The reperforator is driven by a 115V 50c/s motor, an auto-transformer being mounted below the desk top to enable this to be operated from the 240V main. The transformer is coupled by a three-way cable and six-pin plug to computer socket SK13, which is connected to the three phases of the main (pins A, B and C) and to neutral (pin D) and earth (pin E). Only phase A (pin A) is used in the present installation. (fig. 5)

5. Should it be required to operate two, or even three, separate reperforators from the computer, a special relay box is available, which can be fitted within the kneehole of the desk. This box contains eight relays, which can be made to switch the signals on socket SK11 as prescribed in an external-conditioning order. It is connected by cables and plugs to socket SK11 and to socket SK5, which is connected to external-conditioning relays RL5 and RL6. These two relays correspond to external conditions 16 and 32, i.e. to the third and second N-digits in significance in an external-conditioning order. The three output sockets on the relay box will be connected to the socket on the top of the desk and to two output sockets on the side of the right-hand wing. The auto-transformer below the desk top will provide power for up to three reperforators in parallel.

Later versions of the reperforator are fitted with 240v 50c/s motors. In such cases, the autotransformer is not fitted as the motors operate directly from the main supply.

**INTERPRETER**

6. The interpreter equipment consists of a Creed and Co. auto-transmitter, type 68/5-M, a Creed and Co. teleprinter receiver, type 54/R, and a special control unit, which is housed below the upper deck of the right-hand wing of the control desk. The system uses a '7 1/2 unit' code consisting of a 20 m.sec. 'space' element followed by five 20 m.sec. 'mark-or-space' elements corresponding to the tape character, and a 30 m.sec. 'mark' to complete the coding operation. The initial 20 m.sec. 'space' operates as a start-stop signal for the equipment in the following way: at the end of each character cycle, a mechanical delay device in the teleprinter is started. If the teleprinter does not receive a 'space' signal before the end of the delay period, which is about 80 seconds, the teleprinter and auto-transmitter motors are stopped automatically; the equipment can then be restarted only by moving the 'taut tape' arm on the auto-transmitter from 'taut' to 'slack'.

7. When the motors are stopped and restarted, the control unit interposes a delay to allow them to reach full speed before the interpreter clutch is re-engaged; thus no character is lost after the tape has been taut for a period long enough to stop the motors. Under certain circumstances, however, a single character may be lost when a new tape is inserted; consequently, tapes must always be inserted on a non-significant leader, never on a significant character.

8. The second function of the control unit is concerned with the operation of automatic carriage-return and line-feed on the teleprinter, which may be preset to give a line length of 4 to 68 characters. The control gives at the end of the line a delay long enough to allow the last character to be set up and printed before the carriage begins its return, and disengages the auto-transmitter clutch from the time that the carriage reaches the limit until it returns to the start position. It must be emphasised, however, that the auto-transmitter clutch is not affected during character-operated carriage-return and line feed, and that consequently it is possible for a character to