



# UNITED STATES PATENT OFFICE.

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## PEDAL-ACTION.

SPECIFICATION forming part of Letters Patent No. 653,124, dated July 3, 1900.

Application filed March 28, 1900. Serial No. 10,535. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT K. THUMLER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Pedal-Action, of which the following is a full, clear, and exact description.

The purpose of the invention is to so secure the pedals of pianos in the cases of said pianos that the pedals may be readily and conveniently removed or replaced and so that the pedals will have spring-hinge supports and will be noiseless in operation.

Another purpose of the invention is to provide a noiseless spring-fulcrum for the pedal-lever and a noiseless connection between said lever and the action-bar.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a part of the bottom portion of a piano-case, portions being broken away, and a perspective view of the improved pedal-action. Fig. 2 is a plan view of the pedal-action, and Fig. 3 is a detail perspective view of the spring-fulcrum employed in connection with the pedal-lever.

A represents the bottom portion of a piano-case; B, a pedal; C, a pedal-lever; E, the action-bar, and F the connection between the pedal-lever and action-bar. These various parts may be of any approved construction, and the foot-sections of the pedals B employed extend out through suitable upholstered openings in the front of the piano-case. The inner end or heel 10 of a piano-pedal is introduced into a recess made in the upper surface of a block 11, and the heel portion of said pedal is secured to said block 11 by screws 12 or their equivalents. The block 11 is supported by a spring-hinge 13. This spring-hinge consists of a strip of resilient material—brass or steel—comprising a body-section *a*, which is given an upward turn at its rear, and a rear horizontal sustaining-section

*a'*, to which the block 11 is attached. The connecting-bar 15, which extends from the pedal to the lever C, is connected with both of these parts in the usual way, but is passed through an opening 14 in the pedal and through a felt strip 16, which crosses the said opening.

A block 17 is provided as a fulcrum for the pedal-lever C, and this block has a slot 18 produced about centrally in its upper surface, and the attachment between the pedal-lever C and the fulcrum-block 17 is accomplished through the medium of the spring-plate 19, the body portion of which extends longitudinally beneath the pedal-lever and is secured thereto by any well-known means. The said body-strip is provided at its center with an outwardly-extending eye 20 at each longitudinal edge, and these eyes 20 rest upon the top of the fulcrum-block 17, at opposite sides of the slot 18 therein, and are firmly secured to the said block by screws or other suitable means. Thus it will be observed that the pedal-lever is provided with a spring-support at its fulcrum, and the spring is of such nature that the lever may be operated in a noiseless manner, as is also true of the spring-support 13 for the pedal.

The connecting-bar F, which unites the pedal-lever with the action-bar E, is provided at its upper end with a felt thimble 21, which thimble enters a suitable socket in the action-bar E. A spring 22 is preferably attached to the side of the case A, and the free end of this spring is formed to receive the thimble 21 and pass beneath the action-bar E.

I desire it to be understood that the spring 13 may be of a V or U shape instead of the shape shown in Fig. 1. The spring 19 when attached to the pedal-lever and fulcrum-block not only renders the action of the lever noiseless, but also prevents side movement of the lever and dispenses with the use of guides for the inner end of the lever, and also holds the outer end of the lever in such relation to the pedal that the connection between the two will not be strained.

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

1. A pedal for pianos, a block arranged to



receive the heel of the pedal, the pedal being removably attached to the block, and a spring-support for the block, arranged for attachment to the case of the piano, as described.

5 2. The combination, with an angular spring and a block secured to an elevated member of the spring, the said block having a recess in its upper face, of a pedal the heel of which fits into the recess in the block, and means  
10 for detachably securing said pedal to said block.

3. In a piano-action a pedal-lever, a support for the same and a spring secured midway its ends to the support and on opposite  
15 sides of said support to the lever.

4. In a piano-action, the combination, with a pedal-lever and a support therefor, of a spring-plate attached to the said lever, the support being recessed beneath the plate, and  
20 wings at the sides of the plate, secured to the

said support at each side of said recess, as described.

5. In a piano-action, the combination, with an angular spring-plate, a block secured to an elevated member of the plate and a pedal detachably attached to said block, of a lever, a support therefor, a spring connection between the lever and its support, and a connecting-bar uniting the lever and the pedal, which connecting-bar is passed through an opening  
25 in the pedal and through a yielding material crossing the said opening, as set forth. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT K. THUMLER.

Witnesses:

P. NERNEY,

EDW. BOCKER, Jr.