90 478,193 and SN 478,868
TO:
AS-71

The Security Division has no objection to the declassification and release of these patent applications.

2 Incls
n/c

/s/ H. L. Clark
for A. SINKOV
Chief, Security Division
Ext 241

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3. AS-70 AS-90 15 May 47 Applications for Patent - SN 478,193
and SN 478,868

Operations Division has no objections to the declassifying
and release of these patent applications.

2 Incls
n/c

/s/ Frank B. Rowlett
Chief, Operations
Division
Ext 315

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4. AS-20 AS-71 23 May 47 Applications for Patent - SN 478,193
and SN 478,868

1. In response to the oral request by Captain Woehlke for recommendations and comments regarding patent applications of William F. Friedman, serial numbers 478,193, 478,868, and 551,172, numbers 478,193 and 478,868 were circulated through AS-80 and AS-90.

2. Certain background information with respect to the two cases and brief descriptions of the inventions thereof appear in Comment 1.

3. Serial Number 551,172 was not circulated since the application had never been classified. A draft of the case was considered before filing; the views of the interested branches and individuals may be found in an R & W, 24 July 1944, subject: Authenticating Device, through Chief, C Branch, to Commanding Officer, Signal Security Agency, and six subsequent actions, the final action being an approval by the Assistant Chief, Signal Security Agency, for the filing of an unclassified patent application.

4. It is recommended that the three applications be declassified in accordance with the policy established by a memorandum for Chief, Army Security Agency, from War Department General Staff, Military Intelligence Division, G-2, 29 April 1946, subject: Release of Cryptographic Principles, as modified by a letter from Chief, Army Security Agency, to AS-70, AS-80, and AS-90, 10 April 1947, subject: Procedure for Release of Information Concerning Secrecy Patents.

5. Return of the copies of the applications is requested.

3 Incls
1. n/c
2. n/c
3. Pat Appn SN 551,172

/s/ S. Kullback
Chief, Research Lab.
Ext 284

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5. THRU:
AS-24 AS-14 3 June 47 Applications for Patent - SN
TO: 478,193, SN 478,868, and
AS-20 SN 551,172

In view of the fact that I am an interested party as the inventor of these patents, I prefer not to go on record as either favoring or not favoring the declassification of these patents.

/s/ William F. Friedman
Chief, Communications Research
Ext 215

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AS-24 AS-20 5 June 47 Applications for Patent - SN
478,193, SN 478,868, and SN
551,172

6. Materiel Section, Staff has no objections to the declassification of subject patents.

3 Incls
n/c

/s/ Arthur V. Whitehead
Major, Signal Corps
Chief, Materiel Section,
Staff
Ext 216

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AS-10 AS-23 5 June 47 Applications for Patent - SN 478,193
and SN 478,868

- 7.
1. Patent Applications (Systems for Enciphering Facsimile), Serial Nos. 478,193 and 478,868 basically employ the Vernam rule for enciphering a black and white picture signal with a dummy black and white picture signal. The dummy picture signal is employed in the nature of a key. The difference between the two cases is that Serial No. 478,193 utilizes relays and Serial No. 478,868 employs tubes to perform the combining function.
 2. Patent Application, Serial No. 551,172 (Authenticating Device) employs rotors, a rotary switch with a plugging arrangement, and a strip of random numbers. A current passing through the predetermined connections of plugs and arrangement of the rotors will light a lamp which will give a number which may be used as an authenticator.
 3. Patent Applications, Serial Nos. 478,193 and 478,868 were circulated by AS-70 to AS-80 and AS-90 in accordance with current policy.
 4. Patent Application, Serial No. 551,172 was not circulated at this time since the application was never classified. The Assistant Chief, Signal Security Agency approved the application for filing as an unclassified patent application on 21 August 1944 (Inclosure 1).
 5. AS-70, AS-80, and AS-90 agree that the patent applications may be declassified so that patents can issue.
 6. Recommend signature of the attached Disposition Form.

3 Incls

1. Routing & Work Sheet
subj: Authenticating Device
2. Patent Applications Serial
Nos. 478,193; 478,868;
551,172
3. Disp Form to CSigO for sig

/s/ Paul E. Neff
Lt. Colonel, Signal Corps
Acting Deputy Chief
Army Security Agency
Ext 498