

W. BEDFORD & R. K. THUMLER.
PLAYER PIANO PEDAL.

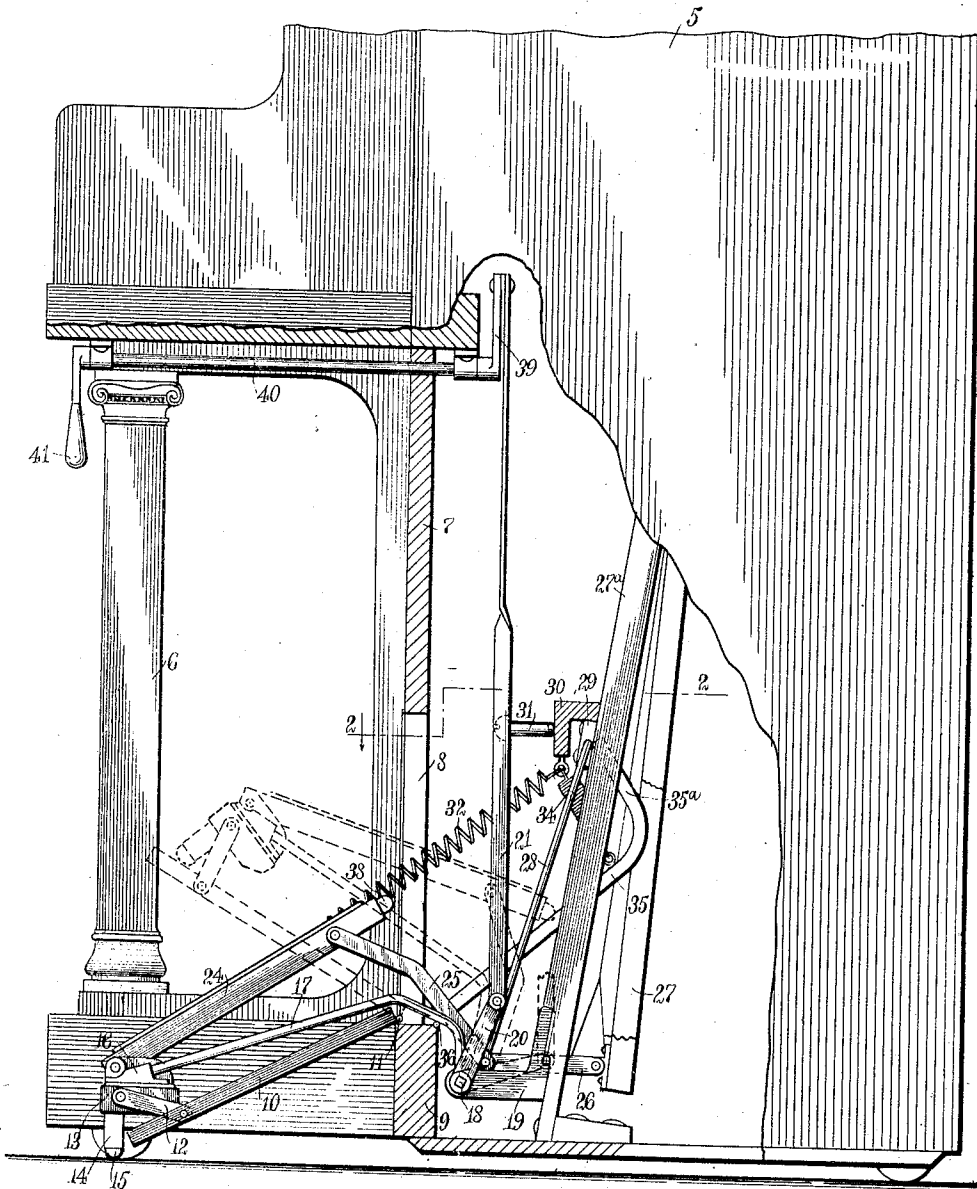
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1,009,634.

Patented Nov. 21, 1911.

3 SHEETS—SHEET 1.

Fig. 1



WITNESSES

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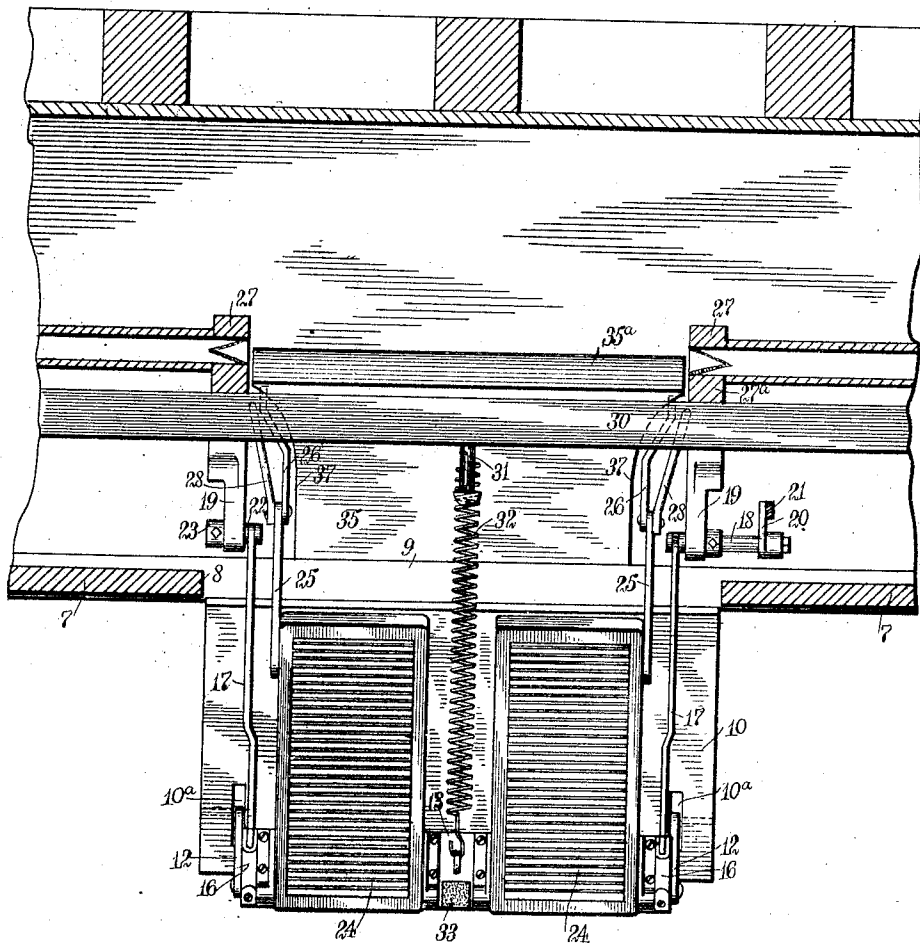
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3 SHEETS--SHEET 2.

Fig. 2



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3 SHEETS-SHEET 3.

Fig. 3

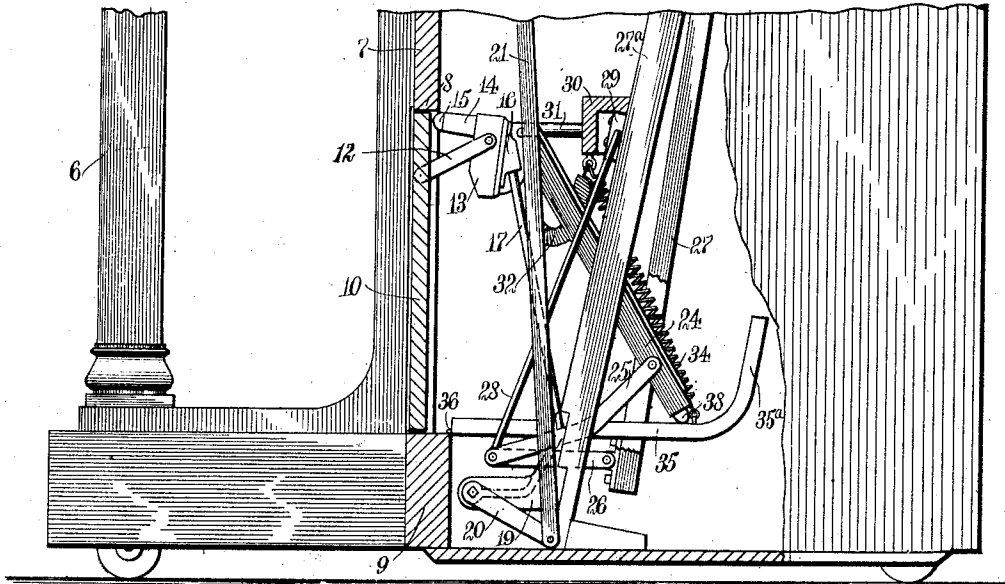
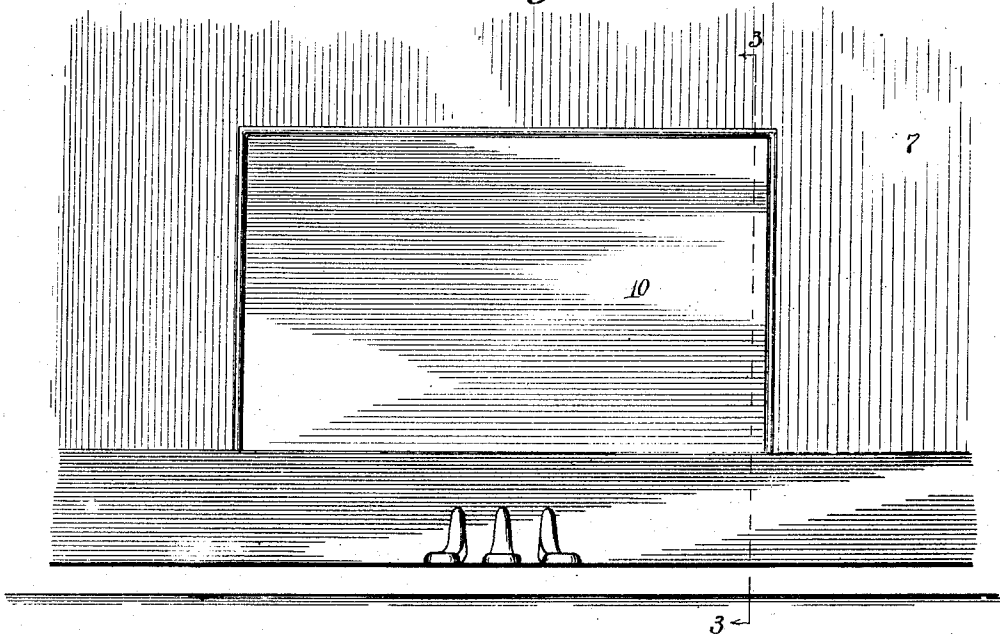


Fig. 4



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WILLIAM BEDFORD AND ROBERT K. THUMLER, OF NEW YORK, N. Y., ASSIGNORS TO
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PLAYER-PIANO PEDAL.

1,009,634.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed October 31, 1910. Serial No. 589,861.

To all whom it may concern:

Be it known that we, WILLIAM BEDFORD, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, and ROBERT K. THUMLER, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Player-Piano Pedal, of which the following is a full, clear, and exact description.

Our invention relates to player piano pedals of the type that fold within the piano and are associated with a door which closes, thereby concealing the pedals when not in use.

More particularly stated, our invention comprehends a pair of pedals mounted to swing in and out through a doorway with which the piano casing is provided, the pedals being partially supported at points located within the casing by aid of a pair of rods bent into peculiar shape and so located relatively to the doorway that when the door is being closed the pedals easily pass through the doorway; whereas, when the door is open and in its lowermost position, the pedals extend outwardly through the doorway and while in use reach farther than the door.

Our invention further contemplates improvements in various parts associated with the pedals of instruments of this general character.

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 view partly in side elevation and partly in section, showing our pedals applied to a player piano and also showing the swinging door and various other parts associated with the pedals; Fig. 2 is a horizontal section on the line 2—2 of Fig. 1, looking in the direction of the arrow; Fig. 3 is a fragmentary section on the line 3—3 of Fig. 4, looking in the direction of the arrow; and Fig. 4 is a fragmentary front elevation of the piano casing with the door closed, the pedals being now invisible because hidden by the door.

A piano casing is shown at 5 and is provided with posts 6 and with a front wall 7,

this wall having a doorway 8 through it. Below the doorway and partially bounding the latter is a foot rail 9. The door is shown at 10 and by aid of invisible hinges 11 is pivotally mounted upon the foot rail 9 and adapted to swing so as to open and close the doorway 8. The door 10 is provided with slots 10^a (see Fig. 2). Links 12 extend through these slots and are pivotally connected with the door. These links are secured to a bar 13 carrying posts 14 which are provided at their bottoms with rubber cushions 15 for engaging the floor.

Mounted upon the ends of the bar 13 are two lugs 16 provided with sockets and fitting into these sockets are two arms 17 which are of considerable length and are each provided with two bends, as will be understood from Fig. 1. One of the arms 17 is connected rigidly with a stub shaft 18 (see Fig. 2) and this shaft extends through a bearing bracket 19. A crank arm 20 is secured rigidly upon the stub shaft 18 and is pivotally connected with a pitman 21. The other arm 17 is connected with a stub shaft 22 (see left of Fig. 2) the latter being provided with a head 23 and extending through the adjacent bearing bracket 19.

The pedals are shown at 24 and are journaled upon the bar 13. Two pitmen 25 are pivotally connected with the pedals 24, these two pitmen being also pivotally connected with links 26, the latter being in turn connected by pivots with bellows 27. These bellows are provided respectively with rigid backs 27^a upon which the bearing brackets 19 are rigidly secured. At 28 is a suspension rod, there being two of these rods mating each other and each rod being pivotally connected with one pitman 25 and its corresponding link 26. Each suspension rod 28 is also pivotally connected with the bearing 29 secured rigidly upon the bellows back 27^a. A cross bar is shown at 30 and carries a screw 31 which serves the purpose of a limiting stop for the pedals as they are moved into one of their normal positions, as hereinafter explained. A spring 32 is connected with the cross bar 30 and also with the bar 13, the purpose of this spring being to partially counterbalance the weight of the pedals so that comparatively little labor will be necessary to shift them into different positions, and movements of the pedals are not apt to be made with undue suddenness

or shock. The bar 13 carries a cushion 33 of felt or rubber, this cushion being adapted to rest against the head of the screw 31 whenever the bar 13 is folded back into the casing and the door 10 is closed, as will be understood from Fig. 3. A spring 34 is connected at one of its ends with the cross bar 30. A screen 35 having generally the form of a wide board with an upturned portion 35^a is mounted upon the foot rail 9 by aid of hinges 36. The screen 35 serves to hide the interior of the casing when the pedals 24 occupy the position indicated in Fig. 1. The screen 35 serves the further purpose of cushioning abrupt movements of the pedals 24 when the latter are moved into their position indicated in Fig. 3. The spring 34 is stretched when the parts occupy the positions last mentioned, as will be understood from Fig. 3. The screen 35 is cut away upon its opposite sides as shown at 37 (Fig. 2) for the purpose of accommodating various links and other movable parts.

The pedals 24 are provided with cushions 38 which are adapted to engage the adjacent surface of the screen 35 as the pedals are moved into the casing (see Fig. 3). The pitman 21 is pivotally connected with a crank arm 39 (see Fig. 1) the latter being secured rigidly upon a shaft 40 and connected with this shaft is a handle 41. The operator, by rocking the handle 41 to the right or the left, causes the pitman 21 to be raised or lowered. This pitman operating through the crank 20 causes the shaft 18 to rock and this shaft, when rocked in one direction, tends to move the arms 17 into the position indicated in Fig. 1, and when moved in the opposite direction tends to bring the arms into the position indicated in Fig. 3.

The bearing brackets 19 are disposed below the upper level of the foot rail 9 so that the shafts 18 (see Fig. 1) and the shaft 22 (see Fig. 2) are somewhat lower than the upper surface of this foot rail. The location of the two shafts 18, 22 below the top of the foot rail 9 has a peculiar effect upon the relative movements assumed by the pedals 24 and the door 10. Whenever the door 10 and pedals 24 occupy the position indicated in Fig. 1—that is to say, whenever the arms 17 are swung outwardly upon their centers of movement—the bar 13 and the outer ends of the pedals 24 extend out beyond the limits of the door 10. When, however, the door 10 is being closed, and consequently the pedals 24 are being pushed back into their positions indicated in Fig. 3, the arms 17 cause the bar 13 to be lowered, in a sense, relatively to the upper boundary of the doorway 8 and thus are enabled to pass through this doorway. Whenever the door 10 is closed, the upper edge of this door is a trifle higher than the uppermost por-

tion of the bar 13. It would seem at first blush that if, with the parts in the positions indicated in Fig. 3, the uppermost portion of the bar 13 is lower than the upper portion of the door 10, the opening of the door, and consequent lowering of the bar 13 as the parts are moved into the positions indicated in Fig. 1, would enable the door 10 to project out a considerable distance to the left according to Fig. 1, so that the outermost edge of the door might extend beyond the outermost edge of the bar 13. This, however, is prevented by the relative position given to the shafts 18, 22, and by bending the rods 17 so as to enable them to clear the top of the foot rail 9. By bending the rods 17 into the form shown in the drawings, and by journaling these rods inside of the foot rail 9 and below the upper surface thereof, the parts so coact with each other that when the pedals 24, arms 17 and door 10 are swung to the left according to Fig. 1, the outer edge of the door 10 comes well within the vertical plane occupied by the posts 14.

By the arrangement above described, when the door 10 is opened, as indicated in Fig. 1, the weight of the pedals 24, the door 10, the bar 13 and various adjacent parts rests entirely upon the posts 14 and consequently upon the cushions 15. When, however, the door 10 is closed and the various parts associated with the door are consequently moved back through the doorway 8 and through the casing, the door 10 presents to the eye no cushions or anything else to indicate that the door has ever occupied a position such as indicated in Fig. 1. The inevitable result is that when the door 10 is closed, the piano has nothing about it to indicate that it is ever operated in connection with a mechanical player.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. The combination of a casing provided with a doorway, a door journaled at its bottom and free to swing outwardly in order to open said doorway, bellows mounted within said casing, a pedal, connections from said pedal to said bellows for actuating the latter, and a rigid rod journaled at one of its ends to said pedal and journaled at its other end to a fixed point located within the casing and below the lowest portion of said doorway, said rigid rod being bent in order to clear the bottom of said doorway when said door is open, and long enough to guide the outer end of said pedal clear of the outer boundary of said door when the latter is swung outward.

2. The combination of a casing provided with a doorway, a door journaled at its bottom and free to swing outwardly, in order to open said doorway, bellows mounted

within said casing, a pedal, connections
 from said pedal to said bellows for actuat-
 ing the latter, a rigid rod journaled at one
 of its ends to said pedal and journaled at
 5 its other end to a fixed point located within
 the casing, and below the lowest portion of
 said doorway, said rigid rod being bent in
 order to clear the bottom of said doorway
 when said door is open, and long enough
 10 to guide the outer end of said pedal clear
 of the outer boundary of said door when the
 latter is swung outward, and a flexible con-
 nection from said pedal to said door.

3. The combination of a casing provided
 15 with a doorway, a door mounted to swing
 for the purpose of opening and closing said
 doorway, bellows mounted within said cas-
 ing, a pedal, connections extending from

one end of said pedal and journaled to said
 bellows, a rigid rod journaled to the oppo- 20
 site end of said pedal and also journaled to a
 fixed point disposed within said casing and
 below said doorway, said rigid rod being
 arched upwardly where it extends through
 the bottom of said doorway, in order to 25
 guide said pedal outwardly beyond the lim-
 its of said doorway when said door is open.

In testimony whereof we have signed
 our names to this specification in the pres-
 ence of two subscribing witnesses.

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 ROBERT K. THUMLER.

Witnesses:

EMIL A. EICHNER,
 H. C. ZHIRNY.

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