G. C. SMITH.
Piano-Hammer.

No. 196,712. Patented Oct. 30, 1877.

Fig. 1

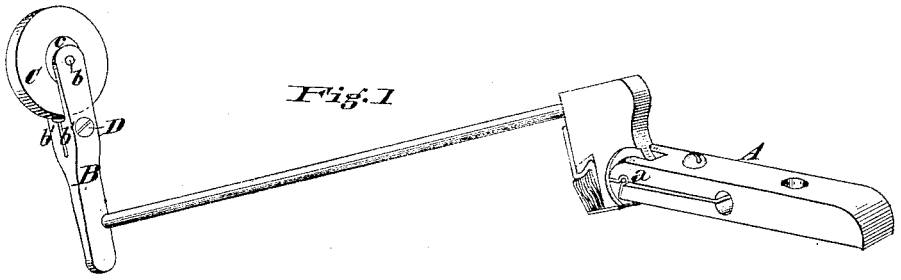


Fig. 2

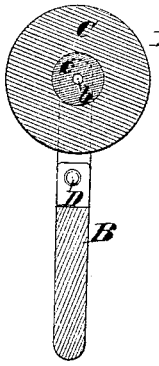
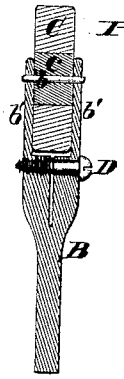


Fig. 4

Fig. 3



Attest
Edgar J. Ross
John E. Jones.

Inventor
George C. Smith
By F. Millward
Attorney

UNITED STATES PATENT OFFICE.

GEORGE C. SMITH, OF HAMILTON, ASSIGNOR OF ONE-FOURTH OF HIS RIGHT TO ALVIN O. HALL, OF CINCINNATI, OHIO.

IMPROVEMENT IN PIANO-HAMMERS.

Specification forming part of Letters Patent No. **196,712**, dated October 30, 1877; application filed July 12, 1877.

To all whom it may concern:

Be it known that I, GEORGE C. SMITH, of Hamilton, Butler county, State of Ohio, have invented an Improvement in Piano-Hammers, of which the following is a specification:

This invention relates to that class of piano-hammers the striking-pad of which is in the form of a disk, and adapted to be adjusted axially, so that as one portion of its periphery becomes hard from use the simple axial adjustment will present a new striking-surface.

My invention consists in securing the felt disk between jaws tightened by a screw, as a means of slackening, to enable the presentation of a new surface of felt after one place has become worn, and to afford means for securing the felt at any point of adjustment, however nice.

The following is a description of the accompanying drawing:

Figure 1 is a perspective view of a piano-hammer embodying my improvement. Fig. 2 is a section through the hammer-head and felt across the axis of the felt disk. Fig. 3 is a section of the hammer-head and felt disk, taken in line with the axis of felt disk. Fig. 4 shows a modification in the manner of attaching the disk to the hammer-head.

A is the part of the action of the piano to which the hammer is hinged, as shown at *a*, and B is the head of the hammer.

Instead of applying the felt by permanently securing it to the head in the old well-known way, I make a disk, C, preferably circular, by wrapping the felt around a hard center, *c*, and adjustably securing this disk to the hammer-head, so that when one part of the periphery of the disk becomes hard by repeated blows, this part may be moved out of striking contact, and a new, clean, soft, perfect surface of felt presented.

Various changes may be made in the shape of the disk and hard center, and the hard center may be dispensed with altogether; but I prefer to use it and perforate it for the occupancy of a pin, *b*, on which the disk may rotate for adjustment.

The hard center I make of vulcanized fiber, as that has but little resonance, and is slightly elastic, and offers a good grasping-surface at the sides for the operation of the clamp which holds the disk. This hard center also makes a good journal-bearing for the pin *b*, and, by its size, properly limits the amount or depth of felt to the degree necessary to effect a powerful softly-cushioned blow.

The disk may be secured between the spring-jaws *b'* of the hammer-head, by means of a screw, D, or, in place thereof, any device of the clamp form may be used; or the pin *b* may be screw-threaded, and used to fasten the disk to the hammer-head direct, as shown in Fig. 4.

It will be seen, owing to the form of the felt and its adjustable connection with the hammer-head, that when one part of the felt becomes hard, that part can be moved slightly, so as to be out of striking position, and an entirely new part brought into striking position, and, therefore, the tone of the piano can be preserved by successive adjustments until the entire periphery of the disk is hardened, which adjustments can be made by the tuner when the instrument is being tuned, or by the owner at any time without the slightest difficulty.

The securing of the disk after each adjustment may be dispensed with, as by leaving the disk free to revolve upon its axis each blow may be made to partially rotate the disk, and thus the presentation of a new surface be made automatic, and the entire surface of the disk utilized continuously.

I claim—

In combination with the disk C, the clamping-jaws *b'* and screw D, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

GEO. C. SMITH.

Witnesses:
JOHN E. JONES,
EDGAR J. GROSS.