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L. NEUMANN
TELEPHONE APPARATUS
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2,161,232

Fig. 1

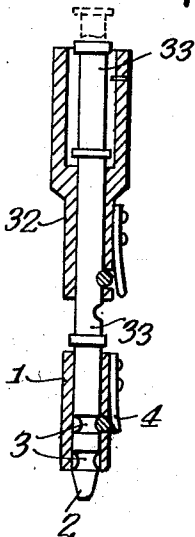


Fig. 2.

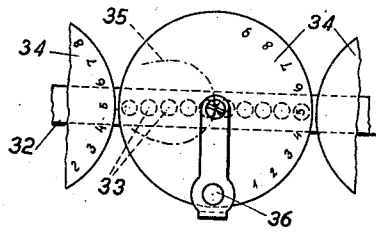
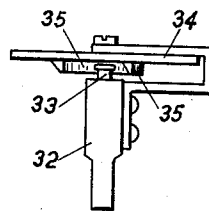


Fig. 3.



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TELEPHONE APPARATUS

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7 Claims. (Cl. 179-90)

This invention relates to means for setting the switching stops of quick selecting (dialing) devices for putting through telephone calls in automatic telephone systems.

Quick selectors or dialing devices for use in connection with the telephones of automatic telephone systems comprise a number of stop or key combinations corresponding to telephone numbers to be called, which combinations may be selectively brought into engagement with the selecting contact of the apparatus or set. When the selecting contact is run off against any one combination of stops corresponding to a telephone number to be called the contact is operated in accordance with this combination. The setting once and for all of a certain combination of stops corresponding to a certain telephone number is effected by the subscriber himself, and may be accomplished for instance by moving or turning stops held in a carrier member, each such carrier member being allotted to a telephone number in the range of numbers for which the apparatus may be set at any one time. This setting of the stops in the carrier represents, however, a great source of error, since it is very easy to make mistakes in counting, and since as a rule it is necessary to push in one stop more for each call than there are digits in the number concerned. In accordance with the present invention this drawback is obviated by providing a template on which stops may be arranged in combination, and which when set down on a carrier of the quick selecting or dialing device brings the switch elements of the latter into the working or operative position according to the number for which the stops on the template were set. Thus the possibility is provided of setting the desired number on a device which is separate from the quick selector itself, and which may easily be made with adequate accessibility and clearness to avoid the occurrence of any mistakes in setting. The structural parts of the quick selecting (dialing) device which do not directly serve for the setting of the numbers, and which tend to confuse the user when setting the numbers at the apparatus itself are thus no longer capable of giving rise to mistakes in the setting.

A form of construction embodying the invention is shown, by way of example, in the accompanying drawing, in which:

Fig. 1 is a transverse section through the template.

Fig. 2 is a plan view of the same.

Fig. 3 is a side elevation.

Referring to the drawing, the carrier for the stops for the operation of the selecting contact takes the form of a rod 1. The stops are in the form of pins 2 which are arranged to be longitudinally displaceable in the rod 1. If the pins are pressed downwards in their respective sockets in the carrier rod their lower ends come into the path of movement of the selecting contact which is not shown in the drawing. For the purpose of defining the two end positions of the stop pins 2 these latter are provided with two notches 3 adapted for snap engagement by a steel wire 4 attached to the carrier, when the stops are in either of the end positions. In accordance with the present invention a template is employed for the setting of the pins 2. The template consists of a rod 32 similar to the carrier 1, from which slidable stops 33 project on the upper side. Each of the stops 33 of the template corresponds to a stop in the carrier 1 and also occupies the same relative position. Each group of stops corresponding to a digit in the numbers to be set is provided with a separate selecting member for the purpose of bringing the stops into the operative position. The selecting member consists of a disc 34 rotatably mounted on the rod 32 and having on its under side a spirally shaped and one-sidedly chamfered or bevelled-off setting ledge 35. On rotation of the disc this ledge comes within the range of the upper ends of the stops 33, and on striking against these stops it depresses them with its oblique end surface. According to the angle through which the disc is rotated a larger or smaller number of stops become pressed down.

The disc 34 is held from above on a carrier which is secured to the rod 32. The carrier is provided with an aperture 36 in which the desired numeral of the scale marked out on the rear side of the disc 34 is set, so that the desired number may be selected in a manner similar to that in using an ordinary telephone dial.

When the setting of the required number has been effected in all the groups the displaced stop pins must be arrested in their position. For this purpose the stop pins 33 are provided with a groove for snap engagement, in a similar manner to that described in connection with the stops 2, from the side by a spring steel wire common to all the stops, this wire being however under greater tension than that associated with the stops 2, so that the pins 33 are not pressed back when the template is being used to push in the stops on the selector proper. Instead of a spring arresting wire a rigid rail or

the like may also be used to engage in the grooves to hold the protruded pins on the template.

The described template, after having been set as described, is then employed in the following manner to set the corresponding number on one of the carriers 1 of the selecting or dialing device: At both ends of the carried rod 1 there are provided guides in which the template is inserted. By pressure exerted upon the template the stops 2 corresponding to the number to be called are brought into the operative position by the protruded stops 33. The template according to the invention, which has been described in a form of construction suitable for use in connection with rectilinear stop carriers, may equally well, after slight adaptation or modification devisable by ordinary mechanical skill, be employed in connection with differently shaped, for example curved, switch stop carriers.

I claim:

1. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, and means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions.

2. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, and means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, said means comprising a selecting member for each digit with provisions for displacing the stops into the positions corresponding to the number to be called.

3. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, and means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, said means comprising a selecting member for each digit with provisions for displacing the stops into the positions corresponding to the number to be called, said stops of said template having upwardly projecting portions on which said selecting member acts.

4. In means for setting the switch stops of quick selectors for putting through telephone

calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, and means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, said means comprising a selecting member for each digit with provisions for displacing the stops into the positions corresponding to the number to be called, said selecting member comprising a rotary disc having a spirally shaped setting ledge which, upon rotation of the disc, brings the stops of said template consecutively into their operative positions so that to a definite angle of rotation there will be a certain number of the template's stops brought into operative position.

5. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, and means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, said means comprising a selecting member for each digit with provisions for displacing the stops into the positions corresponding to the number to be called, said selecting member comprising a rotary disc having a spirally shaped setting ledge which, upon rotation of the disc, brings the stops of said template consecutively into their operative positions so that to a definite angle of rotation there will be a certain number of the template's stops brought into operative position, said disc comprising a dial inscribed with the numbers capable of being selected.

6. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, means for setting selected stops on said template to give the number desired to be called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, and means to arrest the stops of the template in their end positions.

7. In means for setting the switch stops of quick selectors for putting through telephone calls in automatic telephone systems, the combination with a switch stop carrier having a set of stops, of a template having a set of stops corresponding to the number to be called and arranged to cooperate with the stops of said switch stop carrier, means for setting selected stops on said template to give the number desired to be

called, in virtue of all of which, when said template is set down on one of the switch stop carriers of the selector, the elements of said carrier which come under the influence of the selected stops that have been set will be set to their operative positions, and means to arrest the stops

of the template in their end positions, said arresting means comprising transverse grooves on the stops and a stationarily located yieldable element to engage in said grooves one at a time.

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