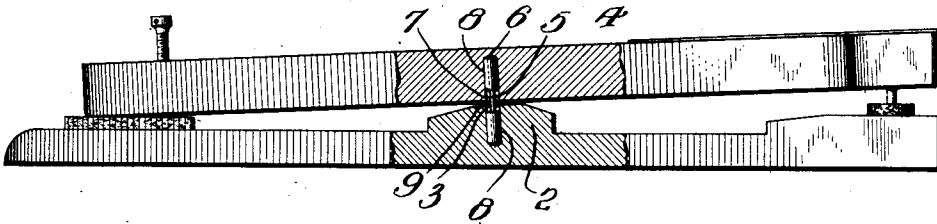


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PIANO KEY MOUNTING.  
APPLICATION FILED JAN. 6, 1910.

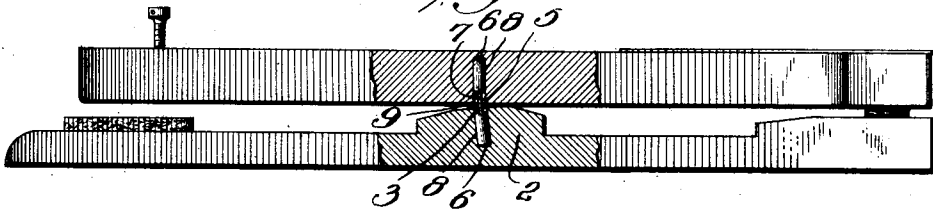
998,192.

Patented July 18, 1911.

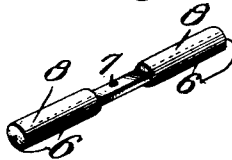
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*  
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# UNITED STATES PATENT OFFICE.

ENOCH ALLAN MAYOR, OF SAN ANTONIO, TEXAS.

## PIANO-KEY MOUNTING.

998,192.

Specification of Letters Patent. Patented July 18, 1911.

Application filed January 6, 1910. Serial No. 536,760.

*To all whom it may concern:*

Be it known that I, ENOCH ALLAN MAYOR, a citizen of the United States, and resident of San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Piano-Key Mounting, of which the following is a specification.

This invention relates to piano actions and particularly to the key pin whereby the key is pivotally mounted on the balance rail. In pianos the "touch" depends upon the amount of weight which is placed upon the inner end of the key. This weight being relatively heavy it will take a heavier touch to depress the key, and vice versa.

The object of my invention is to provide a means of pivotally mounting the key which shall eliminate the wear and rattle incident to piano keys balanced or pivoted in the ordinary way and which shall provide a means of adjustably mounting the key so that the "touch" may be regulated without the necessity of using weights and thus make it comparatively easy to change the touch in any piano without the necessity of removing the keys and replacing them by keys which are weighted in a different manner.

The invention consists primarily in the use of a balance or key pin, the ends of which are engaged solidly with the balance rail and with the key, the middle portion of the pin being cut away so as to form a thin spring section which will act to resiliently hold the key in its raised position and return it to its raised or normal position after the key has been depressed and released.

In the drawings: Figure 1 is a side view, partly in section, of a key and balance rail, showing my improved key pin in position therein and showing the key in its normal position; Fig. 2 is a like view to Fig. 1, showing the key depressed; and, Fig. 3 is a perspective view of the key pin about natural size.

In these figures 2 designates a balance rail of the usual construction, but having a vertical recess or socket 3 at its upper face.

4 designates a key of any usual construction and having a vertical recess 5 or socket in its lower face.

The pin 6 is made from a short length of metal rod preferably round in section, about one-eighth inch in diameter and an inch and a half long. The middle portion of this rod is cut away on both sides to leave a flat, thin resilient web 7 which connects the ends

of the pin. The openings or sockets 3 and 5 are deeper than the length of the ends 8 of the pin so that the spring section 7 is partly housed within the sockets 3 and 5, as shown in Fig. 1. A felt 9 surrounds the middle portion of the pin and is interposed between the underface of the key and the upper face of the balance rail, as also shown in Fig. 1.

It will be seen that upon a depression of the key, the resilient portion 7 of the pin will be fixed and that as soon as the key is released, this resilient section will act to return the key to its normal position. It will be seen that the amount of force requisite to depress the end of the key will depend entirely upon the strength of the spring 7 and that this will in turn depend either upon the thickness of the spring portion 7 or upon its length and if a pin having a relatively short spring section is used, that there will be a greater force acting against the depression of the key and vice versa. It is thus possible to use pins of the same size, as far as length and diameter goes, and the keys and balance rails having the same size sockets or openings 3 and 5 and yet secure a variation of the strength of the spring by providing pins in which the spring section 7 is longer or shorter, and that thus it is an easy matter to adjust the touch of any piano and if necessary to change the touch by simply moving one set of pins 6 and substituting therefor another set of pins in which the spring section is longer or shorter as desired. It will also be noticed that this substitution does not involve any change in the relative distance of the key and balance rail and it is further pointed out that the key rests upon the felt 9 precisely as it would in an ordinary key support. This result is secured because the holes or sockets 3 and 5 are so much larger than the portion 7 of the pin as to permit the portion 7 to flex freely. In a balance support for piano keys, it is impossible to provide a spring directly interposed between the balance-rail and the key upon which the key is supported for the reason that this spring would act to raise the key too much from the balance rail. My device, however, permits the key, as before stated, to rest upon the balance rail in its usual position. Furthermore, there are no parts which will have a tendency to wear and rattle, nor is there any necessity of using the usual bushing for the balance pin, nor the button on top of the key. These

parts are entirely eliminated, thus rendering this manner of supporting the key much cheaper than the ordinary construction. Another very important advantage of my invention is that it permits of a very easy manner of regulating the touch so as to make the touch heavy or light. Thus assuming that the sockets are perpendicular which are bored into the key and balance rail, if the pin is perfectly straight the key will be on a balance, or nearly so. Should it be desired, however, to have the touch heavy, then the pin is bent backward; should it be desired to have the touch light then the pin is bent forward. When the pin is bent backward it will be obvious that it will increase the downward pressure on the rear end of the key, and vice versa.

Having thus described the invention, what is claimed as new is:

1. A pin for supporting piano-keys, the middle portion of the pin being less in thickness than the end portions of the pin to leave a thin resilient web, the portions of the pin defining the opposite ends of the resilient web forming oppositely disposed shoulders.

2. The combination with a balance rail and a piano key resting thereon, the balance rail being formed with a socket and the adjacent face of the key having a correspond-

ing socket, of a pin connecting the balance rail and key and fitting said sockets snugly, the pin being circular in cross section, the middle portion of the pin being cut away on opposite sides to leave a thin resilient web defined by oppositely extending shoulders, the end portions of the pin on opposite sides of the cut away portion being of less length than the depth of said sockets.

3. The combination with a balance rail and a piano key, the balance rail being provided with a socket and the key being provided with a corresponding socket, of a pin connecting the rail and key, the ends of the pin fitting snugly in said sockets, said pin being circular in cross section, the middle portion of the pin being cut away on opposite sides to leave a thin resilient web, the main body of the key at each end of the web forming shoulders, and felt interposed between the adjacent face of the key and rail and surrounding the middle of the cut-away portion of the pin.

Signed at San Antonio in the county of Bexar and State of Texas this 28th day of September A. D. 1909.

E. ALLAN MAYOR.

Witnesses:

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