

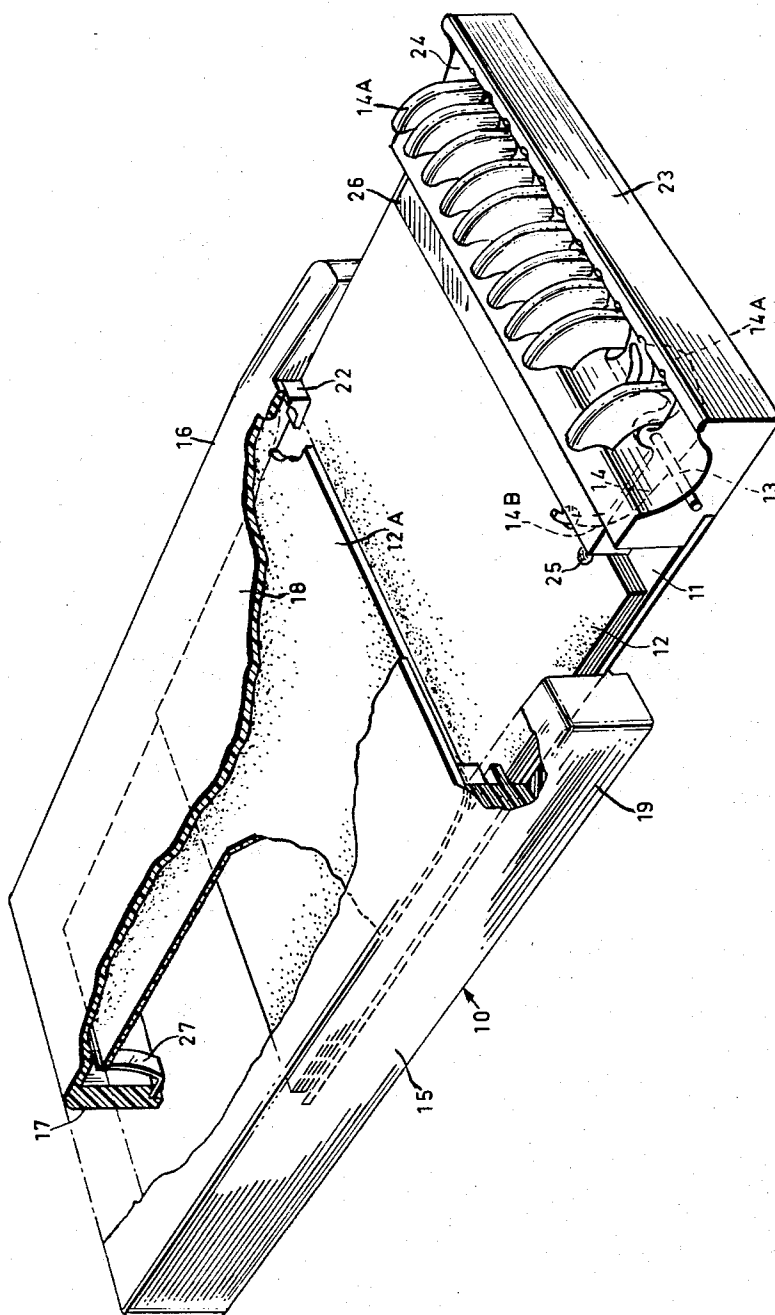
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TELEPHONE INDEX

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TELEPHONE INDEX
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The present invention relates to a telephone index of the kind that is preferably intended to form a base plate for a table telephone and in which the numbers of various subscribers may be recorded on index cards which can be made visible by a simple manipulation when the number of a certain subscriber is to be locked up.

A telephone index of this general kind is the subject matter of the Swedish Patent 173,234. This previously known telephone index consists of a flat case in which a tray is movably guided. The tray carries a pile of cards from which any desired number of index cards may be pulled out. The bottom side of the tray is provided with a shaft on which a number of double-armed levers are pivotally journaled in a row. When the tray is located within the case, the fore end of the double-armed levers are accessible for individual manual actuation. The rear ends of the levers are designed with upwardly projecting heads in each of which a pulley is rotatably journaled and projects slightly above the top of the head. At the rear ends of the levers the tray is provided with an opening through which the heads with their pulleys, which are normally in their inoperative position located beneath the top of the tray, may be moved up by pivoting the levers.

At the rear edges the index cards are provided with notches the width of which increases from one card to the next in such a way that on actuation of a lever the head thereof is moved up through the notches in a predetermined number of index cards and brings these cards along when the tray is pulled out. The remaining cards, on the other hand, are pressed by the pulley against the underside of the upper wall of the case and are kept against it by friction while the tray is being pulled out.

The telephone index described above has become quite popular and functions rather satisfactorily, but nonetheless it cannot be denied that there are some inconveniences and defects connected with it. Inter alia, it should be mentioned that owing to the rather long levers it is difficult to achieve sufficient accuracy in the manufacture and that the levers may become warped after using the index for some time. It is another inconvenience that the index consists of a rather great number of separate parts so that the assembly becomes bothersome and consequently rather expensive. Still another inconvenience is that the individual index cards are, so to speak, pushed out by action on their rear edges. This has the result that if one of the index cards should, owing to a slightly irregular position, for instance, be hard to move, the pushing force of the above-mentioned heads rather serves to block the card still more, and in any case there is a severe tendency of the rear edge of the cards becoming compressed, split, torn or otherwise deformed.

The object of the invention is to provide a telephone index in which the above defects or inconveniences are eliminated.

For that purpose the telephone index according to the invention is substantially characterized in that, at their fore edges located next to the open end of the case, the index cards are provided with aligned holes for engagement with said second lever ends in a number decreasing from top to bottom from one card to the other in the pile in such a way that on actuation of a lever the other end thereof engages holes in those cards which have a position corresponding to the position of the lever in the row, while

the remaining cards are raised at least slightly, and in that near its open end the case has rearwardly directed, inner hooks or stops which on outward movement of the tray catch the cards thus raised and prevent them from being pulled out.

The invention will be described in more detail with reference to the accompanying drawing which shows, in perspective and partly in section, an embodiment of a telephone index according to the invention chosen as an example.

The telephone index according to the invention consists of a flat case 10 in which a tray 11 is movably guided. The tray 11 carries a pile of cards 12 from which any desired number of cards may be pulled out. Double-armed levers are provided for the selection of the index cards. These levers are pivotally journaled in a row on a shaft 13, and in the drawing only one of them is illustrated by the lever 14. A detailed description of the levers 14 and the manner in which a desired number of index cards is selected will be given below.

The flat case which is preferably made of plastic, has side walls 15, 16, a rear wall 17 and a top wall 18. These walls are preferably integral and the side walls are extended to form two shanks 19, 20 projecting in front of the top wall. Guides for the tray 11 extend along the inner sides of the walls 15, 16 but as such guides may be designed in many different ways they have not been shown in the drawing. In front the flat case 10 is entirely open, and rearwardly directed hooks or stops 21, 22 are provided in the opening near the inner sides of the walls 15, 16 for a purpose to be described below.

A box-shaped mechanism housing 23 is secured to the fore edge of the tray 11 and contains the above-mentioned shaft 13 with the pivotal levers 14. The top side of the mechanism housing 23 has a longitudinal slot or recess 24 for the purpose of improving the grip of a finger tip when the tray 11 with the pile of cards 12 is to be pulled out. The fore ends of the double-armed levers 14 pivotally journaled on the shaft 13 are designed as keys 14A projecting through suitable shaped holes in the top of the mechanism housing 23 within the area of the slot or recess 24. The rear ends of the levers are shaped as arcuate hooks 14B extending through holes in the tray 11. Depending on whether the cards in the pile 12 have holes 25 or not, these hooks 14B either engage the holes 25 in the cards or raise the cards located above. The rear side of the mechanism housing 23 is provided with an abutment 26, the rear surface of which is vertical and on the horizontal top surface of which either advertising text or telephone numbers of predetermined subscribers, such as so-called emergency numbers, may be written.

A leaf spring 27 is disposed on the inner side of the rear wall 17 of the flat case 10 and urges the index cards forwards in the case.

As regards the structural design it should also be mentioned that the pivotally journaled double-armed levers 14 are biased towards the position of rest shown for the majority of them in any suitable manner, such as by separate springs or by dimensioning the weights of the lever arms such in relation to each other that the levers of their own accord strive to return to the position of rest. Many different solutions are possible, and to simplify matters all such means have been omitted from the drawing.

The telephone index described above is used in the following manner:

If, for instance, it is desired to pull out the second index card 12A from the top in the pile 12, the second key 14A from the left in the row of keys is depressed. Thereby the arcuate hook portion 14B moves through the corresponding holes 25 in all the index cards having a hole in this position. However, the topmost index card 12A has

no hole in this position and therefore it will be raised slightly by the end of the hook 14B.

Keeping the key 14B depressed, the tray 11 is pulled out by gripping with the tip of a finger in the recess 24, thereby pulling out all the index cards caught by the hook 14B, whereas the topmost card 12A has been caught by the rearwardly directed hooks 21, 22 and has thus been prevented from moving. When the key 14A is then released it returns automatically to its idle position. When the desired information has been gained from the index card in question, the tray 11 is pushed in and during this operation the rearwardly directed vertical surface of the abutment 26 serves as abutting surface for arranging the cards in the pile with their holes centered one exactly above the other. The topmost card 12A which has thus been kept pressed against the hooks 21, 22 by the spring 27, will of course during the inward movement of the tray be lifted off these hooks by the abutment 26 and be arranged accurately together with the other cards in the pile in readiness for the next occasion.

It should be pointed out that of course the index described is useful not only as a so-called telephone index but it is also useful in any similar connection, such as for stock indexes, membership registers etc.

It should also be pointed out that by designing the topmost card entirely without holes it is of course possible to gain one key function, as said topmost card will always be pulled out together with the tray if no key is depressed. This card may contain information about code numbers etc., for instance.

Also, the index cards may be printed on both sides, and be arranged to be turned upside down for utilization of both sides thereof.

A plurality of modifications and alterations of details are possible within the scope of the inventive idea.

What I claim is:

1. A telephone index of the type comprising a flat case in which there is movably guided a tray carrying a pile of index cards, said case being open at one end for permitting the tray with a desired number of index cards to be pulled out, while the other index cards remain in the case, and the index being provided with a number of aligned, pivotally journaled double-armed levers having one end actuable manually for the purpose of selecting the desired number of index cards and having the other end adapted to engage the index cards on actuating of the lever in question, characterized in that at their fore edges located next to the open end of the case, the index cards are provided with aligned holes for engagement with said second lever ends in a number decreasing from top to bottom from one card to the other in the pile in such a way that on actuation of a lever the other end thereof engages holes in those cards which have a position corresponding to the position of the lever in the row, while the remaining cards are raised at least slightly, and in that near its open end the case has rearwardly directed inner hooks or stops which on outward movement of the tray catch the cards thus raised and prevent them from being pulled out.

2. A telephone index according to claim 1, in which a tray is provided with a mechanism housing at its foremost edge, characterized in that a shaft for pivotally journaling the levers is accommodated in the mechanism housing, and in that the fore ends of the levers, which are designed as keys project through the top wall of the mechanism housing within a portion thereof provided with a grip recess, the rear ends of the levers being designed as arcuate hooks for engaging the holes of the index cards and for raising the index cards, respectively.

3. A telephone index according to claim 1, characterized in that a resilient member, such as a leaf spring, for instance, is disposed at the rear wall of the case to urge said raised cards into the hook members which have caught them, when the tray is being pulled out, a vertical abutment surface being provided at the rear side of the mechanism housing to move the raised cards out of engagement with the hooks at the return movement of the tray.

4. A telephone index according to claim 1, characterized by an abutment provided at the rear side of the mechanism housing and having a rearwardly facing vertical abutment surface for arranging the index cards in the pile at the inward movement of the tray and preferably a horizontal top surface for accommodation of an advertising text, emergency numbers or the like.

5. A telephone index according to claim 2, characterized in that a resilient member, such as a leaf spring, for instance, is disposed at the rear wall of the case to urge said raised cards into the hook members which have caught them, when the tray is being pulled out, a vertical abutment surface being provided at the rear side of the mechanism housing to move the raised cards out of engagement with the hooks at the return movement of the tray.

6. A telephone index according to claim 2, characterized by an abutment provided at the rear side of the mechanism housing and having a rearwardly facing vertical abutment surface for arranging the index cards in the pile at the inward movement of the tray and preferably a horizontal top surface for accommodation of an advertising text, emergency numbers or the like.

7. A telephone index according to claim 3, characterized by an abutment provided at the rear side of the mechanism housing and having a rearwardly facing vertical abutment surface for arranging the index cards in the pile at the inward movement of the tray and preferably a horizontal top surface for accommodation of an advertising text, emergency numbers or the like.

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