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7 ROTOR BCM (CSP 4800)

OFF-LINE 26-WAY PERMUTING MACHINE

Size 16" wide by 12" high by 12" deep, approximately

Weight 100 lbs approximately

Outline Description - 7 rotor mechanism using the carcass of CSP 1700 (CCM Mk II) with a single tape printer and a non-locking keyboard.

Technical Description -

Cryptographic Features: 7 rotor non-reciprocal maze. Planned to use removable notch rings and alphabet tyres. Rotors are reversible. Progression is notch controlled. Likely order of drive is 4 6 2 7 1 5 3, with 4 6 and 2 forming a cyclometer and the rest moving as in CCM. Rotors 2 and 6 always step backwards. Alteration of the direction of rotation of any rotor involves mechanical work. Maze is read before stepping. Backwards and forwards motion occur simultaneously.

Mechanical Features: Non-locking 4-bank keyboard with the numerals 1 to 0 on the top bank. Printer is magnet operated. 26-letter single case encypherment only. Printer has 26 letters, space and numerals 1 to 0 only. Facilities switch gives following conditions:

O - off

P - plain (in this condition all keys are effective)

D - decypher

E - encypher

R - reset (in this condition the rotors can be set by the figure keys 1 to 7)

Hand-drive facility of CSP 1700 has been abandoned, and the operation is by low voltage. An AC motor is fitted, and the printer, etc. is directly AC operated.

Another facility switch changes from CSP 4800 to CSP 1700. In the 1700 condition blank rotors are inserted in positions 2 and 6 (the backwards rotors) and these rotors will turn.

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7 ROTOR BCM (CSP 4800)OFF-LINE 26-WAY PERMUTING MACHINEMechanical Features: (Continued)

A variant of this machine for weather operation (i.e. net) was also shown. The weather switch connects the figures 1 to 0, space and X on encyphment to the maze, and on decyphment connects the appropriate maze outputs to the numerical functions of the printer.

As an alternative to this scheme the same facilities may be provided by using special plugs and sockets connected into the snakes joining the scrambler to the machine base.

Socket connections for auto operation are provided.

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Size $\frac{1}{2}$ cubic foot - 12" x 12" x 6" approximately

Weight 15 pounds

Technical Description - This machine is cryptographically identical with the CSP 4800. The rotors, approximately $2\frac{1}{2}$ " in diameter will use removable notch rings and alphabet tires. Permits direct encryption of numerals.

State of Progress - Engineering model to be delivered about 15 November 1950.

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e

CSP-3600 (MCM)OFF-LINE HAGELIN-TYPE CIPHER MACHINE

Size 10" wide by 10" high by 6" deep approximately.

Weight 12-16 lbs approximately.

Outline Description - Keyboard operated, tape-printing cipher machine intended for very low echelon use. Hand powered with provision for modification to motor drive.

Technical Description

Cryptographic Features: 12 M-209 pin wheels adding their combined effect to a common drum. Key is the result of two steps of the pin wheels. Pins and lugs are settable, with a maximum of 6 lugs to a bar.

State of Progress - In development with one preliminary engineering model available.

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