



It is a mechanical sender, which can transmit trains of impulses corresponding to 25 or 50 pre-determined numbers, dependent upon the size of the instrument. It is available to subscribers on a rental basis. The smaller size is illustrated in the first figure.

The mechanism is contained in a black japanned case having two labels fitted on the top on either side of the slider. In front of the case is a lever, which is depressed to provide the motive power for driving the mechanism. To call a number, the name of the required subscriber is first located by sliding the pointer, which is positioned by a ball click engaging with the notches in the locating rack. The lever is then depressed and permitted to return. During the return motion, the impulse trains required by the number selected are sent out.

The sending mechanism is controlled by a series of 25 or 50 castellated discs previously prepared in accordance with the numbers of the subscribers whom it is desired to reach. As supplied, the discs have 120 castellations; the disc is prepared for use by cutting out eight teeth between the sets of teeth corresponding to the called subscriber's number; thus, the number 3621 is prepared by leaving one tooth, cutting away eight teeth, leaving two teeth, cutting away eight teeth, leaving six teeth, cutting away eight teeth, leaving three teeth, and cutting away the remainder of the teeth. The cutting is done by means of a special pair of pliers (Tool, Instrument, No. 273). The 25, or 50, sets of discs are then replaced in the instrument in correct order as determined by the label numbering. The purpose of cutting away eight teeth between each digit is to provide for an inter-digit pause of 800ms.

The prepared discs are seen in position in the preceding and following figures.

In the preceding figure, it will be seen that the motive power is provided by a small clockwork motor, the speed of return being controlled by a governor. The selector carriage contains the impulse masking springs which are connected to the wiring through two slide bars and wipers. At the rear of the mechanism is the off-normal spring assembly.

The internal connections of the instrument are brought out to a connection strip and are shown in the following figure.

Associated with the start lever is a device for centering the drum of discs on its return to normal, to prevent any possibility of the drum coming to rest in a position where the impulsing cam is opening the impulsing springs, as in these circumstances the line would be disconnected.

Having selected the required number, and so placed the impulse masking springs in position against the required disc, the depression of the start lever winds up the clockwork motor. On release, the mechanism is driven round one revolution. So soon as the drum of discs moves away from its normal position, the off-normal springs change over and remain in this position until the revolution has been completed.

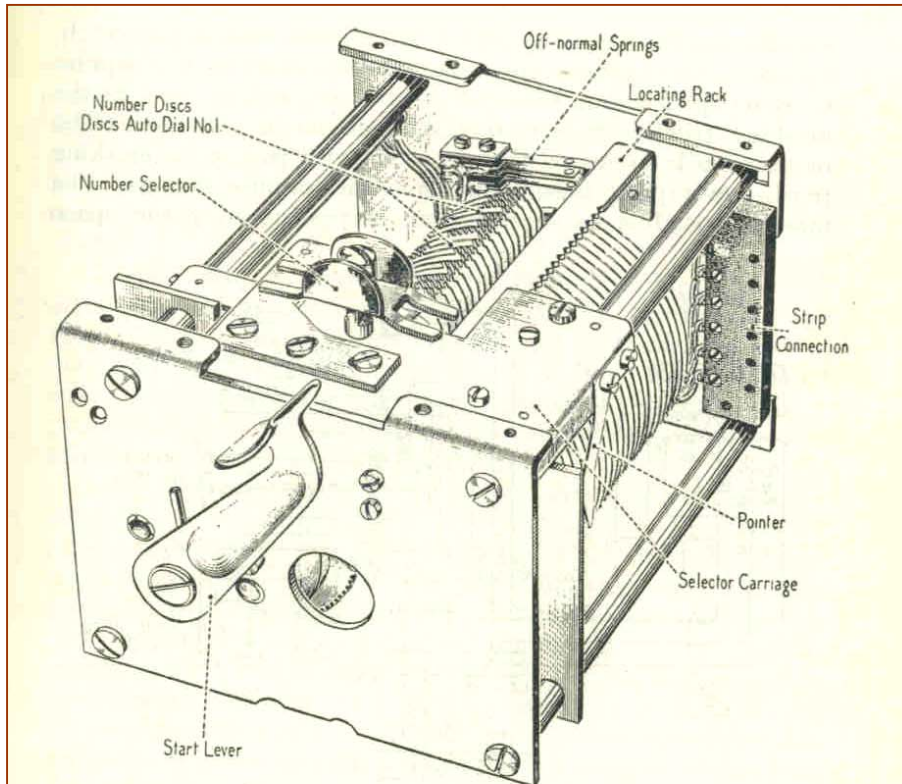


FIG. 49. MECHANISM, SEEN FROM FRONT

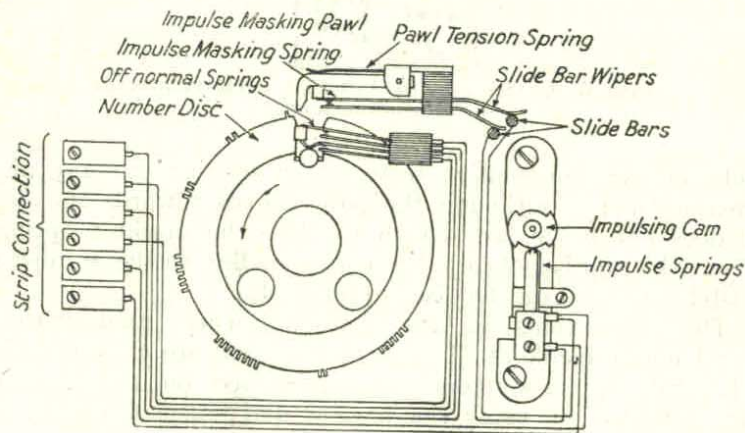
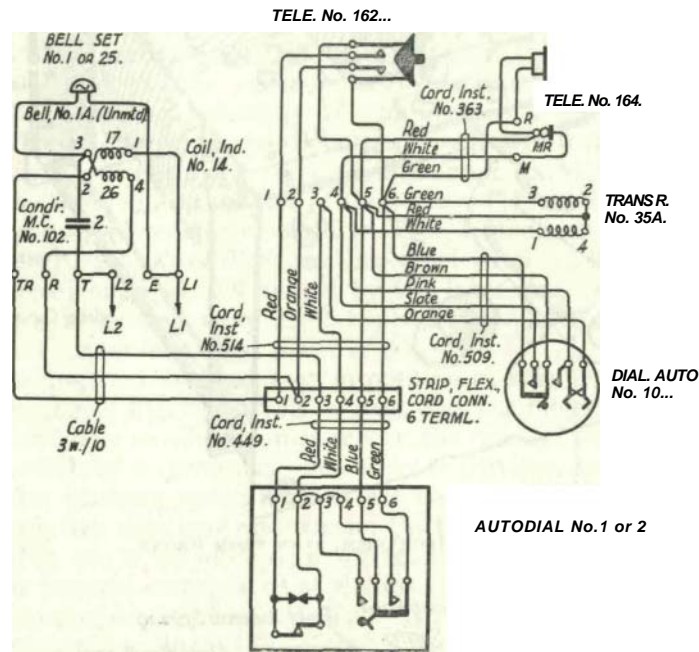


FIG. 50. INTERNAL CONNEXIONS OF AUTODIAL

The impulsing cam is driven round under the control of the governor and standard impulses are generated at the impulse springs. Until the impulse masking pawl is raised by a tooth or series of teeth, however, the impulse springs are short-circuited by the impulse masking springs and no impulses are sent out. So soon as the masking pawl is raised, this short-circuit is removed. The mechanism is so geared that as each tooth passes the masking pawl, one impulse is sent out from the impulse springs.

The masking pawl is so shaped that in passing over the space



between two consecutive teeth, as in sending out any digit greater than 1, although the pawl moves towards the disc, it does not move far enough to close the masking springs. Thus, the number of impulses corresponding to the number of castellations left on the disc are sent out. The connexions of the Autodial when used with a hand micro-telephone (Telephone No. 162) are shown in Fig. above. Calls to subscribers not represented on the Autodial are obtained by using the normal dial associated with the telephone.



