

(No Model.)

2 Sheets—Sheet 1.

J. C. STINSON.
MUSIC LEAF TURNER.

No. 563,088.

Patented June 30, 1896.

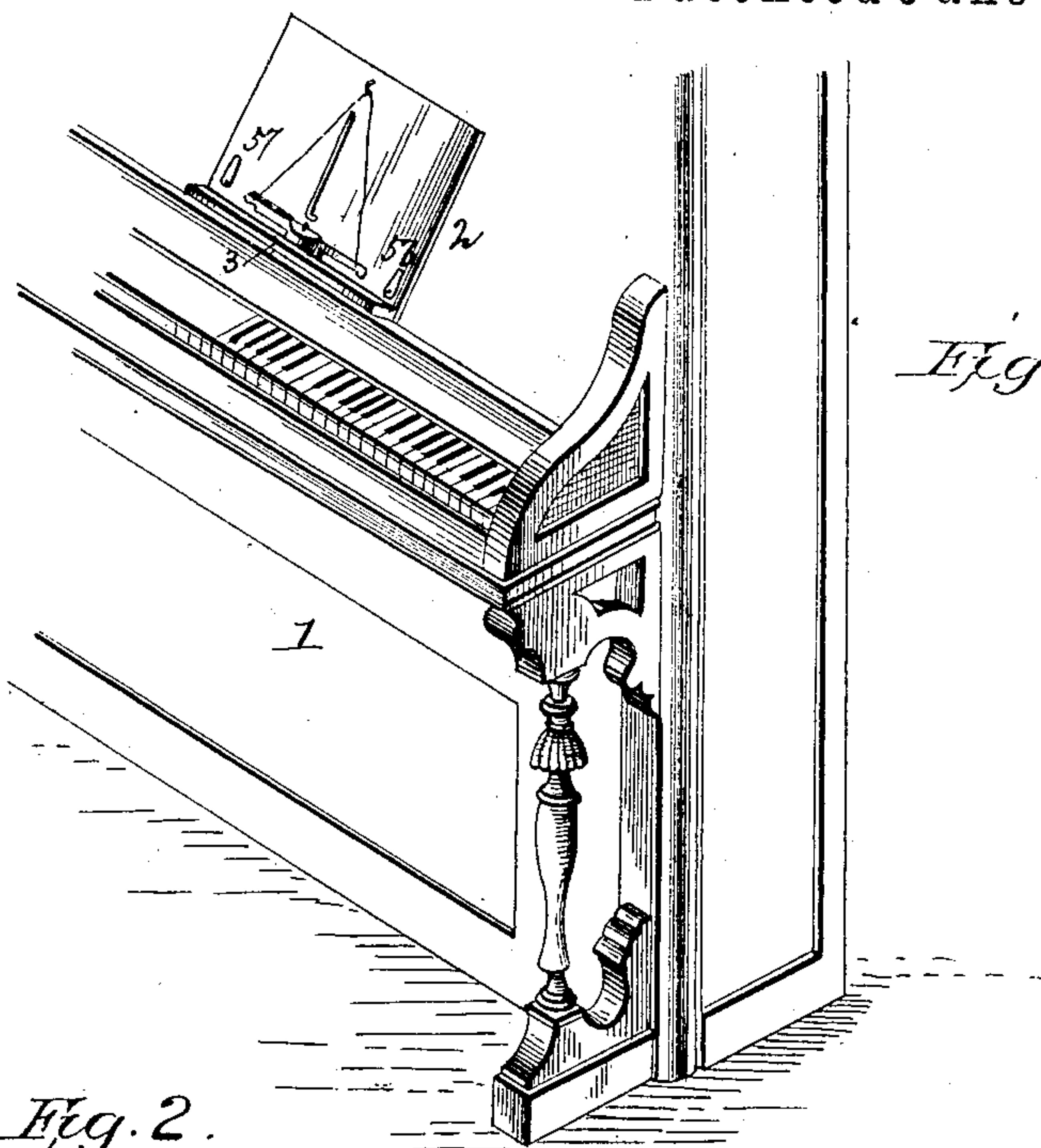
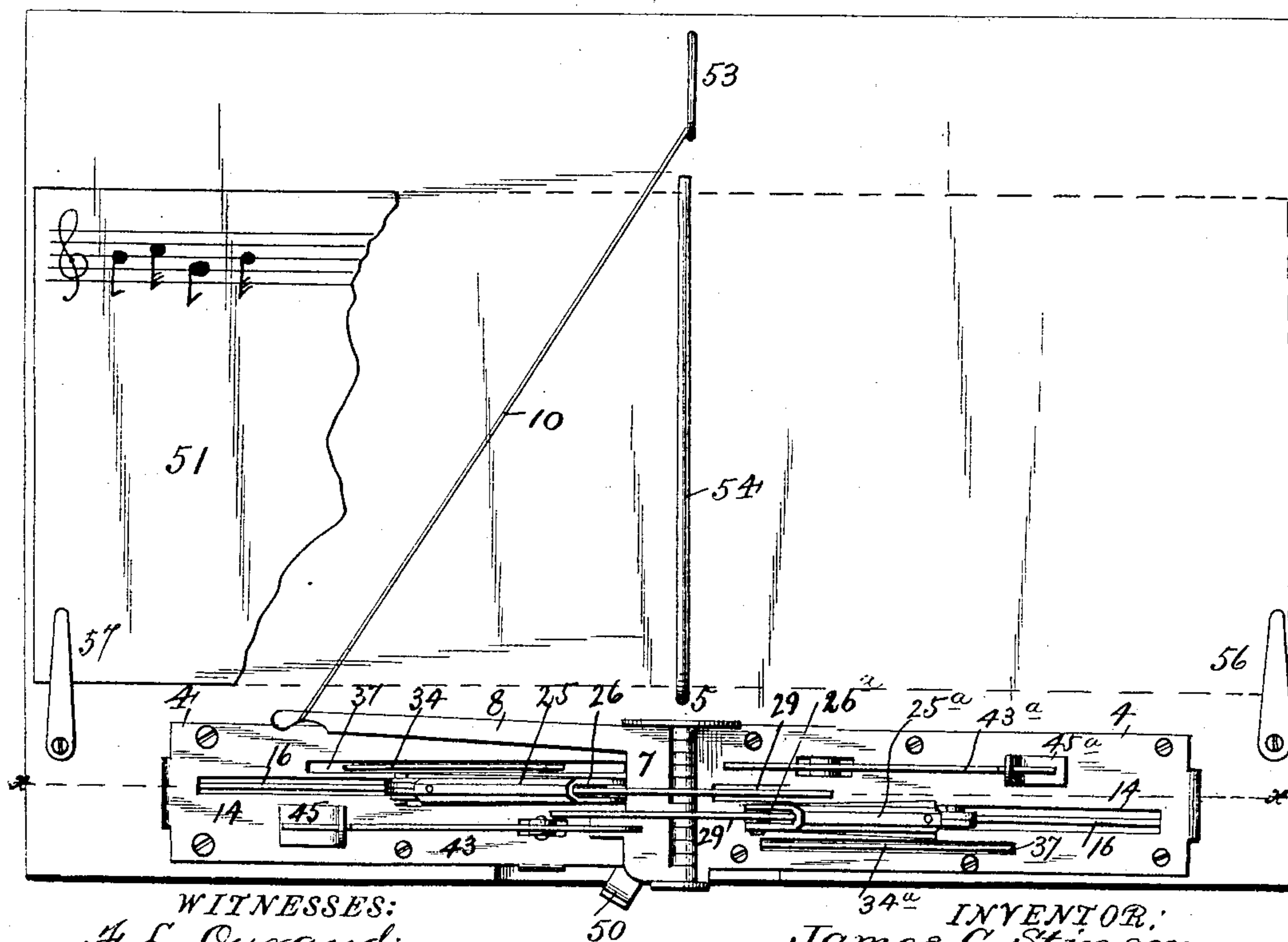


Fig. 1.

Fig. 2.



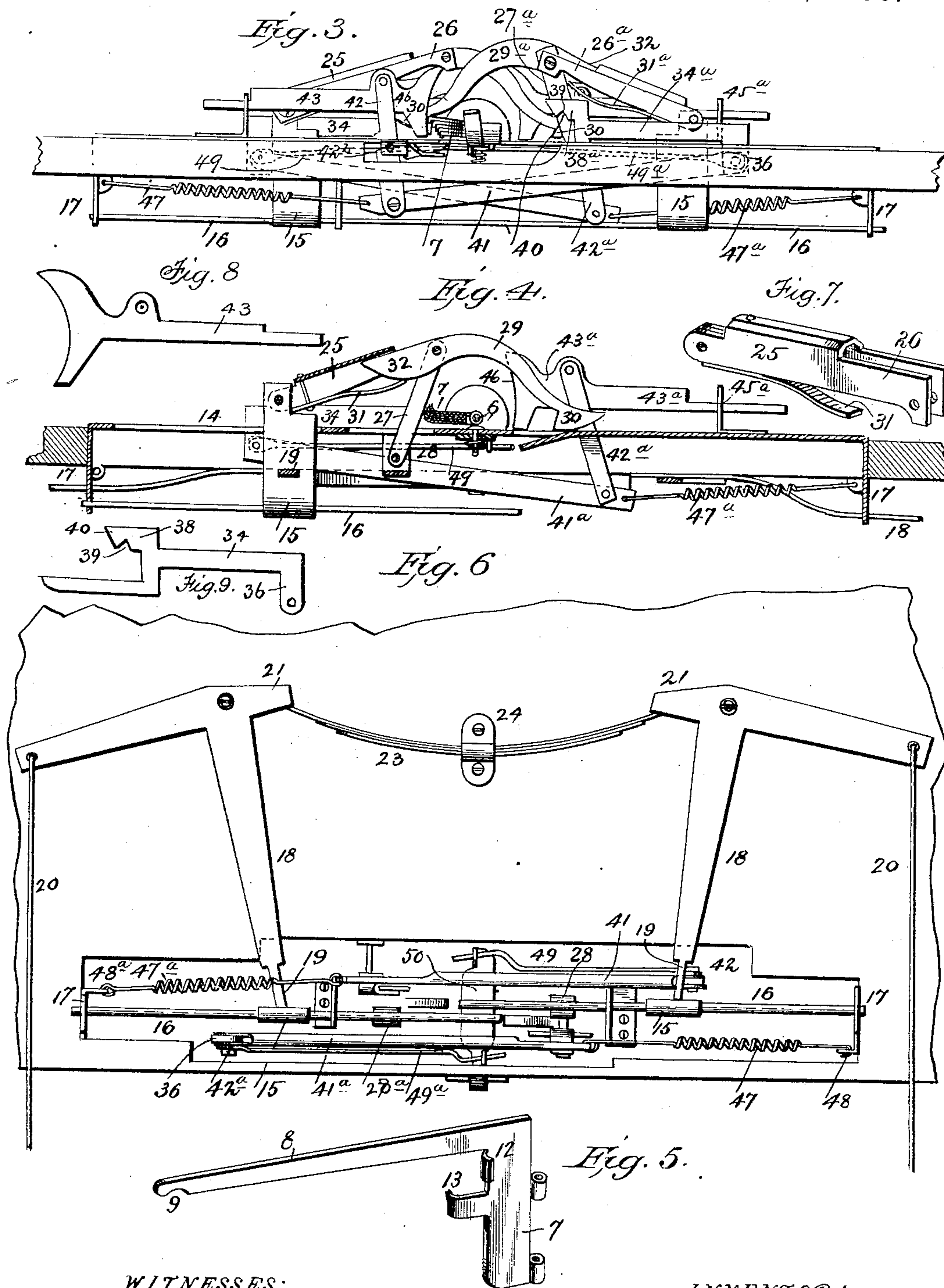
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UNITED STATES PATENT OFFICE.

JAMES C. STINSON, OF EL PASO, TEXAS.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 563,088, dated June 30, 1896.

Application filed April 24, 1895. Serial No. 547,010. (No model.)

To all whom it may concern:

Be it known that I, JAMES CYRUS STINSON, a citizen of the United States, and a resident of El Paso, in the county of El Paso and State of Texas, have invented certain new and useful Improvements in Music-Leaf Turners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in music-leaf turners to be used in connection with pianofortes, whereby the performer may at will turn one leaf at a time to the right or left without taking his hands off the keys.

The object of the invention is to provide an improved construction of device of the above character which shall possess superior advantages with respect to simplicity and efficiency.

In the accompanying drawings, Figure 1 is a perspective view, partly broken away, of an upright piano, showing my improved music-leaf turner applied thereto. Fig. 2 is a front view of the rack, the shelf being removed. Fig. 3 is a bottom plan view of the rack. Fig. 4 is a horizontal section of the same on the line *xx*, Fig. 2. Fig. 5 is a detail perspective view of one of the hinged plates or leaves. Fig. 6 is a back view of the rack. Fig. 7 is a detail perspective view, and Figs. 8 and 9 detail elevations.

In the said drawings, the reference-numeral 1 designates the pianoforte, and 2 the music-rack hinged thereto, as usual, and provided at its lower end with a ledge or shelf 3. This pianoforte and rack may be of any ordinary or suitable construction. Secured to the lower front side of the rack is a rectangular plate 4, which is partially concealed by the ledge 3 when the latter is secured in place. At the center said plate is formed with two outwardly-extending lugs 5, to which is secured a short vertical rod 6. On this rod are hinged or pivoted an indefinite number of plates or leaves 7, each provided with an arm 8, the outer ends of which are formed with a notch 9, with which engages an elastic loop 10, secured to the music-leaf. There may be any number of these arms found convenient

or desirable. Each of these plates is provided with two catches or lugs 12 and 13, bent at right angles to the plate and extending in opposite directions, with which are adapted to engage the operating-levers hereinafter described. Each of these catches varies in length from the catch of the adjoining plates, so that when said plates are superimposed upon each other the catch or lug of one plate will project over the catch or lug of the adjoining plate, forming, as it were, a series of steps, as seen more clearly in Fig. 3, the upper catches or lugs 12 being adapted to be engaged by the lever or hook at the left of the device for turning the music sheet or leaf from right to left, while the lower catches or lugs 13 are engaged by the lever or hook at the right to turn the sheet in the opposite direction, or from left to right.

The plate 4 is provided with two longitudinal slots 14 at opposite sides of the hinged plates, in which work arms 15, the rear ends of which are connected with guide-rods 16, which work in apertures in guide-lugs 17, secured to the rear side of the said plate 4. Connected with these arms are bell-crank levers 18, pivoted to the back of the rack, one of the arms of which is cut away, as seen at 19, so as to engage with a slot in the arm 15. The other arms of these levers are connected with rods 20, connected with pedals or levers, (not shown,) by which they may be actuated. These levers are also provided with lugs or extensions 21, with which engage the ends of a leaf-spring 23, secured to the back of the rack by a bracket 24. The object of the spring is to return the levers to normal position after having been operated by the pedals and connections.

Pivoted to the front ends of the arms 15 are inwardly-extending bars 25 25^a, the inner ends of which are bifurcated, forming short arms 26 26^a, which are pivoted to the upper ends of oscillating arms 27 27^a, the lower ends of which pass through the slots 14 and are pivoted to U-shaped lugs 28 28^a, secured to the rear side of plate 4. Pivoted to the upper ends of each of said arms 27 is a lever 29 29^a, the inner end of which is formed into a hook 30, while the outer end is embraced by the bifurcated end of the bar 25 or 25^a. These bars 25 25^a are U-shaped in cross-section cut

away at each end of the upper side, and secured to the lower outer ends are springs 31 31^a, the free ends of which bear against the outer ends 32 of the levers 29 or 29^a. These levers 5 are adapted to engage, respectively, with the catches 12 and 13, according to which of them is operated, the lever on the right engaging with lugs 13, while that at the left engages with the catches 12.

10 For the purpose of preventing more than one of the hinged leaves being turned at one time by the hooked levers, which would consequently cause more than one music leaf or sheet to be turned, I provide the following 15 means: Located at opposite sides of the hinged leaves or plates above and below the slots 14, respectively, are longitudinally-movable bars 34 34^a, having lugs 36 at one end which project through slots 37 in the plate 4.

20 The inner ends of these bars are formed with arms 38 38^a, having notches 39 on their under sides, forming hooks 40, which project over the catches 12 and 13, respectively. These arms 38 project through apertures in plate 4.

25 The lugs 36 and the slots 37 serve as guides for the said bars, and the outer ends 36 are pivotally connected with bars 41 41^a, which extend to the opposite sides of the hinged leaves and are connected with levers 42 42^a, 30 pivoted to a pin 42^b, secured to the plate 4, on opposite sides of the slots 14. Pivoted to the upper ends of these levers 42 42^a are levers 43 43^a, the outer ends of which are cut away and work in guide-slots in lugs 45 45^a, 35 secured to the front of plate 4, while their inner ends are formed with segmental heads 46, which lie in the paths of the catches 12 and 13, respectively, so that when one of said hinged leaves or plates is operated to turn 40 the music-sheet the catch 12 or 13, according to which direction the leaf or plate is turned, will strike the said head of one lever forcing it outwardly and causing the hooked bar 34 connected therewith to be pressed outwardly 45 uncovering the catch of the next hinged plate.

Coiled springs 47 47^a, connected with the bars 41 and with arms 48 at each end, serve to force the bars 34 inwardly, so that the 50 hooked ends thereof will project over the upturned catches of the hinged plates. Pivotal-ly connected with the lugs 36 of bars 34 are rods 49, the inner ends of which are connected with a hand-lever 50, pivoted to plate 55 4, by turning which the said bars can be moved outwardly or away from the catches 12 and 13, so that any or all of the music-sheets can be turned by hand.

The numeral 51 designates the music-sheets, to which are secured rubber or other 60 elastic cords 10, which are connected with the outer ends of the arms 8, and at the upper end of the cover of the music is a bent wire 53, with which the opposite ends of said 65 cords engage.

The numeral 54 designates an upwardly-extending rod having its lower end bent at a

right angle and secured to the rack. The music-leaves are confined between this rod 70 and the rack.

The numeral 56 designates turn buttons or plates pivoted to the rack and adapted to be 75 turned over the cover or outside leaves of the music in order to hold the same on the rack.

The operation is as follows: The cover or 75 outside leaves of the music are attached to the rack by means of the wire and the turn-buttons at the ends. The rubber loops are then passed over the ends of the arms 8, and the sheets and the arms and hinged plates or 80 leaves are then turned over to the right of the rack, so that the catches 12 will point backward and catches 13 forward. These catches, as before stated, are of varying length, and project oppositely to each other, so that when 85 said hinged plates are superimposed upon one another they will form a series of steps. The hooked levers will now be in the position shown in Fig. 3, and the bars 41 will be pushed inward, causing the hooked end of bar 25 to 90 be drawn inward, so as to project over the second notch 13 of the series. To turn one of the sheets, the left pedal is depressed, which through the medium of the rods 20 and bell-crank lever 18 will force the arm 15 95 at the left of the rack outward, carrying with it the connecting-bar and hooked lever 29, which will engage with the catch 12 on the top hinged plate, turning it over to the opposite side and also turning the arm 8 thereof 100 and the music-sheet connected therewith, the hooked bar 34 engaging with the catch 13 of the next plate and holding the plate in place. As said hinged plate is turned the catch 13 will strike the segmental head of the lever at 105 the left of the rack and through its connections will move the hooked bar 34 outward a sufficient distance to uncover the said second catch 13, so that when the pedal is again depressed the second plate can be turned over, 110 and so on until all the leaves or plates are turned. When a sheet has been turned as above described, and the pedal released, the spring at the back of the rack will return the hooked lever to normal position, ready to turn 115 another plate, when the pedal is again depressed. By depressing the pedal at the right of the machine, the hinged plates, their arms, and the music-sheets at the left can be turned in a similar manner. 120

By the construction and arrangement of the hooked levers and the springs the hooked ends of the levers will bear with but comparatively slight pressure on the hinged leaves at the commencement of the stroke, which pressure 125 will be gradually increased by reason of the lever turning on its pivot as the movement of the lever continues, so that the greatest pressure will come on the lever as it finishes the stroke. 130

Having thus fully described my invention, what I claim is—

1. In a music-leaf turner, the combination with the rack, the hinged plates provided

with arms and with catches of varying length bent outwardly in opposite directions, of the hooked leaf-turning levers, the reciprocating arms, the bifurcated bars pivoted thereto and
 5 to said levers, and the oscillating levers pivoted to said bifurcated bars, and the spring-actuated levers connected with said reciprocating arms, substantially as described.

2. In a music-leaf turner, the combination
 10 with the rack, the slotted plate secured thereto, the hinged plates provided with arms and with catches turned outwardly in opposite directions and the catches of one leaf being of different length from those of the others,
 15 so that when the plates are superimposed upon one another the catches will overlap, of the hooked leaf-turning levers, the bifurcated bars to which they are pivoted, the springs secured to said bars and bearing against the
 20 heel of the levers, the oscillating levers pivoted to said bifurcated bars and to a bracket secured to the said slotted plate, the reciprocating arms to which said bifurcated bars are pivoted, the bell-crank levers and con-
 25 necting-rods, the lugs on said levers and the spring secured to the rack with its ends bearing upon said lugs, substantially as described.

3. In a music-leaf turner, the combination with the rack, the slotted plate, the plates or
 30 leaves hinged thereto and provided with arms and oppositely-projecting catches, of the hooked leaf-turning levers, the bifurcated bars to which said levers are pivoted, the reciprocating arms with which said bars are
 35 connected, and the oscillating levers, of the lock-bars at opposite sides of the rack adapted to project over said catches, the arms or bars pivotally connected with the outer ends of
 40 said lock-bars, the levers pivoted thereto, and the levers pivoted to the upper ends of said levers and formed with segmental heads, and the coiled springs; substantially as described.

4. In a music-leaf turner, the combination with the rack, the slotted plate and the plates

or leaves hinged thereto and provided with 45 arms and oppositely-extending catches, of the reciprocating arms, the bifurcated arms pivoted thereto, the hooked levers pivoted to said bars, the oscillating levers pivoted to said
 50 bifurcated bars and to the slotted plate, the lock-bars at opposite sides of the rack adapted to project over said catches, the bars or arms pivoted to the outer ends of said lock-bars and extending to the opposite sides of the
 55 rack, the levers connected with said arms, the levers to which said levers are pivoted having segmental heads, the coiled springs, the pivoted hand-lever, and the rods passing through apertures therein and connected with said
 60 lock-bars, substantially as described.

5. In a music-leaf turner, the combination with the rack, the slotted plate, the hinged
 plates or leaves provided with arms and with oppositely-extending catches, the hooked leaf-
 65 turning levers, the bifurcated bars to which said levers are pivoted, the springs secured to said bars adapted to bear against the heels of said levers, the reciprocating arms to which
 70 said bifurcated bars are pivoted, the oscillating bars or levers pivoted to said bifurcated bars and to the slotted plate, the bell-crank levers connected with said reciprocating
 75 arms, and the spring engaging therewith, of the longitudinally-movable lock-bars having arms at their inner ends adapted to project over said catches, the bars or arms con-
 80 nected therewith, the levers pivoted thereto, the levers connected with said levers provided with segmental heads, and the coiled springs, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JAMES C. STINSON.

Witnesses:

F. E. STEVENSON,

J. W. WRIGHT.