

P J STOCKER 4

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(72) Inventor PETER JOHN STOCKER

(54) INTERLOCK SWITCH MECHANISM FOR TELEPHONE SUBSET

(71) We, STANDARD TELEPHONES AND CABLES LIMITED, a British Company, of 190 Strand, London, W.C.2, England do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to telephone subsets having repertory call making facilities and in particular to an interlock switch arrangement for providing programming of such a subset with its handset raised but the instrument remaining an 'on-hook' condition. Increasing use is being made of push-button telephone subsets having repertory call making facilities and in which the handset, when on hook, partially obscures the key-block via which call codes are inserted in the subset. Telephone operating requirements demand that programming of the subset can be performed only when it is in its 'on-hook' condition. It is clearly unsatisfactory that, in order to programme the subset, the subscriber should have to remove the handset and then hold the cradle bar in its 'on-hook' condition whilst programming is effected.

The object of the invention is to minimize or to overcome the disadvantage.

According to the invention there is provided a programme store switch arrangement for a telephone subscribers instrument of the type having repertory call making facilities, including a slide switch operable between a first standby position and a second programme or store position, a hook ended bar member attached to the slider of the switch, a cradle bar provided with a profiled opening adapted to receive the hook when the cradle bar is in its on hook position and the switch is operated to its store position, and spring means for urging the switch to its standby position, and in which said opening and hook ended bar are so arranged that, when the handset is raised with the hook inserted in the opening, the cradle bar rises sufficiently to engage the hook thus retaining the switch store position and holding the instrument on hook.

An embodiment of the invention will now be described with reference to the accompanying drawing in which:—

Fig. 1a is a schematic cross section of a telephone subset fitted with an interlock store switch arrangement in its off-hook condition;

Fig. 1b shows the subset with the cradle switch locked on hook; and

Fig. 1c shows the subset with the cradle switch on hook and the interlock store switch released.

Referring to the drawings, the telephone subset includes a hook switch mechanism 11 operated via a cradle base 12. The circuitry of the subset is contained in a housing 13 on which is mounted a slide switch 14 operation of which places the subset in its store mode. A hooked bar member 15 is mounted on the slider 16 of the switch 14 and is provided with a return spring 17 attached to the switch body. The cradle bar 12 has a notch 18 adapted to receive and engage the hook 19 of the bar 15 when the subset is switched to its programme mode of operation by the subscriber.

The sequence of operations is shown in Figs. 1b and 1c. As shown in Fig. 1b the slider 16 of the switch 14 is pushed against the return spring 17 towards the cradle bar, i.e. the switch is moved to its program or store position, causing the hook end 19 of the bar 15 to enter the notch 18 in the cradle bar 12. The handset (not shown) may then be removed allowing the cradle bar to rise slightly so as to engage the hook 19 in the notch 18, but insufficiently to operate the contact associated with the hook switch. Programming of the instrument may now be effected.

When programming is completed the handset is replaced depressing the cradle bar 12 sufficiently to release the hook 19 from the notch 18. The return spring 17 urges the bar 15 away from the cradle bar 12 thus returning the switch 14 to its standby position.

As can be seen from Fig. 1a operation of the switch 14 with the instrument in its off

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hook position is prevented by abutment of the bar 15 against the cradle bar 12.

5 In some applications the slide switch 14 may be replaced by a microswitch operated via a push-button fixed to the bar 19.

10 It is to be understood that the foregoing description of specific examples of this invention is made by way of example only and is not to be considered as a limitation on its scope as defined by the appended claims.

WHAT WE CLAIM IS:—

15 1. A programme store switch arrangement for a telephone subscribers instrument of the type having repertory call making facilities, including a slide switch operable between a first standby position and a second programme or store position, a hook ended bar member attached to the slider of the switch, a cradle bar provided with a profiled opening adapted to receive the hook when the cradle bar is in its on hook posi-

tion and the switch is operated to its store position, and spring means for urging the switch to its standby position, and in which said opening and hook ended bar are so arranged that, when the handset is raised with the hook inserted in the opening, the cradle bar rises sufficiently to engage the hook thus retaining the switch in its store position and holding the instrument on hook.

2. A programme store switch arrangement for a telephone subscribers instrument of the type having repertory call making facilities substantially as described herein with reference to the accompanying drawing. 35

3. A telephone subscribers instrument when fitted with a programme store switch arrangement as claimed in claim 1 or 2.

S. R. CAPSEY,
Chartered Patent Agent,
For the Applicants.



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2. A programme store switch arrangement for a telephone subscribers instrument of the type having repertory call making facilities substantially as described herein with reference to the accompanying drawing.

3. A telephone subscribers instrument when fitted with a programme store switch arrangement as claimed in claim 1 or 2.

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