

(No Model.)

T. A. FARRELL.
MUSIC LEAF TURNER.

No. 574,244.

Patented Dec. 29, 1896.

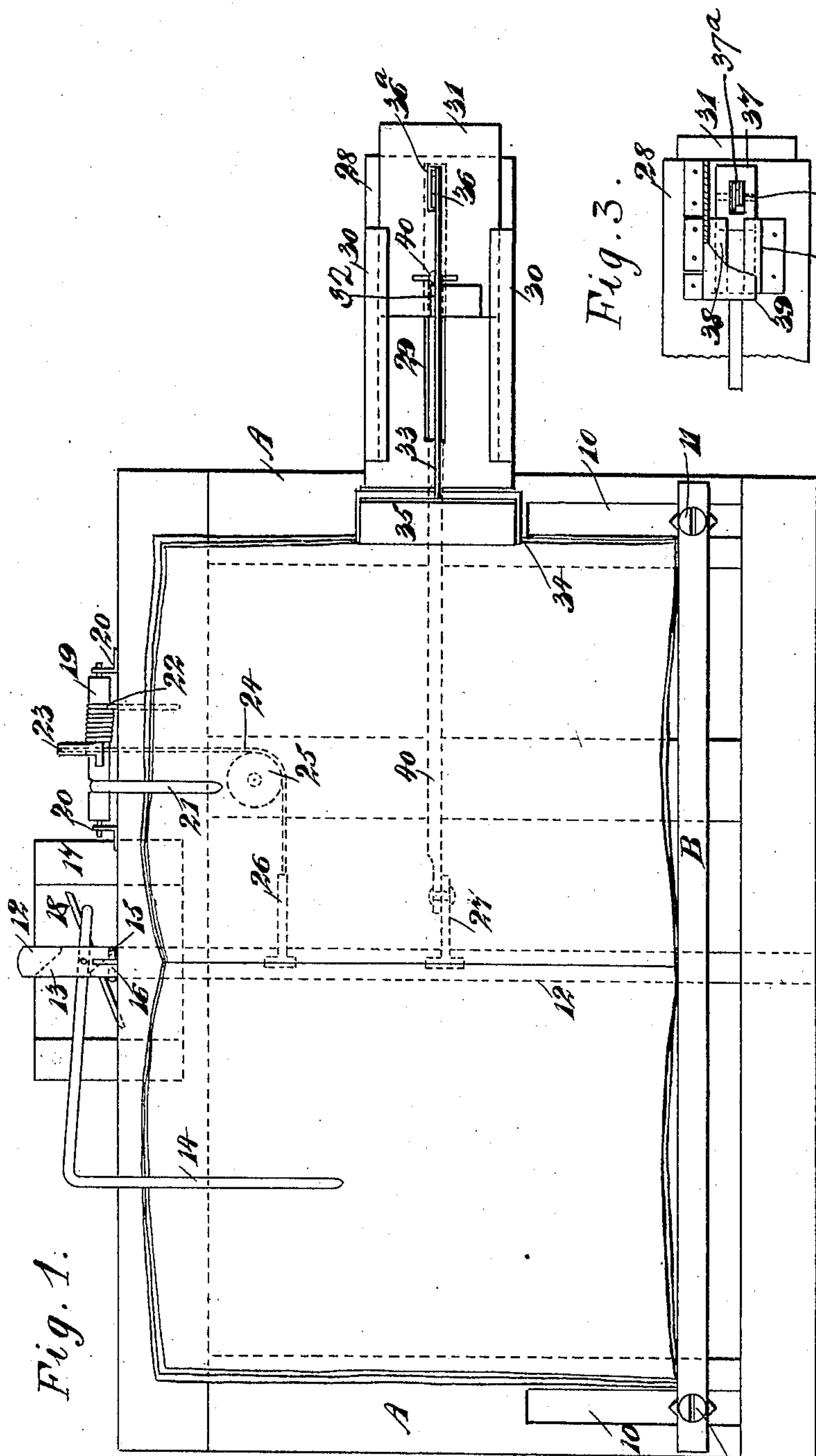


Fig. 1.

Fig. 3.

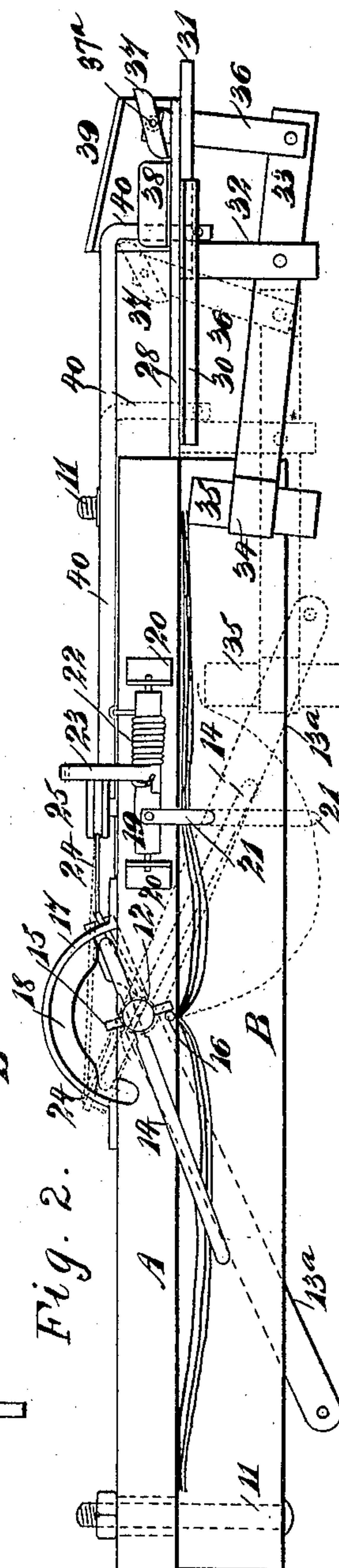
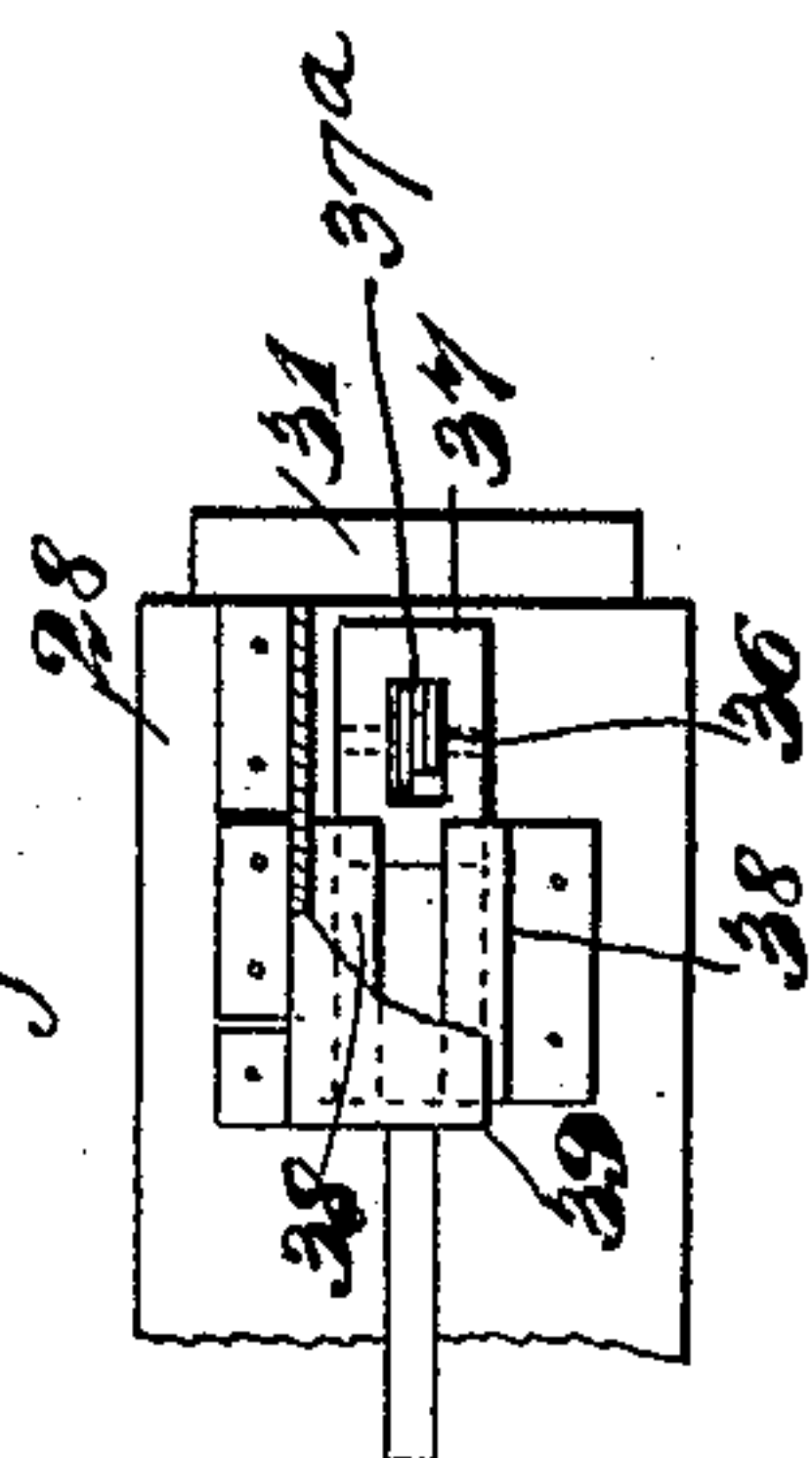


Fig. 2.

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MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 574,244, dated December 29, 1896.

Application filed February 26, 1896. Serial No. 580,768. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. FARRELL, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Music-Leaf Turner, of which the following is a full, clear, and exact description.

The object of the invention is to provide a music-leaf turner simple and economic and so constructed that the leaves may be expeditiously and conveniently turned whether the music be printed in book or in sheet form; and another object of the invention is to provide means for holding the leaves or sheets of music firmly upon the rack during the period when such sheets are at rest.

Another object of the invention is to construct the music-turner in such manner that the leaves may be turned with but little exertion on the part of the operator and in such manner that the sheets will not be torn during the operation of turning them.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improved music-leaf turner, illustrating a book in position thereon; Fig. 2 is a plan view of the music-leaf turner, illustrating the turning-arm and parts connected therewith in their normal position in positive lines and in dotted lines in position to effect the turning of a leaf; and Fig. 3 is a detail view of the rear side of a guide-plate and the device carried thereby for operating a plunger forming a portion of the machine.

In carrying out the invention a rack A is provided as the body of the music-leaf turner, the said rack being adapted to rest upon a music-stand, or the rack ordinarily used upon pianos and like instruments to support the music. The rack A has a base-bar B adjustably attached to its forward face, the rack having vertical slots 10 made in its end portions to receive set-screws 11, carried by the base-bar. A shaft 12 is vertically located at or near the central portion of the rack, and the said rack extends beyond the top and the bot-

tom, being loosely mounted in the rack, or in such manner that the shaft may have limited end movement as well as a rotary movement. In the upper rear portion of the shaft 12 a recess 13 is made, the upper and lower walls whereof are given a diagonal disposition, as shown in dotted lines in Fig. 1. These walls are also approximately parallel with each other. In this recessed portion of the shaft a horizontal member of a leaf-turning arm 14 is pivoted, the said arm comprising a vertical and a horizontal member. The vertical member extends downward in front of the rack. At the lower end of the said shaft a crank 13^a, or a handle of any other description, is secured, extending sufficiently out beyond the front of the rack to be readily manipulated by the hand of the player. The shaft 12 is limited in its downward movement by a pin 15, passed through it and engaging with the top of the rack, and the handle 13^a limits the upward movement of the shaft, while its rotary movement is limited by reason of the horizontal stop-pin 15 at the top of the shaft engaging with the vertical stop-pin 16 secured upon the rack. The purpose of allowing the shaft 12 endwise movement will hereinafter appear.

Immediately to the rear of the upper end of the shaft 12 a casing 17 is secured to the back of the rack, the casing extending a predetermined distance above its upper edge, and the central portion of this casing, or that immediately opposite the shaft 12, is concaved upon its front face. The concaved surface of the casing has a plate 18 secured thereto, which plate is placed diagonally of the casing and conforms to the curvature of the casing and has an inclination downward from its right-hand end in direction of its left-hand end, the lower end of the plate being brought quite close to the top of the rack. The shape of the inclined plate 18 is shown best in Fig. 2, from which figure, and likewise from Fig. 1, it will be observed that a space intervenes the ends of the plate 18 and the vertical side portions of the curved sides of the casing. The short arm of the rod 14 is adapted to engage the plate 18 as the shaft 12 turns in its bearings. As the shaft moves to throw the short arm rightward in Fig. 1 such arm will slide along the under face of the plate and the long

arm of the rod will be raised, and as the shaft recovers its normal position, that is, moves to the left, the short arm will ride along the upper face of the plate 18, and in so doing the arm 14 just forward of its pivot will engage the upper end of the lower wall of the recess 13, so that the shaft 12 will be lifted in its bearings. When the short arm of the rod 14 passes the right-hand extremity of the plate 18, the shaft 12 and its attached parts will gravitate to the position shown in Fig. 1 and the said parts will be ready to repeat the operation.

A shaft 19 is journaled in bearings 20, located at the upper right-hand portion of the rack, and the said shaft has a crank-arm 21 attached to it, the vertical member whereof extends downward a predetermined distance in front of the rack. This crank-arm is adapted to hold the right-hand leaves of the book or sheet of music in position on the rack, and is normally maintained in such relation by means of a spring 22, and the said spring is ordinarily coiled around the shaft, one end being secured to the shaft and the other end having bearing against the rear face of the rack. The arm 21 also serves to prevent a plunger, to be hereinafter described, from bowing or placing more than one sheet in position to receive the turning-arm.

The shaft 19 has a second crank-arm 23 secured to it. This crank-arm extends rearwardly, or beyond the rear face of the rack, and one end of a chain 24 is secured to the rear crank-arm 23, the said chain being passed over the guide-pulley 25, located at the rear of the rack, the opposite end of the said chain having an attachment to an arm 26, horizontally projected from the shaft 12, preferably between its center and upper end. A second horizontal arm 27 is projected from the central portion of the shaft 12, and these two arms 26 and 27 extend in direction of the right-hand end of the rack when the music-turning arm 14 is in its normal position, engaging with the left-hand sheet to hold the said sheet close to the rack, as shown in Fig. 1 and in positive lines in Fig. 2.

A plate 28 is secured to the right-hand end of the rack A, being preferably flush with the front face of the said rack, and the plate extends a predetermined distance outward from the rack in a horizontal direction. This plate 28 has a longitudinal slot 29 made therein, extending nearly its entire length, and main slide or guide ways 30 are formed upon the front face of the plate at each of its sides to receive a slide 31, having movement over the slotted surface of the plate.

A bracket 32 is secured to the inner end of the slide and extends forwardly therefrom in a horizontal direction, and upon the outer end of this bracket an arm 33 is fulcrumed between its outer end and its center. A loop or strap 34 is formed at the inner end of the arm 33, or other form of socket may be provided, to receive a block 35, made of a yield-

ing material—as, for example, rubber—the said rubber being brought in contact with the vertical edges of the right-hand leaves to bulge the said leaves at the central portions of the pages, as shown in dotted lines in Fig. 2, in order that a space may be made between the uppermost right-hand leaf and the next leaf especially for the reception of the music-turning arm, and this block, which may be termed a “follower,” must release the right-hand leaves just before the turning-arm acts to throw a leaf over from right to left. This release is preferably accomplished as shown in Figs. 2 and 3, in which it will be observed that a link 36 is pivoted to the outer end of the follower-arm 33 and is passed through an opening 36^a in the slide 31 and through the slot 29 in the body-plate for the slide.

A foot 37 is pivoted upon the rear end of the link 36, and the ends of this foot are beveled in opposite directions, and when the follower is in its normal position, and before it is carried forward to form a space between the leaves, the foot will incline in direction of the back of the base-plate 28, being held in that position by a spring 37^a. (Best shown in Fig. 3.) This spring is coiled around the pintle of the foot and occupies an opening formed in the foot.

On the forward movement of the follower the foot 37 will move between auxiliary slideways 38, secured on the back of the base-plate of the slide 31, and hold the follower against the leaves while the said follower is being carried inward over the rack; but when the foot is passed out at the rear of the slideways 38 the foot will assume the inclined position which it had before entering its slideways, as shown in dotted lines in Fig. 2, and when the follower is carried backward the foot will ride upward upon the slideways 38, drawing rearward the free end of the follower-arm and carrying the follower forwardly out of engagement with the leaves, the follower dropping to an engagement with the right-hand leaves again the moment that the foot has passed over the outer end of the slideways 38 and assumed its normal position.

A guide-bracket 39 is attached to the back of the plate 28, extending horizontally below and rearward of the guideways 38. The said bracket is provided with an upwardly-extending flange at its rear side, and the said rear side of the bracket is inclined, its inner end being higher than its outer end, and the said flange of the bracket forms a guide for the foot 37 in its passage over the slideways. Motion is given to the slide 31 through the medium of a rod 40, attached to the slide and pivotally connected to the lower arm 27 on the shaft 12.

In the operation of the music-leaf turner the arm 21 will normally hold the right-hand sheets in position on the rack, while the turning-arm 14 will perform the same function for the left-hand sheets. When a sheet of music is to be turned, the crank or handle

13^a is moved toward the right-hand side of the rack, whereupon the plunger 35 is moved forward in the manner described to form a space between the outward right-hand sheet and the next sheet thereto. Simultaneously the connection between the main shaft 12 and the upper shaft 19 will cause the latter to turn rearwardly, carrying the right-hand holding-arm 21 up from engagement with the right-hand sheets, and the inner end of the horizontal member of the turning-arm 14 will ride down the under face of the inclined plate 18, thereby elevating the vertical member of the arm 14. When the horizontal member of this arm has reached the bottom of the plate 18, the vertical member will have been elevated above the upper edge of the leaves and will be in position to enter the space between the outer sheet and the next right-hand sheet. When the turning-arm leaves the plate, it gravitates to its normal position, and the vertical member will thus enter the space between the sheets referred to. The handle is now released, and the spring on the shaft 19 will restore the two shafts 12 and 19 to their normal positions, causing the turning-arm to deliver the sheet taken up on the left-hand side of the book and the right-hand holding-arm to engage with the uppermost right-hand sheet, while the follower or plunger will have been carried back to its outer position.

It will be observed that but a single spring is used, and in the event that the springs should become weakened the return movement of the various parts may be accomplished by turning the handle by hand to the left of the rack.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a frame of a shaft journaled in the frame, a music-holding arm located upon the frame and operated from the said shaft, a turning-arm pivoted to the shaft and capable of vertical movement, a trip controlling the vertical movement of the said turning-arm, and a plunger operated by the shaft and having movement to and from the edges of the sheets of music located on the support, as and for the purpose specified.

2. In a music-leaf turner, a support for the music, a plunger having sliding movement over the music-receiving face of the support and adapted for engagement with the sheets of music at their edges, a turning-shaft, a connection between the turning-shaft and plunger, a spring-controlled shaft provided with a music-holding arm and controlling the movement of the turning-shaft in one direction, a turning-arm pivoted upon the said turning-shaft, and an inclined plane in engagement with which the inner end of the turning-arm travels as the turning-shaft is operated, as and for the purpose specified.

3. The combination, with a rack adapted to support music, a turning-shaft journaled in the said rack and capable of end movement, an angular turning-arm pivoted to the said

shaft, and an inclined plane secured upon the rack in engagement with which the inner end of the turning-arm travels as the turning-shaft is rotated, of a spring-controlled holding-arm having rocking movement on the rack, a connection between the said rocking arm and the turning-shaft, and a plunger arranged to have movement over the forward face of the rack and operated from the turning-shaft, as and for the purpose specified.

4. The combination, with a rack adapted to support music, a turning-shaft journaled in the said rack and capable of end movement, an angular turning-arm pivoted to the said shaft, and an inclined plane secured upon the rack, in engagement with which the inner end of the turning-arm travels as the turning-shaft is rotated, of a spring-controlled holding-arm, having rocking movement on the rack, a connection between the said rocking arm and the turning-shaft, a plunger arranged to have movement over the forward face of the rack and operated from the turning-shaft, a guide supported from the rack, a pivoted arm to which the plunger is attached, a link pivotally connected with the outer end of the said arm, and a foot pivoted to the said link, the said foot traveling between the guides at the inward movement of the plunger and upon the guides at the return movement of said plunger, substantially as set forth.

5. The combination with a rack, of a shaft journaled in the said rack and having end movement therein, an arm pivoted upon the said shaft, an inclined plane supported by the rack and located in the path of one end of the said arm, and a plunger held to slide over the rack, operating in connection with the afore-said shaft, as and for the purpose specified.

6. In a music-leaf turner, the combination with a frame and leaf-turning devices, of a slideway rigid on the frame, a plate movable in the slideway, and connected with the leaf-turning devices, a lever carried by the plate, a link connected to the lever, a spring-pressed foot pivoted on the link, and an auxiliary slideway held by the main slideway, substantially as described.

7. In a music-leaf turner, the combination with a frame, of a rock-shaft, a leaf-turning arm pivotally carried by the rock-shaft, an inclined plate engaged by the leaf-turning arm, a leaf-holding arm, and a connection between the leaf-holding arm and the rock-shaft, substantially as described.

8. The combination with a frame, of a rock-shaft, an arm pivotally mounted on the rock-shaft, an inclined plate engaging the arm, a leaf-holding arm, a connection between the rock-shaft and the leaf-holding arm, and a horizontally-sliding plunger also in connection with the rock-shaft, substantially as described.

9. In a music-leaf turner, the combination with a frame, of a rock-shaft, a leaf-turning arm carried by the rock-shaft, a leaf-holding arm, a spring pressing the leaf-holding arm,

a connection between the leaf-holding arm and the rock-shaft, and a horizontally-movable plunger having connection with and operated by the rock-shaft, substantially as described.

5 10. The combination with a support, of a slideway, a slide movable on the slideway, a lever fulcrumed on the slide, a pivoted spring-

pressed foot carried by the lever, and an auxiliary slideway held by the main slideway, substantially as described.

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