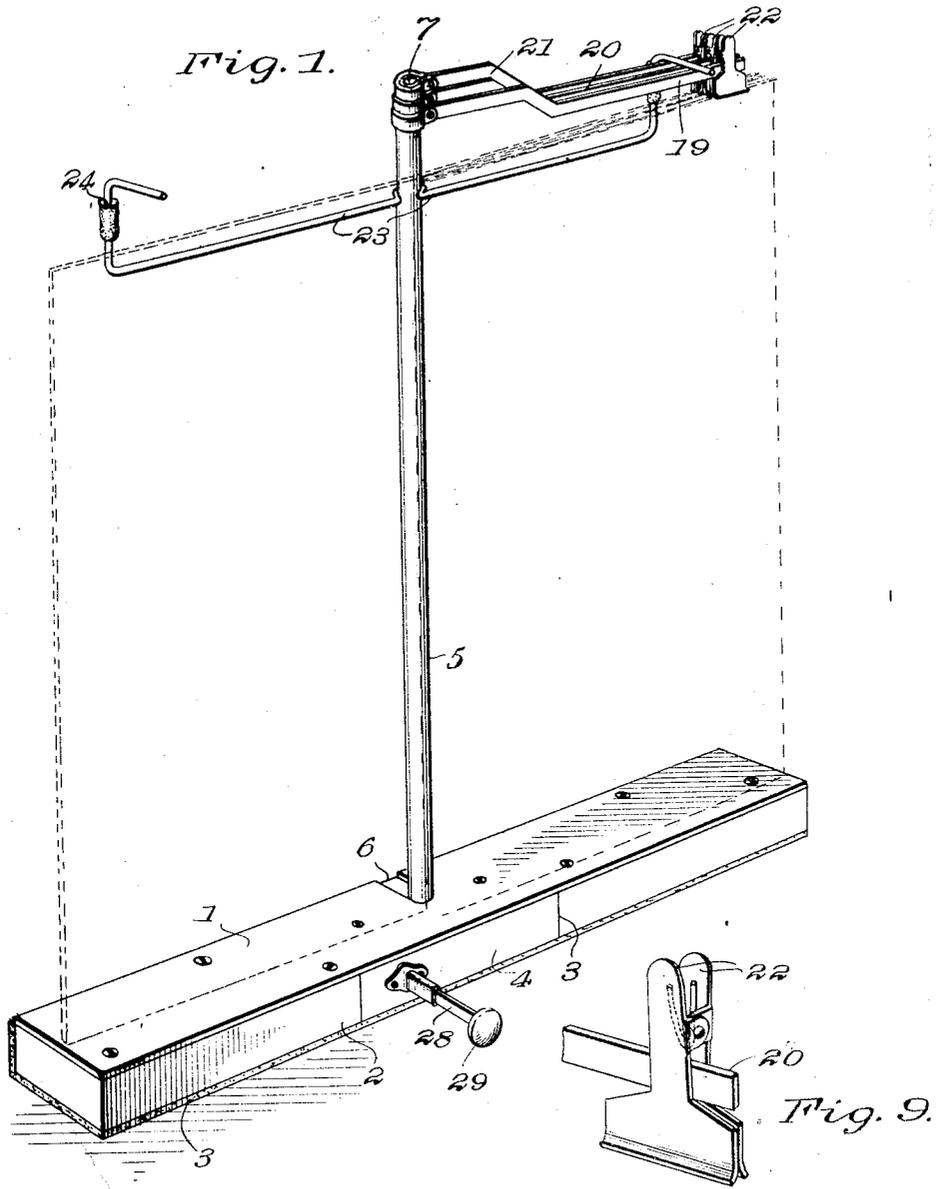


C. H. & J. M. DAVIS.
MUSIC LEAF TURNER.
APPLICATION FILED DEC. 22, 1909.

Patented July 25, 1911
2 SHEETS—SHEET 1.

998,842.



Witnesses
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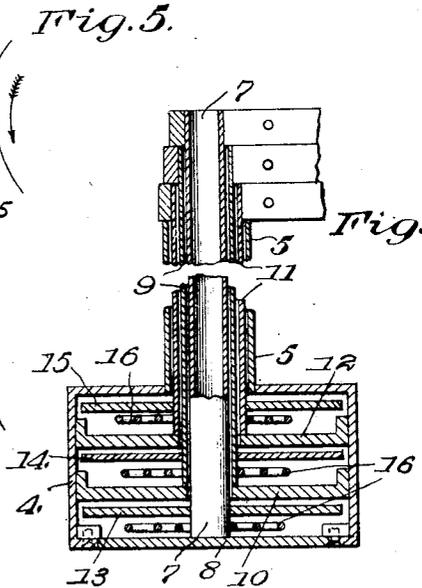
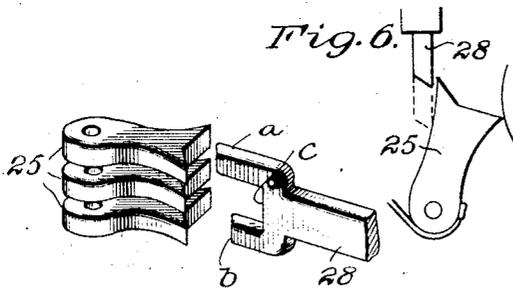
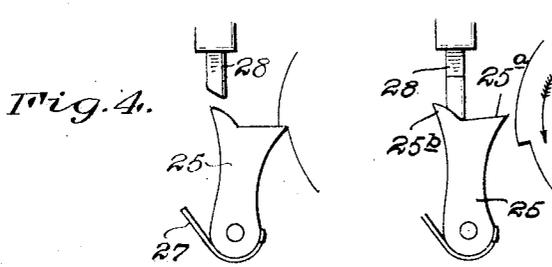
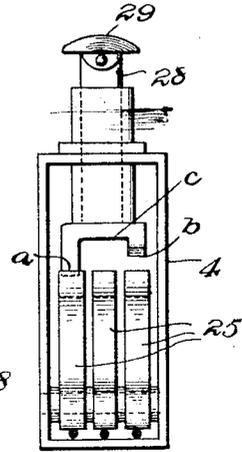
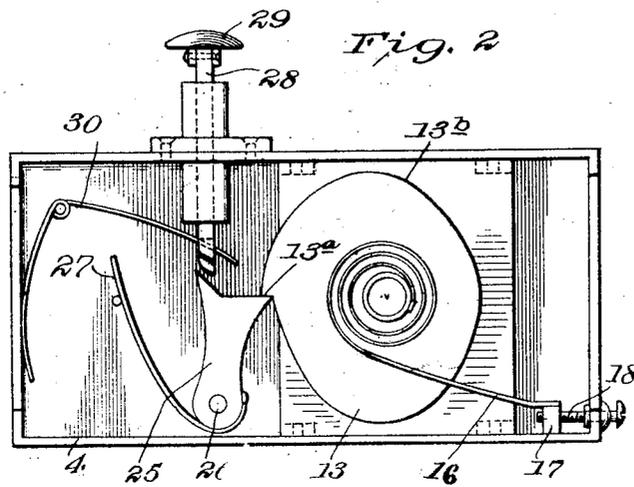


Fig. 8.

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UNITED STATES PATENT OFFICE.

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MUSIC-LEAF TURNER.

998,842.

Specification of Letters Patent. Patented July 25, 1911.

Application filed December 22, 1909. Serial No. 534,487.

To all whom it may concern:

Be it known that we, CHARLES H. DAVIS and JOSEPH M. DAVIS, citizens of the United States, residing at Kern, county of Kern, and State of California, and Lima, county of Allen, and State of Ohio, respectively, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

The primary object of this invention is an improved construction of music leaf turner which is portable and capable of being mounted upon any conventional type of music shelf or a piano or other similar instrument, or secured to a music stand in any desired way.

The invention also has for its object a simple device of this character which may be easily operated to successively turn the pages of a musical composition during the rendition thereof without the necessity of any appreciable pause in the playing, and preferably by the use of a single actuating key or push button, the employment of a single key for all of the leaf turning arms not only, rendering the device simple in construction, but enhancing the desirability of the device from a practical standpoint, owing to the fact that no act of selection is necessary on the part of the performer, as would be the case were there to be two or three keys to be pushed, one for each leaf turning arm.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that we shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a music leaf turner constructed in accordance with our invention; Fig. 2 is a bottom plan view of the device, the base and the bottom of the casing being omitted; Fig. 3 is an end view of the casing; Figs. 4, 5 and 6 are detail views illustrating different steps in the operation of the device; Fig. 7 is a longitudinal sectional view; Fig. 8 is a perspective

view of the three detents employed and the single push bar designed to actuate the same, and Fig. 9 is a perspective view of the outer end of one of the leaf turning arms showing one form of leaf engaging clip which may be used.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The base of our improved music leaf turner may be of any desired construction and design, it being shown in the present instance for the purpose of illustration only, as embodying a top plate 1, a block 2 to the upper face of which the plate 1 is secured, and a felt or similar bottom strip 3 so that the device may be rested upon the music shelf of a piano, organ, or the like without liability of injuring the same. The block 2 is cut out, as indicated at 3, to receive a casing 4 in which the actuating parts are mounted, said casing being rectangular in the present instance.

5 designates a hollow standard which projects upwardly from the casing 4 and which is preferably accommodated in a recess 6 formed in the plate 1, whereby the casing may be easily slipped into place and as readily detached should it ever become necessary to repair, replace, or adjust any of the parts.

Mounted within the standard 5 are a series of telescoped tubular shafts. The innermost of these shafts, designated 7, rests with its lower end upon a bottom plate 8 with which the casing 4 is provided, the next shaft 9 rests upon a partition plate 10 secured within the casing, and the shaft 11, the outermost one of the three rests with its lower end on a corresponding plate 12. Disks 13, 14 and 15 are secured to the respective shafts 7, 9 and 11, near the lower ends thereof, and spiral springs 16 are secured to said shafts within the casing 4, each spring being secured at one end by solder or the like, to a nut 17 mounted on a tension adjusting screw 18, said screw being swiveled in one end of the casing 4, as best illustrated in Fig. 2. By means of these screws the tension of these springs may be varied. The springs 16 are designed to rotate the several

shafts about their longitudinal axes and at the same time rotate the disks 13, 14 and 15, in order to swing the leaf turning arms 19, 20 and 21, whenever the disks are released.

5 These arms are connected to the upper ends of the respective shafts, that arm which is first to operate in the series being secured upon the shaft 11, the arm 20, which is the second to operate, being secured to the upper
10 end of the shaft 9, and the arm 21 being secured to the upper end of the shaft 7. While these arms are connected to the respective shafts one above the other, as shown, they are preferably all so shaped
15 that their free ends will lie substantially in the same horizontal plane, leaf engaging clips 22 being secured to the free ends of the arms, as shown, and being of any desired construction or design.

20 In order to limit the movement of the arms in both directions, bracket arms 23 are projected laterally from the standard 5 near the upper end thereof, the ends of said arms being extended upwardly and thence forwardly and the upwardly projecting portions being preferably provided with buffer sleeves 24 of rubber or the like designed to avoid noise or any shock to the parts.

In order to hold the leaf turning arms operative until it is desired that they shall be turned under the influence of the springs 16, each disk 13 is formed with a shoulder 13^a which is preferably the termination of a cam edge 13^b, and pawls 25 are arranged for engagement with said shoulders. In the present embodiment of the invention all of these pawls are mounted on the same pin 26, one alongside of the other, each pawl being provided with a shoulder engaging tongue 25^a, and a releasing tongue 25^b. The pawls 25 are pressed toward the respective disks 13 by means of springs 27. With the tongues 25^a in engagement with the shoulders 13^a it is to be understood that the arms 19, 20 and 21 will be held at their initial or starting position, to the right, as illustrated in Fig. 1.

In order to release the disks to permit the leaf carrying arms to act, we have provided a single push bar 28 which projects inwardly from the front of the casing, and it is provided at its front end with a push knob or button 29. This push bar is held at the outer limit of its movement by means of a spring 30. The push bar 28 is so arranged that its inner end will engage with the tongues 25^b, when the push bar is shoved inwardly, if the pawl be engaged with the shoulders 13^a of the disks; but after the pawls have been released and the disks have been turned around, it is to be understood that the cam edges 13^b, which recede as shown from the shoulders 13^a, permit the pawls 25 to swing in so far that the push bar will not engage them, but will pass them

when pushed inwardly. This is the essential feature of the device so far as the operation thereof by a single push bar is concerned, for it will be seen that the inner end of the push bar 28 is formed with three pawl engaging surfaces *a*, *b* and *c*, arranged in stepped relation to each other and designed to be brought one after another into engagement with a corresponding pawl by a continued inward movement of the push bar. For instance, when the push bar is first shoved in it will engage the pawl which holds the arm 19 from moving, and this arm will then be permitted to swing around to turn the first page and the disengaged pawl will then be permitted to swing inwardly out of the path of movement of the push bar. A second movement of the push bar to a further extent than the first movement will then cause the surface *b* to engage with its corresponding pawl and release the arm 20, whereupon said second release pawl will also swing inwardly out of the path of movement of the push bar, while a third inward movement of the push bar 28 to a still further extent will cause the surface *c* to engage the remaining pawl and release the same so as to permit the third arm 21 to swing around. This is the operation of the device, it being, of course, understood that the clips 22 are first engaged with the several leaves of the composition and swung around to the right ready for the operation, the disks being automatically engaged by the pawls and the push bar 28 being actuated whenever the player is called upon to turn a page in the rendition of the musical composition being performed.

It will be seen that we have provided a very simple device which is composed of comparatively few parts that may be easily mounted and readily assembled and which will not be liable to get out of order.

Having thus described the invention, what is claimed as new is:

1. A music leaf turner, comprising a plurality of leaf turning arms, shafts to which the arms are secured, disks secured to the shafts, said disks having cam edges formed with shoulders, pawls pressed against the edges of the respective disks and designed for locking engagement with said shoulders, and a single push bar provided with a stepped inner end designed to engage the pawls in succession by a repeated and gradually increasing inward movement of the push bar, the releasing of the pawls and the consequent turning of the disk and the engagement of the pawls with the cam edges of the disk permitting the swinging of the pawls out of the way of the push bar immediately subsequent to the releasing operation.

2. A music leaf turner comprising a plurality of leaf turning arms, shafts to which

the arms are secured, said shafts having a
common center of rotation, disks secured to
the shafts, said disks having their edges
formed with shoulders and with cam edges
5 receding from the shoulders in the direction
opposite to that in which the disks turn,
pawls pressed against the edges of the re-
spective disks and designed for locking en-
gagement with said shoulders, and a single
10 push-bar provided with a stepped inner end
designed to engage the pawls in succession
by a repeated and gradually increasing in-
ward movement of the push-bar.

In testimony whereof we affix our signa-
tures in presence of witnesses.

CHARLES H. DAVIS. [L. S.]

JOSEPH M. DAVIS. [L. S.]

Witnesses as to the signature of Charles
H. Davis:

AUGUSTUS M. JOHNSTON,

CHARLES C. MYERS.

Witnesses as to the signature of Joseph
M. Davis:

JOHN M. BOOSE,

O. N. YOUNG.