

IN THE UNITED STATES PATENT OFFICE

RE: Application of *
 WILLIAM F. FRIEDMAN *
 and FRANK B. ROWLETT *
 Serial Number *
 70,412 *
 Filed *
 23 March 1936 *
 For *
 CRYPTOGRAPHS *

* * * * *

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Division 53

AMENDMENT

4 Oct-1948

The Honorable Commissioner of Patents
 Washington 25, D. C.

Sir:

This is in response to Patent Office action of 4 October 1945 in the above-identified application for patent. Please amend the case, which is being prosecuted under the so-called three-year rule, as follows:

IN THE CLAIMS

- Claim 21, line 2 - After "indicating elements" insert - electrically related therewith - .
- 2 - Cancel "said elements being electric-".
- 3 - Cancel "ally interrelated".
- 5 - After "interchangeable" cancel the amendment of 20 July 1942 and insert - and including means related therewith for moving the same according to a law established by the output of said commutators - .

- Claim 34, line 2 - After "message" insert - of characters - .
- 2 - After "relation" insert - comprising a plurality of variable functions - .
 - 4 - Cancel "changing the" and insert - providing a different - .
 - 5 - Cancel "in a manner dependent on the said cryptographic".
 - 6 - Cancel "relationship for said first character" and insert - by varying a said function selected according to an unpredictable rule - .

- Claim 35, line 2 - After "message" insert - of characters - .
- 2 - After "relationship" insert - comprising a plurality of variable functions - .
 - 4 - After "changed" insert - at predetermined intervals by varying a said function selected to an unpredictable rule. - .
 - 5 - Cancel.
 - 6 - Cancel.

- Claim 40, line 1 - Before "commutators" insert - cryptographic - .
- 1 - After "commutators" insert - mounted for rotation relative to each other to establish different pluralities of electrical paths therethrough - .
 - 2 - After "vary" insert - the said electrical paths - .
 - 3 - Cancel "therethrough".
 - 3 - After "commutators" insert - essentially similar to the first-mentioned commutators - .

Claim 40, line 5 - Cancel "vary" and insert - select commutators of the first-mentioned plurality for movement in - .

5 - Change "fashions" to - fashion - after which insert - to vary - .

Claim 41, line 2 - Cancel "or the like".

3 - Cancel "or the like".

Claim 42, line 2 - Cancel "or the like".

3 - Cancel "or the like".

REMARKS

Claim 21 has been amended to define more definitely the electrically related elements. It has been further amended to clarify the term "law" which appears in the latter part thereof, the explanation being that a different cryptographic law or rule is established for each stepwise displacement of a cryptographic commutator notwithstanding it is also not inaccurate to say that the commutator cascade in and of itself determines the law of the machine.

Claims 34 and 35 have been changed substantially in meaning although they retain the form of method claims. The claims are now directed to the concept of providing a series of variable steps in a cryptographic process and then varying the steps selectively as required by an unpredictable rule or keying sequence.

Claim 40, as amended, describes the nature of the commutators, mounts them in definite positions relative to each other, and explains the manner in which the outputs thereof are utilized. It is believed no longer subject to the criticism of lack of utility.

Claims 41 and 42 have been amended to eliminate the alternative expressions therein.

Applicants' method could be applied to any of the devices of the patents of record although some reorganization would in each case be necessary. Considering Morris, 1,953,829, for example, all that would be required would be the utilization of the output of a control maze like that of the Applicants to the selection of pawls 25. The machines of Korn and Scherbius could not be readily adapted for the practice of Applicants' process since the cryptographic commutators thereof are positively geared to a main driving element. If, however, the rotor-driving arrangement of Korn and Scherbius should be replaced by known ratchet and pawl mechanisms, the remarks made above in connection with Morris would apply. Furthermore, a pencil and paper analogy can be easily envisioned.

Reconsideration and favorable action are requested.

Continued prosecution under the so-called three-year rule is requested.

Respectfully,

WILLIAM F. FRIEDMAN and FRANK B. ROWLETT,
Applicants

By Henry B. Stauffer
Their Attorney