

Feb. 19, 1924.

1,484,402

H. T. MARTIN

FASTENING FOR TELEPHONE KEY BASES

Filed April 21, 1921

Fig. 1.

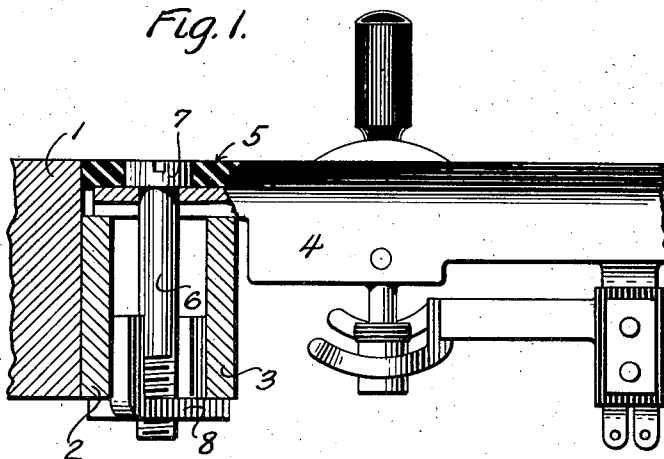


Fig. 2.

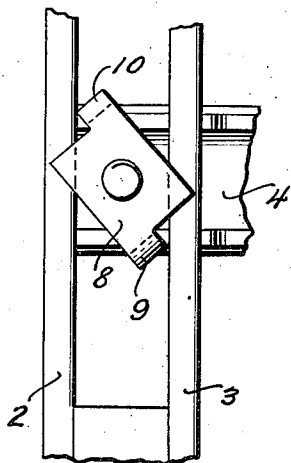


Fig. 3.

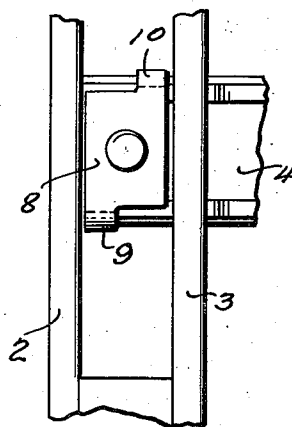
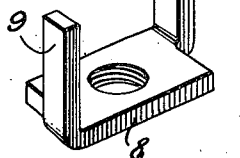


Fig. 4.



Inventor:  
Harold T. Martin,  
Jas. C. Palmer  
34 ATT'Y.

## UNITED STATES PATENT OFFICE.

HAROLD T. MARTIN, OF NEW YORK, N. Y., ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## FASTENING FOR TELEPHONE KEY BASES.

Application filed April 21, 1921. Serial No. 463,302.

*To all whom it may concern:*

Be it known that I, HAROLD T. MARTIN, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Fastenings for Telephone Key Bases, of which the following is a full, clear, concise, and exact description.

10 This invention relates to telephone switchboards and more particularly to a means for fastening a key base within the key shelf.

A number of devices for this purpose are in use and generally employ a bolt which cooperates with some form of catch member to clamp the key base to a member supported by the key shelf. It is necessary in manipulating these fastenings to have access to both the upper and lower sides of the shelf in order to remove or replace a key.

It is the object of this invention to provide a simple fastening of this type which allows the removal and refastening of a key access to only one side of the shelf being necessary.

The invention in its preferred form accomplishes this object by means of a pair of parallel bars supported by the shelf in the manner described in E. B. Craft Patent No. 1,050,520 of January 14, 1913, a bolt passing through the key base between the bars, and a rectangular nut the corners of which engage the bars when the bolt is turned in a tightening direction, but disengages when the bolt is turned in the opposite direction. Projections on the nut cooperate with the bars to limit its rotation.

The invention will be more completely understood by reference to the drawings which show the preferred embodiment of the invention. Figure 1 is a sectional view of a key shelf with a key base fastened therein by means of the device of this invention. Figure 2 is a view from bottom of the shelf showing the invention in its clamping position. Figure 3 is a similar view showing the fastening means released. Figure 4 is a view of the clamping bolt and its nut showing the details of their construction.

Referring to the drawings, 1 is the wooden body portion of a key shelf. On the vertical edge of body portion 1 are supported two parallel metallic bars 2 and 3 which support a key base 4 so that the hard

rubber facing 5 lies flush with the flat surface of the key shelf. The bars 2 and 3 may be supported on the body portion 1 in any suitable manner, the preferred way being as shown and described in E. B. Craft's Patent Number 1,050,520, issued January 14, 1913.

A bolt 6 passes through a hole in the key base 4 and between the bars 2 and 3. The slotted head 7 of the bolt 6 is exposed at the upper face of the key base 4 so that the bolt can be tightened with a screw driver from that side of the shelf. The bolt 6 is provided with a nut 8 into which it threads. The nut 8 is substantially rectangular its shorter side being such that the nut may pass easily between the bars 2 and 3. The other dimension however is long enough so that when the nut is turned slightly its corners overlap the bars 2 and 3 and prevent the removal of the key base. The nut 8 is prevented from turning in either direction beyond certain limits by bent up portions 9 and 10. These bent up portions 9 and 10 project upwardly between the bars 2 and 3 and are sufficiently long so that they engage the bars even when the nut 8 is well down on the threaded portion of the bolt 6.

From the above description the operation of the device is apparent. When the bolt 6 is turned in a direction to unscrew the nut 8, i. e. counter-clockwise with a right thread, the nut 8 will revolve with the bolt as soon as it comes out of contact with the bars 2 and 3. The bent up portions 9 and 10 then bear against the bars 2 and 3 and hold the nut 8 in position to be removed with the key base as shown in Figure 3. When the bolt is screwed up the reverse operation takes place and the bent up portions 9 and 10 hold the nut from turning out of position engaging with the bars. In this manner the key base may be removed or fastened in place without the necessity of having access to the underside of the shelf.

What is claimed is:

1. In combination; a key shelf; a key base; a pair of bars supported on the key shelf; a bolt passing through the key base and between the bars, said bolt being rotatable from the external side of the key base; and a nut for the bolt of a size to pass between the bars and shaped to engage them automatically when the bolt is tightened.

2. In combination; a key shelf; a key base; a pair of bars supported by the key shelf; a bolt passing through the key base and between the bars, said bolt being rotatable from the external side of the key base; a nut for the bolt, said nut having an engaging and a non-engaging position with respect to the bars and rotatable to such positions by the motion of the bolt; and means to limit automatically the rotation of the nut.

3. In combination; a key shelf; a key base; a pair of bars supported by the key shelf; a bolt passing through the key base and between the bars, said bolt being rotatable from the external side of said key base; a rectangular nut for the bolt, said nut being of a size to pass between the bars and shaped to engage them automatically when rotated by the bolt; and means to limit the rotation of the nut.

4. In combination; a key shelf; a key base; a pair of parallel bars supported by the key shelf; a bolt passing through the key base and between the bars, said bolt being rotatable from the external side of the key base; a rectangular nut for the bolt having an engaging and a non-engaging position with respect to the bars and rotatable to such positions by the motion of the bolt; and means for automatically preventing the rotation of the nut beyond such positions.

5. In combination, a key shelf, a key base, a pair of parallel bars supported by the key shelf, a bolt passing through the key base and between the bars, a rectangular nut for the bolt having an engaging and a non-engaging position with respect to the bars and rotatable to such positions by the

motion of the bolt, and means integral with the nut to prevent rotation of the nut beyond such positions.

6. In combination, a key shelf, a key base, a pair of parallel bars supported by the key shelf, a bolt passing through the key base and between the bars, a rectangular nut for the bolt, for engaging the bars when turned, and a pair of projections integral with the nut and extending between the bars to prevent the rotation, of the nut beyond the engaging and non-engaging positions of the nut.

7. In combination, a key shelf, a key base continuously adjustable longitudinally of the key shelf, a pair of bars supported by the key shelf, and means controllable solely from the top of the key shelf for securing said key base to said bars.

8. In combination; a key shelf; a key base; a pair of spaced bars supported on the key shelf; a bolt passing through the key base and between the bars, said bolt being rotatable from the external side of said key base; a nut for the bolt, said nut having a lateral dimension less than the distance between the bars and a lateral dimension greater than the distance between the bars, whereby the nut has an engaging and a non-engaging position with respect to the bars; and a boss on said nut for engaging one of said bars to arrest the rotation of said nut in the engaging position and for engaging the other of said bars to arrest the rotation of said nut in the non-engaging position.

In witness whereof, I hereunto subscribe my name this 20th day of April, A. D., 1921.

HAROLD T. MARTIN.