

F. W. COY.
ADJUSTABLE SEAT.
APPLICATION FILED JULY 3, 1909.

1,052,042.

Patented Feb. 4, 1913.

3 SHEETS—SHEET 1.

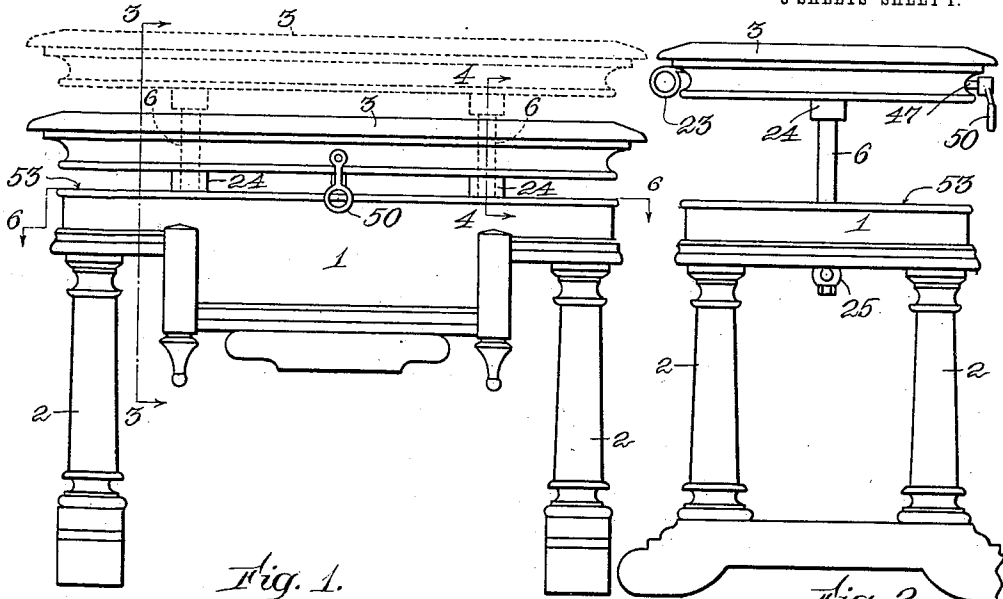
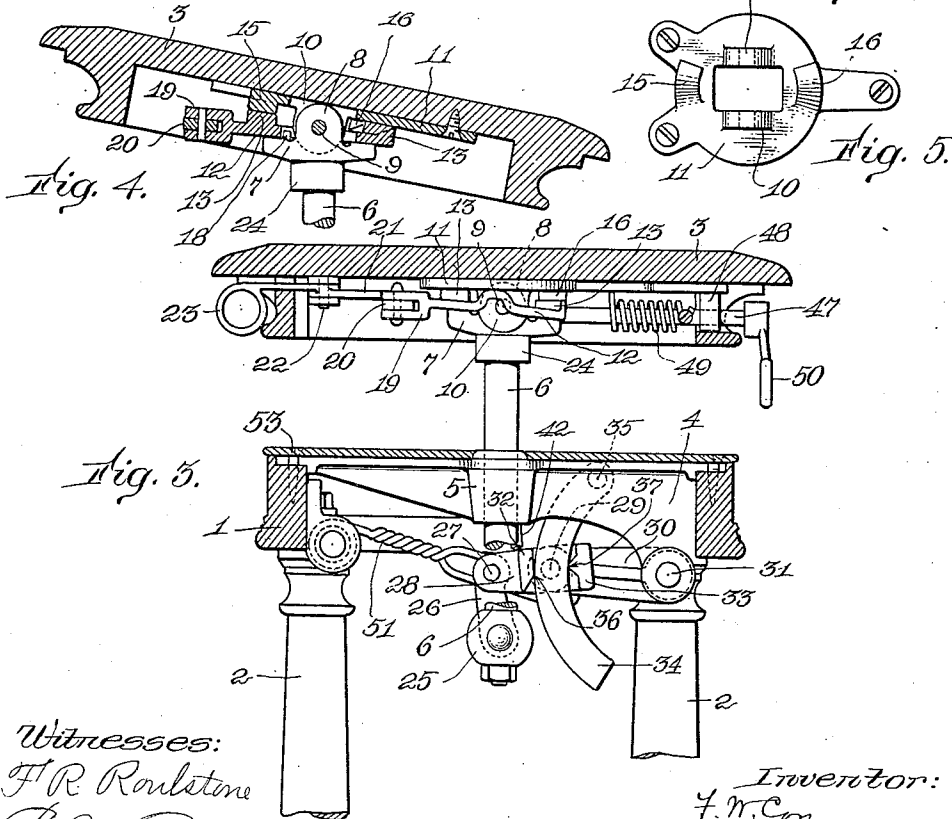


Fig. 1.

Fig. 2.



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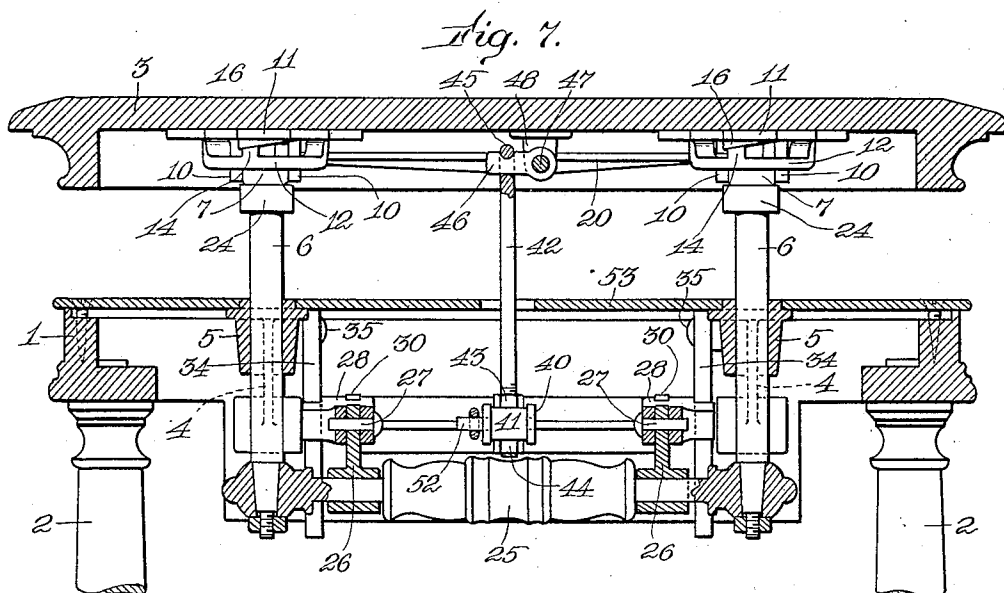
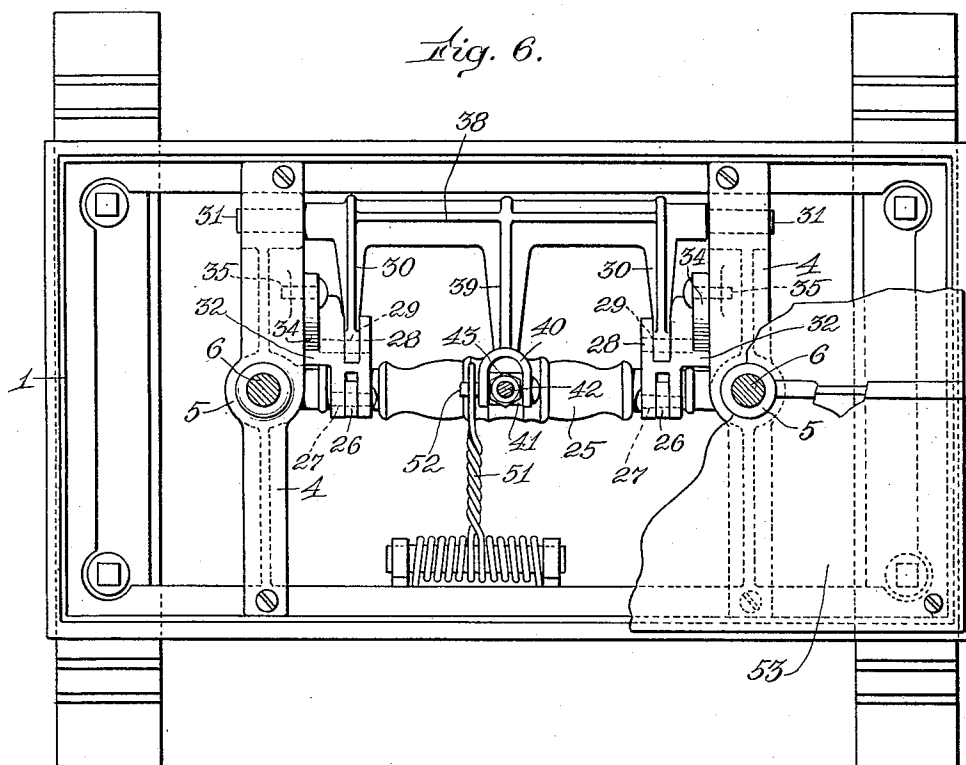
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3 SHEETS-SHEET 2.



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3 SHEETS—SHEET 3.

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Fig. 8.

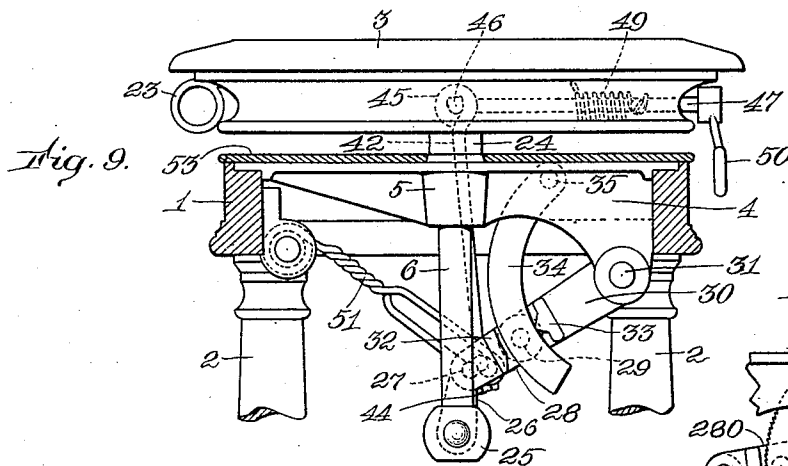
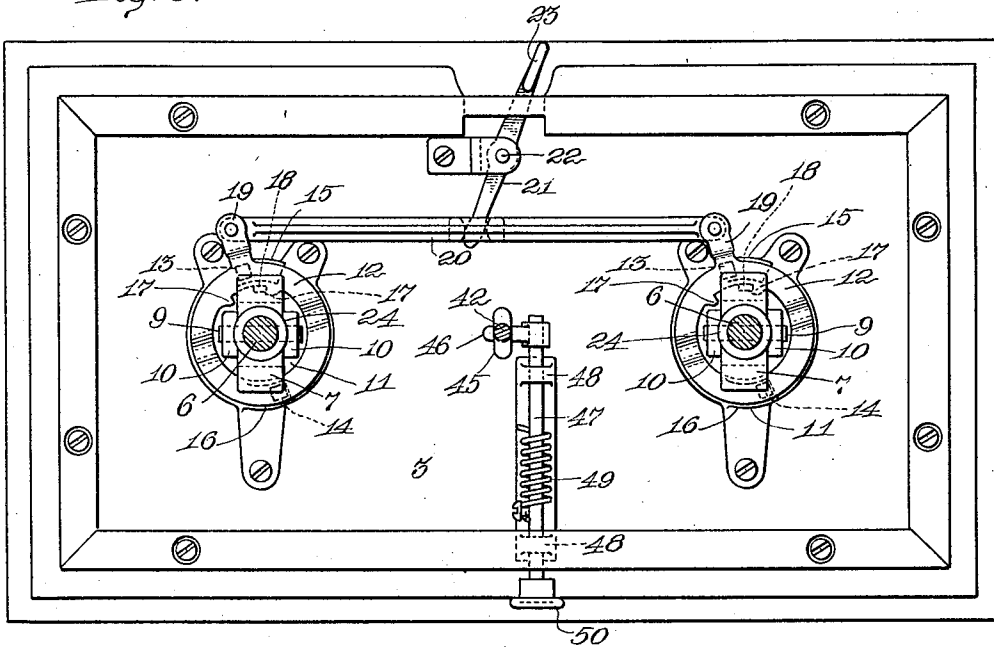


Fig. 11.

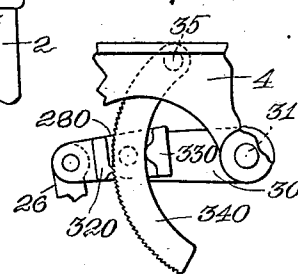
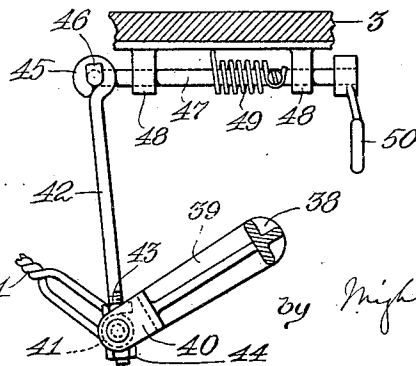


Fig. 10.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE SEAT.

1,052,042.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed July 3, 1909. Serial No. 505,871.

To all whom it may concern:

Be it known that I, FREDERICK W. COY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Adjustable Seats, of which the following is a specification.

My invention relates to adjustable seats, stools, tables and the like but particularly to duet benches for pianos, and its main object is to provide an improved article of the latter class.

It is also the object of my invention to provide improved tilting mechanism for the tops or seats of such articles, to improve the means for supporting said tops or seats with provision for vertical adjustment and to otherwise improve upon the construction and mode of operation of adjustable seats, benches, tables or the like.

To this end my invention consists in an article of the class described, having novel mechanism for supporting the tops or seats thereof, with provision for vertical and tilting or angular adjustment, and in other features hereinafter described and pointed out.

The improved bench herein shown comprises a seat designed to accommodate two persons, said seat being supported by two posts adjustably mounted in the base, and the whole being so arranged that the weight of the seat and of the persons thereon serves to secure the seat against downward movement, however it may be adjusted. The improved bench is also so designed that the mechanism contained within is entirely out of sight.

In the drawings,—Figure 1 is a front elevation of a duet bench embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a section on the line 3—3 of Fig. 1, showing the seat portion of the bench in a raised position. Fig. 4 is a section on the line 4—4 of Fig. 1, showing the seat portion in a tilted position. Fig. 5 is an inverted plan view of one of the cam plates which are attached to the seat portion of the bench. Fig. 6 is a section on the line 6—6 of Fig. 1, showing the base portion of the bench in plan view. Fig. 7 is a longitudinal vertical section of the entire bench. Fig. 8 is an inverted plan view of the seat portion of the bench, showing the tilting mechanism. Fig. 9 is a view similar to Fig.

3, showing the seat at its lowest position with the clutch released. Fig. 10 is a detailed view of the means for operating the rockshaft. Fig. 11 is a detailed view of a modified form of clutch and hanger.

Referring to the drawings, 1 is the body of the base portion of the duet bench, which, as herein shown, is provided with legs 2.

3 is the seat portion thereof, which is movable angularly and vertically with relation to the base. The body 1 of the base comprises a rectangular frame to which is secured two cross bars 4, in both of which latter are formed sockets 5 to receive two upright seat-supporting posts 6. Each post 6 is provided at its upper end with a head 7 made with ears 8, pivoted at 9, to ears 10, on a plate 11, the latter being secured to the under side of the seat 3. This affords a hinged connection between the seat and the supporting post. Interposed between each plate 11, and its head 7 is a ring 12 surrounding, and held in position by, the ears 10 of the plate 11 around which it is rotated to tilt the seat 3, as will be described later. On the ring 12 are two lugs 13 and 14 which coöperate with two inclined planes or cam faces 15 and 16 on the adjacent plate 11 when the ring 12 is rotated so as to rock the plate 11 on the pintle 9, thereby varying the angular relation of the seat to its supporting post. Two lugs 17 are formed on the ring 12 which coöperate with a stop 18 formed on the head 7 of the supporting post 6 to limit the extent or rotation of the ring 12 so that the lugs 13 and 14 cannot be forced beyond the tops of the inclined planes 15 and 16, thereby preventing the ring 12 from being turned back. A forked arm 19 is formed on each ring 12 and a bar 20 connects the two arms. The bar 20, at its center has a socket into which projects one arm of a lever 21, pivoted at 22 to the under part of the seat, the other arm thereof extending through an opening in the side of the seat, with a handle 23 on its outer end. The lever 21 when operated by means of its handle 23 acts through the connecting bar 20 to rotate the two rings 12 around the ears 10 simultaneously. When the seat is in a horizontal position the lugs 13 are at the bottoms of the inclined planes 15, while the lugs 14 are at the tops of the inclined planes 16. As the rings 12 are being rotated and the relation between the lugs 13 and 14 is being reversed,

the seat 3 is being correspondingly tilted. It will be seen that the seat is securely held at any point within its range of tilting movement. Buffer washers 24 on the supporting posts 6, by engagement with the tops of the sockets 5 of the cross bars 4, act as stops to limit the downward movement of the seat 3 so as to leave sufficient space between the seat 3 and the top of the body of the base portion 1 to permit its being tilted, if desired, when at its extreme lowest position.

The two supporting posts 6 are connected at their lower ends by a bar 25 to which are pivotally connected the lower ends of two links 26, the upper ends of each of said links 26 being pivoted at 27 to a clutch 28. The clutch 28 is, in turn, pivoted at 29 to a clutch-releasing arm 30 which is fulcrumed at 31 to the cross bar 4 of the base 1. The clutch 28 is provided with two jaws 32 and 33 embracing and cooperating with a hanger 34 which is of segmental form, concentric with the fulcrum 31, said hanger being pivoted at 35 to the cross bar 4. The seat is normally held against downward movement by the engagement of two clutches 28 with hangers 34, the clutches 28 being twisted around the pivots 29, by the weight of the seat so that their jaws 32 and 33 firmly grip the hangers and bind at 36 and 37 against the convex and concave edges of the latter as shown in Fig. 3. The two clutch-releasing arms 30 are integral with a rocker 38 journaled on the cross pieces 4 at 31. The rocker 38 at its middle has an arm 39 having at its outer end a yoke 40 within which is pivoted a block 41. Through the block 41 extends the lower threaded end of a connecting rod 42 which is adjustably fastened to said block by nuts 43 and 44. At its upper end, rod 42 is made with an eye 45 through which extends an arm 46 projecting from a rock-shaft 47 journaled in two brackets 48 secured to the under side of the seat 3. The rock-shaft 47 extends from the eye 45 to the exterior of the seat opposite the handle 23 of the lever 21, and is provided with a handle 50. A spring 49 holds the rock-shaft 47 in its normal position but when the latter is rocked against the tension of said spring 49, the arms 46 lift the connecting rods 42 and the rocker arm 39, thereby releasing both of the clutches 28 simultaneously. When adjusting the seat 3 vertically, the operator relieves the weight from the clutch 28 by lifting the seat 3 slightly and at the same time lifts the handle 50. This swings the clutch-releasing arms 30 downward on their

fulcrums 31. Said arms 30 swing the clutches downward on their pivots 27 thus breaking the hold of the clutch jaws 32 and 33 and bringing the inner face of jaw 32, which is slightly concave, into parallel relation with the convex side of the segmental hanger 34. This leaves the clutches 28, and consequently the seat 3, free to be moved vertically in either direction. The convex edges of the hangers may be made with teeth to insure positive engagement by the jaws of the clutches. This modified construction is shown in Fig. 11 in which 320 and 330 are the jaws of a clutch 280, and 340 is a toothed hanger cooperating with said jaws. A counter balance spring 51 is attached at one end to the rectangular frame of the body 1 and its other end pulls upwardly against a pin 52 on the end of the arm 39 of the rocker 38. This spring serves to nearly counterbalance the weight of the seat so as to allow the latter to be moved easily by the operator. A plate 53 covers the top of the body 1 and the mechanism within the latter, hiding it from view and protecting it from dust. The plate 53 also acts as a shield to protect the garments of the users of the duet bench from coming in contact with said mechanism.

I claim:—

1. A duet bench comprising a base, a seat having two posts projecting through said base and having a bar connecting their lower ends, links connected to said bar, a hanger secured to the base adjacent each post, a clutch cooperating with each of said hangers, the clutches being operatively connected with said links, and means for controlling the clutches.

2. A duet bench comprising a base, a seat having two posts projecting through said base and having a bar connecting their lower ends, links connected to said bar, a hanger secured to the base adjacent each post, a clutch cooperating with each of said hangers, the clutches being operatively connected with said links, and means for controlling the clutches, said means comprising a rocker arm carried by the base and movable with the clutches, a rod connected with said rocker arm, and a rock shaft mounted in the seat and connected to said rod.

In testimony whereof I have affixed my signature, in presence of two witnesses.

FREDERICK W. COY.

Witnesses:

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JAS. H. CHURCHILL.