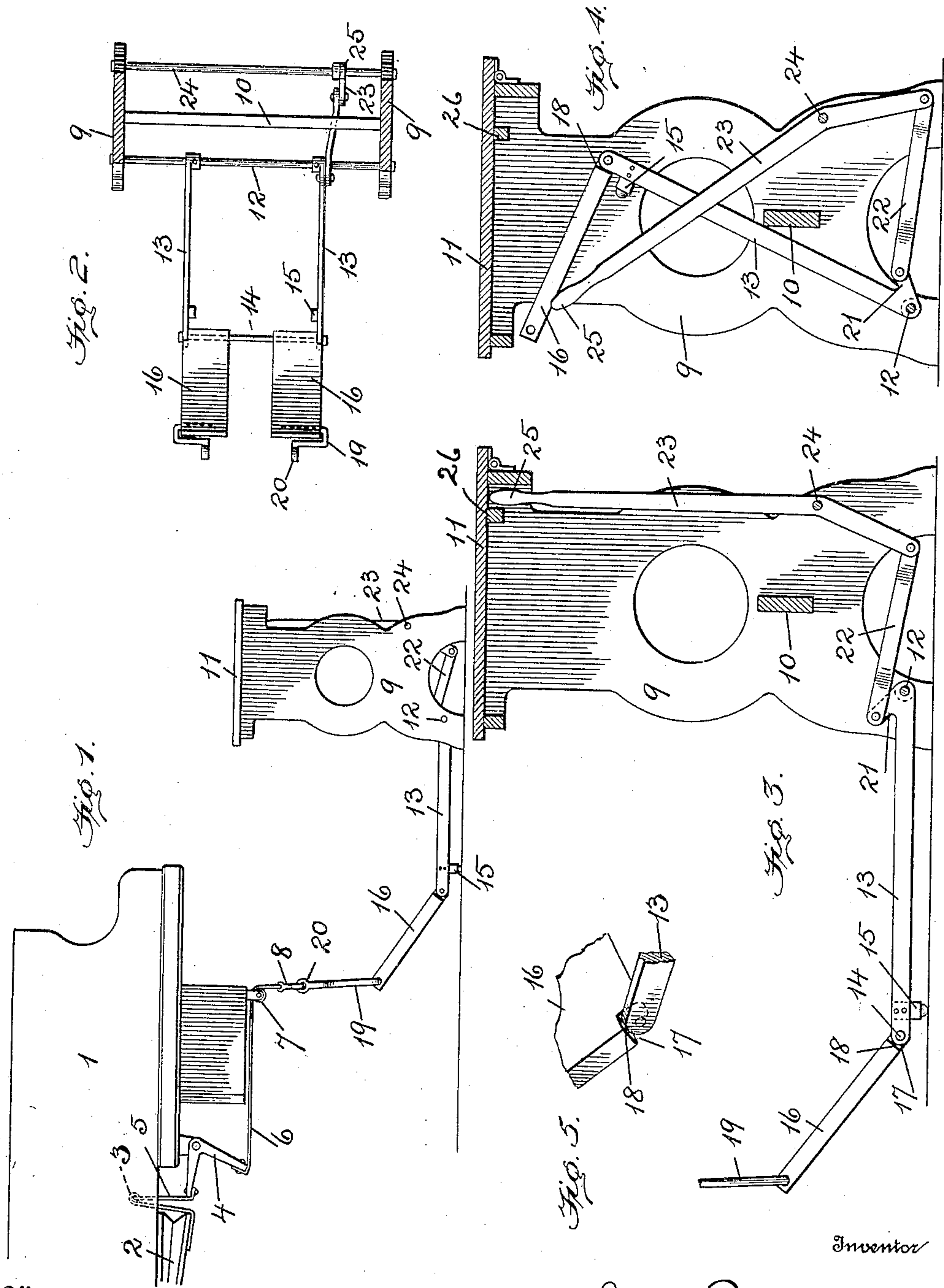


J. P. CAULFIELD.
 PEDAL ACTION FOR MUSICAL INSTRUMENTS.
 APPLICATION FILED JULY 8, 1909.

963,420.

Patented July 5, 1910.



Witnesses

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PEDAL-ACTION FOR MUSICAL INSTRUMENTS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES P. CAULFIELD, a citizen of the United States, residing at Baltimore, in the State of Maryland, have
5 invented certain new and useful Improvements in Pedal-Actions for Musical Instruments, of which the following is a specification.

This invention relates to improvements in
10 pedal actions for pianos or similar instruments containing pneumatic player mechanisms where foot pedals are operated to produce the air tension for operating the player mechanism.

15 One object of the invention is to provide an improved construction of pedal action that may be readily disconnected from a bellows carried on the instrument at times when it is desired to operate the latter by
20 hand and which may be as readily attached to said bellows to put the instrument in condition for automatic playing.

Another object is to provide a pedal-action for operating a bellows carried on the
25 instrument which pedal action shall be sustained independently of the instrument and the bellows thereon.

Another object of the invention is to provide an improved construction of pedal action and seat or bench for the operator
30 whereby to hold the seat in rigid relation with respect to the pedals and prevent the seat or bench from working away because of the pressure of the feet on the pedals.

35 A further object is to provide an improved construction of seat or bench and pedal action whereby the latter may be entirely disconnected from the bellows it is to operate and be folded beneath the seat or
40 bench when not in use.

A still further object is to combine the seat and pedal action in such a way as to enable it to be projected or folded by the operation of a hand lever.

45 With these and other objects in view the invention is illustrated in the accompanying drawings in which,—

Figure 1, shows a side elevation of a portion of a piano to which my improved seat
50 and pedal action is connected. Fig. 2, a sectional plan view through the seat with the pedal action projected therefrom as when in use. Fig. 3, an enlarged vertical cross-section through the seat with the pedal action
55 in the projected position. Fig. 4, a similar view through the seat with the pedal action

folded, and Fig. 5, a detail of the corner of one pedal showing its connection with the carrying frame.

While the invention is shown in connection with a grand piano it is to be understood that it may as readily be connected to an upright piano or to a so-called piano-player where a power bellows is employed
60 on the instrument to produce an air tension and may also be used in connection with
65 organs where foot pumping pedals are employed.

Referring to the drawing the numeral, 1, designates the instrument which in the present instance is provided with a power bellows, 2, permanently attached thereto and having a bracket arm, 3. A bell-crank lever, 4, is pivotally sustained from the instrument adjacent to the power bellows
70 thereon and a connection, 5, is provided between one arm of said lever and the bellows bracket. A flexible strap, 6, is attached to the other arm of the bell-crank lever and passes over a suitable guide or roller, 7, also
75 on the instrument, from which it depends and the depending end thereof is provided with a suitable snap hook, 8, for a purpose presently to be described.

The particular construction and arrangement of devices on the instrument described
85 are merely illustrative and are to be construed as in no way defining the scope or limitations of the invention.

The seat or bench may have any desired
90 form or construction, but in the present instance it comprises the vertical ends, 9; a cross-bar, 10, connecting the same for the purpose of rigidity and a hinged top or seat proper, 11.

95 A rock-shaft, 12, extends horizontally between and has bearing in the vertical ends, 9, of the bench and said shaft carries a plurality of laterally-projecting parallel bars, 13, which are connected at their outer ends
100 by a cross-bar or rod, 14. It will thus be seen that the shaft, 12, bars, 13, and rod, 14, together form a frame which is pivotally sustained between the vertical ends, 9, of the bench and which may be folded or
105 swung up beneath the seat, 11, of the bench. The outer end of each bar, 13, is provided with a lug or plate, 15, which forms a foot and each foot is preferably provided with a cushion which rests upon the floor when the
110 frame is projected, or in the operating position as clearly seen in Fig. 3.

The pedals, 16, are carried by the frame and are pivotally mounted on the cross-bar or rod, 14, which latter, in the present instance extends therethrough. The pedals are
5 preferably provided with a notch, 17, which receives the end of the bar, 13, and the wall, 18, at one end of said notch serves a useful purpose as will presently appear.

The outer end of each pedal is provided
10 with suitable means whereby it may be attached to the bellows-operating mechanism and while the particular form of devices employed for this purpose is immaterial and may be varied I have in the present instance
15 provided a stirrup, 19, having an eye, 20, at its upper end with which the snap-hook, 8, may engage while the lower end of said stirrup engages the forward end of the pedal and normally sustains it in an inclined position.
20

It will thus be seen that the pedal-carrying frame rests upon the floor and sustains the pedals in an inclined position and that suitable connections are provided between
25 the pedals and bellows whereby the latter may produce the pneumatic pressure.

In order to conveniently remove and store the pedal action at times when it may be desired to operate the piano by hand in
30 the well known way, I have provided a construction whereby the pedals and the frame carrying the same may be folded against the bench on which the operator sits, and by reference to Figs. 3 and 4 of the drawing it will
35 be seen that one of the bars, 13, of the pedal frame is provided with a laterally-projecting arm, 21, which in the present instance extends upwardly in an inclined direction and to this arm there is pivotally connected
40 the forward end of a bar or link, 22, while the rear end of said bar is pivoted to the lower end of an operating lever, 23. This operating lever is pivotally mounted between its ends on a rod, 24, which extends
45 horizontally between the vertical ends, 9, of the bench and the upper end, 25, of said lever, when the pedal action is in the projected condition (see Fig. 3) has position directly beneath the pivoted seat, 11, of the
50 bench.

In order to lock the lever, 23, in the operated position, that is, when the pedal action is projected, a lug, 26, is provided on the bottom side of the seat so that when the
55 seat is swung down, said lug will project at one side of the end, 25, of the operating lever and prevent it from moving laterally.

In operation, supposing the pedal mechanism to be projected as shown in Figs. 1
60 and 3, the connections between the pedals and the snap hook will be separated. The seat, 11, may then be raised so as to expose the upper end, 25, of the operating lever which will be moved forward over the cross-bar,
65 10. This movement of the upper end of the

lever will impart a reverse movement to the lower end thereof and thus draw the link bar, 22, to the right or rearwardly, and at the same time pull the arm, 21, back and rock shaft, 12. By thus rocking this shaft, 70 12, the forward end of the pedal-carrying frame will swing up beneath the seat and the pedals will turn on the rod, 14, until the walls, 18, of the notches contact with the lower edges of the bars, 13, as clearly seen 75 in Fig. 4. The seat may then be turned down to cover the folded pedal mechanism.

It is to be understood that the term bench wherever employed in the specification and some of the claims herein is to be construed as meaning any form of support that may serve as a seat and to which the pedal action may be attached. 80

Having thus described my invention what I claim and desire to secure by Letters Patent is,— 85

1. The combination with a stringed musical instrument having a power bellows attached thereto for producing air tension for operating the instrument, of pedal mechanism carried independently of both the power bellows and the instrument and mechanical connections between the pedals and the instrument for operating the power bellows on the instrument. 90 95

2. The combination with a stringed musical instrument having a power bellows carried thereon, of a pedal-carrying frame sustained independently of both the instrument and the power bellows; pedals carried by the frame and connections between the pedals and the bellows on the instrument. 100

3. The combination with a stringed musical instrument having a power bellows permanently carried thereon, of a bench; a pedal action carried by the bench and independently of the power bellows, and mechanical means movable between the pedals on the bench and the bellows on the instrument for operating the bellows on the instrument. 105 110

4. The combination with a stringed musical instrument having a power bellows carried thereby, of a bench; a pedal action pivotally sustained from the bench and mechanical connections between the pedals and the bellows on the instrument, said connections including means for disconnecting the pedals from the bellows. 115 120

5. The combination with a stringed musical instrument having a power bellows carried thereon, of a bench; a pedal-carrying frame pivotally sustained by the bench; pedals pivoted with respect to said frame and flexible connections extending from the front end of the pedals and extending therefrom and connected to the power bellows on the instrument. 125

6. The combination with a bench, of a 130

frame comprising parallel bars and cross-bars connecting the parallel bars and one of the cross-bars being pivotally connected with the bench and pedals mounted on the other cross-bar.

7. The combination with a bench, of a cross-bar sustained by the bench, parallel bars mounted on and extending laterally from said cross-bar; a cross-bar at the outer end of the parallel bars and pedals pivotally mounted on said latter cross-bar and notched to swing about the ends of the parallel bars and having a stop to engage the latter bars.

8. The combination with a bench, of a rod carried horizontally below the seat of said bench; a frame sustained by the said rod and movable in a vertical plane beneath the seat; pedals pivoted to the free end of said frame, and a hand lever for operating

the frame to raise or lower the latter and the pedals.

9. The combination with a bench having a hinged top or seat with a projection at the bottom side thereof, of a frame pivotally sustained from the bench beneath the seat; pedals pivoted to and carried by the frame; an operating lever extending in an upright position beneath the seat and pivoted with respect to the bench and whose handle end is locked in the operated position by the projection on the bottom of the seat, and means operating between said lever and the pivoted frame to move the latter.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES P. CAULFIELD.

Witnesses:

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