April 5, 1949. E. F. SWANSON 2,466,511

KEY MOUNTING

Filed June 16, 1945

Fig. 1

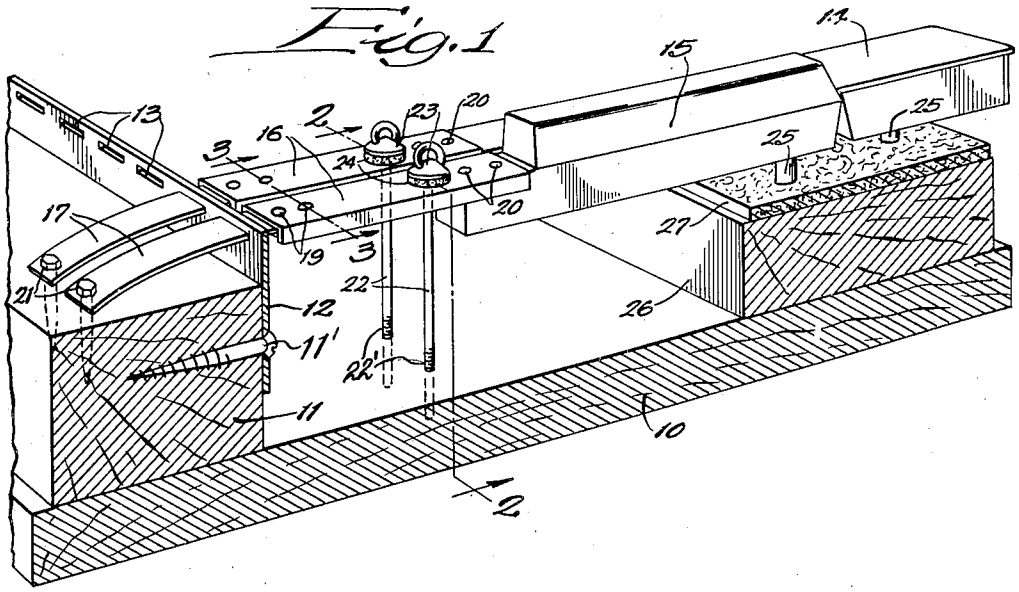


Fig. 2

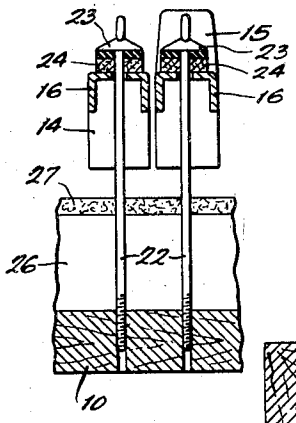


Fig. 3

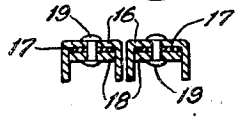
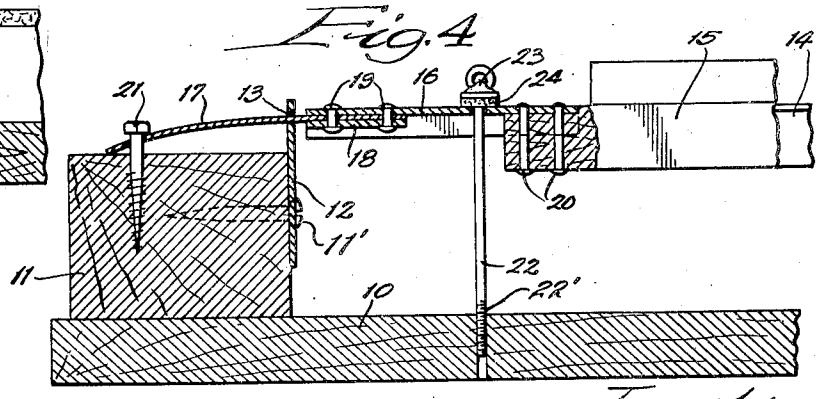


Fig. 4



Inventor:
Earnest F. Swanson,

By Dawson, Orms and Botts,
Attorneys.

Patented Apr. 5, 1949

2,466,511

UNITED STATES PATENT OFFICE

2,466,511

KEY MOUNTING

Earnest F. Swanson, Bristol, Ind., assignor to C. G. Conn, Ltd., Elkhart, Ind., a corporation of Indiana

Application June 16, 1945, Serial No. 599,866

9 Claims. (Cl. 84—434)

1

This invention relates to key mountings and more particularly to mountings for keyboard type instruments such as pianos, organs and the like.

One of the objects of the invention is to provide a key mounting which is extremely simple and inexpensive to fabricate and assemble.

Another object is to provide a key mounting in which the tension on the keys can easily and quickly be adjusted to provide the desired feel or touch.

Still another object is to provide a key mounting in which the keys are supported by leaf springs or the like which support the keys for pivotal movement and resiliently hold the keys in a raised position.

A still further object is to provide a key mounting in which the several keys of an instrument are carried by individual leaf springs supported by a single supporting structure and individually adjustable to vary the tension on the keys.

The above and other objects and advantages of the invention will be apparent from the following description, when read in connection with the accompanying drawing, in which—

Figure 1 is a partial perspective view with parts in section illustrating a typical key mounting according to the invention;

Figure 2 is a partial section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 1; and

Figure 4 is a partial central section through one of the keys and its mounting.

The mounting, as illustrated in Figure 1, comprises a base 10 which may conveniently be of wood and which extends throughout the length of the keyboard. An anchor block 11, which may also conveniently be of wood, is secured to the base adjacent the rear edge thereof and has fastened thereto as by means of conventional screws 11' a supporting plate 12 formed with a plurality of horizontal slots 13 above the anchor block.

A plurality of keys corresponding to the conventional keys of a keyboard instrument are adapted to be supported by the plate 13. In the typical mounting shown in Figure 1, a single elongated key 14 of the type corresponding to the usual white keys on a piano or organ is illustrated and a single elongated key 15 of the type corresponding to the usual black keys on an organ or piano. At their rearward ends, the keys terminate substantially flush with each other and each of them has connected thereto a channel shaped strip 16 which extends rearwardly from

2

the key. As shown, the strip partially overlies the key and is connected to it by fastenings, such as rivets 20.

At the rearward end of each channel member, there is secured thereto one end of a leaf spring 17. As best seen in Figure 4, the end of the leaf spring may enter the channel member and may be secured rigidly to it by a fastening plate 18 and rivets, or the like, 19.

In assembling the keys on the instrument, the strips 17 are extended through the slots 13 to project beyond the supporting plate 12 to a position with their free ends overlying their anchor block 11. Preferably, the springs fit relatively closely in the slots 13 so that they will not rattle or move therein to an undesired extent and the supporting plate 12 is made sufficiently thin so that the springs can move pivotally about the sides of the slots. The free ends of the spring are adjustably anchored to the anchor block 11 by means of elongated screws 21 which can be threaded into the block 11 to the desired extent adjustably to tension the springs. With the free ends of the springs urged down, as shown, the springs will urge the keys upward. It will be apparent that by adjusting the several screws 21, the tension on the springs can be adjusted, as desired, to suit individual tastes and requirements.

Upward movement of the keys in response to the springs 17 is limited by stops shown as elongated rods 22 having at least their lower ends threaded as indicated at 22' and threaded into the base 10 and carrying enlarged heads 23 at their upper ends. The rods 22 extent loosely through openings in the channels 16 and the heads 23 may carry pads 24 of felt or the like to engage the upper sides of the channels and limit upward movement of the keys. By adjusting the rods 22, the desired upper position of the keys can be determined and the keys can properly be leveled throughout the keyboard.

The keys are guided in their vertical movement by the usual guide pins 25 extending loosely into guide openings in the lower surfaces of the keys. The guide pins 25 may be carried by a stop block 26 adjacent the forward end of the base and underlying the free ends of the keys. Preferably the block 26 carries a pad 27 of felt or the like to limit downward movement of the keys when they are struck.

It will be understood that the keys may be connected to the usual piano action or may operate electric switches, or the like, to control an organ type mechanism. Since the specific mechanism

to be controlled forms no part of the present invention, it is not illustrated herein.

While one embodiment of the invention has been shown and described in detail, it will be understood that this is illustrative only and is not intended as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A key mounting comprising an elongated laterally flexible spring rigidly secured at one end to a key and extending beyond the end of the key, supporting means engaging and pivotally supporting the spring intermediate its ends, and means adjustably securing the free end of the spring whereby the spring will support the key for pivotal movement.

2. A key mounting comprising an elongated laterally flexible spring rigidly secured at one end to a key and extending beyond the end of the key, a relatively thin supporting member having a slot therein through which the spring projects, and means adjustably anchoring the free end of the spring.

3. A key mounting comprising an elongated laterally flexible spring rigidly secured at one end to a key and extending beyond the end of the key, supporting means engaging and pivotally supporting the spring intermediate its ends, fastening means securing the free end of the spring whereby the spring will support the key and urge it in one direction, and a stop engageable with the key to limit movement thereof in response to the spring.

4. A key mounting for an elongated key comprising a leaf spring secured at one end to the rear end of the key, supporting means providing a horizontally elongated slot through which the spring extends, and fastening means holding down the free end of the spring whereby the spring supports the key for pivotal movement and urges it up.

5. A key mounting for an elongated key comprising a leaf spring secured at one end to the rear end of the key, supporting means providing a horizontally elongated slot through which the spring extends, guide means engaging the key to guide it during pivotal movement, and stop means engageable with the key to limit upward movement thereof.

6. A key mounting comprising an elongated key, a channel member secured to the key and projecting lengthwise therefrom, a leaf spring secured to the channel and projecting lengthwise therefrom, supporting means providing a horizontally elongated slot through which the spring extends, and adjustable fastening means anchoring the free end of the spring and adjustable to vary the tension on the spring.

7. A key mounting comprising an elongated key, a channel member secured to the key and projecting lengthwise therefrom, a leaf spring secured to the channel and projecting lengthwise therefrom, supporting means providing a horizontally elongated slot through which the spring extends, adjustable fastening means anchoring the free end of the spring and adjustable to vary the tension on the spring, a stop rod extending loosely through an opening in the channel, and a head on the stop rod engageable with the channel to limit movement of the key by the spring.

8. In a key mounting for a keyboard having a plurality of keys, a leaf spring secured to and projecting rearward from each of the keys, an elongated support providing horizontal slots through which the springs project, an anchor block adjacent the support, and adjustable fastenings adjustably anchoring the free ends of the springs to the block.

9. In a key mounting for a keyboard having a plurality of keys, a leaf spring secured to and projecting rearward from each of the keys, an anchor block adjacent the rear ends of the keys, a supporting plate secured to the anchor block formed with horizontal slots through which the springs project, adjustable fastenings adjustably anchoring the free ends of the springs to the block so that the springs will urge the keys upward, and stops to limit upward movement of the keys.

EARNEST F. SWANSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,840,712	Grant	Jan. 12, 1932
2,117,002	Hammond	May 10, 1938
2,184,424	Hammond	Dec. 26, 1939
2,260,412	Stephens	Oct. 28, 1941