





# UNITED STATES PATENT OFFICE.

JOHN DIERDORF, OF INDIANAPOLIS, INDIANA.

## PEDAL-ACTION FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 712,774, dated November 4, 1902.

Application filed June 20, 1901. Serial No. 65,258. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DIERDORF, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Pedal-Actions for Pianos, of which the following is a specification.

My present invention consists in certain improvements in pedal-actions for pianos in which simplicity in mechanical construction, durability, and together with which I procure better results than those that form the subject-matter of Letters Patent of the United States No. 651,749, issued on my application and bearing the date of June 10, 1900.

In my present application I have dispensed with the numerous rods, bell-cranks, and standards which were employed in my before-mentioned patent and substituted therefor a bar or beam having an extended integral leg, the heel of which forms the fulcrum for said beam. The number of the wearing-points in this construction are greatly reduced, thus reducing the maintenance thereof, while the longevity and efficiency of the action is obviously increased.

My invention is applicable to all styles of upright pianos without changing any of their parts.

Referring to the accompanying drawings, which are made a part hereof, and on which similar numerals of reference indicate similar parts, Figure 1 is a front elevation of the lower portion of a piano in which the front wall thereof, below the pianoforte, is broken away, thus not only exposing the interior of the piano, but showing the exact location of the different parts of my invention in their assembled and operating position. Fig. 2 is a fragmentary detail, on an enlarged scale, of the standard which forms the pivotal bearing for the pedals. Fig. 3 is a plan view of Fig. 2. Fig. 4 is an enlarged view, in side elevation, of the bar and pedal attachment, the surrounding portions in the figure being removed, so as to leave a free and unobstructed view. Fig. 5 is a vertical transverse section of the bar and shows the foot in elevation, the heel of said foot being recessed, all as seen when looking in the direction indicated by the arrows on the dotted line 5 5 in Fig. 4; and Fig. 6 is a vertical transverse section of

the bar and shows the leaf-spring in end elevation, all as seen when looking in the direction indicated by the arrows on the dotted line 6 6 in Fig. 4.

In the drawings, 1 represents the main body of the piano, the style of which is old and well known. 2 is the floor of the piano. 3 are the casters on which the piano is mounted. 4 designates the vertical "damper-rods," which are common in all upright pianos and are usually three in number, two of which are located in one end of the piano and one in the other. The damper-rods 4 extend to the upper portion of the piano, where they connect with the dampers which regulate and control the volume of tone produced by the instrument. These rods, however, are old and will be hereinafter only incidentally referred to in connection with other parts throughout the specification.

To actuate the damper-rods 4 in a simple and effective manner is the main object of my invention, and which I accomplish by providing the beam 5, which extends from the center of the piano to the inner ends thereof, and at which point they engage with the lower ends of the vertical damper-rods 4 by means of pins in the ends of said rods and the eyes formed in the ends of the beams 5. As before stated, there are usually three pedals and damper-rods in a piano, and as they are connected, by means of the beams 5, which are of similar construction, the description of one will suffice for the others.

The beam 5 extends from the center of the piano to its inner ends. The inner end of the beam 5 is supplied with an aperture, which is suspended in a perpendicular manner over the pedal, the eye in the bar or beam adapted to receive the vertical rod 6, through which the beam and pedals are connected together. As the pedals are in the center of the piano, it places them conveniently for the operator, who when desiring the requisite tone places the foot on the desired pedal, and through the rod 6 and the beam 5 and damper-rods 4 the dampers proper are actuated.

The beam 5 has an integral extended leg 8, foot 9, and heel 10. The integral leg 8 is located approximately one-third of the beam's length from its inner end. This, however, varies in the different widths of pianos where



longer beams are required. It will be noted (see Figs. 1 and 4) that the beam 5 rides on the heel 10, which heel is recessed, leaving the boss 21 at each side. The bosses 21 engage with drilled holes in the floor 2. By this arrangement I decrease the beam's contact-surface with the floor, and consequently lessen the friction, which is desirable. The extended bosses 21 also facilitate the work in placing the action in already-constructed pianos, as the work of boring the holes is less than cutting a groove, which the other construction would require were the heel level on the bottom.

The extended integral foot 9 on the leg 8 is on an inclination slightly above a right-angle plane of the leg 8 and which places the sole of the foot on an incline when the beam 5 stands in its normal position. The difference between the sole of the foot and the floor's surface regulates or limits the downward stroke of the beam 5.

A transverse groove 11 is cut into the upper surface of the foot 9, which groove forms a seat for the leaf-spring 12. The spring 12 is bent, as shown in Figs. 1 and 4, and is recessed at the rear end, which leaves the extended teeth 13, which are forced into the floor when the tension is applied by driving the screw 50, which passes through an aperture in the spring 12, and by drawing or driving said screw I procure the requisite pressure on the beam 5.

The pedals 7 are of the old and well-known variety except that they have their rear end slotted and which slots fit over a specially-constructed standard 16. A pin 15 passes transversely through the pedals and slots and engages with a recess in the standard, which connection forms the pivotal point for the pedal and the construction of which will now be described.

A standard 16 is provided for each pedal and each has a horizontal slot 17 cut into its front surface, which terminates in a recess

18. The standard 16 has an extended base 19 and a downward-extending integral screw 20, by which it is secured to the floor 2. When the standard is positioned to prevent it from turning, I form a notch 25 on each side of the base 19 and drive a small screw through the same.

As before stated, the slotted ends of the pedals carry the transverse pins 15, which pins are inserted into the horizontal slots 17 in the standards 16, the slots 17 terminating in recesses 18 and form the seat for the pins 15. To prevent the disengagement of the parts, I provide the thumb-screw 22, which passes through the upper portion of the standards in a vertical manner and seats itself on the transverse pins 15. The thumb-screws are also provided with the jam-nut 23, which seat themselves on the standards 16 when the same have been adjusted.

Having thus fully described my said invention, what I desire to secure by Letters Patent is—

In a pedal-action for pianos, in combination with the main piano-body, beams mounted therein which carry integrally-formed legs the heels of which form the fulcrum therefor, feet integral with the legs the faces of which are above a right-angle plane of the leg's side, transverse grooves cut into the surfaces of the feet, springs seated at one end in the transverse grooves while the other ends carry teeth which engage with the floor, screws passing vertically through apertures in the springs and engaging with the floor, whereby the requisite tension for the beams is procured, substantially as shown and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 7th day of January, A. D. 1901.

JOHN DIERDORF. [L. S.]

Witnesses:

F. W. WOERNER,  
CHAS. C. TOPP.