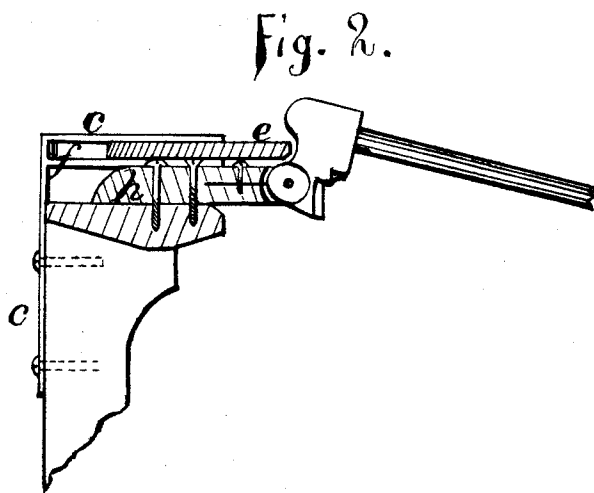
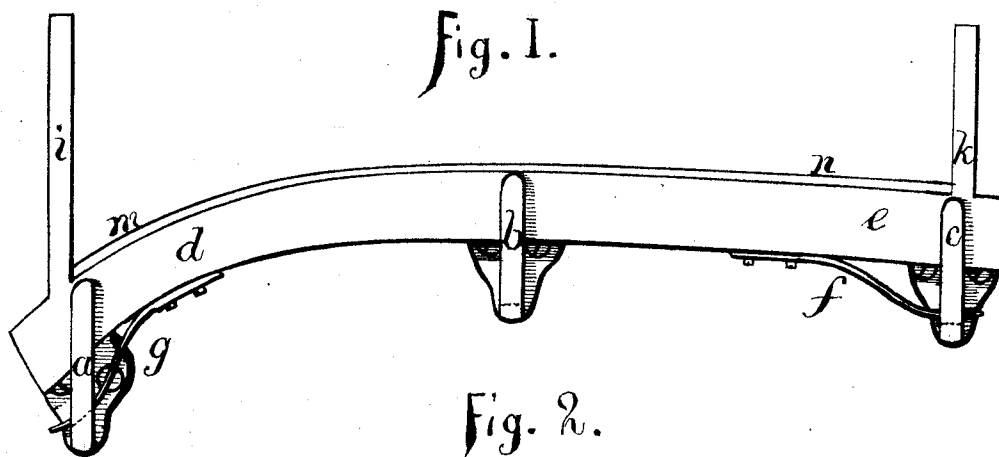


C. P. T. ZONCADA.
Piano Attachments.

No. 149,021.

Patented March 24, 1874.



Witnesses

Orad Werbe

F. M. McDonald

C. P. T. Zoncada
Inventor

UNITED STATES PATENT OFFICE.

CHARLES P. T. ZONCADA, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO CURRAN E. McDONALD, OF SAME PLACE.

IMPROVEMENT IN PIANO ATTACHMENTS.

Specification forming part of Letters Patent No. **149,621**, dated March 24, 1874; application filed January 16, 1874.

To all whom it may concern:

Be it known that I, CHARLES P. T. ZONCADA, of the city of Indianapolis, county of Marion, State of Indiana, have invented an Improvement in Safety Devices for Piano-Forte Actions, of which the following is a specification:

The nature and object of the invention will be fully understood from the following general description and the accompanying drawings.

Figure 1 is a top view of the device; Fig. 2, a sectional view of the same, and a part of the action of the piano-forte.

A strip of board of convenient thickness is cut, as represented by *d e* of the accompanying drawings, so that its convex edge will be of form adapted to the curve made by the back ends of the hammer-hinges of the piano-forte action. *a b c* are guides, of the form represented, in which the slide *d e* is to move. These guides are to be fastened by convenient screws to the top of the hammer-board resting upon *h*, the piece to which the hammer is hinged. *f* and *g* are two blade-springs, which, when free, hold *d e* against the backs of the hammer-hinges as shown in Fig. 2, thus holding down all hammers of the actions. *i* and *k* are stops, which are two strips of wood or other convenient material, and are arranged as shown in the drawings. *m n* is an edge cover or surface, which may be made of felt, chamois-leather, buckskin, india-rubber, gutta-percha, or any other suitable material, so as to interpose a soft surface between the slide *d e* and the hammer-hinges of the piano-forte, against which it is to press.

To use this device the guides *a b c* are, as before said, to be screwed to the top of the hammer-board, so that the slide *d e*, with its interposing surface *m n*, will press the hammer down. This is done when the action is out. The stops *i* and *k* are so arranged that, just before the key-board comes to its proper place in the instrument, they will bear against the back of the instrument and hold the slide *d e* back, so that it will leave the hammer-hinges free to work; but as soon as the action begins to be withdrawn from the case, the slide *d e*, being free, will again fall against the back of the hammer-hinges, and so hold down the hammer until the key-board has been entirely withdrawn from the case.

Experience has shown that, owing to various causes, the hammers of a piano-forte action are liable to stick up so high that, in spite of the greatest diligence, they are often broken. It is to obviate this difficulty that the device herein described has been constructed.

The slide *d e* may also be adapted to and worked on the hammer-handles either as one piece or in sections, and operated either with springs, guides, levers, or slides, and the stops may be fastened to the inside of the piano-case either as strips, blocks, or posts, so as to catch the slide *d e* and hold it, as before described; but I consider the construction and arrangement hereinbefore set forth to be the best.

I claim—

1. In combination with a piano-forte action, the slide *d e*, when the same is constructed and arranged to operate substantially as and for the purpose set forth.

2. In combination with the slide *d e*, the stops *i* and *k*, when constructed in the manner and for the purpose substantially as set forth.

3. In combination with the slide *d e*, the soft interposing-surface *m n*, when constructed as and for the purpose substantially as set forth.

4. The guides *a b c* and the springs *f g*, when constructed and combined, substantially in the manner and for the purpose set forth.

5. The combination and arrangement of the slide *d e*, the springs *f* and *g*, the guides *a*, *b*, and *c*, the stops *i* and *k*, and the soft surfaces *m n*, substantially as and for the purpose set forth.

6. The method of preventing the raising of the hammers, and consequent injury to the action of a piano-forte during its withdrawal from the case, by means of a slide or other equivalent device, applied and arranged to operate substantially as herein described.

In testimony that I claim the foregoing specification I have hereunto set my hand this 12th day of July, 1873.

CHS. P. T. ZONCADA.

Attest:

FRED. WERBE,
F. M. McDONALD.