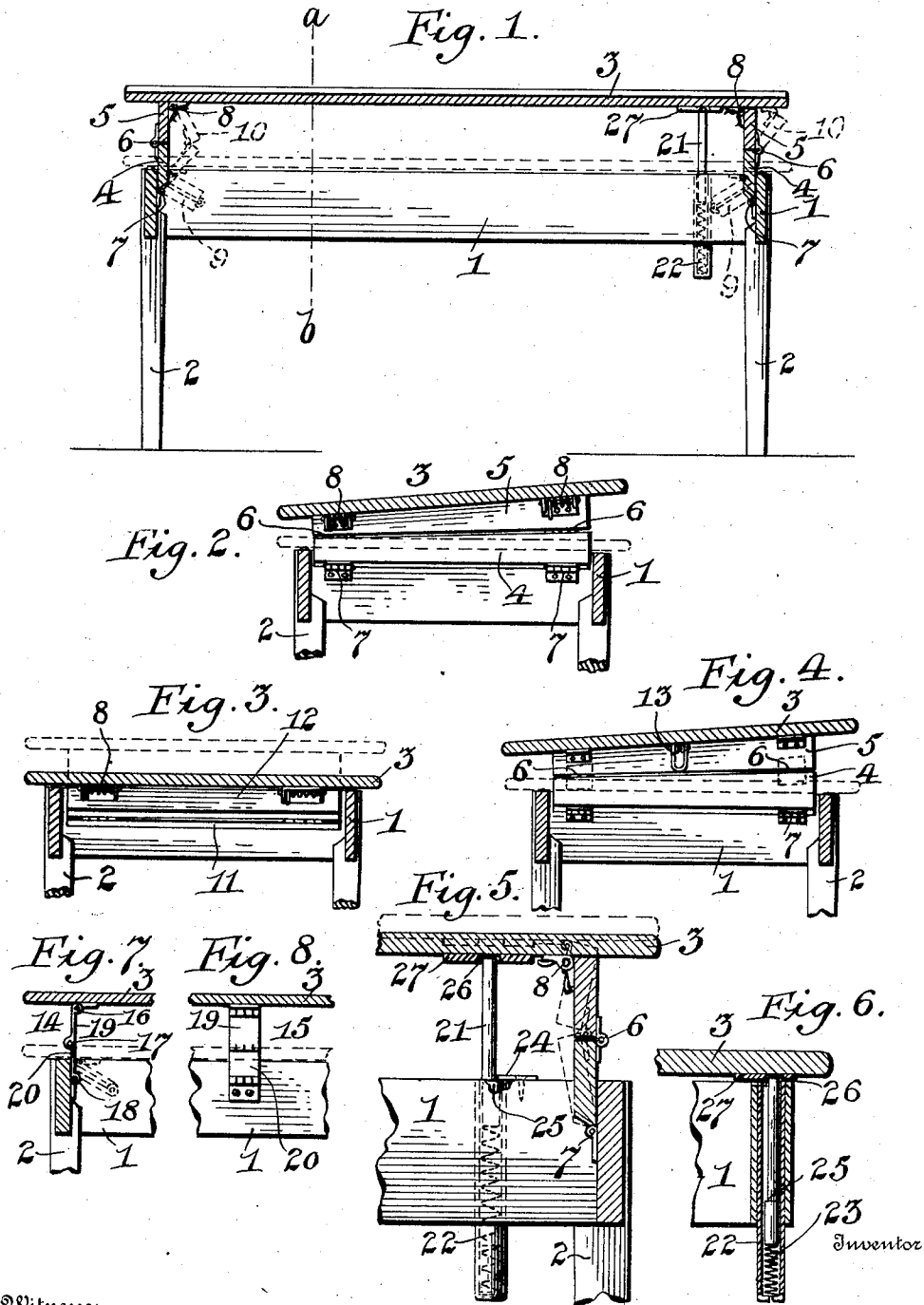


R. V. TOUTJIAN.
SUPPORTING DEVICE.
APPLICATION FILED MAY 12, 1909.

1,079,674.

Patented Nov. 25, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT V. TOUTJIAN, OF LOS ANGELES, CALIFORNIA.

SUPPORTING DEVICE.

1,079,674.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT V. TOUTJIAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Supporting Devices, of which the following is a specification.

This invention relates to improvements in supporting devices and particularly to articles of furniture such as benches, seats, stools, tables and the like. It is particularly useful as an adjustable bench or seat for pianos, piano-players, organs or the like and it is the object of the invention, among other things, to provide a supporting device of such a character that it is capable of adjustment to different heights, so that as in the case of an adjustable bench it may be used with different instruments, as for instance, for the ordinary piano as well as for the piano-player and the combination of the two.

It is also the object of the invention to provide such a supporting device with means capable of quick adjustment for altering the height of the supporting surface or portion of said device.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawing forming a part of this specification:—Figure 1 is a longitudinal vertical sectional view through a piano bench constructed in accordance with this invention. Fig. 2 is a vertical sectional view taken upon the line *a—b* of Fig. 1 and looking toward one end of the bench. Fig. 3 is a similar sectional view but showing the hinges that support the top of the seat so made, that the said seat top will remain horizontal when elevated instead of being tipped, as shown in Fig. 2. Fig. 4 is a transverse sectional view of the seat similar to Fig. 2, but showing a spring employed for actuating the connecting hinge-members, the said spring not forming a part of any of the hinges. Fig. 5 is a detail sectional view taken through the end portion of the bench and showing, in enlarged form the safety bolt or latch for preventing any accidental collapsing of the bench when it is in its raised position. Fig. 6 is a similar fragmentary sectional view taken upon the

line of the safety bolt but at right angles to the bench as shown in Fig. 5. Fig. 7 is a detail sectional view of a portion of the bench showing an all metallic hinge and, Fig. 8 is a similar fragmentary view showing the all metallic hinge in side elevation.

The present invention is designed to provide a supporting device that is so formed that its supporting surface or portion is capable of being raised or lowered to different heights.

The invention is particularly useful as a bench, seat, table or like article of furniture.

As the present invention is especially well adapted to a bench or seat for use in connection with various musical instruments, such as pianos, piano-players, combined pianos and piano-players and organs and for supplying a need that had been developed by the combining of piano-player mechanisms with the ordinary piano structures, the invention will now be described as embodied in a bench, it being illustrated in this manner in the drawing.

In using a piano for hand and finger operation only, a seat of a given height is commonly used, but when operating a mechanical piano mechanism, the seat should be higher and preferably slightly tipped toward the piano. A bench embodying the present invention is so formed that the top can be adjusted from a lower to a higher position by merely grasping the said top portion with the hands and lifting it. It can be as easily depressed again when desired, by moving the top longitudinally in either direction for a short distance and then pushing it down.

Referring to the drawing, 1 indicates a frame provided with supporting legs 2. 3 indicates a movable top or supporting seat surface which is connected with the said frame 1 by two or more hinge members as shown in Fig. 1. The hinge members form an important feature of the invention, and while they may be made in various ways within the scope of the invention, I preferably make them as shown in Figs. 1 and 2 of the drawing. Each hinge member is made up of two pieces as 4 and 5 which are hinged together at their meeting edges as shown at 6. As this adjustable bench is particularly adapted for use in connection with a piano-player and it is desirable to have the seat or supporting surface, when in its highest position, slightly tipped, the pieces

4 and 5 are made smaller at one end than at the other as clearly shown in Fig. 2. The lower piece 4 is hinged near each end at its lower edge, by any ordinary hinges 7 to the frame 1. The piece 5 is hinged in the same manner at its upper edge to the seat portion of the bench 3 and at this point I preferably employ spring actuated hinges as 8 which tend normally to throw the pieces 5 into their vertical positions. The hinges 6 at the meeting edges of the pieces 4 and 5 are arranged to fold in the opposite direction from the hinges 7 and 8 so that when all of said hinges are folded or partially so, the connecting hinge members can drop down to the positions indicated in dotted lines as shown at 9 in Fig. 1. It will be readily understood from a glance at this figure that the seat or supporting top 3, will thus assume its lowermost position and will rest directly upon the upper edge of the frame 1. It will also be understood that by taking hold of the said top 3 and lifting it, that the hinge members will be caused to unfold, the spring hinges 8, throwing the parts 4 and 5 of said members into vertical alinement and thus offer a solid support for the seat surface or top 3 in the position to which it has been raised. The said top 3 cannot be lowered again without bending the hinges inwardly along the center of the hinge members. Instead of placing the hands between the top 3 and the frame 1 for doing this, it is only necessary to draw the top longitudinally in one direction or the other until the hinge members assume a position such as indicated in dotted lines at 10 in Fig. 1. When brought to this position one end of the top 3 will drop of its own weight, completely folding the hinge member at that end of the bench and this will draw the hinge member at the other end of the bench far enough inwardly to cause it to collapse and fold. Thus the seat can be instantly brought to either position desired. The fact that the pieces 4 and 5 of the hinge members are tapered will cause the seat 3 to be tipped to a slight degree when it is in its raised position. It is not necessary however that the top 3 be tipped when raised and when this is not desired both leaves or pieces of the hinge members are made of the same width throughout their lengths as shown at 11 and 12 in Fig. 3. These leaves or pieces 11 and 12 are otherwise connected with each other and with the frame 1 and top 3 in precisely the same manner as shown and described with respect to pieces 4 and 5.

As shown in Fig. 4 instead of using spring actuated hinges for connecting the leaves 4 and 5 of the spring members with the parts of the bench I may employ springs as 13 independent of the hinges and preferably located beneath the top 3 at a point about

midway between the ends of each piece or leaf 5. The action of these springs in bringing the leaves of the hinge members into vertical alinement is the same as the action of the spring hinges 8 heretofore described.

As shown in Figs. 7 and 8 it will be understood that the elongated hinge members composed of the leaves 4 and 5 as already described may be replaced by two or more all metal hinges as indicated at 14 and 15. In this instance the hinges are formed with three pintles 16, 17 and 18 and the central leaves of the hinges 19 and 20 are elongated so as to be capable of lifting the top the desired distance from the frame of the bench. The operation of these hinges is the same as that of the hinge members above described in connection with the other figures of the drawing. These hinges may be placed as shown in Fig. 7 at the ends of the bench frame or may be located at any desired points upon the sides of the bench frame as shown in Fig. 8. In this connection I wish it understood also that I contemplate using the elongated hinge members described with respect to Figs. 1, 2, 3, and 4 at the sides of the bench structure, instead of at the ends as heretofore mentioned and the action of the hinges will be the same in both cases.

In order to prevent the chance of the seat top being accidentally moved to one side so as to fold the hinges I contemplate using a safety bolt which will accomplish this result and yet will not interfere with the collapsing or expanding of the bench structure as already described. In the drawing I have illustrated a simple and yet effective bolt, comprising a rod or bolt proper 21 which is mounted in a socket 22 secured to the frame 1. A light coil spring 23 is located in the socket 22 and normally tends to force the bolt upwardly and against the under surface of the bench top 5. Its upward movement however is limited by means of a plate 24 which extends over the upper edge of the socket 22 a short distance so as to engage a shoulder 25 formed upon the bolt 21. The bolt 21 is thus not permitted to rise higher than the position occupied by it in Fig. 5 and from the bolt in that position the seat top 3 can be raised to the limit allowed by the hinge members, as indicated in dotted lines in Fig. 5 and thus become disconnected from the bolt and capable of lateral movement for the depression of the seat. The bolt 21 normally engages a recess or socket 26 formed in a plate 27 that is secured to the under surface of the top 3 and when in engagement with said plate as shown in full lines in Figs. 1 and 5, the bench top 3 cannot be moved laterally to effect the collapsing operation. The spring 23 is not a heavy one and will not prevent the dropping of the seat of its

own weight when it has been disconnected from the said bolt. The bolt is accommodated within the socket 22 when the seat portion 3 is lowered as shown in Fig. 6.

5 The spring 23 will cause the bolt 21 to rise with the seat portion 3 when it is elevated and lock it against accidental displacement. In dropping the seat the operation is the same as above described but with the addition of the movement required in lifting the seat slightly from the bolt, as in dotted lines in Fig. 5 before attempting to bend the hinges as shown at 10 in Fig. 1.

10 It will be apparent that the lock or safety bolt may be placed at any point upon the frame 1 but it is preferably located near one end of the bench as shown in Fig. 1.

15 While I have thus described my invention particularly with reference to a piano bench, I wish it understood that I contemplate using it for tables, seats of all kinds or in fact any supporting device that requires the use of a supporting surface or portion, at different heights, all within the spirit of the present invention. I also consider that the use of any number of hinges and of such as are mechanical equivalents of those shown and described, are embraced within this invention.

20 Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A piano bench comprising a base frame, a seat portion adjustably mounted thereon, and hinge members comprising tapered hinge leaves hinged together, the lower inclined supporting edges of the lower leaves being connected with the base frame and the upper inclined supporting edges of the upper leaves being hinged to the seat portion, the structure being such that when the said seat portion is lifted from the base frame, it will lift the hinge members into seat supporting position.

2. A piano bench comprising a base frame, a movable seat mounted thereon, hinge members extending transversely of said seat portion, each of said hinge mem-

bers comprising two leaves hinged together at their meeting edges, the leaves being tapered with their reduced ends applied together, hinges connecting the lower edges of the hinge members with the base frame, and hinges connecting the upper edges of the hinge members with the said movable seat, the structure being such that the hinges will be lifted into vertical seat supporting position by raising the said movable seat.

3. A piano bench having an adjustable top and a supporting base, folding hinge members for supporting the adjustable top in its raised position, a safety lock comprising a spring actuated bolt carried by the base, means for limiting its upward movement and a detent carried by the adjustable top for engaging said bolt, the bolt preventing the top from accidentally collapsing.

4. A piano bench comprising a base frame, a movable seat, foldable hinges connecting the seat with the base, a follower bolt mounted upon the base and capable of remaining in engagement with the seat in its lower and upper positions, and means for limiting the upward movement of the bolt so that the seat may be lifted from it and disengaged therefrom for the purpose of collapsing.

5. A piano bench comprising a base frame, a seat portion adjustably mounted thereon, hinge members extending transversely of said seat portion, each of said hinge members comprising a plurality of leaves hinged together at their meeting edges, at least one of said leaves being tapered, hinges connecting the lower edges of the hinge members with the base frame, and hinges connecting the upper edges of the hinge members with said seat, whereby as the seat is lifted it will assume an inclined position with respect to the frame.

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

ROBERT V. TOUTJIAN.

Witnesses:

CASELL SEVERANCE,
E. LE CORNU.