

IN THE UNITED STATES PATENT OFFICE

RE: Application for Patent of *
 WILLIAM F. FRIEDMAN *
 *
 Serial Number *
 107,244 *
 *
 Filed *
 23 October 1936 *
 *
 For *
 CRYPTOGRAPHS *

* * * * *

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Division 23

AMENDMENT

30 June 1952

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

Sir:

This is in response to Patent Office action of 29 December 1951 in
the above-identified application for patent. Please amend the case
as follows:

IN THE CLAIMS

- Claim 2, line 3 - After "of" insert - more than two - .
- Claim 3, line 3 - After "of" insert - more than two - .
- Claim 4, line 3 - After "of" insert - more than two - .
- Claim 5, line 3 - After "of" insert - more than two - .
- Claim 7, line 3 - After "of" insert - more than two - .
- Claim 9, line 3 - After "of" insert - more than two - .
- Claim 10, line 3 - After "of" insert - more than two - .
- Claim 11, line 4 - After "of" insert - more than two - .
- Claim 13, line 7 - After "comprising" insert - more than two - .
- Claim 14 - Cancel.
- Claim 15, line 2 - After "of" insert - more than two - .
- Claim 16, line 2 - Before "rotatable" insert - more than two - .
 2 - Cancel "or the like".
- Claim 17, line 2 - Before "rotatable" insert - more than two - .

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REMARKS

In view of the radical deviation in the treatment of the claims in the rejection of 29 December 1951, as compared with that of the earlier prosecution, Applicant prefers not to consider the said action as final.

With the exception of Claims 6, 8, and 12, and 14, which has been cancelled, all claims have been amended to require a series of more than two rotors. The apparatus and method now defined differ not in degree but in kind. This is apparent when it is considered that the cryptographic result in DAMM, 1,540,107, is the same when element C_1 is stepped "forward" one position relative to C_2 as when element C_2 is stepped "backward" one position relative to C_1 . This is not a true permutative arrangement such as is described and claimed in the present application.

The limitative nature of the DAMM device is a result of the peculiar construction of the ciphering members C_1 and C_2 , requiring that an input character (A, for example) always enter the device through the same contact. Likewise, any input to element C_2 always exits from the device at exactly the same point.

Furthermore, it will be noticed that it is not feasible, if possible at all, to associate more than two of the ciphering elements of DAMM to obtain anything approaching a cascade effect (as called for by some of the claims) or to effect "permutative stepwise displacements" thereof (as required by others).

Claims 6, 8, and 10 require in themselves, or depend upon claims which require, a plurality of more than two rotors, and the remarks above therefore apply. Regarding these claims further, along with Claim 12, rejected as substantially met by DAMM, Applicant feels that the Examiner should state his rejection with more particularity since this rejection also represents an exact reversal of the position taken earlier in the

prosecution, see, for example, the action of 2 May 1944 and the amendments preceding and succeeding the same. It is submitted that in the art of cryptography as it relates to machines of the general type here involved substantial absence of periodicity in the keying elements represents the difference between operativeness and inoperativeness. The use of prime numbers in the relation required in Claims 6, 8, and 12 and the requirement of substantial aperiodicity (Claim 10) apparently were new with the Applicant, no suggestion thereof appearing anywhere in the prior art.

Reconsideration is requested of the rejection of Claims 15 and 16 as not patentable over DAMM. As amended, these claims require more than two character-displacing members and, thus, explicitly (Claim 15) or implicitly define a cascade effect such as was referred to above. Apropos of the fact that the key discs of the patent, as N_1 , are illustrated as being of different sizes, Applicant wishes to deny that this justifies the assumption that these wheels are moved at different angular rates since DAMM nowhere mentions any such feature.

Further consideration also is requested of the rejection of Claims 15, 16, and 17, as amended, on the ground that they represent merely the functions of Applicant's apparatus. While they are said to be worded in terms of apparatus features, it should be noted that these features are largely introductory, the method in each case being properly stated. The simple fact that a method has an object to act upon is not objectionable, the classical definition of a method being "either a force applied, a mode of application, or the specific treatment of a specific object (producing) physical effects" and in *COCHRANE v DEENER*, 94 U. S. 780, the Court defined a process as "a mode of treatment of certain materials to produce a given result." As Applicant has pointed out earlier in the prosecution, there is in any event substantial inconsistency in rejecting a claim as functional and at the same time rejecting it as met or substantially met by other patented art.

A slight change in Figure 2 of the drawings is being requested of the Chief Draftsman. It is believed that this will obviate the Examiner's objection, lines 20-22, page 3 of the Action of 29 December 1951.

Favorable action is requested.

Respectfully,

WILLIAM F. FRIEDMAN, Applicant

By Henry B. Stauffer
His Attorney