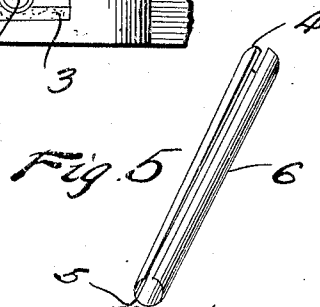
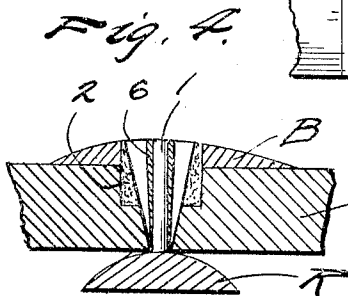
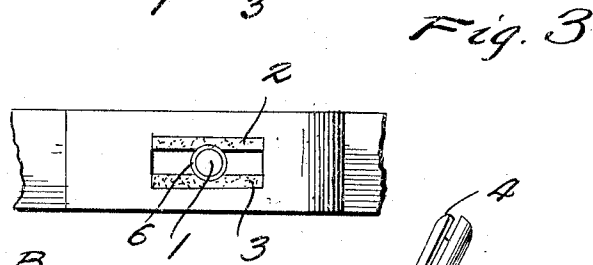
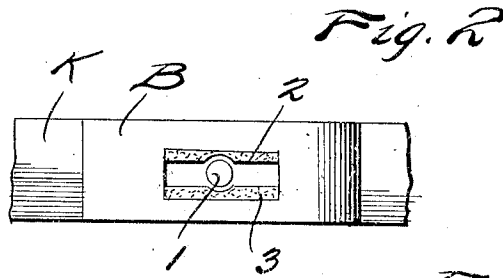
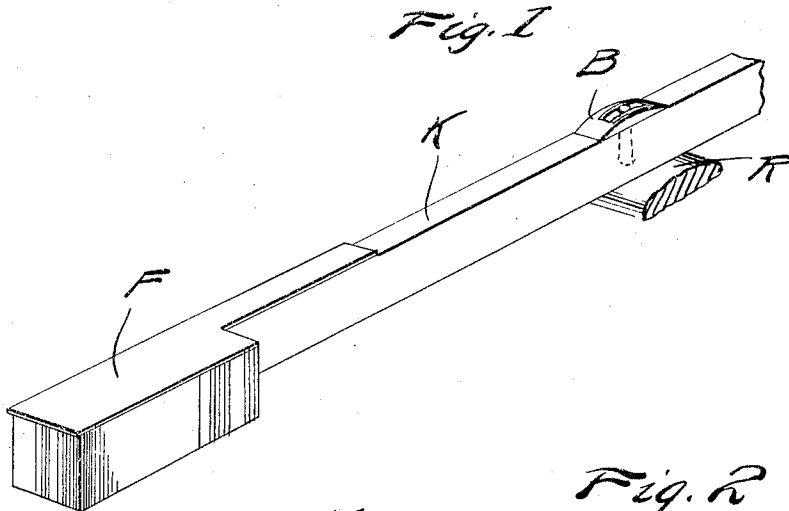


A. F. SCHATZEL.
PIANO KEY.
APPLICATION FILED SEPT. 20, 1918.

1,319,801.

Patented Oct. 28, 1919.



WITNESSES
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UNITED STATES PATENT OFFICE.

ALBERT F. SCHATZEL, OF SAN DIEGO, CALIFORNIA.

PIANO-KEY.

1,319,801.

Specification of Letters Patent.

Patented Oct. 28, 1919.

Application filed September 20, 1918. Serial No. 254,939.

To all whom it may concern:

Be it known that I, ALBERT F. SCHATZEL, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Piano-Keys, of which the following is a specification.

This invention relates to pianos, and more especially to the keys thereof; and the object of the same is to produce a repair part by the use of which piano men may eliminate much of the rattle which is found in old pianos.

The invention consists of a metallic sleeve whose wall tapers in thickness from one end to the other, the sleeve intended to be slipped over the balance pin when the felt bushing in the button alongside said pin becomes worn. Details are set forth below, and attention is drawn to the drawings. In the latter:—

Figure 1 is a perspective view of a piano key crossing the rail and sustained by the usual balance pin.

Fig. 2 is an enlarged plan view of the parts at the point of crossing, showing how the felt becomes worn in time, and

Fig. 3 is a similar view showing how the wear is taken up by the use of my improvement.

Fig. 4 is a longitudinal section through Fig. 3, and

Fig. 5 is a perspective detail of the sleeve. In the drawings the letter K designates a key such as employed on an ordinary piano, the same having a finger piece F at its front end and a button B where it crosses the balance rail R. Upstanding from the rail at this point is a pin 1 of metal and round. This pin passes through an appropriate hole in the key, and extends up through a slot in the button B which is usually applied to or formed as a part of the top of the key itself. The hole through the button is elongated to produce a slot, and in the sides of this slot are fastened pieces of felt as indicated at 2 and 3, the same constituting a bushing to prevent rattle of parts and to prevent the dislocation of the key from the rail. As the finger piece F is depressed, the entire key rocks over the rail and the pieces of felt 2 and 3 slide alongside the upper end of the pin 1. In time these pieces become worn or compressed as shown in Fig. 2, with the result that

there is a little lateral motion permitted to the key, eventually producing rattle which is discernible more particularly in old pianos or those which have been near the heat so that the parts become dried out and shrunk. It is well known to those who repair pianos that this rattle may be obviated by rebushing the opening through the button, and this is done by withdrawing the felt and inserting new pieces. However, this cannot be done with ease and despatch at the home of the owner of the piano, and the result is that the instrument must be taken to the shop for repair, this of course involving considerable expense and delay.

It is the purpose of my present invention to avoid such trouble and at the same time provide a repair part for the piano tuner and repair man, so that he can quickly and effectively overcome the difficulty at the home of the owner of the instrument. This is carried out by providing a sleeve or bushing 6 as shown in Fig. 5. The same is by preference a split metal tube whose wall has some little thickness at its upper end as indicated at 4 and grows thinner and thinner toward its lower end 5 where it runs out in a sharp edge. All the operator has to do in order to repair a piano whose felt bushings appear as shown in Fig. 2, is to slip one of these sleeves over the pin 1 as seen in Fig. 3, and press it down as far as necessary to take up the looseness. In Fig. 4 the sleeve is shown borne clear down onto the rail R, but this of course is an extreme case. It will be found that the sleeve will cling rather tenaciously to the pin; in fact, it might be cemented thereon. When applied as shown in Fig. 3 and pushed down until the lost motion is taken up, it may be left in the piano. A subsequent repair man may push these sleeves down a little farther to take up yet additional looseness which occurs; or if the sleeves are not cemented or otherwise gripped upon the pins, it is possible they will drop of their own weight due to the movement of parts, and thus constantly take up the lost motion until they come to rest as seen in Fig. 4. In fine, the principle involved is putting a sleeve over a pin where the parts which move in conjunction with said pin become worn. Manifestly this is quicker than to repair or replace such parts or the pin itself, and it is an operation which is especially easy in pianos and the like.

Having thus fully described my invention,
what I claim as new and desire to secure by
Letters Patent, is:—

In a piano, the combination with the rail,
5 pin, key having a slot loosely embracing
said pin, and soft packings on the side walls
of said slot; of a metallic sleeve split
throughout its length and externally taper-
ing from its upper to its lower ends, the

same being mounted upon said pin between 10
the packings, for the purpose set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

ALBERT F. SCHATZEL.

Witnesses:

MARY THOMAS,
CHESTER EASTMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."