Sept. 26, 1939. B. BERIA 2,174,150

KEYBOARD FOR CASH REGISTERS AND OTHER CALCULATING MACHINES

Filed April 3, 1936

Fig. 1

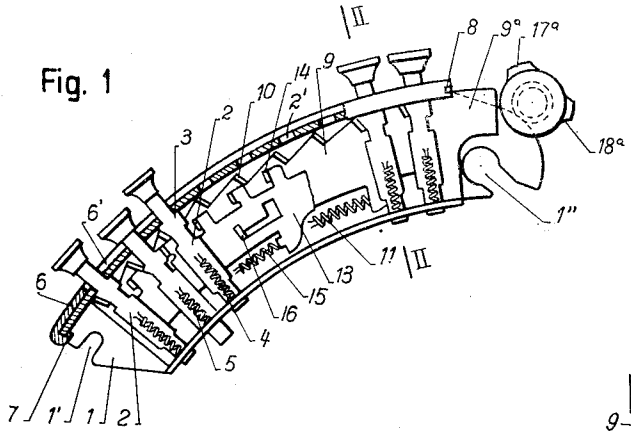


Fig.2.

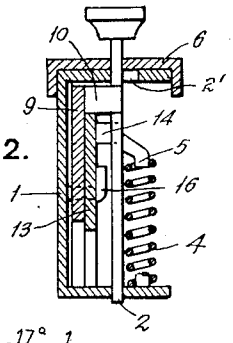
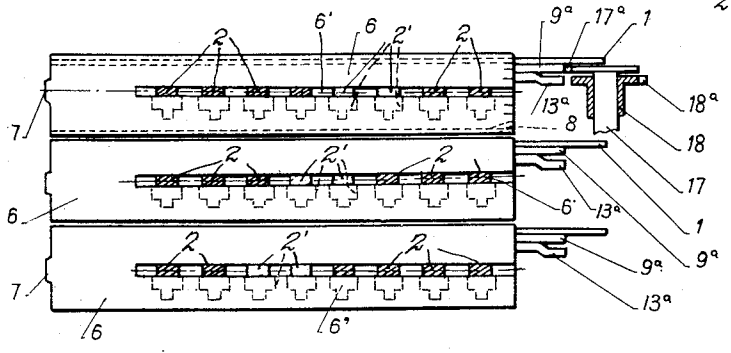


Fig. 3



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KEYBOARD FOR CASH REGISTERS AND OTHER CALCULATING MACHINES

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Application April 3, 1936, Serial No. 72,487
In Italy April 11, 1935

4 Claims. (Cl. 235—145)

This invention relates to self-contained key bank assemblies for cash registers and other calculating machines, more particularly of the type in which the keys are automatically blocked in their depressed position till they are mechanically released, and may further be locked against depression.

It is an object of this invention to provide a construction which admits of the largest possible use of parts pressed from sheet metal.

It is another object of this invention to arrange the constituent parts of a key bank assembly in such manner that building-up and replacement of parts can be very easily carried out. With these and incidental objects in view the invention consists in certain new constructions, combinations and arrangements of the parts of a key bank assembly, of which the essential features are set forth in the claims and which shall now be illustrated with reference to the drawings showing by way of example a key bank assembly embodying the objects of the invention.

Figure 1 shows the holder of a column of amount keys of a cash register partly in side view and partly in longitudinal section. Figure 2 is a section on line II—II of Fig. 1. Figure 3 is a plan view with some of the key shafts shown in section.

The holder 1 of arcuated form is made of channel-shaped sheet metal. The stems 2 of the nine or ten keys forming a column are placed in slots in its upper and lower walls, said keys being made from sheet metal.

As shown in Figs. 1 and 3 the slots 2' in the upper wall of the holder 1 are so shaped that the key shafts and the projecting portions on them, to be hereinafter described, can be inserted through these slots and when the key shafts are in their final positions they occupy portions of the slots whose longitudinal dimension corresponds with the width of the key shafts measured longitudinally of the holder. In the transverse direction the slots 2' are wider than the key shafts to facilitate their introduction into the holder. Thus in the final position of the key shafts the slots 2' hold the key shafts against displacement longitudinally of the holder. In their final position the key shafts are held against displacement transversely of the holder by a longitudinal slot 6' in the cover plate 6 which will be referred to again hereinafter. This cover plate is mounted after the keys 2 have been introduced into the holder 1.

Springs 4 compressed between projections 5 on the key stems 2 and the lower wall of the holder 1 press the teeth 3 on the key stems 2 with their front faces against the upper wall of the holder 1. A cover plate 6 is placed on this wall, of which the longitudinal slot 6' laterally guides the stems 2 of all the keys in the column. The cover plate 6 is fitted in position and removed by moving it endwise. In the position of use its lower bent end 7 embraces one end of the upper wall of the holder 1. At that end of the cover plate 6 where the slot 6' is open, one side wall of the cover plate is provided with two cuts so as to form the tongue 8 which is bent inwardly. The upper wall of the U-shaped holder is provided at its corresponding end with a notch 8a, suiting in form the tongue 8 so that the latter on displacement of the slide 6 for mounting it snaps into the notch 8a and thereby holds the slide 6 against displacement for removal.

Two sheet metal sectors 9 and 13 are situated between the key stems 2 and the side wall of the channel-shaped holder 1. The sector 9 serves to hold the keys in their depressed position, and is provided with a tooth 10 for each key, said tooth being formed with an inclined surface. A spring 11 anchored at one end to the holder 1 and at its other end to the sector 9 urges the inclined surfaces of the teeth 10 against the inclined surfaces on the teeth 3 of the key stems 2. Therefore, depression of a key 2 produces an angular displacement of the sector 9 (in Fig. 1, downwardly to the left). As the key reaches its lowered position, the sector 9 gives way to the spring 11 and the tooth 10 comes in front of the tooth 3 on the depressed key, as shown in Fig. 1 in connection with the second lowest key. The key snaps back to its initial position under the action of the spring 4 when the sector 9 is again moved downwardly. This displacement can take place in two manners:

1. By depression of another key, for instance when it is desired to change the value set up before performing the operation;

2. By the riding of the cam 17a mounted on the shaft 17 on the end 9a of the sector 9, which takes place automatically before the end of the operation.

The sector 13 locks all the keys in the column against depression by the fact that its projections 14 enter corresponding recesses in the key stems 2. The spring 15 which is anchored at one end to the holder 1 and at its other end to the sector 13 holds the projections 14 out of engagement with the keys as long as the sector 13 is not moved downwardly to the left. This displacement is

produced by the cam 18a carried by the shaft 18 riding on the end 13a of the sector 13, which takes place automatically on preparing the cash register for taking a total from a totalizer. As shown by the example of the depressed key illustrated on the drawing, the sector 13 cannot be moved towards its locking position when a key in the column is depressed.

Both sectors 9 and 13 are retained on the side wall of the channel-shaped holder 1 by means of the hook 16 fixed to the later and engaged in the manner of a bayonet coupling by hook-shaped slits in the sectors 9 and 13. The holder 1 is attached to the machine by means of members entering its slits 1' and 1''.

The construction can be modified from the example described and illustrated in accordance with practical requirements without departing from the scope of this invention.

What I claim is:

1. A self-contained key bank assembly for cash registers and other calculating machines comprising a holder for a column of keys having a slotted horizontal flange, the keys being kept in the slots in said flange against displacement only in the longitudinal direction of said holder, and a cover plate arranged on said flange and formed with a longitudinal slot for the passage and lateral guidance of all the keys of the column.

2. A self-contained key bank assembly for cash registers and other calculating machines comprising a holder for a column of keys having a slotted horizontal flange, the keys being kept in the slots in said flange against displacement only in the longitudinal direction of said holder, and a cover plate arranged on said flange capable of endwise displacement for removal and formed with a longitudinal slot open at one end of said cover plate for the passage and lateral guidance of all the keys of the column.

3. A self-contained key bank assembly for cash registers and other calculating machines comprising a holder for a column of keys having a slotted horizontal flange, the keys being kept in the slots in said flange against displacement only in the longitudinal direction of said holder, a cover plate arranged on said holder capable of endwise displacement for removal and formed with a longitudinal slot open at one end of said cover plate for the passage and lateral guidance of all the keys of the column, and a clip for attaching elastically the cover plate to said holder arranged to snap automatically in attaching position when the cover plate reaches its operative position during endwise displacement of the holder.

4. A self-contained key bank assembly for cash registers and other calculating machines comprising a holder for a column of keys having a slotted horizontal flange for keeping the keys against displacement in one direction and a slotted cover plate for keeping said keys against displacement only in the direction perpendicular to the first mentioned direction mounted on said horizontal flange.

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