WAR DEPARTMENT

OFFICE OF THE CHIEF SIGNAL OFFICER WASHINGTON

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MEMORANDUM RE CIPHER DEVICE M-138, SECTIONALIZED TYPE.

- 1. Let the sections be channeled on both obverse and reverse faces.
- 2. Assuming equal-width sections of 5-channels, with five sections comprising a set, the number of possible arrangements of sections totaling 50 different alphabet strips is $10 \times 8 \times 6 \times 4 \times 2 = 3840$. With six sections (60 alphabets) the total number is 46,080 arrangements.
- 3. Unequal width sections may also be used in the same manner. With 5 sections of 3, 4, 5, 6 and 7 channels, the are number of possible arrangements/also 3840. With seven sections 1, 2, 3, 4, 5, 6, 7 channels in width, the number of possible arrangements is 645,120.

William F. Priedman

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