

C. H. MARTIN.
ADJUSTABLE PIANO BENCH.
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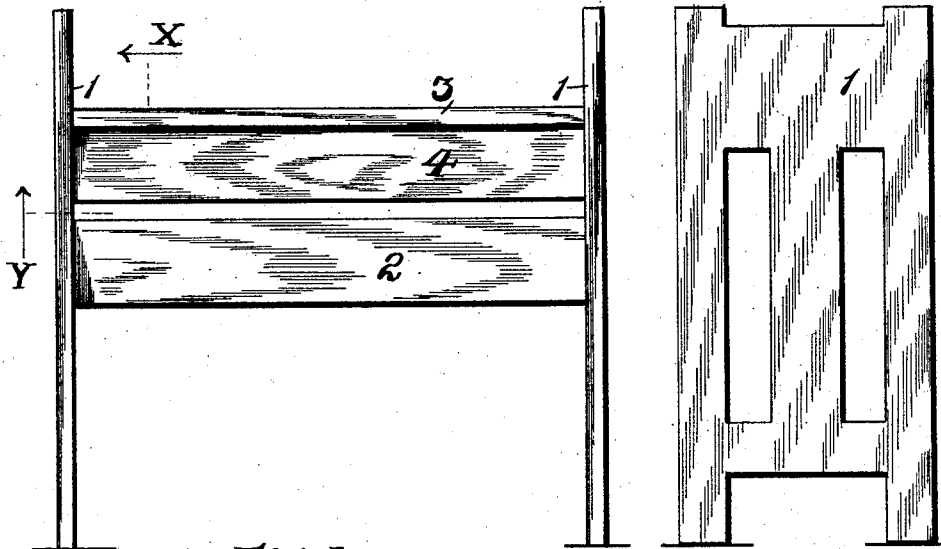
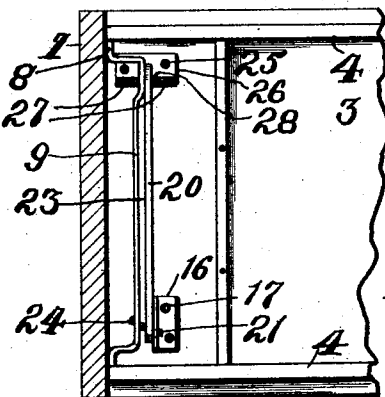
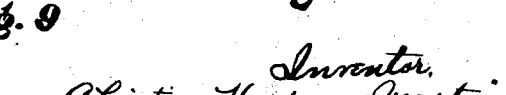
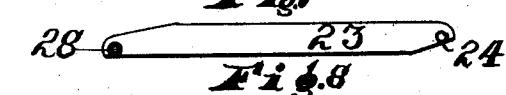
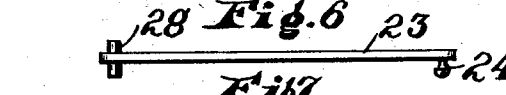
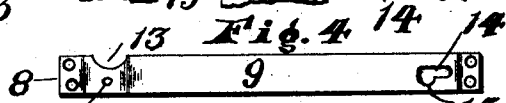
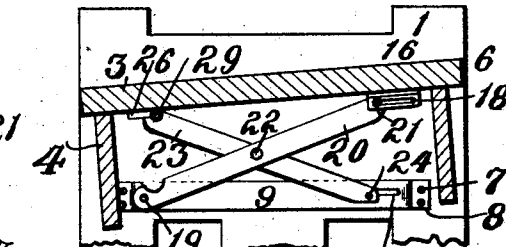
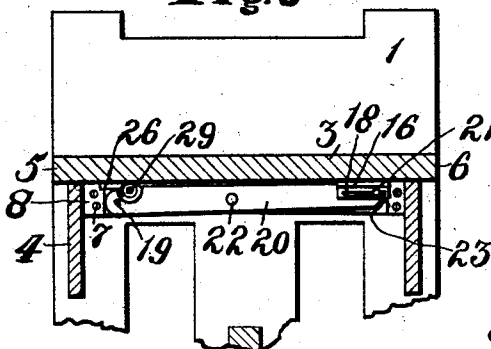


Fig. 1
Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

CHRISTIAN H. MARTIN, OF AKRON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
THE MARTIN ADJUSTABLE PIANO BENCH COMPANY, OF CLEVELAND, OHIO.

ADJUSTABLE PIANO-BENCH.

1,048,190.

Specification of Letters Patent.

Patented Dec. 24, 1912.

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To all whom it may concern:

Be it known that I, CHRISTIAN HENDERSON MARTIN, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Adjustable Piano-Benches, of which the following is a specification.

This invention relates to benches or seats for use in connection with a piano or organ and the object thereof is to provide a simple, inexpensive device for the purpose named, having an adjustable seat portion capable of being raised from a lower horizontal position to an upper inclined position. Experience has shown that in playing a piano or similar instrument in the ordinary way, a comparatively low horizontal seat is required, but when a mechanical piano player is operated the best results are obtained by using a higher and inclined seat for supporting the body so as to bring the weight thereof more nearly over the treadles by which the mechanical piano player is operated. It is also desirable to have a bench or seat for a piano adjustable in order to suit the individual preference of the performer and to make the seat adaptable to use with pianos having key-boards of different heights.

It will be seen that in the case of a bench intended to be used with a player piano, it is desirable to be able to adjust the same quickly and easily from the lower horizontal position adapted to manual playing to the higher inclined position suitable for mechanical playing, and vice versa, as a performer will often wish to change back and forth from one style of playing to the other at frequent intervals. Careful adjustment of elevation and inclination of the seat is less desired than ability to quickly and easily adjust the elevation and automatically secure a proper inclination of the seat when at higher elevation. In accordance with my present invention I have provided a bench in which these results are obtained. The bench may be raised by a single movement from lower to higher position, such movement automatically inclining the bench so that it will have the proper inclination when raised. A single movement also suffices to lower the seat, when it will automatically resume its horizontal position.

This automatic raising, lowering and tilting of the seat is accomplished without displacing the seat laterally from its correct position upon its supports, but the seats and its supports are maintained in proper vertical alinement at all times during such operations.

In the accompanying drawings which form a part of this specification, Figure 1, is a view in side elevation of a bench or seat embodying one form of my invention; Fig. 2, is an end elevation of the same; Fig. 3, is a transverse sectional view of the device shown in Fig. 1 on line X, showing the seat in its lower horizontal position; Fig. 4, is a view similar to Fig. 3, showing the seat in its upper inclined position; Figs. 4, 5, 6, 7 and 8 are enlarged details of portions of the mechanism employed in supporting and moving the seat; and, Fig. 9, is a longitudinal sectional view of a portion of the device shown in Fig. 1, on line Y thereof.

Referring to the drawings in detail the reference numerals 1, 1 denote the supporting legs of the bench, preferably connected by a cross bar 2. Extending between the legs 1, 1 is the seat portion of the bench comprising a top 3 having depending therefrom side pieces 4, 4, secured to the top 3. The side pieces 4, 4 are slightly removed from the side edges 5 and 6 of the top to provide ledges or shoulders which afford hand-grasps for raising the seat from its lower position to its upper position and for raising it sufficiently when in its upper position to release the locking mechanism to permit it to be lowered.

The mechanism enables both ends of the bench to be raised simultaneously and evenly from a lower position to an upper position and from thence lowered to its original position, and holds and supports the seat in both positions and is as follows, attention being directed to the fact that the mechanism at both ends of the bench is similar and hence, the description hereinafter given will be confined to one end. Secured by suitable hold-fast devices 7 to the inner face of the leg 1, a desired distance below its upper end, is a bracket-forming member 8, comprising a strip of metal having an outwardly-extending median portion 9 and near one end an outwardly-bulged portion 10 constituting a seat and provided with an

aperture 12 therein. The ends of the member 8 are preferably L-shaped and inwardly extended to be secured to the inner face of the leg 1. The member 8 is provided in its seat portion 10 with a notch 13 above the aperture 12 and also has near its opposite end a slot 14 having near one end thereof and in its lower wall a notch 15 for a purpose to be later described.

Secured to the under face of the top 3 is an L-shaped bracket 16 attached in place by hold-fast devices 17 and provided in its depending portion with a slot 18. Mounted in the aperture 12 in the seat 10 is a pin 19 constituting a pivot for a lever 20 the opposite end of which is provided with a pin 21 slidably mounted in the slot 18 in the bracket 16. Pivoted to the lever 20 by means of a pin 22 is a complementary lever 23 the lower end of which is provided with a pin 24 slidably mounted in the slot 14 of the member 8. Secured by hold-fast devices 25 to the under face of the top 3 on the opposite side of the seat from the bracket 16 is a hinge member 26 having a pair of integral, spaced, tubular members 27. Either formed integral with the upper end of the lever 23 or secured thereto is a transverse tubular member 28 corresponding in contour with the members 27 and adapted to be positioned between them and held in position through the medium of a pin 29 extending through the aligned members and constituting a pivot for the movement of the lever 23. The notch 13 in the member 8 is provided to permit the seat to be lowered into the position shown in Fig. 3, and clear the tubular portions 27 of the hinge-member 26 and the tubular portion 28 of the lever 23.

The lengths of the arms of the levers 20 and 23 are so proportioned that when the seat is raised it is simultaneously inclined as shown in Fig. 4. In order to accomplish this result the lever arm 21—22 is made longer than the lever arm 22—29. The lever arms must however be so proportioned that the seat 3 will not be thrown forward when it is raised and inclined, but its edges must be maintained in alinement with the vertical edges of the supporting members 1. While any relative proportioning of the lever arms which will produce this result is within the scope of my invention, I prefer to make the lever arms 22—19 and 22—24 of approximately the same length, the lever arm 22—29 being not much different in length from these two arms, while the fourth arm 21—22 is made sufficiently long to produce the desired inclination of the seat when raised.

When it is desired to raise the seat from the lower horizontal position as shown in Fig. 3 to an upper inclined position as shown in Fig. 4, the user places his finger

tips under the ledge at the left of the top, the side designated by the reference numeral 5, and as he raises this side the pivoted ends of the levers 20 and 23 are separated and being pivoted together at 22 a simultaneous and greater separation of the opposite ends of the levers takes place due to the fact that the pivot 22 is not centrally positioned, causing thereby a tilting or inclination of the top 3. As soon as the seat has been elevated a sufficient distance the pin 24 in the lower end of the lever 23 drops automatically into the notch 15 which communicates with the slot 14. The engagement of the pin 24 with the notch 15 prevents any movement of the seat and it serves to effectually hold the latter in its inclined position. When it is desired to lower the bench from its upper inclined position as shown in Fig. 4, the operator slightly raises the upper side of the bench designated by the reference numeral 6 which operation raises the lower movable end of the lever 23 sufficiently to move the pin 24 out of the notch 15 and then by releasing the top it lowers itself to its normal horizontal position. It may be pointed out to make this last operation more easily understood that the slight raising of the side 6 of the seat simultaneously raises the upper end of the lever 20, in doing which the lever 20 is swung on its pivot, the pin 19. This movement of the lever 20 through the pin 22 also swings the lever 23 slightly, and as one end thereof is pivoted on the pin 29, the opposite end carrying the pin 24 must yield sufficiently to withdraw the pin 24 from the notch 15.

While I have shown in the accompanying drawings and described in detail in the foregoing specification a preferred embodiment of my invention, it is to be understood that my invention is not limited to the precise structure set forth, but is capable of modification in many ways. I do not desire to be limited to the details of the structure shown and described any further than as specified in certain of the more limited claims hereunto appended.

I claim:

1. A piano bench comprising a support and an adjustable seat and extensible lever mechanism for supporting said seat upon said support, said mechanism when collapsed supporting said seat in a lower horizontal position and when extended automatically raising one side of said seat higher than the other side thereof and supporting said seat in an upper inclined position.

2. A piano bench comprising a seat, supporting legs, a pair of levers pivotally connected together, one of said levers having its arms projecting beyond the ends of the arms of the other of said levers, and means for connecting said levers to said seat and

one of said legs whereby the seat can be shifted from a lower horizontal position to an upper inclined position.

3. A piano bench comprising a support, a seat, and means for supporting said seat upon said support comprising a pair of crossed levers pivoted at their point of intersection, one end of one of said levers being pivoted to said support, the other end of said lever being pivotally and slidably connected with said seat, an end of the second lever being pivotally and slidably connected with the said support, the other end of said lever being pivotally connected with said seat, the arm of the first lever between the point of intersection of the two levers and the pivotal and slidable connection of said first lever with the seat being longer than the arm of the second lever between the point of intersection of the two levers and the pivotal connection of said arm with said seat, whereby, when the seat is raised, it will be automatically tilted.

4. A piano bench comprising a seat, a pair of supporting legs, a slotted bar secured to one of said legs, a slotted member depending from the seat, a short and a long lever, means for pivotally connecting said levers together, means for slidably connecting said long lever to said member, means for pivotally connecting said long lever to said bar, means for pivotally connecting said short lever to said seat, and means for slidably connecting said short lever to said bar, the connections between said levers and the seat and bar providing means for shifting the seat from a lower horizontal position to an upper inclined position.

5. A piano bench comprising a seat, legs and a lever, mechanism embodying a pair of levers pivoted together at a point removed from the longitudinal central point

of one of said levers, said lever mechanism connected with the seat and one of the legs for moving the seat from a lower horizontal position to an upper inclined position.

6. A piano bench comprising a seat, a pair of supporting legs located one at each end of said seat, a slotted bar secured at its ends to the inside of one of said legs and lying parallel with the surface thereof but spaced therefrom, the slot in the bar being located near one end thereof and having a horizontal portion and a notch near one end of such portion, a member secured to the underside of the seat above the slotted portion of the bar, said member having a longitudinal slot therein, and a pair of crossed levers pivoted together, corresponding ends of said levers being pivoted to the seat and to the slotted bar, respectively, the other end of the lever pivoted to the slotted bar having a pivotal and sliding connection with the slotted member secured to the seat, the other end of the lever pivoted to the seat carrying a portion sliding in the slot in said slotted bar and adapted to enter the notch therein, the arm of the first lever between the point of intersection of the levers and the point of connection with the slotted member secured to the seat being longer than the arm of the second lever between the point of intersection of the levers and the slot in the bar, whereby when the lever mechanism is extended to support the seat in raised position, the seat will be automatically inclined.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHRISTIAN H. MARTIN.

Witnesses:

A. E. KLING,

C. E. HUMPHREY.